FACTORS THAT AFFECT TEACHERS' PRACTICES IN CLASSROOMS WITH STUDENTS WITH DISABILITIES

by

Sandra Faith Giddens

A thesis submitted in conformity with the requirements for the degree of Doctor of Education
Department of Human Development and Applied Psychology
Ontario Institute for Studies in Education of the University of Toronto

© Copyright by Sandra Faith Giddens 2001
The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author’s permission.
FACTORS THAT AFFECT TEACHERS’ PRACTICES IN CLASSROOMS WITH STUDENTS WITH DISABILITIES

Sandra Faith Giddens, Doctor of Education. 2001
Department of Human Development and Applied Psychology
Ontario Institute for Studies in Education of the
University of Toronto

ABSTRACT

The purposes of this study were twofold: to test a theoretical framework developed by Stanovich (1994) and Roach (1998) which identifies variables claimed to predict the effectiveness of integration of students with disabilities into classrooms; and to see what can be deduced from changes in teachers’ attitudes toward integration of students with disabilities over the 25 year period, 1974 to 1999.

A path model of the factors contributing to teachers’ practices in integrated classrooms was tested using Lisrel 8.3. The path model was a version of the variables identified in Stanovich’s (1994) and Roach’s (1998) models, adapted for the current data collection as self-report Likert scales contained in a mailed survey in a large urban school board in Ontario, Canada. Eight hundred and eighty-four elementary teachers of a potential 10,000 responded to the survey.

The variables of the model tested to predict the outcome measures of Teachers’ Skills and Teachers’ Practices were Teachers’ Beliefs, Teachers’ Attitudes/Placement, Teacher Self Efficacy, and School Norm/Support. The Teachers’ Attitudes/Placement measure was weak and was dropped from the final path model solution.

The results of the analysis largely confirmed the predicted relationships of the model’s components. The path model results indicated that teachers are more likely to use effective teaching practices in an integrated classroom, when they perceive that they have support, have the
skills and beliefs to adapt instruction for students with disabilities and consider themselves to be efficacious as teachers.

The revised Teachers’ Attitudes portion of the present survey replicated a study completed in 1974 (n = 74 teachers) when students with developmental disabilities were first integrated in Ontario (Hambleton & Ziegler, 1974). The Teachers’ Attitudes portion was again sent out in 1994 to teachers (n = 140) in large urban school boards in Ontario (Giddens, 1994). Although there have been changes in terminology which affects the interpretation of the findings, a tentative comparison of the three sets of results was made.

An analysis of the ranking portion of the survey revealed that teachers are requesting smaller class sizes, supportive administration and that they consider working with parents to be instrumental to their success in integrating students with disabilities.
ACKNOWLEDGEMENTS

Preparing, researching and completing a dissertation is like being on a journey of discovery. The final destination seems so far away and at times unattainable, but before you know it, you have arrived. Along the way there are people to help guide you.

I want to thank Priscilla Bengo and Lisa Telford who helped with my statistical analysis. I greatly appreciated Dr. Leithwood, Dr. Smyth and Dr. Schumm who made my orals a comfortable and pleasurable experience. I was fortunate to have a hard working and dedicated thesis committee and I thank Dr. Lam, Dr. Stanovich, and Dr. Wiener.

Dr. Anne Jordan, my thesis supervisor, was with me from the beginning of my journey to completion. She was my teacher, my counselor, my editor, my confidante, and most important, my friend. Anne, I greatly appreciate all that you have done, you are sincerely a person I care about and admire.

My dissertation would not have happened without the support of my family. My children, and rooting section, Justine and Kyle were there through every draft of my paper. My husband Owen, the eternal optimist, continued to encourage and guide me through every high and low in my journey. He was there to share with me when I became another Dr. Giddens. My mother Merril Weisfeld was so proud of me and I know my father Joe Weisfeld would have beamed with pleasure at my achievement. Thank you my family, I love and cherish all of you.

"To reach the impossible dream"

I have reached it with a lot of help along the way.

Thank you everyone!
TABLE OF CONTENTS

CHAPTER I:

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Review</td>
<td>8</td>
</tr>
<tr>
<td>Stanovich's (1994) and Roach's (1998) Theoretical Frameworks</td>
<td>8</td>
</tr>
<tr>
<td>Stanovich's Study</td>
<td>8</td>
</tr>
<tr>
<td>Stanovich's Purpose</td>
<td>8</td>
</tr>
<tr>
<td>Stanovich's Conceptualization and Operation</td>
<td>8</td>
</tr>
<tr>
<td>Stanovich's Measures</td>
<td>10</td>
</tr>
<tr>
<td>Stanovich's Findings</td>
<td>12</td>
</tr>
<tr>
<td>Roach's Study</td>
<td>14</td>
</tr>
<tr>
<td>Roach's Purpose</td>
<td>14</td>
</tr>
<tr>
<td>Roach's Conceptualization and Operation</td>
<td>14</td>
</tr>
<tr>
<td>Roach's Measures</td>
<td>16</td>
</tr>
<tr>
<td>Roach's Findings</td>
<td>17</td>
</tr>
<tr>
<td>Operationalizing the Model's Constructs</td>
<td>20</td>
</tr>
<tr>
<td>Rationale for Schumm et al.'s (1994) Instrument Measure</td>
<td>22</td>
</tr>
<tr>
<td>Teachers' Skills and Practices</td>
<td>24</td>
</tr>
<tr>
<td>Teachers' Beliefs</td>
<td>26</td>
</tr>
<tr>
<td>Teachers' Attitudes/Placement</td>
<td>30</td>
</tr>
<tr>
<td>Teacher Self Efficacy</td>
<td>36</td>
</tr>
<tr>
<td>School Norm/Support</td>
<td>39</td>
</tr>
<tr>
<td>Present Study Path Model</td>
<td>41</td>
</tr>
<tr>
<td>Rationale for the Longitudinal Component</td>
<td>43</td>
</tr>
<tr>
<td>Purpose</td>
<td>46</td>
</tr>
</tbody>
</table>

CHAPTER II:

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHOD</td>
<td>47</td>
</tr>
<tr>
<td>Participants</td>
<td>47</td>
</tr>
<tr>
<td>Measure</td>
<td>47</td>
</tr>
<tr>
<td>Data Collection</td>
<td>51</td>
</tr>
<tr>
<td>Internal Consistency</td>
<td>52</td>
</tr>
<tr>
<td>Cronbach's Alpha</td>
<td>52</td>
</tr>
</tbody>
</table>

CHAPTER III:

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESULTS</td>
<td>59</td>
</tr>
<tr>
<td>Teacher Demographics</td>
<td>59</td>
</tr>
<tr>
<td>Correlation Matrix</td>
<td>62</td>
</tr>
<tr>
<td>Path Analysis</td>
<td>63</td>
</tr>
<tr>
<td>Teachers' Attitudes: Longitudinal Study</td>
<td>69</td>
</tr>
<tr>
<td>Ranking</td>
<td>73</td>
</tr>
</tbody>
</table>
CHAPTER IV: DISCUSSION

Measurement Issues 76
  Teachers' Practices Measure 76
  Teachers' Skills Measure 78
  Teachers' Beliefs Measure 79
  Teachers' Attitudes/Placement Measure 81
  Teacher Self Efficacy Measure 83
  School Norm/Support Measure 85

Longitudinal Study 87
Facilitators/Barriers Toward Integration of Students with Disabilities 91
Limitations and Future Research 94
Implications for Practice 99
Conclusion 101

REFERENCES 102
<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Constructs Common to the Three Models, and Alternative Measures Which Represent Them</td>
<td>21</td>
</tr>
<tr>
<td>Table 2</td>
<td>Item Reliability</td>
<td>53</td>
</tr>
<tr>
<td>Table 3</td>
<td>Demographics of Teachers in Current Study</td>
<td>61</td>
</tr>
<tr>
<td>Table 4</td>
<td>Correlation Matrix for Composite Scores</td>
<td>62</td>
</tr>
<tr>
<td>Table 5</td>
<td>Teachers' Attitudes: 1974, 1994, and 1999</td>
<td>70</td>
</tr>
<tr>
<td>Table 6</td>
<td>Attitudes of Teachers With and Without Experience Teaching Students with Disabilities</td>
<td>72</td>
</tr>
<tr>
<td>Table 7</td>
<td>Frequencies for Ranking</td>
<td>74</td>
</tr>
<tr>
<td>Figure</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Figure 1</td>
<td>Proposed Path Model</td>
<td>5</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Stanovich's (1994) Proposed Path Model</td>
<td>9</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Stanovich's (1994) Path Model Results</td>
<td>13</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Roach's (1998) Proposed Path Model</td>
<td>15</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Roach's (1998) Path Model Results</td>
<td>18</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Results from Path Analysis</td>
<td>64</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Results from Path Analysis of Revised Model</td>
<td>66</td>
</tr>
</tbody>
</table>
LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix A</td>
<td>Definition of Integration, Mainstreaming and Inclusion</td>
<td>117</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Teacher’s Opinion on Integration/Inclusion 1999 Survey</td>
<td>118</td>
</tr>
<tr>
<td>Appendix C</td>
<td>1974 survey</td>
<td>122</td>
</tr>
<tr>
<td>Appendix D</td>
<td>1994 survey</td>
<td>123</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Principals’ letter</td>
<td>125</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Teachers’ letter</td>
<td>126</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Figures 8-15</td>
<td>127</td>
</tr>
</tbody>
</table>
CHAPTER I

The purpose of this investigation was to discover the factors that affect teachers' practices in integrated classrooms. In a cross-sectional component of the study, I examined the variables which contribute to a theoretical model of effective teaching skills and practices in integrated classrooms. In the longitudinal component, I examined whether there is evidence for any change in teachers' stance toward integration of students with disabilities over the last 25 years.

The paradigm shift in educating exceptional children is moving away from segregation (students with disabilities in congregated or self contained classes) and integration (spending the majority of the school day with students who are not disabled) toward a full inclusionary model where children with and without disabilities are taught side by side for the whole school day. Stainback and Stainback (1984) reported that the placement of students with disabilities into Special Education was developed over a century ago to meet the instructional needs of students who were considered exceptional or had special needs. The Education For All Handicapped Children Act of 1975 (PL 94-142) and Individuals With Disabilities Act (IDEA) for 1990 (PL 101-476) in the United States mandated that students with special needs be provided with services at their neighborhood schools in the least restrictive environment (Monahan, Marino & Miller, 1996). In Canada, in May 1994, the Ontario Minister of Education endorsed the policy for all school systems in the province to integrate students with exceptionalities into regular classrooms, where this placement would meet the needs of each student and where parents so request. Integrated education is generally defined as all of the students in a community, including

1 See Appendix A for definitions of integration, mainstreaming and inclusion.
those students with special learning needs, receiving their education to the fullest extent possible in the local community school (Special Education Plan, Toronto District School Board, 1999). For many students with disabilities this has meant placement in the regular class instead of the special class, which previously had been the favored educational arrangement (Carlberg & Kavale, 1980; Monahan, Marino & Miller, 1996).

British Columbia’s Year 2000 Primary Program. (Cooper & Goldman, 1995) enacted in 1989, included the move toward the inclusion of all children, regardless of their special needs condition, into regular classrooms within their neighborhood schools. In Calgary, the number of specialized classrooms for the learning disabled plummeted from 148 in 1994 to 1 in 1997. In Mississauga, Ontario, the Peel District School Board reduced the number of communication programs for learning disabled children since 1993 from 90 to 50 (Sheppard, 1998). Since the late 1980’s, schools in the United States have made substantial progress toward including students with special needs into general classrooms and moving students with more substantial needs out of segregated or congregated settings (McLeskey & Henry, 1999). The current practice in both the United States and in Canada is educating students with disabilities in inclusive settings (Monahan, Marino, & Miller, 1996).

Perhaps the greatest barrier to the success of the integration of students with disabilities in the regular classroom is the lack of knowing what leads to effective teaching practices that yield adequate progress of students (Klingner & Vaughn, 1999; McIntosh, Vaughn, Schumm, Haager & Lee, 1994; Zigmond, Jenkins, Fuchs, Deno, Fuchs, Baker, Jenkins, & Couthino, 1995). Students with disabilities who are fully integrated do not necessarily study the same curricula as their peers. Many teachers feel they should be adapting instruction to meet the students with disabilities learning needs but do not necessarily do it or know how. According to Schumm and
Vaughn (1992), many teachers do not have the training to deal with individual differences and consequently do not feel confident in their knowledge and skills for planning for children with disabilities. Although the concept of educating students with disabilities in general education classes is not new, the inclusionary model's impact on students and teachers continues to be further examined (Salend & Garrick Duhaney, 1999). Little research is currently being done on the specific factors which contribute to the success or failure of students in integrated classrooms (Zigmond et al., 1995). As integration of students with disabilities becomes more established in the present day school system, it is important to examine the practice thoroughly (Walther-Thomas, Korinek, McLaughlin, & Williams, 2000).

The results of a large scale survey of teachers is presented in this thesis. The survey was designed to test a model of the factors which contribute to the effective skills and practices of elementary classroom teachers working with students with disabilities in their regular classrooms. The model was based on one originally designed and tested by Stanovich (1994) and a modified version was subsequently retested with modifications to the measures of the model was tested by Roach (1998). These previous studies were conducted with sample sizes of 33 and 45 teachers, respectively. samples that were small and of questionable size to be amenable to path analysis. There were differences in the way the variables were measured both between the Stanovich (1994) and Roach (1998) studies and between these and the current study. However, the Stanovich (1994) model and its variations in Roach (1998) served as a starting point for selecting the components described in this thesis.

The intent of the present study was to reexamine the model using a large-scale survey which would yield a large sample of self-report responses from teachers, and which could be
analyzed through path analysis. However, the adaptation of the model to a self-report survey format necessitated the selection of different scales to measure the variables in the model.

The current model (Figure 1) predicts that the outcome variable which is variations in Teachers' Practices in accommodating students with disabilities in general education classrooms is predicted by five variables. Two of these are Teachers' Attitudes toward placing students with disabilities in regular classrooms, and Teachers' Beliefs about their roles and responsibilities in working with these students once placed. These in turn are predicted by two further variables: Teacher Self Efficacy (Gibson & Dembo. 1984), and School Norm or the teacher's opinion about how his or her colleagues and principal view the integration of students with disabilities into regular classrooms (Stanovich. 1994). As well, a sixth variable, Teachers' Skills. was added to the present model since it was represented in the source (Schumm. Vaughn. Gordon. & Rothlein. 1994) from which the measures of Teachers' Beliefs and Teachers' Practices were drawn.

Collectively, the model offers a framework for understanding the factors which result in what is seemingly a wide variation in Teachers' Practices in accommodating students with disabilities. Each of the variables in the model, as initially used to guide the design of the study, is defined as follows. A more detailed operational definition will be introduced below with a description of the survey used in the study.


   This outcome variable is a description of the practices in which teachers engage in their classrooms, including adapting course content and tests for mainstreamed students, adjusting time and lesson pace, and individualizing instructional and evaluation criteria. These practices are collectively known as accommodations and modifications (Nolet & McLaughlin. 2000; Ontario Ministry of Education. 2000).
Figure 1. Proposed Path Model of the present study
2. **Teachers' Skills** (Schumm et al., 1994)

   The model contends that teachers' ratings of their practices will be predicted by their ratings of their skills in being able to accommodate differences in students' with disabilities needs in their integrated classrooms. This variable was a part of the Schumm et al. 's. (1994) study. In Stanovich (1994) and Roach (1998), Teachers' Skills and Practices was a single variable assessed by third party observation.

3. **Teachers' Beliefs** (Jordan-Wilson & Silverman, 1991; Schumm et al., 1994) is also called the Restorative/Preventative (R/P) scale in Stanovich (1994) and Roach (1998). This variable reflects teachers' beliefs that mainstreamed students need the accommodations and adaptations in order to function in the regular classroom. In the original model, Teachers' Beliefs also included a distinction between whether teachers saw their roles as being responsible for, or saw others roles as being responsible for meeting the needs of students with disabilities.

4. **Teachers' Attitudes/Placement** (as defined by Hambleton & Ziegler, 1974; Giddens. 1994). This variable takes many forms in survey questionnaires such as the Attitude Toward Mainstreaming Scale (ATMS), (Berryman & Berryman, 1981), and Regular Education Initiative Survey (REITS), (Semmel. Abernathy. Butera. & Lesar, 1991) which were used in Stanovich (1994) and Roach's (1998) studies. In this study, Teachers' Attitudes were teachers' opinions about whether students should be placed in segregated settings under a teacher trained in special education or in the regular classroom in that teacher's school.
5. **Teacher Self Efficacy**

Teachers' conviction that he or she is able to get through to even the most difficult students to be able to execute a teaching intervention that positively effects student outcomes for all students. This variable incorporates the construct originally developed by Gibson and Dembo (1984) which is the belief held by an individual teacher that he or she possesses the skills necessary to affect change in all the students in one’s class.

6. **School Norm/Support** (as defined by Stanovich, 1994)

As noted above, School Norm is the teacher’s opinion about how his or her colleagues and principal view the integration of students with disabilities into regular classrooms.

Teachers’ Attitudes/Placement was similar to a measure that had previously been used to assess the attitudes of teachers to the placement of students with disabilities in regular classrooms in surveys conducted in 1974 (Hambleton & Ziegler, 1974) and 1994 (Giddens, 1994). A subsidiary question to this thesis was, therefore, whether one could deduce any trends in teachers’ attitudes to placement of students with disabilities over the 25 years of this longitudinal component of the survey.
Literature Review


Stanovich (1994) found that there was little research being done on the specific factors which contributed to the success of inclusion of students with special needs. In her study she developed a model and tested it. Roach (1998) went a step further; she developed Stanovich's (1994) model by making some changes and adding to the variables. Roach also explored specific factors and predictors of successful integration of students with special needs in the regular classroom. The following is a brief description of the studies of Stanovich (1994) and Roach (1998).

Stanovich's Study

Purpose.

The purpose of the Stanovich (1994) study was to develop a framework/model for predicting the successful inclusion of students with disabilities in general education classrooms and to test the model using path analysis.

Conceptualization and Operation.

Stanovich (1994) developed a model (Figure 2) for predicting the effective inclusion of students with disabilities in classrooms related to differences in teacher beliefs about their roles and responsibilities in integration. In her model, effective teaching behaviors were predicted from three variables which she called "teacher attitudes about integration," "school norm" and "perceived behavioral control." Teachers' attitudes were conceptualized as specific beliefs about a general education teacher's role in integration and the positive or negative evaluation of both integration and teaching behaviors associated with integration. Stanovich conceptualized School
Figure 2. Stanovich's (1994) Proposed Path Model
Norm as the perception that principals reported on the R/P orientation of their teachers, the principal's attitudes toward inclusion about their beliefs of their teachers regarding their roles in working with integrated students. Stanovich viewed perceived behavioral control as the skills and abilities a teacher perceived they had to influence any student's learning. Stanovich's (1994) model predicted that teachers would be likely to use effective teaching behaviors in an integrated classroom when they and their respected colleagues share a positive stance toward integration, and when they believe they have the skills and abilities to influence student learning.

Stanovich (1994) posited that school norm, or the beliefs of respected colleagues, and teaching efficacy, or amount of perceived ability that teachers feel they have over any student's learning, are predictive of teachers' attitudes and beliefs about integration as measured by the R/P interview/scale (Restorative/Preventative) currently the (Pathognomonic/Interventionist) P/I interview/scale. The P/I interview, developed by Jordan-Wilson and Silverman (1991) measures the beliefs of teachers about their roles and responsibilities in working with integrated exceptional and at-risk students (Stanovich & Jordan, 1998). Teachers who believe they are capable of influencing their students' learning, with the help of a supportive administration, are more likely to have positive attitudes toward integrating students with special needs in their classrooms. These positive attitudes will therefore be predictive of effective teaching behaviors that will positively affect their students' achievement outcomes.

**Stanovich's Measures.**

Teacher Attitudes in Stanovich's (1994) study was operationalized by scores received on the Pathognomonic-Interventionist (P/I) Interview: (Jordan-Wilson & Silverman, 1991), the Attitude Toward Mainstreaming Scale (ATMS), and Regular Education Initiative Survey (REITS). Prior to completing a path analysis of the model, Stanovich (1994) had to make one
change to her Teacher Attitudes variable. The P/I interview was split and analyzed separately from the ATMS and the REITS questionnaire because the teachers’ scores on the measures did not covary strongly enough to keep them together as one construct. She separated her Teacher Attitude measure into Teacher Attitude 1 and Teacher Attitude 2. Teacher Attitude 1 was comprised of two measures and were administered as pencil-and-paper tests consisting of the Regular Education Initiative Survey (REITS) and the Attitude Toward Mainstreaming Scale (ATMS). Teacher Attitude 2 used the P/I interview. In Stanovich’s study, an assessment of the reported beliefs and attitudes of the school in which the teacher was teaching was obtained by gathering data from the principal of the school. The assumption was that teachers’ beliefs would correlate positively with the beliefs of their principals (e.g. Fullan, 1991; Rosenholtz, 1985; Smylie, 1988; Wilson & Silverman, 1991). School Norm in Stanovich’s study, therefore, was restricted to the beliefs held by the school principal about their staff’s beliefs and attitudes toward integration. The School Norm was operationalized by having the principals complete a questionnaire version of the P/I interview, and complete the ATMS and the REITS. Perceived Behavioral Control was operationally defined by scores on the Personal Efficacy Subscale of the Teacher Efficacy Scale (TES; Gibson & Dembo, 1984). In Stanovich’s study, Efficacy was measured through Jordan, Kircaali-Iftar, and Diamond’s (1993) adaptation of Gibson and Dembo’s (1984) Teacher Efficacy Scale. The Effective Teaching construct was obtained through a classroom observation measure (Stanovich, 1994) which incorporated four dimensions of teaching behavior: classroom management practices, time management practices, lesson presentation and adaptive instruction. Teachers in Stanovich’s study were observed in their interactions with the entire class. Certain identifiable effective teaching behaviors have been found to link to student achievement (Bickel & Bickel, 1986; Brophy & Good, 1986; Doyle, 1986;
Englert. 1984; Englert, Tarrant, & Mariage, 1992; Morsink, Soar, Soar, & Thomas. 1986; Reith & Evertson. 1988; Rosenshine, 1983; Rosenshine & Stevens. 1986). The classroom observation instrument was developed based on Englert et al.'s (1992) characteristics of effective teaching based on their review of the process-product literature.

Stanovich's Findings.

For the 33 teachers in Stanovich's sample, both the School Norm and Teachers' Attitudes about their roles in teaching students with special needs had a direct effect on the Effective Teaching Behaviors. Teachers' scores on their Teacher Efficacy Scale significantly predicted their attitudes about integration and service delivery models used to teach students with special needs, but were not related to observed teaching behaviors.

Stanovich's (1994) final path analysis results, with significant beta weights identified, are displayed in Figure 3. The strongest predictor of Effective Teaching Behaviors was the School Norm. The beta weight (.504) from the School Norm to Effective Teaching Behaviors was highly significant at the p<.01 level. Other significant beta weights in the path analysis model were found between Teacher Attitude 2 (TA2) and Effective Teaching Behaviors (.321) as well as Teaching Efficacy and Teacher Attitude 1 (TA1) (.430). The predicted relationship between TA1 and the Effective Teaching Behaviors failed to reach significance.
Figure 3. Stanovich's (1994) Path Model Results
Roach’s Study

Purpose.

The purpose of Roach’s (1998) study was to take Stanovich’s (1994) model a step further by investigating whether the instructional interactions between teachers and their identified exceptional, at-risk and typically achieving students in integrated classrooms can be predicted by teacher attitudes about integration, the teacher resources available and the school norm regarding integration and staff collaboration.

Conceptualization and Operation.

Roach’s (1998) Proposed Path Model is displayed in Figure 4. The primary objective of Roach’s study was to refine Stanovich’s (1994) model of factors contributing to the effective integration of exceptional elementary students into regular classrooms. The structure of Roach’s study had four significant adjustments from Stanovich. In Roach, the outcome measure differentiated the interactions between the teacher and individual students, compared to the global measure of teacher-class interactions used by Stanovich. The presentation of the P/I measure was changed from a personal interview to a paper and pencil questionnaire. There was an addition to the teacher resources variable of a measure of perceived collaboration between the General Education Teacher (GET) and the Special Education Resource Teacher (SERT). School Norm was expanded from the principal’s reporting of the P/I score for his/her school to measures of P/I beliefs of all participating teachers in a school. SERTs, as well as the principal. The sample size was increased to 46 teachers drawn from 14 schools in a school system different from that sampled by Stanovich (1994). In keeping with Stanovich’s (1994) findings, a direct path between school norm and teaching behaviors was predicted in Roach’s investigation.
Figure 4. Roach's (1998) Proposed Path Model
Roach’s Measures.

Roach’s (1998) study consisted of the following constructs to develop the final path analysis: School Norm P/I, School Norm Support, Teacher Resources Efficacy, Teacher Resources Collaboration, Teacher Attitudes and Academic Instructional Interactions. Two slightly different versions of the P/I questionnaire (the Beliefs variable) in addition to the principals’ version were developed and administered to GETs, SERTs, and principals. The principals’ P/I questionnaire was used by Stanovich (1994) and the GET and SERT P/I questionnaires were constructed specifically for Roach’s (1998) study. The GETs’ self-efficacy was assessed using a 38 item Teacher Efficacy Questionnaire (same questionnaire as Stanovich) originally developed by Gibson and Dembo (1984) and modified by Jordan et al. (1993). The collaboration questionnaire was a four part, 49 item self-report measure designed for this study to describe the collaboration occurring between the GETs, the SERTs and Educational Assistants (EAs) and what they may have derived from their collaboration. The GETs, SERTs, and EAs each completed a different version of the questionnaire. The ATMS was a 18 item questionnaire that was administered to all GETs. The questionnaire, a version of the REITS, was developed by Semmel et al. (1991), modified for Ontario teachers (Stanovich, 1994) and was completed by all GETs. The instructional interactions (outcome measures) consisted of an academic and non-academic component. The instructional interactions were measured with one classroom observation of teaching behavior that ranged from 30 to 78 minutes in length, with an average of 57 minutes. The observation of the instructional opportunities students received through teacher-student interactions was achieved with a check list specifically designed for Roach’s study. Quality of instruction, the outcome measure, was derived from coding the checklist, with no student-teacher interactions at the lowest level, teacher briefly checking the student’s work and moving on at the
next level, teacher transmitting information, instructions or connections at the third level and teacher engaging the student in a dialogue in which the student participated at the highest level. The quality of teacher talk during one-to-one instructional interactions with targeted students was rated.

The Roach (1998) study defined teacher attitudes as clusters of beliefs around a situation (Pajares, 1992). Roach, like Stanovich (1994), combined teacher attitudes and beliefs in one construct. Stanovich differentiated this construct in the path model with Teacher Attitude 1 and Teacher Attitude 2, while Roach combined attitude and beliefs into a single variable for testing the path model. Roach used the ATMS. REITS and changed the format of the P/I interview to a pencil and paper task. In Roach’s analysis all three measures correlated and so were treated as a single variable, in contrast to the Stanovich study. This may have occurred because the format of all three measures in Roach were paper and pencil tasks.

In Roach’s study, an effort was made to expand Stanovich’s (1994) measurement of School Norm to include perceptions of other teachers (GETs, SERTs) in the targeted schools. Roach (1998) felt that the self-report from teachers would provide a more representative sample of school opinion on integration without destroying the replicability of the principal variable.

Roach’s Findings.

The final path analysis results (Figure 5) indicated that quality of instruction could be positively predicted by teachers’ attitudes toward the integration of students with special needs. negative teachers’ perception of collaboration received in their classrooms and the positive measure of collaboration occurring in the schools. Teachers’ attitudes were predicted by teachers’ efficacy and the teachers’ perceptions of the collaboration being received in their classrooms.
Figure 5. Roach's (1998) Path Model Results
Roach (1998), like Stanovich (1994) went into the classroom and looked at the outcome measure of Academic Instructional Interactions. In Roach’s study the teachers’ interactions with individual students were observed. In Roach’s study the outcome measure was changed from Stanovich, from a general classroom rating to a new measure of quality of student-teacher interaction, making the comparison between the two solutions of the two analyses difficult to compare.

Roach’s results (Figure 5) indicate that Academic Instructional Interactions is predicted by School Norm Support (beta weight .35) and Teacher Attitudes (beta weight .38). In Roach’s model there was a negative beta weight between Academic Instructional Interactions and Teacher Resources Collaboration (beta weight -.32). Roach explains this in terms of teachers who are more competent and confident with inclusion requiring less collaborative support. Teacher Attitudes was predicted by Teacher Resources Efficacy (beta weight .56) and Teacher Resources Collaboration (beta weight .32).

The findings of the Roach investigation suggested that teachers who are more collaborative and believe they possess the requisite skills to positively influence students’ learning, have positive attitudes toward integrating students. Those teachers who work in supportive school contexts are more likely to conduct quality instructional interactions.
Operationalizing the Model’s Constructs

In this study, in an attempt to continue to explore the theoretical framework that Stanovich (1994) and Roach (1998) established with their models of predictors of successful outcomes in integrative classrooms, a path model (Figure 1) was predicted using some adapted measures for the constructs to establish the large survey format. This study attempted to use the predictors to successful integration as outlined in Stanovich (1994) and Roach (1998) and adapt them to a large survey format. This meant using some of the adapted measures of Stanovich (1994) and Roach (1998) as well as choosing measures that would be more appropriate for a large survey format.

Table 1 provides a list of the constructs and the respective measures for each of the three models: Stanovich (1994), Roach (1998) and the present study. The following section will describe the logic and rationale for the operationalization of the constructs which is the basis of the present study. Variables hypothesized to predict Teachers’ Skills and Practices were tested in the path model, displayed in Figure 1. The variables predicted to relate to Teachers’ Practices in integrative classrooms were (from right to left of the model represented in Figure 1) Teachers’ Skills, Teachers’ Beliefs, Teachers’ Attitudes/Placement, Teacher Self Efficacy and School Norm/Support.
Table 1

**Constructs Common to the Three Models, and Alternative Measures Which Represent Them**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>School Norm</td>
<td>Principal P/I questionnaire, ATMS &amp; REITS scores</td>
<td>Principal P/I questionnaire: Teacher resources: GETs, SERT’s, &amp; EA’s P/I questionnaire</td>
<td>School Norm: Support Teachers ratings of the degree of support they receive for mainstreaming</td>
</tr>
<tr>
<td>Attitudes</td>
<td>Teacher Attitude 1: ATMS &amp; REITS</td>
<td>Teacher Attitudes: ATMS, REITS plus P/I, (Stanovich’s Beliefs)</td>
<td>Teachers’ Attitudes/Placement 1974, 1994 longitudinal study items Attitudes toward placement of students with disabilities</td>
</tr>
<tr>
<td>Beliefs</td>
<td>Teacher Attitude 2: P/I Teacher P/I interview</td>
<td>See Attitudes</td>
<td>Teachers’ Beliefs: Schumm et al. (1994) Beliefs about roles in adapting instruction</td>
</tr>
<tr>
<td>Outcome Measures</td>
<td>Effective teaching behaviors teacher observation. Based on Engler et al.’s (1992) checklist of effective teaching practices</td>
<td>Teaching quality: Observed rating of instructional interactions with target students</td>
<td>Teachers’ Skills &amp; Practices, self reported skills and practices in adapting instruction Schumm et al. (1994)</td>
</tr>
</tbody>
</table>

ATMS: Attitude Toward Mainstreaming Scale (Berryman & Berryman, 1981)
REITS: Regular Education Initiative Survey (Semmel, Abernathy, Butera, & Lesar, 1991)

As this present study was a large scale survey, the measures for Teachers’ Practices, Skills and Beliefs were developed from a standardized survey instrument derived by Schumm et al. (1994). The large scale survey approach of this current study restricted the use of measures that observed teachers or students in classroom settings as in the Stanovich (1994) and Roach (1998) studies. Schumm et al.’s (1994) survey instrument was used as it was already standardized, it was easy to adapt to a large scale survey format and it gave the opportunity to survey teachers on their practices, skills and beliefs in integrated classrooms.

The purpose of Schumm et al.'s study was to investigate the practices, skills, and beliefs of general education teachers in their planning and making adaptations for students with learning disabilities integrated in classrooms. Schumm et al. (1994) stated that there was the need to evaluate interventions designed to improve general education teachers' knowledge, skills, and confidence in planning and making adaptations for students integrated in special education. In order to develop the subtests, Schumm et al. (1994) analyzed teachers’ responses to open ended questions concerning their practices, skills and beliefs. Through an interactive process of thematic analysis and independent rate codings, the 10 themes which were incorporated into the final scales were derived. The inter-rater agreement for the beliefs and skills units were .89 and .92 respectively.

The 10 themes were the following:

1. using a variety of information sources (e.g. IEPs, parents, student feedback)
2. long-range planning that meet the needs of mainstreamed students
3. short-range planning that meets the needs of mainstreamed planning
4. vary group composition for mainstreamed students
5. adapt course content for mainstreamed students in the classroom
6. adjust time and pace of a lesson for mainstreamed students
7. adapt tests for mainstreamed students  
8. frequent checks with students to monitor their progress  
9. provide individualized instruction for mainstreamed students and  
10. use individualized grading when evaluating the tests of mainstreamed students

These 10 themes also formed the topics for each of the items in the scale units in the Teachers' Practices, Teachers' Skills and Teachers' Beliefs sections in the present study (Appendix B, Section D).

Schumm et al. (1994) defined teachers' beliefs, skills and practices in terms of a self report questionnaire in which respondents provided ratings of their agreement with a series of questions about inclusion that commenced: "I believe . . . ." "As a teacher . . . ." and "I am skilled at . . . ." Schumm et al. (1994) used Kagan's (1992) definition of teachers' beliefs and defined them as "implicit assumptions about students, learning, classrooms, and the subject matter to be taught" (p. 66). The students in Schumm et al.'s (1994) study were integrated into regular classrooms. Sixty teachers completed their survey. In one portion of Schumm et al.'s (1994) study they also supplemented the survey data with classroom observation and interviews of a small sample of 12 teachers.

Schumm et al. (1994) note that belief and practice items were significantly correlated at p<.01. practice and skill items were correlated at p<.05. and correlations between belief and skill items presented a varied pattern. Three items, use of information services, short range planning and adapting course content (Appendix B, Section D, items 1, 3, and 5) had weaker correlations with the overall scale than the other items. These items were reexamined in the current survey through item analysis, leading to the removal of the information sources item (Appendix B, Section D, item 1) from the teachers' beliefs and teachers' practices subtests in the path model.
Teachers' Skills and Practices

As school systems appear to be moving toward a full inclusionary model, it is important to study teachers' skills and practices in the classroom with integrated students with special needs (Walther-Thomas et al. 2000). Schumm et al. (1994) relied on teacher self-reports of beliefs, skills, and practices and used classroom observations and interviews to further understand teacher practices. Schumm et al.'s (1994) study investigated general education teachers' making adaptations (i.e., course content and tests) for students with learning disabilities. The results of the Schumm et al.'s (1994) study suggest that even when teachers deem adaptations as valuable and perceive themselves to be skilled in making these adaptations, they often rate the feasibility of implementing the adaptations as low. Teachers typically planned for the class as a whole. Schumm et al.'s (1994) results also indicated that teachers who have been effective in working with mainstreamed students with LD (Learning Disabilities) report moderate to high agreement with the beliefs, skills, and practices measures for planning and making adaptations for these students. Overall, in Schumm et al.'s (1994) study, there were statistically significant correlations between teachers' self-reports of Beliefs and Practices. Beliefs and Skills were correlated and Practices and Skills were correlated. All correlations between Beliefs and Practice items were significantly related at p<.01.

Because the present study used a self-report questionnaire format, a proxy for teaching Skills and Practices developed from Schumm et al. (1994) was used as the outcome measures in this study. The Practices and Skills measured teachers' self-reports on their daily planning, adaptations to course content and tests, individual and group approach to instruction and using a variety of information sources such as IEPs (Individual Education Plans). Teachers' Practices and Teachers' Skills were two separate outcome measures.
The outcome measures in this present study were an approximation to the outcome measures of Stanovich's (1994) instructional effectiveness and Roach's (1998) adaptations to student need. In this present study, Teachers' Skills and Practices were examined through teachers' self reporting of their own practices on a pencil and paper survey, rather than as a classroom observation method. Therefore, the outcome measure differed from Stanovich's and Roach's models. The present study attempts to predict the outcome measures of Skills and Practices of teachers from variables identified in Stanovich (1994) and Roach (1998) path models which included Teacher Self Efficacy, Teachers' Beliefs, Teachers' Attitudes and School Norm/Support.

As in Schumm et al. (1994). The Teachers' Practices section (Table 2) commences with the statement:

As a teacher:

- I use information sources such as the students IEP to plan for mainstreamed students in my classroom.
- I adapt daily planning for mainstreamed students.
- I vary group composition for mainstreamed students.
- I adapt course content for the mainstreamed students in my classroom.
- I adjust the time and pace of a lesson for mainstreamed students.
- I adapt these tests for mainstreamed students.
- I use frequent checks with individual students to monitor the progress of mainstreamed students.
- I provide individualized instruction for mainstreamed students.
- I use individualized/different criteria when evaluating the assignments and tests of mainstreamed students.

The items in the Skills scale parallel those in the Beliefs and Practices scales. This variable differs from the Beliefs and Practices scales in requesting teachers to report about their skills rather than their beliefs and practices in the classroom.

As in Schumm et al. (1994) the Teachers' Skills section (Table 2) commences with the statement:
I am skilled at:

- using a variety of information sources (e.g. IEPs, parents, student feedback) of mainstreamed students.
- designing short term plans that meet the needs of my mainstreamed students.
- designing long term plans that meet the needs of my mainstreamed students.
- appropriately pacing and timing the presentation of content material for my mainstreamed students.
- grouping for instruction so that the needs of all my students are effectively met.
- designing tests that effectively monitor progress of mainstreamed students.
- using individualized/different criteria when evaluating the assignments and tests of mainstreamed students.
- adapting course content to meet the needs of my mainstreamed students.
- using frequent checks to monitor the progress of my mainstreamed students.
- providing individual instruction for mainstreamed students.

Teachers' Beliefs

Winzer (1987) stated that successful integration of exceptional children may depend on teachers' beliefs and attitudes regarding integration. Beliefs are defined in this study as teachers' prevailing attitudes about disability and their roles and responsibilities in working with students with disabilities in regular classrooms. (Note, in this study the Teachers' Attitudes/Placement measure was different from Teachers' Beliefs as it examined attitudes of teachers toward placement of students with disabilities).

Teachers' beliefs about the integration of students with disabilities are important to the success of integrative efforts (Scruggs & Mastropieri, 1996; Winzer, 1998). Jordan, Kircaali-Iftar, and Diamond (1993) have demonstrated that teachers apparently hold differing perspectives about their responsibilities in dealing with the needs of students who are exceptional and at risk. Through their research Jordan, Lindsay, and Stanovich (1997) examined characteristics of individual teachers' beliefs and practices that may have contributed to effective instruction in inclusive settings. The "pathognomonic" perspective occurs when the teacher assumes that a disability is inherent in the individual student and the "interventionist" perspective is when the
teacher attributes student problems to an interaction between student and environment (Jordan et al., 1997). Stanovich and Jordan (1998) used the term P/I to locate differences in teachers' beliefs along a continuum. The P/I interviews were designed to measure the beliefs of teachers about their roles and responsibilities in working with integrated exceptional and at-risk students (Stanovich & Jordan, 1998). Jordan, Lindsay, and Stanovich (1997) observed teachers in classrooms and reported that interventionist teachers, who viewed themselves as instrumental in effective inclusion, engaged in more academic compared to nonacademic interactions with the children in their classrooms. This interventionist group exhibited greater use of techniques and approaches to learning and also interacted more with their students who were exceptional. Stanovich and Jordan (1998) reported that teachers who expressed interventionist beliefs view themselves as responsible for maximizing the opportunities for each student to learn. These teachers plan early in the year and on an ongoing basis to access resources and collaborative support to help their students achieve. They express a preference for assessment which can guide instruction, and for working collaboratively with resource personnel and parents. Teachers who score in the pathognomonic ends of the beliefs scale emphasize the identification and labeling of the pathology of the student who is exceptional. They claim that they are not responsible for the educational progress of such students and concentrate on the students' deficits thus leading to pullout programs. They typically do not work collaboratively with resource staff or parents.

According to Kelly (1955), beliefs are created from an internal organization of experiences into a coherent system. Experiences in everyday interactions with others serve to confirm some beliefs and challenge others. This system is used to predict others' behaviors and guide one's own behaviors, perceptions and judgments. In a classroom, it would follow that the beliefs teachers
hold influence their classroom behaviors. Therefore, understanding teachers' beliefs is important for predicting teaching practices (Ashton & Webb, 1986; Pajares, 1992).

Findings from a growing body of research indicate that professional development initiatives need to take teachers' beliefs into consideration (Munby, 1984; Richardson, Anders, Tidwell & Lloyd, 1991). Teachers' willingness to work with more difficult students may depend on their beliefs in their ability to effect change. Prior research has demonstrated a relationship between educators' beliefs in their own teaching abilities and their tendency to refer students with mild problems (Meijer & Foster, 1988; Soodak & Podell, 1993).

Clark and Peterson (1986) proposed that teachers' theories and beliefs regarding instruction, and teacher roles and responsibilities are critical components of their thought processes. These theories and beliefs interact with other thought processes (i.e., teacher planning and decision-making) to impact teachers' actions in the classroom. Jordan, Lindsay, and Stanovich (1997) report that teachers' beliefs appear to be resistant to change. In Brantlinger's (1996) study, written and oral narratives of 182 junior and senior majors and minors at various stages of their undergraduate special education teacher preparation were examined. Analysis of the narratives revealed that special education pre-service teachers held a variety of anti-inclusion beliefs. If this is the case, beliefs that teachers hold can influence their perceptions and judgments, which, in turn, affect their behavior in the classroom. Understanding the belief structures of teachers and teacher candidates is essential to improving their professional preparation and teaching practices (Ashton, 1990; Ashton & Webb, 1986; Brookhart & Freeman, 1992; Buchman, 1984; Clark, 1988; Dinham & Stritter, 1986; Feiman-Nemser & Floden, 1986; Fenstermacher, 1979, 1986; Goodman, 1988; Munby, 1982, 1984; Nespor, 1987; Tabachnick, Popkewitz & Zeichner, 1979; Weinstein, 1988, 1989; Wilson, 1990).
Pajares (1992) implies that beliefs are a product of a personal constellation of experiences and attitudes that affect how they perceive their world. Pajares (1992) reports that beliefs cannot be directly observed or measured but must be inferred from what people say, intend, and do. Since Schumm et al.'s (1994) study was able to measure Teachers' Beliefs independent of other measures of constructs, a proxy for Teachers' Beliefs developed from Schumm et al. (1994) was used in this study.

The Teachers' Beliefs measure in the present study was closely aligned to the P/I measure used in both Stanovich (1994) and Roach (1998) because the items in this variable reflect teachers' beliefs about their roles and responsibilities in planning, implementing, monitoring and evaluating instrumental techniques and materials for students with disabilities. The P/I interview in Stanovich's (1994) study asked teachers to describe their practices. Their beliefs were then inferred from their descriptions; hence their beliefs were grounded in their practices. In this present study questionnaire items directly addressed teachers' beliefs about their practices (i.e., I believe that course content needs to be adapted for the mainstreamed students in my classroom). In the P/I interview, similar question items were addressed (i.e., Classroom teachers conduct informal individual tests, observations, and assessments of their integrated exceptional pupils' current learning levels: Classroom teachers set performance objectives for whole group/class to achieve: and Classroom teachers make accommodations to layout of class, grouping of pupils, etc. for integrated exceptional pupils.) Therefore, the Teachers' Beliefs measure in this study had some similarities to the P/I interview of Stanovich (1994) and Roach's (1998) questionnaire, although the format was changed to a self rating scale.

Understanding Teachers' Beliefs may be a strong indicator of Teachers' Practices in the classroom. The present study examined Teachers' Beliefs to see if they were in fact a good
predictor of the outcome measures of Teachers' Skills and Practices. Borrowing from Schumm et al.'s (1994) measure, the Teachers' Beliefs section (Table 2) commences with the statement:

I believe that:

- information sources such as the student's IEP, educational and psychological reports are useful in planning for mainstreamed students in my classroom.
- long-range instructional planning (e.g., yearly, semester, monthly) needs to be adapted for mainstreamed students.
- short-range planning (e.g., daily and weekly) needs to be adapted for mainstreamed students.
- varying group composition (e.g., small group, large group whole class) is important for mainstreamed students.
- course content needs to be adapted for the mainstreamed students in my classroom.
- the time and pace of a lesson must be adjusted to meet the needs of mainstreamed students.
- the tests I design for my regular education students need to be adapted for my mainstreamed students.
- frequent checks with individual students are an effective way to monitor the progress of mainstreamed students.
- providing individualized instruction according to the students' needs helps mainstreamed students.
- using individualized (or different) criteria for grading assignments and tests is important when evaluating mainstreamed students.

Teachers' Attitudes/Placement

Teachers' attitudes toward integration may affect the ultimate success or failure of the actual practice itself (Scruggs & Mastropieri, 1996).

Studies in the 1970's showed that the successful integration of students with disabilities into regular classrooms was dependent upon positive attitudes of teachers toward integration within the school community (Warnock, 1978). When integration was first examined in early 1970's studies, teachers' attitudes toward integration were not necessarily positive (Decker & Decker, 1977). It was reported that teachers felt they lacked the support necessary for integration and did not have the time to work with students who were exceptional (Hudson, Graham & Warner, 1979). Gickling and Theobold (1975) found that 85% of the regular education teachers
they surveyed felt that they lacked the necessary skills to teach exceptional children. Inclusion. initiated with unprepared or unaccepting teachers, would reduce the chances for successful inclusion of the student and the student with special needs would be the biggest loser (Moore & Fine, 1978).

In the 1980's, attitudes were becoming more positive toward inclusion. For example, an attitude survey constructed for a series of investigations into teacher attitudes containing 20 positive and negative questions, was administered to a sample of practicing Newfoundland teachers in order to assess attitudes toward the educational integration of pupils with exceptional needs. Results indicated that participants generally held attitudes leaning in a positive direction (Chow, 1989).

In the 1990's, studies showed both positive and negative attitudes of teachers toward inclusion. An attitudinal survey of 342 rural South Carolina teachers found that over 60% of the respondents felt that inclusion of students with special needs would not succeed because of too much resistance from regular education teachers (Monahan, Marino, & Miller, 1996). The results of the focus group interviews conducted by Vaughn, Schumm, Jallad, Slusher, and Saumell (1996) revealed that the majority of the teachers had strong, negative feelings about inclusion and felt that decision makers were out of touch with classroom realities.

A major criticism of the movement toward the inclusionary model is that teachers' attitudes toward this model have not been thoroughly addressed (Margolis & McGettigan, 1988; Silver, 1991; Wilmore, 1995). Regular classroom teacher attitudes remain a crucial factor in the successful implementation of inclusion (Hanrahan & Rapagna, 1987; Horne, 1985; Jobe, Rust, & Brissie, 1996; Keefe, & Davis, 1998; Klassen, 1994; Minke, Bear, Deemer, & Griffin, 1996; Scruggs & Mastropieri, 1996; Semmel, Abernathy, Butera, & Lesar, 1991; Vaughn, et al. 1996).
It appears that regular classroom teachers are not fully prepared to accept students with special needs into their classrooms (Kauffman, Gerber, & Semmel, 1988; Minke, Bear, Deemer, & Griffin, 1996; Semmel, Abernathy, Butera, & Laser, 1991; Winzer & Rose, 1986).

In Monahan et al.'s (1996) study, 72% of the teachers responding to an attitude questionnaire felt that inclusion of students with special needs would not succeed because of too much resistance from regular education teachers. Scruggs and Mastropieri (1996) concluded that while approximately two thirds of the 10,560 teachers they surveyed supported the concept of inclusion, only one fourth to one third of these teachers reported that they had sufficient time, training, material or personnel resources to actually implement inclusion successfully (Bennett, Deluca, & Bruns, 1997).

Scruggs and Mastropieri (1996), in reporting their review of four decades of attitudinal research, found that overall 65% of general education teachers indicated support for the concept of inclusion but when the terms, as in the studies of Barton (1992) and Houck and Rogers (1994) were more specific (i.e. more emphasis on full inclusion) the percentage of general education teachers who conceptually agreed with inclusion dropped to 40.5%.

Klassen (1994) studied the attitudes to integration of the Manitoba Teachers Society. The study indicated 75% of the principals surveyed, 65% of teachers with special needs students in their classroom, 69% of teachers without special needs students, and 91% of resource teachers considered the integration of special needs students to be a desirable educational goal.

Some studies reveal a change of attitude toward students with disabilities in integrated classrooms can exist over the course of time. Giangreco, Edelman, Cloninger, Dennis, and Schatman (1993) interviewed 19 classroom teachers, 17 of whom said that they initially had apprehensive attitudes toward integrating a student with severe disabilities into their classrooms.
A more positive attitude developed as they participated in transforming experiences leading to increased ownership of and involvement with the student. Harvey (1992) reported that more positive attitudes of teachers have been expressed in the 1990's once teachers had a greater exposure in professional settings to children with disabilities coupled with the increased availability of supports like educational assistants. Jones (1984), in Klassen's (1994) review of attitude articles, indicated that the achievement of full integration appears to be possible only through a better understanding of teachers' attitudes toward persons with disabilities and of attitude change. Dickens-Smith (1995) summarized the findings on teacher attitude change:

Research has shown that when educators were trained in techniques for including handicapped children and sharing responsibilities with other educators, they had a change of attitude. When both regular and special education teachers understand that the philosophy behind inclusion assumes that everything that is needed by the handicapped child for his/her success will be provided within the same setting with their non-handicapped peers, they were more accepting. This acceptance is based on educators having clearly defined roles with adequate support systems in place (p.143).

There is a possibility of more opportunity for transformative experiences the longer one teaches students with disabilities (Giangreco et al., 1993).

Winzer (1987) claimed that teachers' attitudes were critical because the attitudes held by regular classroom teachers can positively or adversely affect student achievement. Because including students with disabilities into regular classrooms appears to be the current philosophy, general education teachers are becoming increasingly responsible for educating students with special needs in their classrooms (Stanovich, 1999). Therefore, it is important to investigate teachers' attitudes toward the placement of students with disabilities into regular classrooms.

The Teachers' Attitudes/Placement scale in the present study measured attitudes of teachers toward the placement (segregation, integration and full inclusion) of students with disabilities and was included in order to have a longitudinal component to this present study. The
Teachers’ Attitudes/Placement scale in this study was taken from an original 1974 survey (Appendix C) (Hambleton & Ziegler, 1974), that was adapted and sent out in 1994 (Appendix D) (Giddens, 1994) and adapted again for this present 1999 study (Appendix B). One adaptation was to update the terminology. In 1974, the term “mentally retarded” was used, in 1994, “developmentally handicapped” and in 1999, “students with disabilities.” In 1994, question number 6. (Appendix D) concerning full inclusion was added to the original 1974 Teacher Attitude scale.

6. All of the developmentally handicapped students would probably benefit from full-time placement (full inclusion) in regular classes.

In 1999 another question dealing with full inclusion, number 9. (Appendix B, Section A) was added.

9. Students with disabilities placed in classes with full inclusion can have effective special education delivered solely within those classes.

In the present study, the Teachers’ Attitudes/Placement section might be comparable to both Stanovich’s Teacher Attitude 1 and to parts of the Attitudes variable in Roach’s (1998) study as it was also a pencil and paper task. When looking closely at the measures of the Attitude Toward Mainstreaming Scale (ATMS) and the Regular Education Initiative Survey (REITS), there are similarities in wording and concepts to the present study’s Teachers’ Attitudes/Placement scale. The following are some examples of the current study compared to statements from the REITS and ATMS scales:

- Students with disabilities placed in classes with full inclusion can have effective special education delivered solely within those classes as compared with the statement from the
REITS. If mildly handicapped students are placed full time in regular education classes, effective special education can be delivered solely within those classes.

- All of the students with disabilities would probably benefit from full-time placement (full inclusion) in regular class compared to the statement from the ATMS. Educable mentally retarded students should be in regular classrooms.

In the Stanovich (1994) and Roach (1998) studies, one construct (Attitudes and Beliefs) was established. In the present study, the survey statements representing Teachers' Beliefs and Teachers' Attitudes/Placement were distinguished from each other as they appeared to be measuring separate constructs. This had the added benefit of exploring how each factor relates to teachers' self-reported practices in the classroom. In the present study, teachers' attitudes to the placement of students with disabilities and their views about the implications of such a placement for student benefits and staff guidance were being examined.

The following statements made up the Teachers' Attitudes/Placement scale (Table 2):

- Students with disabilities should be solely the responsibility of their own special teacher and aides.
- Students with disabilities should be housed in classrooms separated from the classrooms of non-handicapped students.
- Non-disabled students in the school benefit from their interaction with students with disabilities.
- Students with disabilities benefit from their interaction with the non-disabled students in the school.
- Some of the students with disabilities would probably benefit from part-time placement in regular classes.
- All of the students with disabilities would probably benefit from full-time placement (full inclusion) in regular classes.
- Most teachers and educational assistants would need special guidance to adequately supervise the students with disabilities.
- Most teachers would need special guidance to adequately teach students with disabilities.
- Students with disabilities placed in classes with full inclusion can have effective special education delivered solely within those classes.
Teacher Self Efficacy

Teacher self efficacy is important to study as it appears to affect teacher practices and student learning in the classroom. The internal skills and abilities teachers feel they possess have been shown to have strong association with teaching behaviors (Gibson & Dembo, 1984). Efficacy has been researched primarily relative to teacher behavior and student achievement, and has varied with respect to definition and conceptualization (Smylie, 1990).

Beginning with research in the 1970's (Armor, 1976; Berman & McLaughlin, 1978), teacher efficacy was first conceptualized as teachers' general capacity to influence student performance. The concept of teacher efficacy has continued to develop and now frequently is discussed relative to Bandura's (1977) concept of self-efficacy, which addresses the importance of a teacher's belief in his or her own ability to bring about student learning. According to Bandura (1981), behavior is affected by both outcome expectations and efficacy expectations. Outcome expectations are the judgments an individual makes about the likely consequences of specific behaviors in a particular situation or context. Efficacy expectations are an individual's beliefs about his or her own capability to achieve a certain level of performance in that situation or context. Gibson and Dembo (1984) developed a questionnaire to measure these two dimensions of teacher efficacy. Their Teacher Efficacy Scale asked respondents to rate 30 statements on a six-point Likert scale ranging from "strongly agree" to "strongly disagree." The first factor was interpreted by Gibson and Dembo as representing "a teacher's sense of personal teaching efficacy, or belief that one has the skills and abilities to bring about student learning" (p. 573). The second factor identified a "teacher's sense of teaching efficacy, or belief that any teacher's ability to bring about change is significantly limited by factors external to the teacher" (Gibson & Dembo, 1984, p. 574).
In a later investigation, Woolfolk and Hoy (1990) used a revised version of the Teacher Efficacy Scale to measure perceived efficacy in 182 prospective teachers enrolled in a teacher education program at a large state university. Hoy and Woolfolk (1993) observed that personal efficacy was higher among practicing teachers who had taken extra graduate courses in education. That is, general efficacy increased linearly for the first three years of the undergraduate experience but, unlike personal efficacy, declined after student teaching.

Allinder (1995), using the Teacher Efficacy Scale (Gibson & Dembo. 1984). found that resource teachers high in personal efficacy tended to exhibit greater organization, planning, fairness, enthusiasm, and clarity in instruction. These high-efficacy teachers also were more inclined toward instructional experimentation, a willingness to try a variety of materials and approaches to teaching, and implement progressive and innovative techniques (p. 89). This result is consistent with research involving regular education teachers (e.g., Guskey. 1988; Smylie. 1988). Bender and Ukeje (1989). in their observations of groups of high efficacy and low efficacy teachers, revealed that teachers who rated themselves as high efficacy do engage in more effective teaching behaviors than teachers who rated themselves lower in teaching efficacy.

Guskey and Passaro (1994) found that the two components of Gibson and Dembo's (1984) efficacy measures can be aligned with internal versus external locus of control. Personal efficacy relates to teachers' sense of self, while teaching efficacy relates to teachers' beliefs about the characteristics of other teachers, or the teaching profession in general. Guskey and Passaro (1994) indicated from their study that although the perceptions of the influence of these two factors were somewhat related, they appeared to act independently. Guskey and Passaro's (1994) work leads one to conclude that the personal efficacy subscale of the Gibson and Dembo (1984) teacher survey is a valid measure of teachers' perceptions of their own effectiveness as teacher.
In the present study, the measure Teacher Self Efficacy, is a subset of eight items from Gibson and Dembo’s (1984) Teacher Efficacy Scale (TES), adapted by Johnston (1993) and Jordan et al. (1993). A proxy for self-efficacy consisted of a subtest of the original items in Gibson and Dembo’s (1984) “personal efficacy” subscale. It was used as the basis for this survey as a result of Guskey and Passaro’s (1994) analysis of the validity of the personal efficacy subscale.

As in the Roach (1998) study, and in order to avoid the questionable validity of the General Efficacy subscale, only the Personal Efficacy subscale of the TES was used in the present study. The efficacy section of this survey was constructed using statements containing the most important scaled items of previous efficacy research.

The original item in the Rand Corporation study (Ashton & Webb, 1986) that had very high reliability was “When I really try, I can get through to most difficult students.” This statement was adapted in the present study to focus on students who were developmentally handicapped thus focusing on a specific special needs. The other seven items used in this study share in identifying a teachers’ sense of his or her own ability to be successful in positively influencing student learning outcomes.

The present study examined Teacher Self Efficacy to determine if this measure predicted Teachers’ Attitudes/Placement and Teachers’ Beliefs about inclusion as well as the outcome measures of Teachers’ Skills and Teachers’ Practices. The following statements are from Gibson and Dembo (1984) and adapted by Johnston (1993) and Jordan et al. (1993) and make up the Teacher Self Efficacy Scale (Table 2). The italicized statements were not adapted but were from the original scale from Gibson and Dembo (1984).
• If I put just a little more effort into teaching, I can turn on even the most reluctant students.
• If I try really hard, I can get through to even the most difficult developmentally handicapped student.
• If a student lacks motivation, I know I can encourage him/her to learn in the classroom.
• *If one of my students could not do an assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.*
• If a student did not understand the information I gave in a previous lesson, I would know how to reteach the lesson, enabling the student to learn it.
• *When a student does better than usual, many times it is because I exerted a little extra effort.*
• I know I can teach any student(s) in my classroom.
• *When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.*

**School Norm/Support**

How teachers view the supports they receive toward integration may impact their skills and practices in the classroom. Ajzen (1985, 1988) investigated why people did or did not choose to perform certain behaviors. According to Ajzen’s theory, the immediate determinant of any behavior is a person’s intention to perform that behavior. The intention to perform the behavior is determined by the person’s attitude toward the behavior, the subjective norm surrounding the performance of the behavior, and the amount of perceived behavioral control the person has over the behavior. Attitude is the degree the person evaluates the behavior, subjective norm refers to perceptions of how others who are important to the person evaluate the behavior, and perceived behavioral control is how easy or difficult the person perceives the behavior to be, and availability of resources and opportunity. Subjective Norm, reconceptualized School Norm in Stanovich (1994) is, according to Ajzen (1985, 1988), the person’s perception of how people who are important to him or her evaluate the behavior in question. Therefore, if a particular behavior is evaluated favorably by people as important, a person is more likely to form an intention to perform that specific behavior. This means in a school setting, if the teachers hold a particular
behavior in high regard, they are more than likely to perform that behavior. Rosenholtz (1985, 1989) and Little (1990) both suggest that cohesiveness and collaboration among all staff members act to compel individuals to internalize their goals in the school atmosphere. To provide a positive school atmosphere to support the inclusion of students with special needs, an atmosphere of collaboration and a process of in-service needs to be established in the schools. Collaboration to support inclusive education is most likely to be successful when it is one facet of an overall school culture that encourages and supports collaboration among all members (Walther-Thomas, Korinek, McLaughlin & Williams, 2000). Villa, Thousand, Meyers and Nevin, (1996) stated that for both general and special educators, administrative support and collaboration were powerful predictors of positive attitudes toward full inclusion. General educators report that they are typically not well prepared for receiving students with disabilities in their classrooms (Kearney & Durand, 1992). King-Sears (1995) reported that general educators need more information to effectively implement inclusion.

Munson (1986) reported that teacher preparation programs must provide pre-service and in-service training in specific competencies to ensure teachers are able to individualize educational programs to meet the learning needs of students with disabilities integrated into a regular classroom. Tashie, Shapiro-Bernard, Dillon, Schuh, Jorgensen and Nisbet (1993) suggested that pre-service and in-service training prior to the onset of an inclusive program may be crucial to the success of an inclusion program because most teachers have not had experience with individuals with significant learning or physical challenges.

A report presented at the National Commission on Teaching and America’s Future to improve the U.S. educational system (associated with inclusion), calls for improved and extended pre-professional training: for professional opportunities that go beyond the “unproductive
'hit-and-run' workshops" (Cook, Semmel, & Gerber, 1999).

The School Norm/Support scale in this study is a proxy for "School Norm" as defined by Stanovich (1994) and expanded by Roach (1998). In the present study, School Norm/Support was defined as how regular and special education teachers' view the supports they are receiving for inclusion of students with disabilities into their classrooms. In Roach's (1998) study an effort was made to expand Stanovich's (1994) measurement of School Norm to include perceptions of resource teachers as well as principals.

In this study, the School Norm/Support scale was composed of original statements developed by the author. Both Stanovich (1994) and Roach (1998) found that School Norm affects practices in the classroom. In keeping with Stanovich and Roach's findings, a direct path between School Norm/Support and the outcome measures of Teachers' Skills and Teachers' Practices was predicted in this investigation.

The following items make up the School Norm/Support scale (Table 2):

- I am committed to the growth/learning of all students, irrespective of their learning rates.
- I am given the appropriate inservice essential for mainstreaming.
- I am well informed about the process of mainstreaming.
- I view myself as a partner with parents in the educational process.
- I am satisfied with the supports provided all students in mainstreamed programs.

**Present Study Path Model**

The present study built on the comprehensive models of Stanovich (1994) and Roach (1998) that identified predictors that affect outcomes in the classroom. The arrows in the current path model (Figure 1) are configured in this manner based on the synthesis of Stanovich's (1994) model, which was based on Ajzen (1985, 1988) and Roach's (1998) model which was based on Stanovich's (1994) model. These would lead to the prediction that Teachers' Skills and Practices (the outcome measures) would be predicted by Teachers' Attitudes about placement, and by
Teachers' Beliefs about their roles and responsibilities in teaching students with disabilities. These in turn would be predicted by School Norm/Support and by teachers' sense of their personal Self Efficacy as teachers. A direct relationship between School Norm/Support and Teachers' Skills and Practices was predicted. A direct relationship between Teacher Self Efficacy and Teachers' Skills and Practices was further predicted. These relationships justified the patterns of relationships that were entered into the path model (Figure 1).

Therefore, this study posited that School Norm or the supports teachers feel they receive in their work in integrating students with disabilities, and Teacher Self Efficacy, are predictors of Teachers' Attitudes/Placement and Teachers' Beliefs. Further, Teachers' Attitudes/Placement and Teachers' Beliefs are predictors of Teachers' Skills and Practices in integrated classrooms. This present study was inspired by the Stanovich (1994) and Roach (1998) models. Their models provided a framework for this present study. It was hoped that the results of this study would provide useful information for teachers, administrators and educators involved in the inclusionary process.
Rationale for the Longitudinal Component of the Present Study

Hambleton and Ziegler. (1974)

In 1974, a survey (Appendix C) funded by the Ministry of Education, Government of Ontario, was sent out to a large urban school board and integration sites in Ontario. The integrated sites housed students with developmental disabilities. The survey was sent to principals to give to their teachers to complete. Seventy-four completed surveys were analyzed. The percentage responses are presented in Table 5 in the Results section. The results indicated almost unanimous agreement that regular students benefit from their interactions with students with developmental disabilities. While 74% of the teachers felt that some of the students with disabilities would probably benefit from part-time placement in regular classes, 12% disagreed that there would be any benefit. Although the size of the sample was small, in those settings in which students with disabilities and regular students were housed, teachers of regular students expressed positive reactions toward placement.

Giddens. (1994)

The main purpose of the 1994 study was to determine if teachers' attitudes from 1994 (after 20 years of integration) differed from teachers' attitudes of 1974 (at the beginning of integration). An investigation of the attitudes of teachers from the 1994 sample toward the concept of integration and full inclusion of students with developmental handicaps was also researched. The 1994 survey (Appendix D) was sent to teachers in large urban school boards in Ontario. The return was 140 surveys that were completed and analysed. The return rate was more than 50%. Of the overall surveys received, 75% were completed by females and 25% were completed by males. The average length of time teaching was 15 years. In terms of grade levels
taught, the number of teachers who taught Kindergarten to grade five was 30%. Grades six to eight was 29% and grades nine to thirteen was 25%. The 1994 survey consisted of eight statements in which the teachers were asked to indicate if they agreed, disagreed or remained neutral with the statement. They were also asked to rank the statements in level of importance with 1 being the highest and 8 being the lowest in importance to them. The 1994 survey differed from the original 1974 survey in updated terminology and a question referring to full mainstreaming (full inclusion) was added. The ranking, the demographic data and the comments section were added to the 1994 survey.

The results of the 1994 study indicated that after 20 years of experience with integration, teachers appeared to have a more positive attitude toward integration. Segregation was regarded more negatively than it was in 1974. The benefits for students, with or without disabilities, being integrated together, remained positive in both the 1974 and 1994 survey. Partial integration was more favourably seen in 1994. The attitudes of teachers, although supportive toward partial integration, were negative toward full mainstreaming (full inclusion). Teachers in 1994 expressed the importance of teacher guidance and training in working with students with developmental handicaps. The results of the 1994 study are presented in Table 5 in the Results section.

Present Study Longitudinal Component, 1999

In this study, the changes in attitudes of teachers toward the placement of students with disabilities over a 25 year time span from 1974 to the present were examined. The Giddens (1994) Teachers' Attitudes/Placement scale (Appendix D) replicated the original Hambleton and Ziegler (1974) scale (Appendix C) and was replicated again in this present study. The 1999 scale (Appendix B) had changes in terminology and an addition of a question involving full inclusion.
Teachers' Attitudes/Placement was measured three times in the 25 year time span. In 1974, integration of students with special needs was just beginning and in 1994, one could find students with disabilities partially and fully integrated in Ontario schools. In 1999 and into the twenty-first century a full inclusionary model is becoming the accepted practice in teaching students with disabilities (Walther-Thomas, et al., 2000).

Thus, this present study enabled the possible assessment of any trends in attitude of teachers toward integration of students with disabilities that have changed or endured over the final quarter of the century.
Purpose

The questions addressed in this study are:

1. Based on the theoretical framework of Stanovich (1994) and Roach (1998), what variables predict teachers' self-reported practices in integrating students with disabilities into regular classrooms?

2. Since one measure used to examine teachers' attitudes in 1999 was also administered to teachers from this population in 1974 and 1994, what can be deduced from changes in teachers' attitudes toward integration over time?
CHAPTER III
Method

Participants

The 1999 survey (Appendix B) in this study was sent out to elementary teachers in a large urban school board in Ontario, Canada. The school board with elementary and secondary panel combined, in 1999, consisted of approximately 300,000 students enrolled in 565 schools. Eight hundred and eighty-four teachers of approximately 10,000 elementary teachers responded to the survey, a return of 8.84%. These teachers' responsibilities included teaching students from Junior Kindergarten to Grade 8. The characteristics of the sample are reported in the Results chapter.

Measure

The survey (Appendix B) was the single measure used in this study and was designed to have teachers respond in a pencil to paper format to different sections which was a composite of previous instruments and some original items. The survey was reviewed and approved by the research committee of a large urban school board in Ontario before it was authorized to be sent out to schools. It was printed on both sides of a single sheet of paper (21.5 cm x 28 cm) and stapled in the corner to produce two pages. It was designed to contain items (nine sections in order as they appear in the survey) which reflect the following variables: Teachers' Attitudes/Placement, Demographics, Teacher Self Efficacy, Teachers' Beliefs, Teachers' Skills, Teachers' Practices, School Norm/Support, Ranking and Comments.

1. Teachers' Attitudes/Placement: The first section (Appendix B, Section A) of the survey
was used to assess teacher attitudes toward placement of students with disabilities. This section permitted comparisons of longitudinal and cross-sectional comparisons with earlier data. The scale was used by Giddens (1994) (Appendix D) which replicated a scale (Hambleton & Ziegler, 1974) administered in 1974 (Appendix C). The Hambleton and Ziegler (1974) scale was sent out to teachers in Ontario by a school board research team when students with developmental handicaps were just being integrated into the regular stream. Seventy-four teachers responded to the 1974 survey.

The Giddens (1994) survey was sent out to teachers in large urban school boards in Ontario. One hundred and forty teachers responded to the survey. The Giddens (1994) survey replicated the Hambleton and Ziegler (1974) study as well as adding more questions concerning full inclusion. In 1974, students with ‘developmental handicaps’ were known as ‘mentally retarded’, but in 1994 the term ‘mentally retarded’ was no longer used. In the survey for the present study the term ‘student with disabilities’ was used instead of developmentally handicapped and mentally retarded. thus terminology in the surveys was changed to reflect the appropriate terms of the day. In the 1999 survey (Appendix B), disabilities were defined as students who were identified as exceptional (i.e., Physical, Developmental. Emotional/Behavioural and Learning Disabilities) excluding Gifted and ESL students. Students receiving additional assistance on a regular basis in a Special Programs setting or clearly showing evidence of a disability were also included in the definition.

The Teachers’ Attitudes/Placement scale of the 1999 survey (Appendix B, Section A) incorporated both the Hambleton and Ziegler (1974) and Giddens (1994) items. The
differences between the Giddens (1994) survey and 1999 surveys were the terminology from students with 'developmental handicaps' to students with 'disabilities.' In addition, a statement on full inclusion was also included (as to reflect the recent move by school boards in Ontario toward a full inclusionary model). The Teachers' Attitudes/Placement scale asked the participants to Agree, be Neutral or Disagree with the 9 statements, as well as to rank the statements (from 1 being the highest to 9 being the lowest) in order of importance to them.

2. Demographic Data: The second section (Appendix B, Section B) of the 1999 survey was a request for demographic data about the participating teachers. The areas covered (questions 2-8) were years of teaching, level of teaching, number of students in class, highest academic degree, special education training, gender, and experience teaching students with handicaps. A second part of this section (Appendix B, Section C, questions 9-13) focused on whether the participants had students with developmental handicaps in their classrooms and the levels of the students (mild, moderate and severe).

3. Teacher Self Efficacy: The third section (Appendix B, Section D) examined teacher self efficacy. Teacher self efficacy items were taken from Gibson and Dembo (1984) and adapted by Johnston (1993) and Jordan et al. (1993). This section was composed of eight items.

4. Teachers' Beliefs: The fourth section (Appendix B, Section D) of the survey contain one of Schumm. Vaughn. Gordon and Rothlein's. (1994) scales which ask teachers to indicate their beliefs they currently have for planning, assessment and adaptation of their programming in their classrooms. This section was composed of ten items.
5. Teachers' Practices: The fifth section (Appendix B. Section D) of the survey was composed of the measure from Schumm et al.'s (1994) survey measuring self reports of teacher practices in the classroom in the following areas: using information, long and short range planning, grouping students, adapting course content, varying timing and pace, adjusting tests and evaluation criteria, monitoring progress, and individualizing instruction. This section was composed of nine items.

6. Teachers' Skills: The sixth section (Appendix B. Section D) of the survey contain one of Schumm et al.'s (1994) scales which ask teachers to indicate their skills in adapting, and providing individualized instruction for students with disabilities in the classroom. This section was composed of ten items.

7. School Norm/Support: The seventh section (Appendix B. Section D) consisted of original items pertaining to the support which teachers perceive they receive regarding inclusion of students with special needs in their classrooms. This section was composed of five items.

Teacher Self Efficacy, School Norm/Support, Teachers' Beliefs, Teachers' Skills and Teachers' Practices were all measured using a five-point Likert scale: strongly disagree, moderately disagree, disagree slightly more than agree, moderately agree and strongly agree.

8. Teachers' ranking of items important to integration: The eighth section (Appendix B. Section E) asked teachers to rank a series of 12 items (from 1 being the most important to 12 being the least important to them) in significance in terms of integration of students with disabilities. Teachers' responses indicated their rank order of preferences to the following: supportive school administration, class size, a good working relationship with the parents of students with disabilities, appropriate curriculum materials for the
classroom. school board in-service. use of technology to assist students with disabilities.
resource documents that include examples of successful integration practices. release time
to work with the educational assistant. collaboration with resource staff (i.e.. health care.
consultants). more specialized services. assessment. testing and reporting and adaptation
of instruction.

9. Comments: The final section (Appendix B. Section E) provided the teachers with an
opportunity to have an open-ended commentary. Teachers were invited to express their
opinions on integration or any other topic they wished to discuss under the heading
"Comments."

Data Collection

The 1999 survey (Appendix B) was sent out to elementary and junior high school settings
in a large Canadian public school board system through inner board courier service in May. 1999.
The complete package was addressed to the principals. The package included a covering letter
(Appendix E) asking the principals' assistance in handing out the surveys. a letter directed to the
teachers (Appendix F). the survey itself (Appendix B). and return labels. The labels provided
teachers a method of returning the completed surveys directly to the investigator through the
inner board courier service. in sealed envelopes to ensure confidentiality.

Five hundred school principals were targeted to receive the package. An e-mail reminder
was sent as a follow-up to principals. There was no control over how many principals actually
received the e-mail. or acknowledged it or distributed the surveys to the teachers in their schools.
Of the approximate 10.000 teachers in the elementary panel in the school board. 884 teachers
returned completed forms by May 31. 1999. Some principals returned uncompleted surveys (381)
commenting that the time of year, May, was a busy one for the teachers. It is uncertain how many principals actually handed out the surveys to the teachers. Therefore, it is difficult to estimate how many teachers actually received the survey in hand. Thus, 1265 or 12.65% of the original surveys distributed could be accounted for. The potential for sampling bias will be discussed in the Discussion section.

**Internal Consistency**

**Cronbach's Alpha.**

Cronbach's Alpha is an index of reliability associated with the variation accounted for by the true score of the "underlying construct." A construct is the hypothetical variable that is being measured (Hatcher, 1994). According to the SPSS for Windows manual (1999), Cronbach's Alpha is designed as a measure of internal consistency: in other words, do all items within the instrument measure the same thing? Cronbach's Alpha is a measure of squared correlation between observed scores and true scores. The relationship between true score and observed score should be strong. In this study, items contributing poorly to the subscale were dropped. The path model had to be revised as the Cronbach's Alpha were not strong in some of the areas of the constructs; therefore the best scales and subscales with the strongest Cronbach's Alpha for the final path model were used in all sections (Table 2). The items with the strongest Cronbach's Alpha in Table 2 are boldly highlighted.
Table 2

Item Reliability

Item reliability estimates for items retained in final path model (in bold) and items dropped from final model (regular font). The Cronbach's $\alpha$ for the items retained in the analysis is also shown.

Teaches' Practices

As a teacher:

1. I use information sources such as the students IEP to plan for mainstreamed students in my classroom.
2. I adapt daily planning for mainstreamed students.
3. I vary group composition for mainstreamed students.
4. I adapt course content for the mainstreamed students in my classroom.
5. I adjust the time and pace of a lesson for mainstreamed students.
6. I adapt these tests for mainstreamed students.
7. I use frequent checks with individual students to monitor the progress of mainstreamed students.
8. I provide individualized instruction for mainstreamed students.
9. I use individualized/different criteria when evaluating the assignments and tests of mainstreamed students.

Cronbach's $\alpha = .91$

Teachers' Skills

I am skilled at:

1. using a variety of information sources (e.g., IEPs, parents, student feedback) of mainstreamed students.
2. designing short term plans that meet the needs of my mainstreamed students.
3. designing long term plans that meet the needs of my mainstreamed students.
4. appropriately pacing and timing the presentation of content material for my mainstreamed students.
5. grouping for instruction so that the needs of all my students are effectively met.
6. designing tests that effectively monitor progress of mainstreamed students.
7. using individualized/different criteria when evaluating the assignments and tests of mainstreamed students.
8. adapting course content to meet the needs of my mainstreamed students.
9. using frequent checks to monitor the progress of my mainstreamed students.
10. providing individual instruction for mainstreamed students.

Cronbach’s α = .94

Teachers’ Beliefs

I believe that:

1. information sources such as the student’s IEP, educational and psychological reports are useful in planning for mainstreamed students in my classroom.
2. long-range instructional planning (e.g., yearly, semester, monthly) needs to be adapted for mainstreamed students.
3. that short-range planning (e.g., daily and weekly) needs to be adapted for mainstreamed students.
4. varying group composition (e.g., small group, large group whole class) is important for mainstreamed students.
5. course content needs to be adapted for the mainstreamed students in my classroom.
6. the time and pace of a lesson must be adjusted to meet the needs of mainstreamed students.
7. the tests I design for my regular education students need to be adapted for my mainstreamed students.
8. frequent checks with individual students are an effective way to monitor the progress of mainstreamed students.
9. providing individualized instruction according to the students’ needs helps mainstreamed students.
10. using individualized (or different) criteria for grading assignments and tests is important when evaluating mainstreamed students.

Cronbach’s α = .88

Teachers’ Attitudes/Placement:

1. Students with disabilities should be solely the responsibility of their own special teacher and aides.
2. Students with disabilities should be housed in classrooms separated from the classrooms of non-handicapped students.
3. Non-disabled students in the school benefit from their interaction with students with disabilities.
4. Students with disabilities benefit from their interaction with the non-disabled students in the school.
5. Some of the students with disabilities would probably benefit from part-time placement in regular classes.
6. All of the students with disabilities would probably benefit from full-time
placement (full inclusion) in regular classes.

7. Most teachers and educational assistants would need special guidance to adequately supervise the students with disabilities.

8. Most teachers would need special guidance to adequately teach students with disabilities.

9. Students with disabilities placed in classes with full inclusion can have effective special education delivered solely within those classes.

Cronbach’s α = .68

Teacher Self Efficacy:

1. If I put just a little more effort into teaching, I can turn on even the most reluctant students.

2. If I try really hard, I can get through to even the most difficult developmentally handicapped student.

3. If a student lacks motivation, I know I can encourage him/her to learn in the classroom.

4. If one of my students could not do an assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.

5. If a student did not understand the information I gave in a previous lesson, I would know how to reteach the lesson, enabling the student to learn it.

6. When a student does better than usual, many times it is because I exerted a little extra effort.

7. I know I can teach any student(s) in my classroom.

8. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.

Using best Cronbach’s α = .77

School Norm/Support:

1. I am committed to the growth/learning of all students, irrespective of their learning rates.

2. I am given the appropriate inservice essential for mainstreaming.

3. I am well informed about the process of mainstreaming.

4. I view myself as a partner with parents in the educational process.

5. I am satisfied with the supports provided all students in mainstreamed programs.

Using best Cronbach’s α = .80
In this study, in order to get the best Cronbach’s Alpha, some items were removed in the Teachers’ Attitudes/Placement, Teachers’ Beliefs, Teachers’ Practices and School Norm/Support scales. The Teacher Self Efficacy and Teachers’ Skills scales of the survey remained reliable. The following shows the items that were either retained with the strongest Cronbach Alpha’s or those that were removed to obtain the strongest Cronbach Alpha’s.

**Teachers’ Practices**

In the Teachers’ Practices scale, by removing the first statement, *As a teacher I use information sources such as the students IEP to plan for mainstreamed students in my class*, the Cronbach’s Alpha became stronger. With all statements retained, the Alpha was .90 and by removing this first statement the Alpha improved to .91.

**Teachers’ Skills**

In the Teachers’ Skills scale keeping all statements, the Cronbach’s Alpha was very high at .94. Therefore, all statements were retained.

**Teachers’ Beliefs**

In the Teachers’ Beliefs scale, the first statement, *I believe that information sources such as the student’s IEP, educational and psychological reports are useful in planning for mainstreamed students in my classroom*, was removed to increase the Cronbach’s Alpha. With all statements, the Cronbach’s Alpha was .87 and by removing this first statement, the Alpha improved to .88.

**Teachers’ Attitudes/Placement**

As a result of omitting weak items, the Cronbach’s Alpha reliabilities were raised from .52 on all items to .68 on the following four items in the Teachers’ Attitudes/Placement scale which
were retained.

1. Students with disabilities should be solely the responsibility of their own special teacher and aides.

2. Students with disabilities should be housed in classrooms separated from the classrooms of non-handicapped students.

3. Non-disabled students in the school benefit from their interaction with students with disabilities.

4. Students with disabilities benefit from their interaction with the non-disabled students in the school.

The first two items in the Teachers' Attitudes/Placement scale seem to reflect a negative attitude and were entered into the analysis as a 3-score; they were therefore converted to be in the same direction on the three point scale as other items in this section.

Teacher Self Efficacy

The Cronbach's Alpha in the teacher self efficacy scale was .77 which is considered acceptable. No items were removed.

School Norm/Support

In the School Norm/Support section, the Alpha was .70 with all statements retained and improved to .80 when removing the 1st and 4th statements (I am committed to the growth/learning of all students, irrespective of their learning rates and I view myself as a partner with parents in the educational process). The following three statements were retained. I am given the appropriate inservice essential for mainstreaming, I am well informed about the process of mainstreaming, and I am satisfied with the supports provided all students in mainstreamed
programs.
CHAPTER IV

Results

The reporting of the results will respond to the two purposes as stated earlier:

1. Based on the theoretical framework of Stanovich (1994) and Roach (1998), what variables predict teachers' self-reported practices in integrating students with disabilities into regular classrooms?

2. Since one measure used to examine teachers' attitudes was also administered to teachers from this population in 1974 and 1994, what can be deduced from changes in teachers' attitudes toward integration over time?

The results of this study are discussed in the following order: teacher demographics, correlation matrix, path analysis, attitudes longitudinal component, teacher ranking of successful inclusion, and comments section connected to the survey.

Teacher Demographics

Demographic data are displayed in Table 3. The majority of teachers responding to the survey had taught less than fifteen years. Fifty-seven per cent of the teachers reported earning a Bachelor of Education as their highest academic degree. Twenty-five per cent were teaching JK to grade one, thirty-five percent of the teachers responding to the survey were teaching grades two to five, and twenty-six percent of the teachers were teaching grades six to eight. Sixty per cent had Special Education training and seventy-eight per cent had some experience teaching students with disabilities. Eighty per cent of the teachers responding to the survey were women and twenty per cent were men. The majority of teachers had less than ten years experience.
regular class without students who had been formally identified as exceptional (61%). Teachers teaching in congregated or self contained classes made up only a small percentage of the respondents (6%).

The Hambleton and Ziegler (1974) survey (Appendix C) did not ask for demographics of their teacher sample. The Giddens (1994) survey (Appendix D) asked for demographics in the following areas: years of teaching, level of teaching and gender. The mean for years of teaching of the 1994 sample of 140 teachers was 16. The levels of teaching was Kindergarten to grade five 27%, grades six to grade eight, 26% and seniors, 22%. (It is important to note that developmentally handicapped students were housed in the elementary panel up to the age of 21. therefore using the level, senior). In the 1994 survey 25% of the teachers were male and 75% were female.

The school board demographics (i.e., years of teaching, highest degree, gender, etc.) of the 10,000 elementary teachers targeted in the 1999 survey were not attainable to the investigator.
Table 3

Demographics of Teachers in current study (n=884)

<table>
<thead>
<tr>
<th>Years teaching</th>
<th>1 - 5</th>
<th>6 - 10</th>
<th>11 - 15</th>
<th>16 - 20</th>
<th>21 - 25</th>
<th>26 - 31</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26%</td>
<td>21%</td>
<td>13%</td>
<td>10%</td>
<td>11%</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Currently teaching grades</th>
<th>JK - 1</th>
<th>2 - 5</th>
<th>6 - 8</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25%</td>
<td>35%</td>
<td>26%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Highest number of students in class at one time (mode) 25

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16%</td>
<td>57%</td>
<td>5%</td>
<td>13%</td>
<td>.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special education training</th>
<th>Yes</th>
<th>60%</th>
<th>No</th>
<th>40%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>20%</th>
<th>Female</th>
<th>80%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Experience teaching students with disabilities</th>
<th>Yes</th>
<th>78%</th>
<th>No</th>
<th>22%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Number of Years experience teaching students with disabilities</th>
<th>1 - 5</th>
<th>6 - 10</th>
<th>11 - 15</th>
<th>16 - 20</th>
<th>21 - 25</th>
<th>26 - 31</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>51%</td>
<td>22%</td>
<td>9%</td>
<td>8%</td>
<td>3%</td>
<td>1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Currently teaching in regular class</th>
<th>Yes</th>
<th>61%</th>
<th>No</th>
<th>33%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Segregated (self-contained) class</th>
<th>6%</th>
</tr>
</thead>
</table>
**Correlation Matrix:**

Table 4 presents a correlation matrix of the measures of the present study: Teachers’ Practices, Teachers’ Skills, Teachers’ Beliefs, Teachers’ Attitudes/Placement, Teacher Self Efficacy, and School Norm/Support. School Norm/Support and Teachers’ Beliefs were not significantly correlated (.049). Teachers’ Skills and Teachers’ Practices, the outcome variables in this model, were highly correlated (.702) with each other.

**Table 4**

**Correlation Matrix for Composite Scores**

<table>
<thead>
<tr>
<th>Measures</th>
<th>Attitudes/Placement</th>
<th>Teacher Self Efficacy</th>
<th>Teachers’ Beliefs</th>
<th>Teachers’ Practices</th>
<th>Teachers’ Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy</td>
<td>.174**</td>
<td>.325**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beliefs</td>
<td>.103*</td>
<td>.383**</td>
<td>.664**</td>
<td>.702**</td>
<td>.417**</td>
</tr>
<tr>
<td>Practices</td>
<td>.168**</td>
<td>.543**</td>
<td>.512**</td>
<td>.260**</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>.159**</td>
<td>.334**</td>
<td>.049</td>
<td>.260**</td>
<td></td>
</tr>
<tr>
<td>School Norm</td>
<td>.137**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

**Correlation is significant at the 0.05 level (2-tailed).**

Listwise n=615

Listwise missing-value treatment was done. A case was eliminated if it had a missing value for any variable in the list.
**Path Analysis**

Path Analysis was used to examine the first purpose as stated above. Specifically, a path model was fit to allow for the estimation of paths between (from right to left) Teachers' Practices and Teachers' Skills, Teachers' Beliefs, Teachers' Attitudes/Placement, Teacher Self Efficacy and School Norm/Support (Figure 1). The second step was to eliminate paths if there was a small t-value (Figure 6). The analysis of data first examines the correlates and predictors of the outcome measures of Skills and Practices in terms of the path model displayed in Figure 1. Path Analysis is a procedure that helps the researcher explore the implications of a previously specified model or models. Further, Path Analysis enables the exploration in this study of the previous models of Stanovich (1994) (Figure 3) and Roach (1998) (Figure 5). The object of Path Analysis is to examine the goodness of fit of the model to the data. It is a method of graphing the web of associations among the variables. Because the direction of relationships is specified ahead of the analysis, causes and effects can tentatively be inferred. Arrows are used to show the direction of causation and the number above the arrows are beta weights which show the strength (Brownell & Pajares, 1999).

The first path model as displayed in Figure 6 was based on best Cronbach's Alphas. The beta weight for all significant paths are indicated in Figure 6. The results indicate that Teachers' Practices are predicted by Teachers' Skills (beta weight .49) and Teachers' Beliefs (beta weight .41). Teachers' Skills are predicted by Teachers' Beliefs (beta weight, .39). Teacher Self Efficacy (beta weight .32), and School Norm/Support (beta weight, .29). Teachers' Beliefs are predicted by Teacher Self Efficacy (beta weight .33). Teachers' Attitudes/Placement are predicted by Teacher Self Efficacy (beta weight .14) and School Norm/Support (beta weight .089). All beta
Figure 6: Results from Path Analysis of First Revised Model
weights reported were significant. Teachers’ Attitudes/Placement did not predict either Teachers’ Skills or Practices.

The path model (including the Teachers’ Attitudes/Placement measure) which is summarized in Figure 6 was fit using LISREL 8.3. The Goodness of Fit Statistics were calculated to see if the model fits the data. In summarizing, the most important Goodness of Fit statistics were the following: The Root Mean Square Error of Approximation (RMSEA) was equal to 0.043, or significant at p<.05, and the upper confidence limit is below .08. A chi-square test of exact fit = .048 which is also significant at p< .05. Finally, the Expected-Cross Validation Index (ECVI) for the model is .07 which is marginally above the ECVI for the saturated model independence which is p<.069. Based on the Goodness of Fit statistics, this model cannot be rejected.

There appeared to be difficulties with the reliability of the Teachers’ Attitudes/Placement measure. This could have occurred because taking the best Cronbach’s Alpha, the scale was reduced to only four items from the original nine. The concerns about the Teachers’ Attitudes/Placement measure lead to revising the original path model and eliminating this measure. This appeared to be justified as the Teachers’ Attitudes/Placement measure was weak. The beta weights associated with the measure, although statistically significant, were small. Figure 7 indicates the final path model revised without the Teachers’ Attitudes/Placement measure. The results indicate that Teachers’ Practices are predicted by Teachers’ Skills (beta weight .49) and Teachers’ Beliefs (beta weight .41). Teachers’ Skills are predicted by Teachers’ Beliefs (beta weight .39), Teacher Self Efficacy (beta weight .32), and School Norm/Support (beta weight .29). Teachers’ Beliefs are predicted by Teacher Self Efficacy (beta weight .33).
Figure 7: Results from Final Path Analysis of Revised Model
The final revised path model (Figure 7) was again fit with LISREL 8.3. The Teachers' Attitudes/Placement measure was removed. The most important Goodness of Fit statistics were again calculated on the new model. The Root Mean Square Error of Approximation (RMSEA) remained = .043 which is significant at p<.05. but the upper confidence limit of p<.08 was exceeded at p<.09. A chi-square test of exact fit had a p-value of .093 which is greater than .05 level of significance. Finally, the Expected-Cross Validation Index (ECVI) for the model independence is 1.91 which is greater than the ECVI for the saturated model which is p<.049. Based on the Goodness of Fit statistics, this new revised model cannot be rejected as well. Both path models with and without the Teachers' Attitudes/Placement measure based on the Goodness of Fit statistics could not be rejected. The Teachers' Attitudes/Placement measure did not add or take away anything from the path model, so it proved to be a very weak link.

In summary, the Teachers' Attitudes/Placement scale was weakly related to the other elements of the model and did not predict the outcome measures. The decision to eliminate it did not affect the interpretation of the remaining model.

The Teacher Self Efficacy variable, containing many of the same items as in Stanovich (1994) and Roach (1998), related significantly to Teachers' Beliefs. Teacher Self Efficacy also related positively to the outcome measure of Teachers' Skills. School Norm/Support predicted Teachers' self reported Skills. The findings in this section showed that Teachers' Beliefs, Teachers' Skills and Teachers' Practices were correlated. This is expected since they were derived from the scale developed by Schumm et al. (1994) to reflect similar constructs (see description of Development of Scale, above).

In the broader literature (Tschannen-Moran, Hoy & Hoy, 1998) and in Roach (1998), the
Teacher Self Efficacy subscale (Gibson & Dembo. 1984) predicts Teachers' Beliefs which are represented by the P/I variable in Roach (1998) and Stanovich (1994). In the present study, the Teacher Self Efficacy has a significant beta weight with Teachers' Beliefs (.33) and with Teachers' Skills (.32).

In both the Stanovich (1994) and Roach (1998) models, P/I beliefs is a pivotal construct. Its measure significantly predicts both Stanovich's outcome measure of Effective Teaching Behaviors. and Roach's outcome measure of Academic Instructional Interactions. In the present study, Teachers' Beliefs has a significant beta weight with Teachers' Skills (.39) and Teachers' Practices (.41). It appears through this study that teachers are more likely to use effective teaching practices in an integrated classroom, when they perceive that they have support, have the skills and beliefs to adapt instruction for students with disabilities and consider themselves to be efficacious as teachers.

The findings of the current study (Figure 7) suggest that Teachers' Practices are predicted by Teachers' Skills and Teachers' Beliefs. Teachers' Skills are predicted by Teachers' Beliefs. Teacher Self Efficacy and School Norm/Support. Teachers' Beliefs are predicted by Teacher Self Efficacy. Teachers' Attitudes/Placement was a weak link and was removed from the final path solution. The measures and findings of this study will be further examined in the Discussions section.
Teachers' Attitudes: Longitudinal Study

A comparison percentage chart (Table 5) was used to examine the second purpose as stated above. The longitudinal study of Teachers' Attitudes are summarized in Table 5. However, it should be noted that the comparisons made in this table are subject to interpretive problems arising from changes in the nomenclature of students with disabilities over 25 years, and in questionable demographic comparisons. The original data from the Hambleton and Ziegler (1974) study was not available, therefore, statistical significance levels could not be calculated. These concerns will be explored further in the Discussion section.
### Table 5

**Teachers' Attitudes, 1974, 1994 and 1999**

<table>
<thead>
<tr>
<th>Qu.</th>
<th>1974 (n = 74)</th>
<th>1994 (n = 140)</th>
<th>1999 (n = 884)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Neutral</td>
<td>Disagree</td>
</tr>
<tr>
<td>1. special teacher</td>
<td>15.0</td>
<td>10.0</td>
<td>75.0</td>
</tr>
<tr>
<td>2. separated</td>
<td>46.0</td>
<td>8.0</td>
<td>46.0</td>
</tr>
<tr>
<td>3. non-disabled</td>
<td>89.0</td>
<td>4.0</td>
<td>7.0</td>
</tr>
<tr>
<td>4. benefit</td>
<td>93.0</td>
<td>4.0</td>
<td>3.0</td>
</tr>
<tr>
<td>5. part-time</td>
<td>74.0</td>
<td>14.0</td>
<td>12.0</td>
</tr>
<tr>
<td>6. full-time</td>
<td>n.a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. ed. assists.</td>
<td>71.0</td>
<td>10.0</td>
<td>19.0</td>
</tr>
<tr>
<td>8. guidance</td>
<td>89.0</td>
<td>6.0</td>
<td>6.0</td>
</tr>
<tr>
<td>9. full inclusion</td>
<td>n.a.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figures 8-15 (Appendix G) shown in graph form describe the comparisons in Teachers’ Attitudes/Placement between 1974 and 1994 and 1999.

Item number 2 in Figure 9. Students with disabilities should be housed in classrooms separated from the classrooms of non-handicapped students. indicates that teachers' attitudes are becoming progressively more negative toward this question (disagree: 1999, 62.6%; 1994, 54.9%; 1974, 46.0%. and neutral: 1999, 23.8%; 1994, 29.3%; 1974, 8.0%, and agree: 1999, 13.6%; 1994, 15.8%; 1974, 46.0%).

Item number 5 in Figure 12. Some of the students with disabilities would probably benefit from part-time placement in regular classes. indicates that teachers' attitudes continue to be more positive to partial integration. 90.2% in 1999. 87.6% in 1994 from 74.0% in 1974 (neutral: 1999, 7.1%; 1994, 10.2%; 1974, 14.0%, and disagree: 1999, 2.6%; 1994, 2.2. %; 1974, 12.0%).

In the 1999 survey (Figure 13), item number 6. All of the students with disabilities would probably benefit from full-time placement (full inclusion) in regular class indicates that 76.8% teachers disagreed with this statement. In 1994 the results revealed disagreement of 90.4% (neutral: 1999, 14.8%; 1994, 7.4%. and agree: 1999, 8.4%; 1994, 2.2%).

The new item (number 9) (Table 5) in the 1999 study. Students with disabilities placed in classes with full inclusion can have effective special education delivered solely within those classes. indicate that teachers attitudes are somewhat negative to full inclusion (disagree, 61.4%. neutral 23.2% and agree, 15.3%).

Table 6 compares the 106 teachers in the 1999 sample who teach students with developmental disabilities with the 778 who do not. A Chi-square test failed to reach significance when comparing these two teacher groups.
Table 6

Attitudes of Teachers With and Without Experience Teaching Students With Developmental Disabilities

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. special teacher</td>
<td>17.9 %</td>
<td>15.1 %</td>
<td>67.0 %</td>
<td>11.2 %</td>
<td>16.2 %</td>
<td>72.7 %</td>
</tr>
<tr>
<td>2. separated</td>
<td>16.0 %</td>
<td>23.6 %</td>
<td>60.04 %</td>
<td>13.3 %</td>
<td>23.8 %</td>
<td>62.9 %</td>
</tr>
<tr>
<td>3. non-disabled</td>
<td>79.2 %</td>
<td>15.1 %</td>
<td>5.7 %</td>
<td>90.2 %</td>
<td>8.1 %</td>
<td>1.7 %</td>
</tr>
<tr>
<td>4. benefit</td>
<td>83.8 %</td>
<td>12.4 %</td>
<td>3.8 %</td>
<td>92.9 %</td>
<td>5.8 %</td>
<td>1.3 %</td>
</tr>
<tr>
<td>5. part-time</td>
<td>90.6 %</td>
<td>7.5 %</td>
<td>1.9 %</td>
<td>90.2 %</td>
<td>7.1 %</td>
<td>2.7 %</td>
</tr>
<tr>
<td>6. full-time</td>
<td>12.3 %</td>
<td>15.1 %</td>
<td>72.6 %</td>
<td>7.8 %</td>
<td>14.8 %</td>
<td>77.4 %</td>
</tr>
<tr>
<td>7. ed. assists.</td>
<td>87.7 %</td>
<td>7.5 %</td>
<td>4.7 %</td>
<td>86.7 %</td>
<td>9.4 %</td>
<td>3.9 %</td>
</tr>
<tr>
<td>8. guidance</td>
<td>88.7 %</td>
<td>9.4 %</td>
<td>1.9 %</td>
<td>90.7 %</td>
<td>6.8 %</td>
<td>2.5 %</td>
</tr>
<tr>
<td>9. full inclusion</td>
<td>18.3 %</td>
<td>20.2 %</td>
<td>61.5 %</td>
<td>14.9 %</td>
<td>23.6 %</td>
<td>61.4 %</td>
</tr>
</tbody>
</table>
In summary, due to the fact that terminology and demographics have changed over the 25 years it is difficult to compare the three years and determine they are alike. It does appear that teachers continue to support integration and are still negative toward full inclusion.

**Ranking**

When teachers were asked to rank items that assist them in integration of students with special needs in order from 1 - 12 (1 being the most important and 12 being the least important to them) (Appendix B. Section E) the frequency results indicated (Table 7) that the most important three items were:

1st class size

2nd supportive school administration

3rd good working relationship with parents of students with disabilities

The next important items to them were:

4th appropriate curriculum materials for the classroom

5th collaboration with resource staff (i.e., health care consultants)

6th adaptation of instruction

Finally, the items that were reported that were the least important for teachers were:

release time to work with educational teacher assistant, assessment, testing and reporting, school board in-service, use of technology to assist students with disabilities, resource documents that include examples of successful integration practices and more specialized services.

In summary, it appeared that teachers felt that class size, supportive school administration and a good working relationship with parents of students with disabilities was important to them to be successful in integrating students with disabilities.
Table 7

**Frequencies for Rankings**

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin.</td>
<td>137</td>
<td>175</td>
<td>131</td>
<td>82</td>
<td>49</td>
<td>37</td>
<td>37</td>
<td>36</td>
<td>28</td>
<td>13</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Class</td>
<td>373</td>
<td>149</td>
<td>74</td>
<td>47</td>
<td>35</td>
<td>20</td>
<td>15</td>
<td>14</td>
<td>7</td>
<td>10</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Parents</td>
<td>50</td>
<td>114</td>
<td>144</td>
<td>92</td>
<td>85</td>
<td>68</td>
<td>65</td>
<td>44</td>
<td>33</td>
<td>26</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td>Materials</td>
<td>71</td>
<td>106</td>
<td>98</td>
<td>153</td>
<td>88</td>
<td>81</td>
<td>54</td>
<td>35</td>
<td>30</td>
<td>19</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>In-service</td>
<td>14</td>
<td>18</td>
<td>37</td>
<td>58</td>
<td>56</td>
<td>56</td>
<td>72</td>
<td>88</td>
<td>100</td>
<td>105</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Technol.</td>
<td>5</td>
<td>9</td>
<td>27</td>
<td>30</td>
<td>66</td>
<td>59</td>
<td>54</td>
<td>81</td>
<td>80</td>
<td>105</td>
<td>113</td>
<td>116</td>
</tr>
<tr>
<td>Resource</td>
<td>8</td>
<td>28</td>
<td>39</td>
<td>51</td>
<td>52</td>
<td>53</td>
<td>68</td>
<td>95</td>
<td>76</td>
<td>91</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Release</td>
<td>21</td>
<td>47</td>
<td>62</td>
<td>60</td>
<td>54</td>
<td>92</td>
<td>68</td>
<td>76</td>
<td>59</td>
<td>56</td>
<td>72</td>
<td>73</td>
</tr>
<tr>
<td>Collab.</td>
<td>26</td>
<td>34</td>
<td>58</td>
<td>56</td>
<td>106</td>
<td>83</td>
<td>97</td>
<td>72</td>
<td>81</td>
<td>61</td>
<td>49</td>
<td>24</td>
</tr>
<tr>
<td>Services</td>
<td>21</td>
<td>21</td>
<td>25</td>
<td>41</td>
<td>42</td>
<td>47</td>
<td>70</td>
<td>77</td>
<td>77</td>
<td>89</td>
<td>105</td>
<td>123</td>
</tr>
<tr>
<td>Assess.</td>
<td>7</td>
<td>14</td>
<td>18</td>
<td>27</td>
<td>39</td>
<td>52</td>
<td>77</td>
<td>91</td>
<td>90</td>
<td>111</td>
<td>101</td>
<td>112</td>
</tr>
<tr>
<td>Adapt.</td>
<td>37</td>
<td>49</td>
<td>48</td>
<td>61</td>
<td>61</td>
<td>100</td>
<td>94</td>
<td>73</td>
<td>68</td>
<td>66</td>
<td>42</td>
<td>28</td>
</tr>
</tbody>
</table>
The final section in the survey is the Comments section (Appendix B. Section E). Teachers used this section to either elaborate on the survey itself or to add their viewpoints on integration and full inclusion. Of the 884 returned surveys, 341 teachers used the Comments section, approximately 39%.
CHAPTER V

Discussion

The purposes of this study were: 1. to test a theoretical framework developed by Stanovich (1994) and Roach (1998) which identifies variables claimed to predict the effectiveness of integration of students with disabilities into classrooms and 2. to examine changes in teachers' attitudes toward integration of students with disabilities over the 25 year period, 1974 to 1999.

Measurement Issues

In this study, the variables predicted to relate to Teachers' Practices in integrative classrooms were Teachers' Skills, Teachers' Beliefs, Teachers' Attitudes/Placement, Teacher Self Efficacy and School Norm/Support.

As mentioned earlier, this present study was inspired by the studies of Stanovich (1994) and Roach (1998) as they provided a theoretical framework. Except for Teacher Self Efficacy, which contained items that were used in Stanovich (1994) and in Roach (1998), the measures differed from those in the previous tests of the model. The measures had to be adapted to the large scale survey format used in this present study. The use of Cronbach's Alphas to select items resulted in further changes to the content and scope of the measures.

Teachers' Practices Measure

The Teachers' Practices measure reflects teachers' instructional adaptation or diversification. It has been shown that teachers rarely diversify instruction but tend to make adaptations and accommodations that are easy to implement and require little or no prior planning.
(Schumm & Vaughn, 1992).

In the present study, there were two outcome measures predicted. Teachers’ Skills and Teachers’ Practices. Even though they were similar in wording, these outcome measures were separated in developing the constructs in this study as they were in Schumm et al.’s (1994) study. Teachers’ Practices was a self reported description of the practices in which teachers engage in their classrooms, including adapting course content and tests for mainstreamed students. Teachers’ Skills were self-reported ratings of their skills in being able to accommodate differences in students’ needs in their integrated classrooms. The results indicated that the Teachers’ Practices measure was highly correlated with the Teachers’ Skills measure (.702), but they behaved differently in the final path model. In the final path model solution, Teachers’ Practices in the classroom was chosen as the primary outcome measure, and was predicted by Teachers’ Skills. Therefore, the outcome measure in the final path model solution became Teachers’ Practices in the classroom with Teachers’ Skills as a predictive variable. The rationale for entering these two variables in this order into the model was that it is possible that teachers who are skilled at making accommodations and modifications in the integrated classroom follow through in their practices but it does not necessarily follow that teachers who occasionally practice adaptations are necessarily skilled.

In a small and more in-depth study, such as Stanovich (1994) and Roach (1998), teachers’ practices could be observed in the classroom and therefore reported. However, in the large scale survey, teachers’ practices were measured by teachers self reporting their responses to a series of statements about their practices in the classroom. This set of statements that constitutes the Teachers’ Practices measure may differentiate those teachers who put effort into planning and
designing adaptations from those who do not. Further research is warranted to explore this self-report measure further.

Schumm et al. (1994) found that there were statistically significant correlations between teacher self-reports of beliefs and practices, beliefs and skills, and practices and skills. The advantage of basing the current variables on a model that defined prior relationships was that the causal direction of relationships between variables could be tested. In this study Teachers’ Practices was predicted by Teachers’ Beliefs (beta weight .41) and by Teachers’ Skills (beta weight .49).

Teachers’ Skills Measure.

The Teachers’ Skills measure reflects teachers being skilled at designing short and long term plans as well as being skilled at grouping and meeting the individualized needs of students with disabilities integrated into their classrooms. Teachers’ Practices and Skills were separated as outcome measures as Teachers’ Skills was correlated to Teachers’ Practices, and in the path analysis Teachers’ Skills predicted Teachers’ Practices.

The results in this study also indicate that Teachers’ Skills were predicted by Teachers’ Beliefs (beta weight .39), Teacher Self Efficacy (beta weight .32) and School Norm/Support (beta weight .29) as predicted by the theoretical model.

It appears that many general education teachers are not trained to handle the influx of students with disabilities into their classrooms (Kearney & Durand, 1992). In Munson’s (1986) study, 26 regular education teachers were interviewed about their perceptions of educational program modifications made for mildly disabled students. The students with disabilities continued to exhibit learning problems and needed substantial education program modification. However.
regular education teachers were either unwilling or unable to make such modifications. Teachers must be taught the skills to make accommodations and modifications in order to feel skilled. The curricula should be modified and adapted to meet student’s individual needs. In order for teachers to feel skilled in their classroom practices with students with disabilities, in-service training, collaboration and support would be beneficial (Walther-Thomas, Korinek, McLaughlin, Williams, 2000).

In this study it appears that Teachers’ Skills predict Teachers’ Practices. If this is the case, having teachers skilled at making accommodations and modifications, adapting their programs and learning in general how to diversify their programs would be a strong focus for educators at teacher education institutions and in school boards.

**Teachers’ Beliefs Measure.**

The Teachers’ Beliefs measure reflects teachers believing that long range and short range plans need to be adapted for students with disabilities integrated in classrooms and course content. Time and pace of lessons must be adjusted to meet these students’ needs.

The Teachers’ Beliefs measure appeared to be a strong predictor of Teachers’ Skills (beta weight .39) and Teachers’ Practices (beta weight .41). The Teacher Self Efficacy measure was a strong predictor of Teachers’ Beliefs (beta weight .33).

If you regard the Teachers’ Beliefs measure as similar to the P/I interview in Stanovich (1994), and the P/I questionnaire in Roach (1998), the results of this measure behaved in the same manner as in these other path models, predicting their outcome measures. The Teachers’ Beliefs measure also replicated the findings in Schumm et al.’s (1994) study correlating highly with Teachers’ Skills and Practices.
Teachers’ Beliefs appear to be a constellation of predictive measures for teacher practices. Beliefs influence what teachers say outside the classroom, but teachers’ behavior in the classroom is a result of beliefs being filtered by experience (Pajares, 1992). Brownwell and Pajares (1999) report that educators and researchers assert that teachers’ beliefs may be the prominent determinants and predictors of teaching practices, as the present model’s results suggest. Therefore, through this present study’s results, educators should concentrate on examining teachers’ beliefs as they appear to be a strong predictor of teachers’ practices in the integrated classroom. As well, those teachers who have strong beliefs in making accommodations and modifications with students with disabilities may be possible candidates for the role of Special Education Resource Teachers (SERTs).

The set of statements that made up the Teachers’ Beliefs measure may differentiate those teachers who believe in making changes in integrated classrooms and those who do not believe in it. Through their research, Stanovich and Jordan (1998) reported that teachers who expressed interventionist beliefs view themselves as expanding the opportunities for students to learn and access resources. Interventionist teachers are more collaborative. Teachers who expressed more pathognomonic beliefs are not as collaborative, and they tend to concentrate on the child’s deficits. Therefore, the teacher who has more interventionist beliefs appears to be the kind of teacher to make accommodations and modifications to the curricula of the student with disabilities in an integrated classroom. The teacher with more pathognomonic beliefs appears not inclined to make the appropriate accommodations and modifications as they view the student with disabilities as someone else’s concern. Further study of interventionist and pathognomonic teachers, to see how their beliefs affect classroom practices with students with disabilities, would provide an
important link between the findings of this study and the P/I beliefs structure used in the original test of the theoretical model.

**Teachers' Attitudes/Placement Measure.**

The first four statements that composed the strongest Cronbach's Alpha were used to construct the Teachers' Attitude/Placement measure. These four statements had to do with teachers' various views about integrated or segregated placement of students with disabilities, and how such placement affected their interactions with non-disabled students. Two of these statements which represent attitude to placement are negatively framed: *Students with disabilities should be solely the responsibility of their own special teacher and aides* and *Students with disabilities should be housed in classrooms separated from the classrooms of non-handicapped students*. These two statements represent resistance to the concept of integration. The fourth item, *Students with disabilities benefit from their interaction with the non-disabled students in the school*, reflects the belief that integration has social benefits. The four items together suggest a stance on integration that it is at best only of social benefit.

As the Teachers' Attitudes/Placement measure proved to be weak and unreliable, it was dropped from the final path model solution. The Teachers' Attitudes/Placement scale may have been measuring something entirely different from the rest of the survey, or it may have been a poor measure that did not adequately represent this variable in the model. It may have been too transparent to the survey respondents.

It was hypothesized in the path model that Teachers' Attitudes/Placement would predict Teachers' Skills and the outcome measure of Teachers' Practices. Its failure to do so could have been for a number of reasons. The validity of the Teachers' Attitudes/Placement measure could
have been compromised by the pencil and paper format. or by the self-report format or both. Stanovich (1994) found that the predicted relationship between Teacher Attitude 1 (which consisted of the paper and pencil measures: ATMS and the REITS) with teaching behaviors also failed to reach significance. In the Roach (1998) study. a significant relationship was found between Teacher Attitudes and the outcome measure of Academic Instructional Interactions. Roach had combined scores from the ATMS, REITS and P/I questionnaire into the one measure. It could be conjectured that the P/I was the measure contributing most to predicting her outcome measure.

In conclusion. the Teachers' Attitudes/Placement measure was a weak link in testing the path model and was therefore removed. It could be conjectured that the Teachers' Beliefs measure using the P/I interview was more aligned in the previous path models of Stanovich (1994) and Roach (1998) than the current self report measure of Teachers' Attitudes/Placement in predicting the outcome measures. It is possible that the relationship between Teachers' Attitudes/Placement and Teachers' Practices is in fact a valid component of the model. but due to the low reliability of the measure in this study. it is difficult to draw this conclusion. Further research with a measure with high reliability is indicated.

It is not clear why Teachers' Attitudes/Placement did not predict either Teachers' Skills or Teachers' Practices. It is possible that it is difficult to measure teachers' attitudes. It is also possible that teachers' attitudes toward integrated or segregated placement of students with disabilities do not have any bearing on their skills or practices in the classroom.
**Teacher Self Efficacy Measure.**

The Teacher Self Efficacy measure reflects teachers' beliefs that he or she possesses the skills necessary to effect change in students by putting in more effort, trying real hard, and adjusting the assignment to the student's level.

Although the self efficacy scale consisted of a subset of eight items from Gibson and Dembo's (1984) Teacher Efficacy Scale (TES) and adapted by Johnston (1993) and Jordan et al. (1993), it had strong reliability and acted in like manner to the Stanovich (1994) and Roach (1998) models. It therefore appeared to be a valid measure of teacher self efficacy within this large scale survey.

In the final path solution, Teacher Self Efficacy predicted Teachers' Beliefs (beta weight .33) and Teachers' Skills (beta weight .32). This is consistent with previous research which has shown that self efficacy has wide predictive power, and is influential in teacher beliefs and practices (Tschannen-Moran, Hoy & Hoy, 1998). With experience, teachers develop a relatively stable set of beliefs about their abilities (Ross, 1998). New challenges like adapting curriculum can elicit a reevaluation of efficacy. Tschannen-Moran et al. (1998) state that with experience, teachers develop a sense of their own teaching competence that is combined with their analysis of a new task to produce judgments about expected efficacy on that task. Stanovich and Jordan (1998) suggest that exemplary teachers may have a strong sense of self efficacy, related to their strong connection of the benefits of including students with disabilities.

Although the Teacher Self Efficacy measure in this present study was a shortened version of the measure used in other surveys, the results of this study replicate other studies of how efficacy relates to teacher skills. Coladarci and Breton (1997) report that there is evidence that
teacher efficacy is related to academic achievement and teacher behaviors known to foster academic achievement (Anderson, Greene, & Loewen, 1988; Ashton & Webb, 1986; Berman & McLaughlin, 1978; Dembo & Gibson, 1985; Gibson & Dembo, 1984; Hoy & Woolfolk, 1993). High-efïcacy teachers in Allinder’s (1995) study were more inclined toward instructional experimentation. Tschannen-Moran, Hoy and Hoy (1998) reviewed efficacy research and explored correlates of teacher efficacy. The results of their model indicates that both self-perception of teaching competence and beliefs about the task requirements in a particular teaching situation contribute to teacher efficacy and to consequences that stem from efficacy beliefs.

Since it appears in this study that Teacher Self Efficacy is a strong predictor of Teachers’ Beliefs and Teachers’ Skills and that in turn, Teachers’ Beliefs and Teachers’ Skills affect Teachers’ Practices in the classroom, a teacher’s self-efficacy is important to study.

The current pressures of the day to day job as a teacher may be affecting a teacher’s self efficacy. With higher class sizes, political pressure about testing students and teachers, and more students with special needs integrated into classrooms with teachers unprepared to cope with the challenges, teachers’ self efficacy is being affected. In this study, the set of statements representing Teacher Self Efficacy differentiates the teachers with high self efficacy and those with low self efficacy. It appears that high efficacy teachers have more effective teaching practices than teachers with low self efficacy (Bender & Ukeje, 1989). Putting into place less pressure on teachers individually and as a group and providing them with more support may assist in the day to day practices in the integrated classrooms.
School Norm/Support Measure.

The items with the strongest Cronbach’s Alphas that made up the construct of School Norm/Support might be better termed “Teacher Training and Support” since these three statements had to do with teachers’ views on appropriate in-service. being informed on integration and the supports provided for integration of students with disabilities. These three statements that made up the School Norm/Support in this present study. constitute a different measure than Stanovich’s (1994) School Norm and Roach’s (1998) School Norm/Support. Therefore, in all three studies “School Norm” was measured differently.

In this present study, in the final path solution, Teachers’ Skills were predicted by the School Norm/Support items (beta weight .29). Teachers’ Attitudes/Placement measure was predicted by School Norm/Support but the coefficient at .089 was weak. In fact the whole Teachers’ Attitudes/Placement measure was weak and was dropped in the final path model solution. Contrary to the original hypothesized model. School Norm/Support did not predict Teachers’ Beliefs.

It is not clear why School Norm/Support did not predict Teachers’ Beliefs in this study. However, it is consistent with the findings of both Stanovich (1994) and Roach (1998) that School Norm is related to teaching behaviors but not to the beliefs component of teacher attitudes and beliefs. Teachers are implementing programs but do not necessarily believe in what they are practicing. For example. the new curriculum in Ontario schools is fast paced and difficult to administer. yet teachers have to implement the program. Teachers may feel they have the supports for mainstreaming but not necessarily believe in adapting their programs.

In Stanovich’s (1994) study. School Norm was the strongest predictor of teachers’
classroom practices. In Roach (1998), the School Norm measure was comprised of more variables than in Stanovich's study. In addition to the principals' beliefs about their staff's response to inclusion, the resource teachers' ratings of their collaboration with teachers who included students with special needs in their regular classrooms was part of the School Norm/Support measure. The resource teachers' collaboration ratings with regular classroom teachers were reflected by teachers' ratings of the collaboration received from resource teachers. Both of these measures confirmed that collaborative support correlates with teachers' beliefs about inclusion. However, this correlation was negative. While Roach explains this in terms of teachers who are more competent and confident with inclusion requiring less collaborative support, it is clear that the relationship of collaborative support and teachers' beliefs and practices in inclusionary classrooms is complex. Further research is warranted on this topic.

Bandura (1993) states that "teachers operate collectively within an interactive social system rather than as isolates. The belief systems of staffs create school cultures that can have vitalizing or demoralizing effects on how well schools function as a social system" (p. 141). Biklen (1985) and Baker and Zigmond (1990) suggest that a matrix of factors contribute to the successful integration of students with special needs. These include ongoing support services, adequate teacher preparation, staff development, and proper planning at all levels. Jobe, Rust and Brissie (1996) report that in-service training in inclusion and special education teaching experience are significantly correlated with teachers' attitudes toward inclusion. Teachers with more in-service experience in inclusion feel somewhat more positive than others about inclusion. Brownwell and Pajares (1999) suggest that general educators' beliefs can be changed and successful experiences increased if the proper supports and preparation for integration are
provided. It is logical that, if teachers can be assisted to experience success in educating students with disabilities, this will affect their inclusionary practices. Possibly if they have sufficient or adequate in-service training and felt comfortable at making adaptations, their beliefs may be affected. This could be further investigated through research using pre-testing and post-testing.

In balance, it seems that the perception by their colleagues and by the teachers themselves, that teachers' work on including students with special needs as endorsed by colleagues in the form of collaborative support, is predictive of teaching practices at least in less skilled teachers. This in itself is an important finding, since there is little empirical evidence of the impact of collaborative support in meeting the needs of students with disabilities on overall teaching practices. Yet many authors promote the importance of such support (Salend & Garrick Duhaney, 1999). Further research in this area is warranted.

**Longitudinal Study**

The second purpose of this research study, as stated above, was to see what can be deduced about changes in teachers' attitudes toward integration over the 25 year period. The Teachers' Attitudes/Placement scale was derived from a longitudinal study from Hambleton and Ziegler (1974) adapted by Giddens (1994) and again adapted for this 1999 survey. Thus, at three points in time 1974, 1994 and 1999, attitudes of teachers were examined. There were a number of difficulties with the adaptation of the survey.

It is difficult to generalize the findings of these results as the three studies used different terminology. The terminology of the survey changed from 1974, which referred to students as "mentally retarded" and 1994 in which the term "developmentally handicapped" was used, to 1999, which used the term "students with disabilities." It is important to note that the students in
developmental handicapped classes in 1999 were not necessarily similar to students in such classes in 1974. In 1974 the term used to describe these students was “Trainable Mentally Retarded” (i.e. students who had measured IQs of usually less than 1-2% of the normal population) and such students could have been profoundly, moderately, mildly, multi-handicapped, and/or autistic. As well, students not fitting into the regular population (i.e., students not toilet trained, emotionally disturbed) were also found in these classes (Hambleton, 1974). The student identified in the developmentally handicapped class in 1994 and 1999 were students with IQs less than 1-2% of the normal population (Special Education Plan, Toronto District School Board, 1999). There were also students with developmental handicaps fully integrated into the regular classroom, including some not identified as a result of parental request. As well, terms such as mainstreaming and integration may have had different connotations throughout the years. This change in terminology and the interpretation of the terminology in the three surveys could have affected the validity of the results of the longitudinal study.

Another limitation in the longitudinal portion of this study was the comparison of the three teacher samples in the years 1974, 1994 and 1999 and maintain they may be alike. In 1974, demographics of teachers were not included in the report on the survey and I was unable to attain the original 1974 data. The samples of teachers studied at each of the three times, 1974, 1994 and 1999 were not matched. Since the survey was anonymous in all three years it is not easy to determine whether the samples were alike, and whether there was a selection bias in the type of teacher who responds to the questionnaire format. Although all three surveys together targeted teachers in a large urban public school board, there may have been unidentifiable similarities or differences in the demographics of the teachers that could have not been taken into account. The
1974 survey did not ask for demographic information and the 1994 survey asked for only some of the demographic information that was reported in the 1999 study. Therefore, the demographics over the three periods of time could not be compared. The sample size continued to increase each time the survey was conducted as well as the breadth of the targeted sample. This too, could have affected the results. Therefore the validity of drawing conclusions about changes of opinion by teachers over time is tenuous at best.

Even with difficulties of validity, some themes emerged. We tentatively conclude that after 25 years of experience with integration, teachers have a somewhat more positive attitude toward integration. Segregation is regarded more negatively than it was in 1974 and 1994. The benefits of integration for students, both with or without disabilities, remain positive in the 1999 survey results. Teachers in 1999 continue to express the importance of teacher guidance and training in working with students with developmental handicaps.

The 1999 results seem to indicate that presently teachers are feeling negative toward full inclusion but they may not be as negative as they were in 1994. Scruggs and Mastropieri (1996) synthesized research involving 10,560 teachers surveyed in 28 studies about their attitudes toward mainstreaming/full inclusion of students with disabilities. Given the wide variety in surveys, sampling procedures, time, and geographical areas surveyed, Scruggs and Mastropieri's (1996) findings from the review of research studies showed fairly consistent results. A majority of teachers were positive about mainstreaming, and a small majority were willing to implement mainstreaming in their own classes. However, a substantial minority believed that students with disabilities would be disruptive to their classes or would demand too much attention. Support for and willingness to implement mainstreaming appeared to vary with the intensity of mainstreaming
and the severity of the disability categories represented. Teachers supported mainstreaming students with mild physical, sensory and medical disabilities requiring little or no teacher assistance but were less inclined to support students with more serious behavioral, intellectual, or physical disabilities (Scruggs & Mastropieri, 1996).

It could be conjectured, based on the results of this present longitudinal study and their similarity to a larger set of reviewed studies, that teachers' attitudes are becoming more positive toward partial integration but still remain negative toward full inclusion, and they do not see segregation as a viable alternative for students with disabilities.

Salend and Garrick Duhaney (1999) found that placement of students without disabilities in inclusion programs does not appear to interfere with their academic performance and has several social benefits for these students. Giangreco et al. (1993) administered interviews and questionnaires to 19 general education teachers who had students with developmental disabilities mainstreamed in their classes. Despite the teachers' initial negative reaction to the placement of a child with severe disabilities in their classrooms, 17 teachers felt that their attitudes changed to positive after the child remained in their class. They became aware of benefits to the students with disabilities, their non-disabled peers and to the teachers themselves. Harvey (1992) states the reasons why more positive attitudes are being expressed in 1990 has to do with a greater exposure in professional settings to children with disabilities, coupled with the availability of ancillary assistance in the form of teaching aides to support integration. Weber and Bennett (1999) write:

In the first place, early in the decade the provincial government of Ontario presented policy (but not actual legislation) which declared the integration of exceptional students to be the norm in the province's schools, a policy that continues to be affirmed in official ways by the Ministry. Secondly, the sheer fact of experience has taught both educators and
parents that, on the one hand, including students with special needs in regular classes is not as difficult a task as some opponents of the idea had argued, and usually produces significant benefits for all . . . (p. 18).

It appears that teachers are becoming accustomed to having students with disabilities in their classrooms. The next step is to assist these teachers to adapt their curricula and to view the student with disabilities as a viable and important member of their classroom.

One could conclude that at three points in time, teachers had an opportunity to record their views about the placement of special needs students in segregated, integrated or fully inclusive classes and that a shift towards a greater acceptance for partial inclusion has possibly occurred.

Facilitators/Barriers Toward Integration of Students with Disabilities

Teachers reported that the three most important items in assisting them with integration of students with special needs were class size, a supportive school administration and good working relationship with parents of students with disabilities.

The first component, class size, has been a constant concern for teachers involved in the integration process. Vaughn, Schumm, Jallad, Slusher and Saumell (1996) assert that the most frequently measured barrier across teacher groups was class size. They identified several factors that teachers reported that had an effect on the success of inclusion, including class size, inadequate resources, the extent to which all students would benefit from inclusion, and lack of teacher preparation. Valeo and Bunch (1998) explored attitudes of six regular class Canadian teachers about the inclusion of students with challenging needs into their classrooms. These elementary teachers pointed to familiar themes as impediments to successful integration: lack of time to work with integrated students in the regular classroom, the need to keep up with the
curriculum, lack of regular teacher expertise, and class size.

Comments in the present study from teachers who emphasize class size as a concern include:

Class size is crucial - mainstreamed students need more attention, but I don’t want to ignore other students - segregation would be wrong - having a mainstreamed student in a class of 30 is also wrong because there are too many demands on me = a job not done as well as it could be.

Time and support are critical - my biggest problems have always arisen when my class is too big and/or I am “on my own.” In situations where the exceptionality is strong I believe an ed. assist. needs to be posted to the class to allow the teacher to do his/her job with the regular class and the IEP student. I also believe full inclusion (with support) is best for MOST but not all exceptional children.

The second component teachers identified was a supportive school administration, usually the principal. There are a number of studies which demonstrate that principals have an impact on student achievement (Andrews, Basom, & Basom, 1991; Chubb & Moe, 1990; Leithwood & Montgomery, 1982; Reilly, 1984). As stated earlier, both general and special educators. administrative support and collaboration were powerful predictors of positive attitudes toward full inclusion (Villa, Thousand, Meyers and Nevin, 1996). It appears that having a supportive school administration helps teachers with successful integration of students with disabilities.

Comments from teachers in this study show the need for a school administration which supports the efforts for inclusion:

I am teaching a class with IPRC’ed exceptional students having LD factors. A strong highly visible administration team is essential for successful growth for all students in my room.

If you are not supported at the administrative level there is no point in trying to help students with “any” problems. The resources. time. help. in-service, etc. are irrelevant if you do not receive help and support. These resources time. etc. seem to be disappearing and the students with disabilities and needs are growing!!

The teachers in this study also commented on the importance of a good working relationship with parents. McDaniel and DiBel’la-McCarthy (1989) report that adequate resources
and support from administrators, colleagues, and parents can enhance the teacher's ability to implement a high-quality instructional program. A teacher's sense of efficacy is also significantly affected by relationships with parents (Ashton & Webb, 1986). When parents do not participate in, or seem to care enough about the school program, teachers tend to reduce their effort to involve or communicate with parents and the cycle of nonparticipation and lack of initiation is amplified (McDaniel et al., 1989). Teachers who expressed interventionist beliefs work collaboratively with resource personnel and parents. Teachers with pathognomonic beliefs do not work collaboratively with resource staff or parents (Stanovich & Jordan, 1998).

A good working relationship with parents appeared to be important for teachers in this study. Their comments include:

Working with supportive parents, teachers and administrators is also a key component to these students' success.

It appears that the teachers who responded to the Ranking section want smaller class sizes to deal appropriately with students with special needs. a supportive administration and a good working relationship with parents.
Limitations and Future Research

One of the purposes of this study was to add further information to the previous models of Stanovich (1994) and Roach (1998) which identified variables claiming to predict the effectiveness of integration of students with disabilities into classrooms. As well, the study investigated integration attitudes of teachers over a 25 year time span and allowed teachers to voice what they felt they needed in order to be successful at integration. In view of the size of the data collection, this study was largely successful in addressing predictors of reported practices of teachers in the classroom. The study also contained further information for ranking the needs of teachers for successful inclusion. Any conclusions drawn from this study must take into effect a number of considerations.

Social desirability and subject bias could have challenged the validity of all of the subtests of the survey. Social desirability is the bias in responding to research instruments which arise from the respondents’ desire to represent themselves in the most positive light. They thus predict what is the most desirable response on research instruments such as paper and pencil questionnaires.

In Stanovich’s (1994) study, the interview format is less transparent and therefore less subject to social desirability than the questionnaire format. Teachers may respond entirely differently on an interview format than anonymously as in a questionnaire format. In both the Stanovich (1994) and Roach (1998) studies, the ATMS and REITS pencil and paper tests were used. The present study was composed entirely of a pencil and paper test format. Pencil and paper tests may be more prone to socially desirable responses than interview format. Respondents may answer differently in a face-to-face interview format as in the P/I measure, Teacher Attitude 2.
Stanovich’s (1994) study. In the interview format in Stanovich’s (1994) study, the Teacher Attitude 2, the P/I measure of differing attitudes and beliefs about teacher roles and responsibilities in inclusive classrooms did predict the outcome measure of teaching behaviors. One might surmise that the interview technique may have resulted in responses that differed from those obtained from a survey form since acceptable responses were less transparent to the respondents. Olson, Chalmers and Hoover (1997) found that the respondents were more positive when their opinions were collected by an interview format compared to those collected by a written survey as in Coates (1989) and Semmel et al.’s (1991) studies. The latter studies recorded opposition to integration. As well, in the current study, the five-point Likert scale was skewed negatively. In a more positive light, the survey format offered a much larger sample size than either Stanovich (1994) and Roach (1998) were able to include in their studies and therefore a path analysis became statistically viable. Without a large sample size, the results of the path analyses of the previous studies were subject to type 2 error.

Darvill (1985) in Klassen (1994) and Pajares (1992) note that attitudes are notoriously difficult to measure. The field of attitude research has a number of problems, including the definition of what constitutes an attitude, the comparability of assessments that use different measurement techniques and rating scales, and the fact that the wording of questions can influence the responses. In addition, Gans (1987) in Klassen (1994) asserts that because of their professional status, teachers often choose responses consistent with this status rather than revealing their true feelings. Thus, it might be difficult to gain a genuine measurement of educator attitude as often teachers know what they are expected to answer in an attitude survey or questionnaire.
One other limitation is sampling or response bias. The survey was to sample a population of 10,000 teachers, but only 884 or less than 9% of the potential sample responded. These teachers may consist of a non-representative subset of teachers such as those who fill out surveys. It is unclear how many surveys actually were distributed to the possible 10,000 teachers of the elementary panel, as the principals were in charge of the distribution. It is therefore difficult to generalize these findings as the sample of 884 is a small proportion of the total, which could represent significant response bias. In the future, it would be beneficial for the investigators to have more control over sampling distribution and survey collection in order to identify the demographic characteristics of the respondents.

Teachers’ Skills and Practices scales were developed from Schumm et al.’s (1994) study. Their research involved the targeted sample of teachers teaching students with Learning Disabilities (LD). The population sampled in the present study was teachers teaching students who were identified as exceptional or designated to have an Identification, Placement and Review Committee meeting, or students receiving additional assistance. Teachers teaching students with LD were probably included in the sample of 884 in this present study, but were not identified. One group that was identified in this present study was the teachers teaching students with developmental disabilities. Further research would include a breakdown of the respondents by teaching experience to determine if designation of students taught influence the results.

The variables of the study also had some limitations. The Teachers’ Attitudes/Placement variable in the path model and in the longitudinal study, as previously stated, had some severe limitations. The different terms for intellectual disability (“retarded”, “developmentally handicapped”, “students with disabilities”) may have greatly impacted on teachers’ interpretation
of the study. The Teachers' Attitudes/Placement measure was weakened by its transparency, allowing teachers to guess what was expected in their responses. However, it was necessary to maintain this portion in order to conduct the longitudinal component of the survey. Without having the original data from 1974, conducting statistical analyses on the data was not plausible. With all these limitations taken into account, the results of the 1999 Teachers' Attitudes/Placement scale were weak.

Both the School Norm/Support and Teacher Self Efficacy measures were proxies for scales that were chosen to make it easier to facilitate a large group sampling. The original measures contained larger item pools. However, the Cronbach's Alpha suggest that these proxy measures were reasonably reliable, and to some extent, the positive results justified the format used. It would be interesting to develop constructs that lead into School Norm/Support and Teacher Self Efficacy to expand this study's path model.

In this survey's analysis, the best Cronbach's Alpha was used to select the items which represent each measure. This eliminated some questions from the survey in the final analysis which affected the internal reliability of some scales, for example in the Teachers' Attitudes/Placement measure. When taking the best Cronbach's Alpha in the Teachers' Attitudes/Placement measure, five statements were dropped. Perhaps these statements would have made up different construct(s). As well, the two statements dropped from the School Norm/Support, when taking the best Cronbach's Alpha, might have been considered a new measure and may also have added to the path model.

For future studies, it would appear that a combination of survey type and interview methodology would be helpful (quantitative and qualitative). Measures in which teachers are
directly observed as they teach students with special needs are obviously more valid indicators of teaching practices than self report. However, this constrains sample size.

In the present study, looking at the Comments section and isolating the teachers who express pro-integration views from those who express anti-integration views may give an understanding for future research of how these types of teachers respond to the different questions in the scales of the survey. This further analysis has not yet been undertaken but may prove interesting.

The school board from which the data were drawn has a relatively short history in providing opportunities for students to learn in a full inclusionary model. There may be some difficulties generalizing this study to other school boards, especially those that have longer history of full inclusion of students with special needs. Further study would be needed.

This study is exciting because it is the first large sample study to replicate the factors of two previous models which had claimed to predict effective integrative practices of teachers. The focus on class size, supportive administration and working with parents will assist educators to identify the factors on which to concentrate, in order to support teachers to successfully integrate students with special needs. Focusing on teachers' beliefs and skills will also help teachers in their practices of integration in the classroom.
Implications for Practice

Teachers in this school system seem not to be in favor of full inclusion despite a possible shift toward teacher acceptance of partial integration. They appear to be concerned about the kinds of students in their classrooms and not being able to provide programming for everyone. Many teachers in this survey still like the "pull-out" program where the special education teacher is responsible for the child. Many teachers find the job of writing an IEP (Individual Education Plan) for each identified child to be an overwhelming task. This present survey reflects the teachers in one large urban public school board with little history of full inclusion and long term policies of delivering special education via "pull-out" programs.

In this study, teachers report that in order for them to have successful integration they need smaller class sizes. a supportive administration and to be able to work collaboratively with the parents of the students with special needs. Currently most class sizes are large. On the positive side, the team approach is considered an essential tool for the school. This means that administrators, teachers and parents are viewed as working collaboratively to assist children with special needs. Teaching in an environment where there is collaboration between special and general education teachers, administration, and parents appears to be an important factor in teaching effectively in classes where students with disabilities are integrated.

It appears that teachers feel they still require the skills to adapt and modify programs in their classrooms. Adaptations and modifications to the curricula need to be feasible for general educators to implement. A classroom teacher facing a large class with students with many different disabilities, all at different levels, and expecting to make accommodations and
modifications to his/her program, is facing a great challenge. General education teachers may recognize the merit of making these adaptations and desire to follow the IEP, but implementing them in their integrative classroom can be difficult when they are feeling so overwhelmed. Teachers require the knowledge, skills, supports, and confidence to be successful in teaching students with disabilities in their integrated classrooms.

As the school boards across Canada and the United States move into the full inclusionary model, many teachers feel they will not be able to teach all students in their classrooms. It appears that inclusive education is the direction that both Canada and United States have chosen and the more assistance in determining the factors of successful practices in the classrooms of students with disabilities is much needed. This study contributes information to prepare teachers and administrators for inclusive education.
Conclusion

This study should be viewed as an attempt to use the methodology of a large self-report survey to identify predictors of teachers’ practices in inclusive settings based on previous research by Stanovich (1994) and Roach (1998). The results of the analysis of the path model largely confirmed the predicted relationships of the model’s components. Teachers’ practices were predicted by their skills in adapting course content and designing short and long range goals and their beliefs in doing these adaptations. Teachers’ Skills were predicted by teachers’ beliefs in making adaptations, by teachers who feel they have supports towards integration and by those who likely have a sense of their own ability. Although the one measure of Teachers’ Attitudes/Placement appeared to be a weak link in the path model, the other variables of Teachers’ Skills, Teachers’ Practices, Teachers’ Beliefs, Teacher Self Efficacy and School Norm/Support proved to be reliable measures. Although the longitudinal study presented some difficulties with terminology, there still appears a positive trend over 25 years of integration with teachers supporting partial integration of students with disabilities and a negative attitude towards segregation. Teachers reported that it was important to have smaller class sizes, supportive administration and the need to work with parents in order to have successful integration.

In summary, this study contributes to the theoretical model of the integration process and paves the way for further research in this area.
References


Appendix A

Definition of Integration, Mainstreaming and Inclusion

Integration and mainstreaming will be used interchangeably. Integrated students refer to students who are designated exceptional under Ontario Reg 554/81 and who spend at least half of their day in the general education classroom. Integrated classrooms are regular elementary classrooms where exceptional and non-exceptional students are in the same classroom and special education services are provided based on specific needs rather than on category of handicap.

Weber and Bennett (1999) state:

When special education first became mandatory in Ontario, the prevailing term for placing students with special needs in the regular school system was ‘mainstreaming’. Gradually, ‘integration’ became the preferred word, but because that term has other contexts for some people, many educators and parents prefer the term ‘inclusion’ (p. 17).

Mainstreaming has been used interchangeably with integration in this questionnaire as Schumm, Vaughn, Gordon & Rothlein, (1994) used this term in their survey that was replicated here. There is no official differentiation among the three terms of integration, mainstreaming and inclusion in Ontario. ‘Integration’ is currently used in legislation and policy. Therefore, the terms mainstreaming and integration were used interchangeably in this questionnaire, reflecting the terminology of the surveys from which the items were originally drawn.

The term ‘full inclusion’ appears twice in the Attitudes section and is defined for teachers responding to the questionnaire. The first time it is used in item 6, it is equated with ‘full time placement.’
### Teachers' Opinion on Integration/Inclusion 1999 Survey

**Disabilities can be defined as students who were declared exceptional (i.e., Physical, Developmental, Emotional/Behavioural and Learning Disabled) excluding Gifted and ESL students. As well as students receiving additional assistance on a regular basis in a Special Programs setting or clearly showing evidence of a disability.**

**Instructions for Filling Out Survey:**
For optimum accuracy, please print in capital letters and avoid contact with the edge of the box. The following will serve as an example:

| A | B | C | D | E | 1 | 2 | 3 | 4 | 5 | 0 | 0 | 4 | 5 |
---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Please indicate if you agree, disagree or remain neutral with the statements. (Fill in one bubble per statement)**

<table>
<thead>
<tr>
<th>RANK</th>
<th>STATEMENT</th>
<th>AGREE</th>
<th>NEUTRAL</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>Students with disabilities should be solely the responsibility of their own special teacher and aids.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>Students with disabilities should be housed in classrooms separated from the classrooms of non-handicapped students.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>Non-disabled students in the school benefit from their interaction with students with disabilities.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>Students with disabilities benefit from their interaction with the non-disabled students in the school.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>Some of the students with disabilities would probably benefit from part-time placement in regular classes.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>All of the students with disabilities would probably benefit from full-time placement (full inclusion) in regular class.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>Most teachers and educational assistants would need special guidance to adequately supervise the students with disabilities.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>Most teachers would need special guidance to adequately teach students with disabilities.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>Students with disabilities placed in classes with full inclusion can have effective special education delivered solely within those classes.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### SECTION A

1) Rank statements in level of importance from 1 being the highest to 9 being the lowest in importance to you.

#### RANK

- Students with disabilities should be solely the responsibility of their own special teacher and aids.
- Students with disabilities should be housed in classrooms separated from the classrooms of non-handicapped students.
- Non-disabled students in the school benefit from their interaction with students with disabilities.
- Students with disabilities benefit from their interaction with the non-disabled students in the school.
- Some of the students with disabilities would probably benefit from part-time placement in regular classes.
- All of the students with disabilities would probably benefit from full-time placement (full inclusion) in regular class.
- Most teachers and educational assistants would need special guidance to adequately supervise the students with disabilities.
- Most teachers would need special guidance to adequately teach students with disabilities.
- Students with disabilities placed in classes with full inclusion can have effective special education delivered solely within those classes.

### SECTION B

2) I have been teaching for [ ] year(s). (Round to the nearest whole number, if less than .05 answer 01 years)

3) I am presently teaching: 〇 Primary(JK-Grade 1) 〇 Junior(Grades 2-5) 〇 Intermediate(Grades 6-8) 〇 Other

4) The most number of students in my class at one time (for all or part of the day): [ ] [ ]

5) My highest academic degree is: 〇 B.A. 〇 B.Ed. 〇 M.A. 〇 M.Ed. 〇 Ph.D. 〇 Ed.D. 〇 Other

6) I have Special Education training: 〇 Yes 〇 No
   - If yes, please describe your Special Education training: _______________________________________________

7) My gender is: 〇 Male 〇 Female

8) I have experience teaching students with disabilities: 〇 Yes — Go to SECTION C 〇 No — Go to SECTION D

---

2 The original survey was 25% larger than shown here.
SECTION C

9) I have ___ year(s) experience teaching students with disabilities in my class

10) I am presently teaching in a regular classroom without any students IPRC'd for disabilities: ○ Yes ○ No

11) The number of students in my class who have been IPRC'd as exceptional (excluding Gifted):

12) I am presently teaching student(s) who are developmentally handicapped and are fully included with their regular peers: ○ Yes ○ No

13) State the level and number of student(s) who are developmentally handicapped integrated into your class:

<table>
<thead>
<tr>
<th>Level</th>
<th>O profoundly</th>
<th>O moderately</th>
<th>O mildly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Students</td>
<td># of students</td>
<td># of students</td>
<td># of students</td>
</tr>
</tbody>
</table>

CONTINUE WITH SECTION D & E

SECTION D

14) Please read the following statements and indicate how strongly you agree or disagree using the rating scale provided.

(Please answer all statements)

<table>
<thead>
<tr>
<th>SCALE</th>
<th>1=strongly disagree</th>
<th>2=moderately disagree</th>
<th>3=disagree slightly more than agree</th>
<th>4=moderately agree</th>
<th>5=strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If I put just a little more effort into teaching, I can turn on even the most reluctant students.

If I try really hard, I can get through to even the most difficult developmentally handicapped student.

If a student lacks motivation, I know I can encourage him/her to learn in the classroom.

If one of my students could not do an assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.

If a student did not understand the information I gave in a previous lesson, I would know how to reteach the lesson, enabling the student to learn it.

When a student does better than usual, many times it is because I exerted a little extra effort.

I know I can teach any student(s) in my classroom.

When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.

I believe that:

- information sources such as the student's IEP, educational and psychological reports are useful in planning for mainstreamed students in my classroom.

- long-range instructional planning (e.g., yearly, semester, monthly) needs to be adapted for mainstreamed students.

- short-range planning (e.g., daily and weekly) needs to be adapted for mainstreamed students.

- varying group composition (e.g., small group, large group, whole class) is important for mainstreamed students.

- course content needs to be adapted for the mainstreamed students in my classroom.

- the time and pace of a lesson must be adjusted to meet the needs of mainstreamed students.

- the tests I design for my regular education students need to be adapted for my mainstreamed students.

- frequent checks with individual students are an effective way to monitor the progress of mainstreamed students.

- providing individualized instruction according to the students' needs helps mainstreamed students.

- using individualized (or different) criteria for grading assignments and tests is important when evaluating mainstreamed students.
### SECTION D cont'd

**As a teacher:**

1. I use information sources such as the students' IEPs to plan for mainstreamed students in my classroom. 
2. I adapt daily planning for mainstreamed students. 
3. I vary group composition for mainstreamed students. 
4. I adapt course content for the mainstreamed students in my classroom. 
5. I adjust the time and pace of a lesson for mainstreamed students. 
6. I adapt tests for mainstreamed students. 
7. I use frequent checks with individual students to monitor the progress of mainstreamed students. 
8. I provide individualized instruction for mainstreamed students. 
9. I use individualized/different criteria when evaluating the assignments and tests of mainstreamed students.

**I am skilled at:**

1. Using a variety of information sources (e.g., IEPs, parents, student feedback) of mainstreamed students. 
2. Designing short term plans that meet the needs of my mainstreamed students. 
3. Designing long term plans that meet the needs of my mainstreamed students. 
4. Appropriately pacing and timing the presentation of content material for my mainstreamed students. 
5. Grouping for instruction so that the needs of all my students are effectively met. 
6. Designing tests that effectively monitor progress of mainstreamed students. 
7. Using individualized/different criteria when evaluating the assignments and tests of mainstreamed students. 
8. Adapting course content to meet the needs of my mainstreamed students. 
9. Using frequent checks to monitor the progress of my mainstreamed students. 
10. Providing individual instruction for mainstreamed students.

**I am committed to the growth/learning of all students, irrespective of their learning rates.**

**I am given the appropriate inservice essential for mainstreaming.**

**I am well informed about the process of mainstreaming.**

**I view myself as a partner with parents in the educational process.**

**I am satisfied with the supports provided all students in mainstreamed programs.**

---

**SCALE**

1 = strongly disagree  2 = moderately disagree  3 = disagree slightly more than agree  4 = moderately agree  5 = strongly agree
SECTION E

15) Please rank the following items in order from 1 being the most important to you and 12 being the least important to you, on items that assist you with integration of students with disabilities into your classroom.

Please fill in all of a box when recording numbers e.g. 02

(Please rank the following items even if you have not had experience teaching students with disabilities)

☐ Supportive school administration

☐ Class size

☐ A good working relationship with the parents of students with disabilities

☐ Appropriate curriculum materials for the classroom

☐ School board in-service

☐ Use of technology to assist students with disabilities

☐ Resource documents that include examples of successful integration practices

☐ Release time to work with the educational teacher assistant

☐ Collaboration with resource staff (i.e., health care, consultants)

☐ More specialized services

☐ Assessment, testing and reporting

☐ Adaptation of instruction

COMMENTS:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

Please return the completed survey by interoffice mail before May 28, 1999.

Thank you for your time.
## 1974 Survey

PROVINCIAL WIDE SAMPLE OF TEACHER OPINION IN SETTINGS HOUSING RETARDED AND REGULAR CHILDREN

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>AGREE</th>
<th>NEUTRAL</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trainable retarded students should be solely the responsibility of their own special teacher and aides.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Trainable retarded students should be housed in classrooms separated from the classrooms of non-handicapped students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The ordinary students in the school benefit from their interaction with the trainable retarded students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The trainable retarded students benefit from their interaction with the ordinary students in the school.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Some of the trainable retarded students would probably benefit from part-time placement in regular classes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Most teachers and aides would need special guidance to adequately supervise the trainable retarded students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Most teachers would need special guidance to adequately teach the trainable retarded students.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Rank statements in level of importance from 1 being the highest to 8 being the lowest in importance.

<table>
<thead>
<tr>
<th>RANK</th>
<th>STATEMENT</th>
<th>AGREE</th>
<th>NEUTRAL</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1. Developmentally handicapped students should be solely the responsibility of their own special teacher and aides.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2. Developmentally handicapped students should be housed in classrooms separated from the classrooms of non-handicapped students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3. The non-handicapped students in the school benefit from their interaction with the developmentally handicapped students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4. The developmentally handicapped students benefit from their interaction with the non-handicapped students in the school.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5. Some of the developmentally handicapped students would probably benefit from part-time placement in regular classes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6. All of the developmentally handicapped students would probably benefit from full-time placement in regular classes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7. Most teachers and educational assistants would need special guidance to adequately supervise the developmentally handicapped students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8. Most teachers would need special guidance to adequately teach the developmentally handicapped child.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix D

1994 Survey

Please indicate if you agree, disagree or remain neutral with the statements. Use one check mark per statement.
Are you presently teaching in an integrated school? 

Are you presently teaching in a segregated school? 

Please state how long you have been teaching. 

What level are you presently teaching? Junior ___ Intermediate ___ Senior ___ 

Please indicate whether you are ___ male ___ female 

Comments: ________________________________________________________

__________________________________________________________________
Appendix E

Principals' Letter

Dear Principals.

I am a teacher with the XYZ School Board: previously teaching students with developmental handicaps and presently an educational assessment teacher.

I am collecting data for my Doctorate of Education in Human Development and Applied Psychology at The Ontario Institute of Studies in Education (OISE), University of Toronto. I would greatly appreciate if you would assist me by distributing the enclosed questionnaire, accompanying letter and return label to each teacher on your staff.

The questionnaire deals with teachers' opinions and perceptions towards the integration/inclusion of exceptional students in their classrooms. Completion of the questionnaire is voluntary and will take only about ten minutes to complete.

The questionnaire is based on an original survey sent out in 1974 from the XXX School Board’s Research Department and an updated survey sent out by myself in 1994, also through the XXX School Board.

The present questionnaire has been approved by the Research Review Committee of the XYZ School Board.

In the questionnaire teachers will not be asked for their name, nor the school where they teach. This will ensure that all information is completely confidential. No individuals or schools will be identified or be identifiable.

I would greatly appreciate your cooperation by distributing the questionnaires to your staff.

If you have any questions or concerns, please telephone me at (416) 123-4567.

Thank you.

Sandi Giddens
Educational Assessment Teacher
XYZ School Board
[Address of XYZ School Board office]
Appendix F

Teachers' Letter

Dear Teachers.

I am a teacher with the XYZ School Board: previously teaching students with developmental handicaps and presently an educational assessment teacher.

I am collecting data for my Doctorate of Education in Human Developmental and Applied Psychology at The Ontario Institute for Studies in Education (OISE), University of Toronto. I would greatly appreciate if you would fill out the following questionnaire which deals with teachers' opinions and perceptions towards the integration/inclusion of exceptional students in their classrooms. Completion of the questionnaire is voluntary and will take only about ten minutes to complete.

The questionnaire is based on an original survey sent out in 1974 from the XXX School Board's Research Department and an updated survey sent out by myself in 1994, also through the XXX School Board.

The present questionnaire has been approved by the Research Review Committee of the XYZ School Board.

You will not be asked for your name, nor the school where you teach. This will ensure that all information is completely confidential. No individuals or schools will be identified or be identifiable.

Please return the questionnaire with the accompanying return label as soon as possible via the XYZ School Board interoffice mail.

If you have any questions or concerns, please telephone me at (416) 123-4567.

Thank you.

Sandi Giddens
Educational Assessment Teacher
XYZ School Board
[Address of XYZ School Board office]
Figure 8. Percentage of responses in each of three surveys to Question 1. Students with disabilities should be solely the responsibility of their own teacher and aides.
Figure 9. Percentage of responses in each of three surveys to Question 2. Students with disabilities should be housed in classrooms separated from the classrooms on non-handicapped students.
Figure 10. Question 3. Percentage of responses in each of three surveys to Non-disabled students in the school benefit from their interaction with students with disabilities.
Figure 1. Percentage of responses in each of three surveys to Question 4, Students with disabilities benefit from their interaction with the non-disabled students in the school.
Figure 12. Percentage of responses in each of three surveys to Question 5. Some of the students with disabilities would probably benefit from part-time placement in regular class.
Figure 13. Percentage of responses in each of the two surveys to Question 6. All of the students with disabilities would probably benefit from full-time placement (full inclusion) in regular class.
Figure 14. Percentage of responses in each of three surveys to Question 7. Most teachers and educational assistants would need special guidance to adequately supervise the students with disabilities.
Figure 15. Percentage of responses in each of three surveys to Question 8, Most teachers would need special guidance to adequately teach students with disabilities.