6-1-2001

Reading progress and inclusion: Are they related?

Kristi Bullwinkle

Tracy Thomas

Follow this and additional works at: http://scholarworks.rit.edu/theses

Recommended Citation

This Thesis is brought to you for free and open access by the Thesis/Dissertation Collections at RIT Scholar Works. It has been accepted for inclusion in Theses by an authorized administrator of RIT Scholar Works. For more information, please contact ritscholarworks@rit.edu.
Reading Progress and Inclusion: Are they Related?

Kristi J. Bullwinkle

Tracy M. Thomas

Rochester Institute of Technology
PERMISSION GRANTED
Title of thesis: Reading Progress and Inclusion: Are they Related?

Tracy Thomas & Kristi Bulwinkel hereby grant permission to the Wallace Memorial Library of the Rochester Institute of Technology to reproduce my thesis in whole or in part. Any reproduction will not be for commercial use or profit.

Date: 6/20/01 Signature of Author: ____________________________

PERMISSION FROM AUTHOR REQUIRED
Title of thesis: ____________________________

I ____________________________ prefer to be contacted each time a request for reproduction is made. I can be reached at the following address:

________________________________________
________________________________________
________________________________________

PHONE: __________

Date: __________ Signature of Author: ____________________________

PERMISSION DENIED
TITLE OF THESIS: ____________________________

I ____________________________ hereby deny permission to the Wallace Memorial Library of the Rochester Institute of Technology to reproduce my thesis in whole or in part.

Date: __________ Signature of Author: ____________________________
Abstract

This study investigated the reading progress of students before and after being placed in an inclusion program. The Degrees of Reading Power Test was used to measure growth of non-classified and classified students both prior to and a year after participation in an inclusive program. Average growth per year for each student, over a two-year period prior to inclusion was determined and compared to average growth after a year of participation in an inclusive program. Data for classified and non-classified students was analyzed separately to determine whether growth in reading changed with participation in an inclusive program as compared to a segregated program. Results indicated that no significant differences were found between average annual growth prior to inclusion as compared to growth after a year in an inclusive program for either non-classified or classified students. However, small differences were noted and discussed. Because no significant differences in average reading growth were found for either classified or non-classified students in the inclusive program, this study suggests that inclusion is at least as effective as segregated programs for reading progress. The implications of these results are discussed.
Reading Progress and Inclusion: Are they Related?

The inclusion of disabled students into general education classrooms has been one of the most controversial topics in education over the past two decades. The question of where students with disabilities should be educated has been answered in different ways at different times (MacMillan, Gresham, & Forness, 1996). During the 1950s and 1960s, students with disabilities were increasingly denied education altogether or assigned to special, segregated classes. During the late 1960s, the value of this practice was questioned. Little evidence was found to support the effectiveness of removing students from the general education classrooms. Therefore, school districts began to place students with mild disabilities back into the general education classrooms. The passage of PL 94-142, the Education for All Handicapped Children Act in 1975 guaranteed education in a “Least Restrictive Environment” (LRE) (Madden & Slavin, 1983).

History of Inclusive Practices

PL94-142

PL 94-142 (1975) reauthorized in Individuals with Disabilities Education Act (1990) provided the legal foundation for inclusive education by mandating that all children with disabilities be educated in the LRE to the maximum extent possible (Banerji & Dailey, 1995; Daniel & King, 1997). Originally, the term “children with disabilities” included only those children evaluated and identified as mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, multihandicapped,
or as having specific learning disabilities. Special education and related services became legally required for these students due to their disabilities (Zigmond, 1995). The overall message of PL94-142 was that all options must be considered before removing a child from the general classroom (Education Resources, 1996). This included adapting the general program as much as possible to accommodate the needs of students with disabilities and providing appropriate supports for general education teachers (Madden & Slavin, 1983).

Regular Education Initiative

Although general classroom placement, to the maximum extent possible, has been required since PL 94-142 first became law, fully inclusive schools have not become a regular part of the continuum of educational options until recently (Brady, Hunter, & Campbell, 1997). In the 1980’s, a renewed effort to educate students with mild disabilities in general classrooms began under the general title of the Regular Education Initiative (REI) (McLeskey & Pacchiano, 1994). Regular Education Initiative referred to the merger of governance and funding for special education students (Education Resources, 1996). Proponents of REI supported merging the resources of general and special education to better serve students whose needs were primarily academic remediation (Palmer, Borthwick-Duffy, & Widaman, 1998). Advocates argued that the pull-out system, which removed students from the class and was often used for special education students, placed a stigma on special-needs learners and did not appropriately serve their individual needs (Martin, 1997).
In 1990, Congress amended the 1975 special education law, PL94-142, and renamed it the Individuals with Disabilities Education Act (IDEA) (Shanker, 1994/1995). IDEA added autism and traumatic brain injury as classifications for children with disabilities. In addition, IDEA re-emphasized keeping all students in the general education environment to the maximum extent possible (Shanker, 1994/1995). Therefore, the reauthorization of PL94-142 initiated a renewed interest in LRE inclusion efforts. However, because IDEA does not use the term “inclusion”, educators have debated what is legally required.

Current Theories of School Reform

Although PL 94-142 (1975) emphasized that all options must be considered before a child is removed from the general classroom, LRE was seldom enforced to the maximum extent possible until it was reauthorized in 1990. IDEA spurred a renewed interest in LRE, which was interpreted in many schools as inclusion for students with disabilities. “Inclusion” gained widespread popularity in schools as a solution to the documented ineffectiveness of special education programs (McLeskey & Pacchiano, 1994). The term inclusion has been used to describe the current movement to serve students with disabilities in the general education classroom as opposed to providing services in self-contained classrooms or pullout programs (Sailor, 1991). “Inclusion” has often been confused with “integration” and/or “mainstreaming.”
Inclusion

Salisbury (1991) discriminated between inclusion and integration; he explained that integration continues to separately identify the general and special education groups. The special education groups have been permitted to participate only in some mainstream activities but have been excluded from others. This differs from inclusion in which all students have been accommodated as much as possible within the general education curriculum (Salisbury, 1991).

Mainstreaming

Others have referred to inclusion as mainstreaming. However, mainstreaming has typically referred to the period of transition between separate and inclusive programs where students are “mainstreamed” into increasingly more facets of the school’s organizational structure (Brady, Hunter, & Campbell, 1997). Mainstreaming has been advocated as a special education initiative for individual students with disabilities. Inclusive schools, on the other hand, have focused on creating and maintaining a general education environment supportive of all students, including those who traditionally have been taught outside of typical classrooms and schools (Brady et al, 1997). Therefore, those who have supported mainstreaming believe that a child must earn his or her way into the general education environment. On the other hand, those who have supported inclusion believe that the child should always begin in the general education classroom and be moved only when appropriate services cannot be provided in the general classroom (Education Resources, 1996).
Inclusion

Currently, approximately 13% of all U.S. students receive special educational services (U.S. Department of Education, 2000). Inclusion has become for advocates the cure-all for what ails special education (Daniel & King, 1997). The goal of moving to an inclusive model has been to provide an accommodating, personalized education for all students, including those with disabilities, within the context of the general education classroom (Zigmond, 1995). Generally, inclusion has promoted the participation of students with disabilities in all aspects of school and community (Banerji & Dailey, 1995). Thus, students with disabilities have been served in general classrooms whenever possible. This has frequently involved consultation and cooperation between general and special education teachers. In this manner, inclusion has strived to improve the quality of learning opportunities for both typically achieving students and students with disabilities (Hardie, 1993).

Critics have questioned the impact of inclusion on the learning outcomes of typical (non-classified) students in the classroom. Will the academic achievement of non-classified student suffer when classified students are included in general education settings? Embedded in this question lies the idea that “Accommodating the needs of a few may place at risk the learning opportunities of the majority” (Sharpe et al., 1994, p.282).

Supporters of inclusion have rejected the pull-out programs, which have been typical of special education for the past thirty years. Pull-out programs have typically included self-contained classrooms for behaviorally disordered students and resource
rooms for learning disabled students. These arrangements were created by those who believed that special education students needed special education services that could not be delivered in the general classroom setting (Peltier, 1997). Other inclusion supporters have emphasized the social benefits for both general and special education students who participate in inclusionary models of education (Peltier, 1997; Sharpe, York, & Knight, 1994; Staub & Peck, 1994/1995).

Advocates of inclusion have suggested that heterogeneous grouping of students allows all students to have equal access to the core curriculum, which the community has identified as important for future careers and adult life success (Thousand, Rosenberg, Bishop, & Villa, 1997). However, there has been a variation in the degree of inclusion from district to district and even from school to school within districts. Some advocates have supported inclusion with special education options for those whose least restrictive environment may be a segregated classroom; others have supported full inclusion.

Advocates of full inclusion have supported the practice of placing all students with disabilities in full-time, general education classrooms within their local districts regardless of the nature or severity of their disability. This has meant that all services must be brought to that child in that setting (Education Resources, 1999). In a full inclusion model, the general education teacher would teach both the general education students and the special education students together, without the assistance of a special education teacher (Peltier, 1997). These advocates have supported the discontinuation of all other placement options such as self-contained classrooms (Daniel & King, 1997). Under ideal conditions, all students work towards the same overall educational outcomes.
Missing Page
Measured success of inclusion

Because of the variety of inclusive programs, no single model of inclusive education has acted as a comprehensive prototype for researchers (Brady et al, 1997). The variety of inclusive programs practiced in schools has made it nearly impossible to determine the overall effectiveness of inclusion. Inclusive programs have varied in operational definition, and even when effects of the programs have been conclusive they have been difficult to generalize to other settings (Banerji & Dailey, 1995). For example, programs vary by which disabilities have been included, the size of the classroom, the ratio of students with disabilities to typical students per class, the amount of services provided to the student, as well as the amount of services provided to the teacher. Therefore, due to the variability among inclusion models, studies on the effectiveness of inclusion need to be interpreted with caution.

Effect on Academic Achievement

Academic effects of inclusion on classified students

Advocates for full inclusion have suggested that academic achievement has been enhanced when classified students are expected to adhere to the higher learning standards usually present in general classroom settings (Daniel & King, 1997). However, studies that have looked at the academic achievement of special education students placed in inclusive classrooms have been inconsistent.

Some studies have suggested that inclusion does not academically benefit classified students. For example, Daniel and King (1997) found few notable differences
in academic achievement among students in inclusive versus non-inclusive classrooms. They concluded that consistent academic gains do not appear to be an advantage of inclusive classrooms. A separate study involving three research projects conducted at the Universities of Pittsburgh, Washington, and Vanderbilt (MacMillan et al, 1996) examined the effectiveness of placing students with learning disabilities in general education classrooms. Taken together, the results from these three projects have suggested that inclusive classrooms produce undesirable academic outcomes for students with learning disabilities. These results failed to support the full inclusion model and suggested that not all students will benefit from inclusion (MacMillan et al, 1996).

The results of other studies have suggested that inclusion produces superior academic achievement for classified students when compared to similar peers in segregated classrooms. For example, Calhoun & Elliot (1977) randomly assigned classified students to general or special education classrooms. They concluded that placement in general classes had a more positive effect on the achievement of Emotionally Disabled and Educable Mentally Retarded students than did special class placement. Similarly, Madden & Slavin (1983) concluded that general class placement produced superior or identical academic achievement for students with Educable Mental Retardation placed in general education classrooms when compared to their peers with Educable Mental Retardation placed in special education classrooms. Madden & Slavin (1983) concluded that overall, general class placement with appropriate supports produced more desirable academic achievement for classified students.
Other studies have suggested that inclusion produces at least similar if not superior academic achievement for classified students when compared with peers in segregated classrooms. These studies have been used to support the inclusive movement because classified students can be as successful in the general, inclusive classroom as in a segregated setting. For example, Waldron & McLeskey (1998) conducted a study on the academic effects of inclusion among Learning Disabled (LD) elementary school students. They found that students with LD who were educated in inclusive settings made significantly more progress on a curriculum-based measure of reading than did students who were educated in segregated, resource settings. Students with LD also made comparable progress in mathematics. They concluded that students with LD make at least as much progress in an inclusive setting as they do in a segregated setting.

Similarly, Banerji & Dailey (1995) concluded that in an inclusive setting, although fifth grade students with learning disabilities did not demonstrate gains comparable to their non-classified peers in written language, they did develop at a rate comparable to that of their non-identified peers in academic areas such as reading.

Carlberg & Kavale (1980) conducted a meta-analysis on the efficacy of special education versus general class placement for children with LD. Their review of the literature failed to provide evidence supporting the superiority of one educational placement over another on academic criteria. The meta-analysis revealed that special class placement is an inferior alternative to general class placement in benefiting children with LD academically because these children were able to succeed in the general classroom. Affleck, Madge, Adams, & Lowenbraun (1988) compared the inclusive
classroom model versus a segregated (pull-out resource) model. They found no significant differences in academic achievement between the groups. Therefore these researchers supported the inclusion model for students with learning disabilities because the students performed at least as well academically as similar students in the segregated model and services are provided in the least restrictive environment.

Although studies have not been consistent, some conclusions can be drawn. Overall, research has suggested that students with LD in elementary schools who participate in effective, full-time general education classrooms can achieve academic progress as good as or better than students with LD placed in segregated settings. Also, some research has suggested that when individualized instruction has been used in the general classrooms with Educable Mentally Retarded and Emotionally Disturbed students, the achievement of these students has been markedly higher than in segregated special education classrooms using the same teaching programs (Madden & Slavin, 1983). However, since there has been no single model of inclusion, the effects are difficult to generalize.

**Academic effects of inclusion on general education students (non-classified)**

Few published articles have addressed the effects of inclusion on the academic performance of general education students. The research base that does exist is limited in many ways. For example, most studies have been carried out at the early childhood level; very few studies of elementary and secondary children have been published. Also, the existing research has been primarily descriptive or quasi-experimental in nature.
Missing Page
administered instrument that samples academic skills in three areas: reading, language, and mathematics. Again, as in the preschool study, no significant differences were found between the academic performances of children educated in inclusive or non-inclusive environments.

Although these two studies are consistent, the paucity of research on the effects of inclusion on the academic performance of non-disabled students makes comparison nearly impossible.

Inconclusive Evidence

Currently, no conclusion about the relative superiority of segregated versus general class placement can be based on inspection of empirical findings. Therefore, the effectiveness of any particular inclusion approach must be examined individually.

The purpose of this investigation was to examine the academic effects of an inclusive model, implemented in a large suburban school district. The following question guides this research: How does the reading progress of both non-classified and classified students who are educated in an inclusive classroom for the first time, compare to reading progress made by the same students in previous years when they were educated in segregated settings?

Methods

Participants

The experimental group consisted of 65 fifth grade students from one large suburban school district, who were placed in inclusive classrooms during the 1999-2000 school year. However, of the original sample of 65, 22 students were eliminated because
of missing data (17), a family move out of district (3), or a missing file in the district database (2). Therefore, the final sample size was 43, 36 non-classified students and 7 students classified with a disability. Of the students who were classified, 5 were Learning Disabled (LD), 1 was Speech Impaired (SI), and 1 was Other Health Impaired (OHI). The total sample consisted of 23 male participants (53%) and 20 female participants (47%). Thirty-six (84%) of the participants were Caucasian, 4 (9%) were African-American, 1 (2%) was Asian, and 2 (5%) were Hispanic.

The targeted school implemented an inclusive model of education in 1999. The inclusive model promoted the return of students from out of district placements as well as 8:1:1 and 15:1:1 segregated classrooms within the district. Certified special education teachers were utilized as consultant teachers who worked collaboratively with the general education teacher. The consultant teacher approach provided mentoring opportunities for general and special education teachers through co-teaching, collaborative instruction, and differentiated instruction when necessary to meet the needs of all students. The amount of support each classified student received was determined by the Committee on Special Education (CSE) and was documented on each students' Individualized Education Plan (IEP). This model creates a cohesive and comprehensive approach to instruction, which is learner centered and draws on the experience of a variety of professionals.

The school had five fifth grade classrooms, three of which were designated inclusion classes. The total number of students in each fifth grade classroom was 21 or 22 students. This study focused on the 65 students placed in the inclusive
Non-classified students were randomly placed in inclusive or non-inclusive classrooms. The total number of classified students in each inclusive classroom ranged from 4-6. Classified students were also randomly placed in the three designated classrooms.

The targeted school was chosen due to the implementation of an inclusive program as well as the successive administration of the DRP test over four years. Fifth grade students were selected as the target population because they had completed the DRP test multiple times, which allowed for a baseline prior to inclusion. In addition, fifth grade students were chosen in an effort to minimize confounding factors, such as the transition to middle school.

**Instruments**

For purposes of this study, the academic progress made by both classified and non-classified students was analyzed separately. This was done in an effort to compare the academic progress made by non-classified students to classified students’ progress when both were educated in the same inclusive classroom. The reading achievement of both groups was evaluated using a standardized New York State reading assessment, The Degrees Power Test (DRP) (The College Board, 1986).

The DRP is designed to monitor a student’s progress in reading comprehension and to provide an outcome measure for school accountability. DRP tests focus on determining how well students process or construct meaning from paragraphs as they read through a selection. The intent is to measure how well students understand the surface meaning of what they read. It does not assess inferential thinking. Scores are
determined by using a prose difficulty scale, which determines the most difficult text that can be read with a given level of comprehension (The College Board, 1986).

Each DRP test consists of a number of non-fiction passages on a variety of topics. Each passage contains approximately 325 words. The passages are arranged in order of difficulty, beginning with easier material and progressing to more difficult material. Seven of the sentences in each passage contain a blank space, to indicate that a word is missing. For each blank, five single word responses are provided. Students must select the most appropriate response to complete the sentence. The difficulty of the blank item is linked to the text difficulty (The College Board, 1986).

Results of the DRP are reported in DRP units. DRP units form a scale of prose difficulty or readability. The scale ranges from 15 (easiest) to 100 (most difficult) units. Results are also reported in percentiles. The percentile rank of a given score is equivalent to the percent of students at each age group who scored at or below that score, with the 50th percentile representing the mean (The College Board, 1986).

The data gathered for this study was originally collected in DRP units and percentiles. However, for purposes of this study, these scores were converted to Normal Curve Equivalent scores (NCEs) using a chart provided in the DRP Handbook. NCEs were used to account for possible differences in difficulty of the test from year to year. NCEs, technically, are normalized standard scores with a mean of 50 and a standard deviation of 21.06. They are an equal interval scale and can therefore be added and averaged to determine group performance or subtracted to measure gains. Since this
study's purpose was to measure academic growth of students, NCEs were most appropriate.

Procedure

For this investigation, archival data was collected from the files of the students participating in the three fifth grade inclusive classrooms. In addition to demographic information, percentile ranks from the DRP for each student from grades 2, 3, 4, and 5 were collected and compiled. Percentile ranks were converted to NCEs. However, some files did not contain third grade DRP results. In instances when a student's file did not contain third grade DRP information, growth from second and fourth grade was determined and averaged to establish growth per year.

Growth from year to year was determined by calculating the difference between NCE scores. Average growth per year (from grades 2 to 3 and from grades 3 to 4) for each student prior to inclusion was determined and compared to average growth after a year of participation in an inclusive program. Typical students are expected to demonstrate one year's growth in one year's time. Data for classified and non-classified students was entered separately into SPSS. T-tests for dependent means were run for each group to determine whether participation in an inclusive program as compared to a segregated program affected a student's academic growth in reading comprehension.

Results

The growth, in NCE units as measured on the DRP, of classified and non-classified students respectively, who transitioned to an inclusive program both prior to and after one year of inclusion is presented in Tables 1 and 2. The results of these
analyses revealed that neither the classified \((t(6)=-.109, p=.917)\) nor non-classified \((t(35)=1.030, p=.310)\) students demonstrated a significant change in reading growth after participation in an inclusive program for a year. However, of interest, while neither group demonstrated significant differences in reading growth post inclusion, small group differences were detected.

Though differences were not statistically significant, non-classified students' growth in the inclusive program not only slightly decreased in comparison to their average growth per year from grades 2 to 3 and from grades 3 to 4 prior to inclusion, but they also made less growth on average in comparison to their classified classmates. On the other hand, classified students' growth in the inclusive program slightly increased in comparison to their average growth prior to inclusion. In addition, classified students, on average, demonstrated more growth than non-classified students in the inclusive program.

A visual summary of this information is presented in Figure 1.

Table 1
**Reading Comprehension Growth of Classified Students as Measured in NCE Units**

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre-inclusion Growth Averaged Over 2 Years</th>
<th>Post-inclusion Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>-3.5</td>
<td>-1</td>
</tr>
<tr>
<td>38</td>
<td>11.5</td>
<td>13</td>
</tr>
<tr>
<td>39</td>
<td>-1</td>
<td>12</td>
</tr>
<tr>
<td>40</td>
<td>5</td>
<td>-5</td>
</tr>
<tr>
<td>41</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>42</td>
<td>-2</td>
<td>-5</td>
</tr>
<tr>
<td>43</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 2

Reading Comprehension Growth of Non-classified Students as Measured in NCE Units

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre-inclusion Growth Averaged Over 2 Years</th>
<th>Post-inclusion Growth</th>
<th>Student</th>
<th>Pre-inclusion Growth Averaged Over 2 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.5</td>
<td>-3</td>
<td>19</td>
<td>2.5</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>0</td>
<td>20</td>
<td>1.5</td>
</tr>
<tr>
<td>3</td>
<td>15.5</td>
<td>5</td>
<td>21</td>
<td>-9.5</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>-1</td>
<td>22</td>
<td>-6.5</td>
</tr>
<tr>
<td>5</td>
<td>-4</td>
<td>5</td>
<td>23</td>
<td>-1</td>
</tr>
<tr>
<td>6</td>
<td>-11.5</td>
<td>9</td>
<td>24</td>
<td>-5.5</td>
</tr>
<tr>
<td>7</td>
<td>-3</td>
<td>0</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>15.5</td>
<td>-10</td>
<td>26</td>
<td>-5.5</td>
</tr>
<tr>
<td>9</td>
<td>6.5</td>
<td>-9</td>
<td>27</td>
<td>-11</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>-8</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>11</td>
<td>-9.5</td>
<td>6</td>
<td>29</td>
<td>12.5</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>-4</td>
<td>30</td>
<td>4.5</td>
</tr>
<tr>
<td>13</td>
<td>-3</td>
<td>8</td>
<td>31</td>
<td>1.5</td>
</tr>
<tr>
<td>14</td>
<td>3.5</td>
<td>-6</td>
<td>32</td>
<td>11.5</td>
</tr>
<tr>
<td>15</td>
<td>9.5</td>
<td>16</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>-5.5</td>
<td>-5</td>
<td>34</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>3</td>
<td>-11</td>
<td>35</td>
<td>3.5</td>
</tr>
<tr>
<td>18</td>
<td>-1.5</td>
<td>6</td>
<td>36</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Discussion

The results of this study indicate that progress in reading comprehension made by non-classified and classified students placed in an inclusive program was not significantly different prior to and after one year of inclusive education. However, upon closer inspection, small differences in reading comprehension growth were noted. Specifically, based on the standardized test used in this investigation (DRP), on average non-classified students’ reading scores regressed after a year in the inclusive program. In addition, non-classified students made less growth on average in comparison to their classified classmates. Conversely, classified students’ growth in the inclusive program
slightly increased in comparison to growth in segregated settings. On average, classified
students demonstrated more growth (moved up more in NCE units) than the non-
classified students in the inclusive program. These results are similar to previous
investigations, which have found small or non-significant differences on measures of
academic achievement for students placed in inclusive programs.

Although not statistically significant, the decrease in non-classified students’
reading comprehension may have resulted from the effort to accommodate classified
students’ learning needs. Hence, a slower pace of instruction may have been utilized in
the inclusive program. Another possible rationale for the regression of scores, is
increased distractions due to the greater number of adults in the classroom. A third
explanation may be the adjustment phase of non-classified students to the special learning
needs of classified students.

Classified students made at least as much or more progress in the inclusive
environment as they did in segregated settings. The finding that classified students
demonstrated slightly more progress in NCE units than non-classified students in the
inclusive program may have occurred because classified students initially were
significantly below their non-classified peers and thus had more room to grow per year to
match grade level standards. Generally, because no significant differences were found
for classified or non-classified students in the inclusive program, this study suggests that
inclusion is at least as effective as segregated programs.
Limitations of This Investigation

This specific study is based on a small sample size and all subjects are from one geographical area. Also the sample is composed of a disproportionate distribution of race and limited range of specific disabilities. Other factors include lack of random assignment of students to groups and questions regarding whether the classroom placement was the critical factor to study rather than the quality of instruction within the setting. For example, classified students must be placed with designated inclusion teachers. Therefore, random assignment is limited. Also, because teaching styles vary some students adapt more readily to an inclusive program. Another factor is that in the first year of inclusive program teachers, administrators, and students need time to adjust. In addition, the use of difference scores, which are less reliable than the scores on which they are based, may lead to less reliable data.

Implications for Future Research:

While this preliminary investigation provides some support for the inclusion of classified students into general education programs, effective instructional methods for classified students need to be developed. Future research should utilize a larger sample size and allow a larger, more diverse geographical area to be studied. Finally, future research may wish to examine the long-term effects of inclusion by investigating the academic progress of students who have participated in an inclusive program for more than one year.
References


Figure 1. Average reading comprehension growth, as measured in NCE units, for classified and non-classified students, both before and after participating in an inclusive program.