The impact of flexible grouping on reading achievement for sixth grade students

by

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ABSTRACT

A quantitative case study at a three-section Midwestern elementary school examined a current flexible grouping method, with increased numbers of teachers, being implemented in sixth grade classrooms versus the traditional whole group instruction. Using Iowa Test of Basic Skills (ITBS) data, the research analyzed if flexible grouping can significantly increase reading achievement in sixth grade students. The research compared the means of sixth grade students national percentile rank (NPR) of the participating students in the area of reading, on their fifth grade ITBS test to their NPR on their sixth grade ITBS test. Results suggest there was no significant growth in the area of reading achievement when students were instructed using flexible grouping.
CHAPTER 1. OVERVIEW

Introduction

Today many schools feel they are stuck between a rock and a hard place. Public schools must accommodate and accept the ever changing diversity of its student population. They must also accommodate and accept the state’s increasingly standardized curriculum due to No Child Left Behind (NCLB) legislation. The question is how we (public schools) are going to accomplish this accommodation. The school in this quantitative case study has been searching for effective strategies to accommodate the diverse student population in the least restrictive environment (LRE) and to meet the standards of NCLB. The problems to be addressed are current teaching models for reading instruction and how teachers are going to meet all the diverse needs of their students. It is important to look at a new approach that may increase student participation, fluency, comprehension, self-concept, and meet the needs of a diverse learner. This study looks at the use of flexible grouping with additional teachers to meet all these requirements.

In previous years the sample school and many schools around the country have used whole group instruction to teach students upper elementary students their core reading instruction. Whole group instruction is where all students receive the same instruction at the same time. This type of instruction may look like all students (usually around 25 students) are reading the same basal story in a week, are getting a weekly spelling test, and are working on suggested reading strategies and workbook pages. In the sample school the students who received special education services were pulled-out
during this core reading time. They were in an alternate reading program such as SRA Reading Mastery. Whole group has not worked in the past for students in special education because of the pace of instruction, level, and the limited time to practice skills.

Flexible grouping allows for lower teacher to student ratio, lessons specific to each student’s needs and skill level, instruction at the student’s pace, more opportunity to practice the skills, and having assessment drive instruction. Due to the push for less pull-out time, student need, and looking for innovative ways to increase reading achievement the case study school decided to reintegrate the special education students receiving special education services into the core reading curriculum. The school felt with additional teacher support and flexible grouping we would better meet all student needs.

**Research Questions**

The research question for this study was: Does flexible grouping with additional teachers increase student reading achievement in sixth grade students? The hypothesis would be that flexible grouping does increase reading achievement. According to literature, flexible grouping with additional teachers provides students more individualized instruction and decreases teacher-student ratios. More attention to a student will increase his/her achievement and ability to participate in reading instruction. It also provides more opportunity for cooperative learning, hands-on activities, and a variety of instructional strategies. Using flexible grouping has the potential to produce academic gains for all students (Gentry & Owen, 1999), because teachers have the opportunity to meet individual needs of the students in a more efficient manner.

A sub-question to the case study was: Is there a trend of an increase or decrease in reading achievement according to ITBS between fifth and sixth grade? The working
hypothesis for this question is that there is a trend of student reading achievement decreasing at the case study elementary. Teachers have reported in previous years they have noticed there are a lower number of students proficient in the area of reading in sixth grade compared to fifth grade. A statistical analysis was done to see if their perceptions were true and to look for answers on why this might happen.

The next sub-question was: Did flexible grouping increase reading achievement for sixth grade students receiving special education services in the area of reading? In previous years students being served in the area of reading were pulled-out during core instruction to receive their special education services. The case study elementary is striving to include all students in the core instruction with extra support and differentiation for the 2007/2008 academic school year. The hypothesis for this question is students increased their NPR from fifth grade to sixth grade by being exposed to the core curriculum.

**Significance of Study**

Previous research of flexible grouping has been mainly qualitative in nature. There are few studies that examine the achievement gains made by students in flexible grouping. In this research study, the researcher will examine the quantitative effects flexible grouping has on students' Iowa Test of Basic Skills (ITBS) reading achievement scores. The research is important to all special and general education teachers searching for innovative techniques to serve all students in the least restrictive environment while addressing their learning needs. Since No Child Left Behind, educators are required to use research-based methods to improve all students’ learning in the least restrictive environment.
This quantitative case study will benefit teachers participating in this study. It will look at current teaching practices being utilized by most grades at the participating school. The research will be useful for all educators to determine if flexible grouping with additional teachers is effective in raising student proficiency in reading. Reporting achievement gains for students involved in the flexible grouping versus whole group instruction for reading will provide participating teachers with concrete evidence one approach is better at meeting students’ needs.

**Objectives**

The objectives of this research project were to:

1. To determine the effectiveness flexible grouping has on increasing reading achievement on ITBS for sixth grade students.
2. To determine how the instructional approach of flexible grouping will be utilized the next academic school year.

**Thesis Organization**

The following thesis begins with a review of literature related to flexible grouping, least restrictive environment, and inclusion. Next, there is a description of methods used in this research project. Following the methods are the results of the quantitative data. General conclusions and future directions for research are presented after the results.
CHAPTER 2. REVIEW OF LITERATURE

Since the passage of the P.L. 94-142 in 1975, models of service delivery in special education have been implemented that enable students with disabilities to be educated in the least restrictive environment (Gerber & Popp, 2000). LRE is when students with disabilities are educated with students without disabilities to the maximum extent possible. Collaborative or co-teaching methods have been used to serve these students in the general education classroom. Inclusive education is founded on the beliefs all children can learn, all children have the right to be educated with their peers in heterogeneous classrooms, and it is the responsibility of the school to meet the diverse education needs of all its students (Hunt, Soto, Maier, & Doering, 2003).

Individual with Disabilities Act 2004 assumes the LRE for every child/young person with disabilities is the general education classroom. This assumption is not explicitly stated, but is implied in several ways. First, a general education teacher is required to attend the IEP meeting, regardless of the type or severity of the disability. Second, there is only one curriculum, the general education curriculum; and third, the Individualized Education Plan (IEP) team has to figure out the percentage of time the student is pulled out of the general education classroom and has to justify why the child/young person needs to be pulled out.

For the past 30 years, theorists, administrators, teachers, and program developers working within the field of special education have moved toward inclusion and away from isolation of students with special needs (Dynak, Whitten, & Dynak, 1997). Teachers are using a variety of teaching models to achieve inclusion. Inclusive practices are becoming more prevalent within our schools. One method administrators and
teachers are starting to implement is flexible grouping with differentiation of the way we teach students in order to meet all student needs. Flexible grouping is a fairly new method teachers are implementing in order to meet students needs with out the negative effects ability grouping may impose on students.

What is flexible grouping? “Flexible grouping allows students to work in differently mixed groups depending on the goal of the learning task at hand, then to break apart once the task is completed” (Opitz, 1999, p. 35). Flexible grouping allows students to be taught specific skills they may need; students can be grouped by interests, knowledge, or randomly. The group is ever evolving and is not a “track” into which students get stuck. Castle, Dentz, and Tortora (2005) see flexible grouping as an organizational strategy for the classroom designed to meet a broad range of student needs within a single classroom. Unlike ability grouping, flexible grouping allows for students to be grouped in a variety of ways and not “stuck” in a group. The teacher assesses before each unit to determine what skills students may need to focus on and creates groups to meet the students’ individual needs.

Ability grouping and flexible grouping may be confused with each other. Ability grouping has been defined as a practice that places students into classrooms or small groups based on an initial assessment of their levels of readiness or abilities (Tieso, 2003). Research has shown negative effects, particularly for the low-achieving and minority students when ability grouping was used. Students often are placed in a group early in their educational career and often are not able to break out of that group. Often the lower ability group experiences a lower quality of instruction, low self-esteem, lack
of educational equity, and student achievement is not enhanced through this method (Segro, 1995).

Flexible grouping is a grouping method teachers can utilize to provide the individualization students may need while teaching in a more efficient manner. The many advantages of flexible grouping are it allows for students to use their strongest modalities (Opitz, 1999), the teacher is able to teach specific skills to subgroups of students, the group dissolves after each unit, students are assessed frequently, and instruction is based on that assessment (Tieso, 20003). The teaching profession is becoming data driven to accommodate NCLB and better provide effective instruction. Teachers need methods that provide authentic assessment to drive their instruction and according to the literature flexible grouping may be a method that meets that need.

The research on ability grouping showed detrimental effects for low-achieving students, while the results on flexible grouping indicate positive effects for all students (Gentry & Owens, 1999), including low achieving students. Flexible grouping research has found the use of flexible grouping coupled with effective instruction have increased student achievement as well as self-concept (Castle, Dentz, & Tortora, 2005). Gentry and Owen (1999) believe their quantitative and qualitative findings indicate flexible grouping, when combined with high teacher expectations, the use of strategies to challenge and meet individual needs, and positive classroom environments, may have a positive impact on all students in a school.

Castle, Dentz and Tortora (2005) conducted a research study over a five year period. They examined the relationship between flexible grouping and student achievement over time. Their main focus was on students who performed below the
expected achievement goal on several tests. They found student achievement increased, evidenced by a higher percent of students achieving mastery on a state-wide test. Flexible grouping provides a method for teachers to differentiate learning for the students.

In the few research studies conducted on flexible grouping, it was suggested differentiation of the curriculum to meet the individual student needs was also an important component for flexible grouping to be successful. Tomlinson (1999) suggested four principles to guide teachers as they create a differentiated classroom: (a) teachers focus on the essential concepts, principles, and skills of each subject; (b) teachers attend to student differences, which are guided by their experiences, culture, gender, genetic code, and neurological wiring; (c) teachers realize assessment and instruction are inseparable: and (d) teachers modify content, process, and products to meet individual students’ levels of prior knowledge, and learning, thinking, and expression styles. Tieso (2003) suggests flexible grouping can be the vehicle for differentiation of the way we teach students.
CHAPTER 3. METHODS AND PROCEDURES

Introduction

This research study is a quantitative case study. There have been few quantitative studies conducted on flexible grouping. This research will differ in that it will compare the flexible grouping method to the whole group instruction in reading. The research will compare the reading scores from the Iowa Test of Basic Skills (ITBS) of sixth graders who have been taught using flexible grouping to their fifth grade ITBS scores when they were instructed using whole group. The research will contribute to the literature concerning inclusion of special education students into the general education classroom and how to better meet the needs of all students in the area of reading.

Type of Study

The researcher chose to use quantitative descriptive research in this research study. Descriptive research is concerned with the current or past status of something. It provides very valuable data, particularly when first investigating an area (McMillan & Schumacher, 2001). This is the first year the case study elementary has investigated the effects of flexible grouping on reading achievement. The flexible grouping program that the sixth grade team has implemented at the case study school will be looked at to see its effect on students’ ITBS reading scores. The researcher in this study has recognized the deficient amount of quantitative data regarding the flexible grouping approach. The researcher would like to see if flexible grouping significantly increased academic growth for all students in the area of reading.
The sixth grade team implemented a flexible grouping approach in the area of reading. The teachers utilized the Houghton Mifflin reading series with the flexible grouping strategy. It has just been adopted at the beginning of the 2007/2008 academic school year by the case study district. The district encouraged all staff to use the curriculum as intended for use and not to add other materials to the core curriculum. They also encouraged students receiving special education pull-out services to be taught the core curriculum as well. The teachers at the case study school understood core curriculum to mean all students read or listened to the same story, completed the target skills for each lesson, and were assessed on those target skills after every story and theme. The district and teachers were still struggling with a definitive answer after the first year of implementation of what the core really was and what it would look like in the classroom.

The sixth grade team at the case study school decided to utilize the special education teacher and associate to deliver the curriculum. This way there could be a lower teacher to student ratio. The sixth grade was divided into four reading groups based on formal evaluations, skills needed, and observations. The group who needed the most direct instruction in reading skills was in a small group of 14. The average size of the general classroom has been 25-27. The group consisted of students being served in special education as well as students who did not receive services. Not all students being served in the area of reading were in this flexible group. The special education teacher and associate taught this group. The next group who needed a little less intense instruction had a larger number of students and so forth.
After each unit or story, the teachers assessed the students and reassigned them to a flexible group. The teachers used given assessments from the Houghton Mifflin curriculum, Basic Reading Inventories (BRI), and classroom observations to determine if the student would be better suited for a different group. The teachers differentiated within their group and addressed the target skills and needs of their students. It allowed the teachers to use the same curriculum, but target skills specific to students’ needs.

In a comparative research study the information collected is quantitative in nature. Proficiency scores, in the area of reading, for the group of students who were in fifth grade in the 2006/2007 school year using whole group instruction were compared to the same students in sixth grade in the 2007/2008 school year using flexible grouping. In addition each student’s ITBS 2006/2007 and 2007/2008 scores were compared. The researcher also examined the scores of students receiving special education services in the same way. The percent of students above or below proficiency and the overall national percentile rank (NPR) mean for the group of students were calculated. In Iowa if students are at the 41st percentile or above they are considered proficient. If students are at the 40th percentile or below they are considered non-proficient. The mean NPR for each grade level was used to determine growth.

To determine if there was a trend in student reading achievement, regardless of whether it decreased or increased from fifth to sixth grade at the case study school, the past three fifth to sixth grade transitions were compared. The mean NPR for each grade level was compared during the data analysis.
Selection of Sample

This study focused on using flexible grouping for reading instruction for the sixth grade students at the case study elementary. The school was a three-section elementary in a Midwestern urban area. This school was chosen because the researcher was a participant in the flexible teaching method implemented for the 2007/2008 academic year who served sixth grade students with mild to moderate disabilities. The researcher wanted to see if flexible grouping for reading was a more effective method of increasing student proficiency. ITBS reading data for the current students in the sixth grade was collected and compared to the scores received by the same students in fifth grade.

The student population at the participating elementary school is becoming more diverse. It is a low-socioeconomic school. Each grade level has at least 10% special education population. There were 75 students in the sample class. There were 76 students in the class, but one student came in the middle of the year so his or her data was not utilized. Ninety-one percent of the students were white, seven percent were Asian American, and three percent were African American. The sample included 23 females and 52 males. By the end of the year 13, (16%) students were being served in special education. Eleven of the students in special education had a goal area in reading.

Instruments and Procedures

The quantitative data collected were formal test scores. The formal test scores were recorded from ITBS data from February 2007 and February 2008. The Iowa Test of Basic Skills is a set of standardized tests given annually to schools across the country - from kindergarten through eighth grade. Iowa uses the ITBS test for the No Child Left Behind mandates and is how progress is measured and reported each year at the case
study school. The scores utilized were the overall national percentile rank for reading. These subtests include vocabulary and reading comprehension. The data collected will help indicate if progress has been made in the area of reading.

**Analysis of Data**

A significant increase in student achievement in the area of reading for the 2007/2008 academic school year was looked for during data analysis. The computerized statistical program SPSS for Windows (SPSS version 13.0) was used to assist in analyzing the data. Descriptive statistics were used to examine the mean and the percent of students’ proficient on ITBS. A paired t-test was done to compare the mean of the students’ national percentile rank on their fifth grade ITBS test in 2007 to their sixth grade ITBS test in 2008. Frequencies were used to determine the percent of students who scored proficient (above the 41st percentile) in 2007 and 2008.

**Limitations**

There were four major limitations in this study. The first was the role of the researcher in the study. The second was the length of time the study is analyzing. The third concerns the ethical issues of confidentiality and sample size of the study. The fourth was the assumption that if reading scores do increase it was due to the flexible groups utilized.

**Researcher Role**

For the purpose of the quantitative case study the researcher was a participant, and a data analyzer. The researcher teamed with the three sixth grade general education teachers for reading instruction. We implemented the flexible grouping method at the
case study elementary for the core reading instruction to better serve students with disabilities in the least restrictive environment.

Teacher bias and objectivity may have been an issue when conducting this research. The researcher was very close to and invested in the project and strongly believed students would benefit in many ways from this approach. She was an advocate for students in special education and believed they were capable of participating and increasing their reading ability through the core instruction. In order to address the problem of teacher bias and objectivity, a third party outside of Case Elementary was utilized to assist in data analysis.

When doing this case study, the assumption was made that the flexible grouping method of teaching the core reading instruction provided students more opportunity to practice their reading skills, to participate in reading instruction, and to learn in a situation with lower teacher-student ratio, which would increase student proficiency on formal tests. The belief for all students was they deserved instruction that addressed different learning needs in the least restrictive environment.

Length of Study

The length of time students were incorporated in the flexible grouping was a limitation. Flexible grouping was implemented at the start of the 2007/2008 academic school year. It was implemented on August 20th, 2007. Students took their ITBS tests at the beginning of February 2008, which allowed about five and a half months of utilizing flexible grouping for reading instruction. This length of time is not necessarily enough time to make solid judgments on whether this method increased reading achievement. The researcher and her colleagues feel it is a start to ongoing analysis of the data.
**Ethics**

Several ethical issues arose in the research study and were addressed. One concerned confidentiality and reporting of the findings. Since the research was a case study of one school, anonymity was imperative. Student participants were assigned ID numbers. The building, district, and participants were not referred to by name. There was no individual data reported and was all group data. These data were available to the public through School Progress Reports online at the Iowa Department of Education.

The sample size was small and could be an issue. The results of this study cannot be generalized to the larger population. As a participant and researcher in the case study, these study results will be used to inform the grouping decision we make in the future. The research findings also will be brought to the administrator’s attention and revision of current elementary teaching methods may follow.

**Assumption**

There was an assumption among the researcher, the sixth grade team, and the administrator if there was an increase in reading scores; it was due to the flexible grouping technique used. There may be other reasons the reading scores increase or decrease. Therefore, there will not be a drastic change in the following year regarding flexible grouping. Other possibilities will be entertained regarding why there may have been an increase or decrease in scores.
CHAPTER 4. RESULTS

The research for this study was: Does flexible grouping, with additional teachers increase student reading achievement for sixth grade students? The two sub-questions were:

- Do ITBS reading achievement scores change between fifth and sixth grade?
- Is flexible grouping related to reading achievement for sixth grade students receiving special education services in the area of reading?

In order to answer these questions, the 2007 and 2008 ITBS data for the same set of students was analyzed using a dependent t test. A dependent t test was chosen because only one group of students was used. This study was done at the school administrator’s request. This administrator wanted to compare students to themselves rather than to different set of students in the same grade. Each sample for 2007 and 2008 had the same students being tested. You use a dependent t-test to compare means when the samples are dependent on each other in a pre/post test situation.

It was found, after analyzing the data, there was a significant decrease in the mean scores from fifth grade to sixth grade. The fifth grades mean score for the same set of students was 66.1467 and the sixth grade mean score was 60.58867 (see Table 1). Therefore, it would be hypothesized flexible grouping did not increase reading achievement in sixth graders.

The mean national percentile rank (NPR) score dropped by 5.56 (see Table 3). There was a statistically significant correlation (.855) between the two years (see Table 2), meaning students who scored high or low in fifth grade also scored similarly in sixth grade. When computing paired sample tests you assume the data is normally distributed.
In this study both cases were slightly negatively skewed (see Appendix A), which you would prefer in the case of ITBS NPR scores. This reason this would be preferred is because you would want all of your students to score closest to the ninety-ninth percentile as possible. Since the data set is relatively small it would not be in the best interest of the results to trim the data in order to make it a normal distribution.

Table 1. Descriptive Statistics for 2007 and 2008 Comparison of ITBS Reading NPR

<table>
<thead>
<tr>
<th>Pair 1</th>
<th>5th grade NPR 07</th>
<th>Mean: 66.1467</th>
<th>N: 75</th>
<th>Std. Deviation: 23.83484</th>
<th>Std. Error Mean: 2.75221</th>
</tr>
</thead>
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<tr>
<td></td>
<td>6th grade NPR 08</td>
<td>60.5867</td>
<td>75</td>
<td>26.23341</td>
<td>3.02917</td>
</tr>
</tbody>
</table>

Table 2. Correlation between 5th and 6th Grade ITBS Reading NPR

| Pair 1 | 5th grade NPR 07 & 6th grade NPR 08 | N: 75 | Correlation: .855 | Sig: .000 |

Table 3. t-test Results for ITBS Reading NPR – 2007 and 2008

| Pair 1 | 5th grade NPR 07 - 6th grade NPR 08 | Mean: 5.560 | Std. Deviation: 13.66218 | Std. Error Mean: 1.57757 | 95% Confidence Interval of the Difference: (2.41662, 8.70338) | t: 3.524 | df: 74 | Sig. (2-tailed): .001 |

The percent of students proficient in each year was also analyzed. Proficiency on ITBS test in the state of Iowa means the student scores at the 41st percentile or higher. There was a decrease of four percent proficient from fifth grade 2007 (81.3) to sixth grade 2008 (77.3) (See Tables 4 and 5). The N stands for non-proficient as the Y stands for proficient.
Table 4. Percent Reading Proficient in 2007

<table>
<thead>
<tr>
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<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>14</td>
<td>18.7</td>
<td>18.7</td>
<td>18.7</td>
</tr>
<tr>
<td>Y</td>
<td>61</td>
<td>81.3</td>
<td>81.3</td>
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</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>100.0</td>
<td>100.0</td>
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Table 5. Percent Reading Proficient in 2008

<table>
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<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<tbody>
<tr>
<td>Valid</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>17</td>
<td>22.7</td>
<td>22.7</td>
<td>22.7</td>
</tr>
<tr>
<td>Y</td>
<td>58</td>
<td>77.3</td>
<td>77.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>100.0</td>
<td>100.0</td>
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</table>

The data has demonstrated there was no significant increase, but rather a decrease in reading achievement. More students were proficient (77.3%) and their mean (60.5867) was higher in the 2008 academic school year compared to the sixth grade classes in 2007 (51.4364) and 2006 (53.7414) (see Figure 1).

Figure 1. Mean Scores for Sixth Grade Students in 2006-2008
One sub-question was: Is it a trend for students’ NPR on ITBS to decrease from fifth to sixth grade? When we analyzed the previous scores for fifth grade in 2006 and sixth grade in 2007, we found there was also a drop from fifth to sixth grade. In fifth grade the class had an NPR mean of 56.9804 and in sixth grade an NPR mean of 50.8039 (see Table 6). When examining the paired samples test (see Table 7) there was difference in the mean of 6.18, which is very similar to the difference of 5.56 for the 2007/2008 scores. Therefore, it appears there is a trend of students’ NPR on ITBS to decrease from fifth to sixth grade at the case study elementary school.

Table 6. Descriptive Statistics for 2006 and 2007 Comparison of ITBS Reading NPR

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
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<tr>
<td>Pair 1 5th NPR 06</td>
<td>56.9804</td>
<td>51</td>
<td>27.41714</td>
<td>3.83917</td>
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<tr>
<td>6th NPR 07</td>
<td>50.8039</td>
<td>51</td>
<td>26.09216</td>
<td>3.65363</td>
</tr>
</tbody>
</table>

Table 7. t-test Results for ITBS Reading NPR – 2006 and 2007

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 5th NPR 06 -</td>
<td>6.17647</td>
<td>35.91641</td>
<td>5.02930</td>
<td>-3.92518</td>
<td>1.228</td>
<td>50</td>
<td>.225</td>
</tr>
<tr>
<td>6th NPR 07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When examining why there may be a trend of student reading achievement decreasing from fifth to sixth grade, it was felt the test items for each grade should be compared. Table 8 lists the number of items testing vocabulary in both fifth and sixth grade on the Iowa Test of Basic Skills Form A. Table 9 lists the number and types of questions comprising the reading comprehension subtest for both fifth and sixth grade on the same test.
The vocabulary subtest uses the same three types of words for questions. The only major difference on the vocabulary item analysis was on the fifth grade test there were two less overall questions and therefore there were only 12 verbs compared to 15 verbs on the sixth grade test. After examining the reading comprehension item analysis there were no major differences. Understanding stated information and drawing conclusions were the only categories where there was a difference in the number of questions and it was only a difference of two questions. According to the item analysis ITBS Form A test the same skills in fifth and sixth grade.

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Nouns</th>
<th>Verbs</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Levels</td>
<td>5th</td>
<td>6th</td>
<td>5th</td>
</tr>
<tr>
<td>Number of Items</td>
<td>12</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

The next sub-question was: Did flexible grouping increase reading achievement for sixth grade students having special education services in the area of reading? The scores for students who received special education services in 2007 as well as 2008 were analyzed by comparing means. The student mean NPR in 2007 was 34 and the mean NPR for 2008 was 29.2 (see Table 10). The differences between the means were 4.8 (see Table 11). The mean NPR dropped from 2007 to 2008; therefore flexible grouping did not increase achievement for these students in the area of reading.

<table>
<thead>
<tr>
<th>Reading Comprehension</th>
<th>Factual Understanding</th>
<th>Inference and Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Understand Stated Information</td>
<td>Understand Words in Context</td>
</tr>
<tr>
<td>Grade Levels</td>
<td>5th</td>
<td>6th</td>
</tr>
<tr>
<td>Number of Items</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>
Table 10. Descriptive Statistics for 2006 and 2007 Comparison of ITBS Reading NPR for Students Receiving Special Education Services

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 IEP 07</td>
<td>34.0000</td>
<td>10</td>
<td>12.13809</td>
<td>3.83840</td>
</tr>
<tr>
<td>IEP 08</td>
<td>29.2000</td>
<td>10</td>
<td>13.75823</td>
<td>4.35073</td>
</tr>
</tbody>
</table>

Table 11. t-test for ITBS Reading NPR for Students Receiving Special Education Services – 2007 and 2008

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Paired Differences</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
</table>

According to the results, flexible grouping did not increase reading achievement in the sixth grade as well as in the subgroup of students with Individualized Education Plans (IEP) in the area of reading. These findings did not meet the expectations of the researcher or the participating team members. In the next chapter, we will discuss these findings and how they relate to the case study school as well as other schools utilizing flexible grouping.
CHAPTER 5: DISCUSSION AND CONCLUSION

Overview

Does flexible grouping with additional teachers increase student reading achievement in sixth grade students? This case study used ITBS data to determine if the flexible grouping strategy implemented for the 2007/2008 academic school year at the case study elementary was effective. The question in the back of every educators mind is: Are we doing this in the best interest of the students? Many schools are looking for the “right” strategy to reach all students and increase achievement. Research based strategies have been in the forefront of inservice training for educators across the country since the implementation of NCLB. After conducting this case study, reading research literature, and being in the trenches of the classroom, this researcher realized there is no “right” strategy for every student. We need to keep assessing and reflecting on our teaching, making changes, and hopefully get closer to our final goal of increasing all student achievement.

When reflecting and looking at how the core reading instruction will be implemented for next year, the sixth grade team discussed their feelings on flexible grouping. The teacher who instructed the students who needed the most skill building enjoyed teaching this group. She had students want to stay in her room after the reading hour was over, parents who commented their child liked reading this year compared to previous years, and students who would not participate normally started participating in class regularly. Unfortunately these positive changes did not show in their test scores.

On the other end of the spectrum the teacher who taught the students who needed less teacher led instruction, but needed more independent strategies, really liked the
flexible grouping strategy. She commented she felt she was able to push these students farther than in the past years when she taught whole group instruction for the core reading. All teachers on the team had positive comments about flexible grouping and enjoyed teaching reading this way, but were puzzled why there was a drop in scores.

**Research Questions**

Does flexible grouping increase reading achievement among sixth grade students? According to data it did not increase reading achievement, but instead appeared to decrease it. The mean NPR of students in sixth grade dropped by 5.56 from fifth grade and the percent proficient dropped four percent. This did not meet the hypothesis expectation of the researcher. The researcher, as well as team, thought it would increase reading achievement. It is important to remember one of the limitations of the study was the amount of time students were instructed using the flexible grouping strategy. We may not find statically significant increases of reading achievement until all grade levels implement the strategy and research is continued over a longer time period.

Is there a trend of increasing or decreasing of reading achievement according to ITBS between fifth and sixth grade? After analyzing the past two years of data there seems to be a trend of decreasing reading achievement among sixth graders according to ITBS test. Both years the mean NPR drop from fifth to sixth grade. These findings supported the hypothesis there is a trend of a decrease in reading achievement from fifth to sixth grade; however, it still does not answer why there is this trend. One reason for the decline in scores could be due to the test itself: is there a difference in the skills being tested between fifth and sixth grade? The researcher looked to see if the reading subtests tested the same skills in the two grades. She found there was no difference. As a result,
the sixth grade team, in conjunction with the building administration may want to study this further. Are other buildings seeing the same decline in the same scores for the same age group? If this is the case, it would appear to be systematic and a closer look may need to be made concerning the curriculum and the reading program currently being used.

Did flexible grouping increase reading achievement for sixth grade students having special education services in the area of reading? According to the data flexible grouping did not increase reading achievement for students being served in reading. This was the first year students were served in the core curriculum in the general education setting for the main part of their reading time. There is a large push for inclusion of students with special education services into the general education curriculum. This case study does not quantitatively support that push.

**Implications for Practice**

The overall goal of this case study was to conduct research useful to the school and presented in a manner in which all administrators and teachers could interpret the data. The team felt this study was useful and assisted them in reflecting on their teaching practices as well as planning for next year. Not all findings met their expectations and may have caused more questions than answers.

Flexible grouping did not increase reading achievement. So, do we discontinue the practice? In the past, research was mostly qualitative in nature and found positive feedback from teachers as well as students. It is important to remember students were instructed using this strategy for only five months. This is preliminary data and will help drive instruction for next year. The case study school is still going to utilize flexible
grouping, but incorporate it with whole group as well as a center approach for the following academic school year.

There is a trend of student reading achievement dropping between fifth and sixth grade. What does this mean? Are students receiving less direct instruction in reading skills in sixth grade? Do student self-concepts in the area of reading affect their score? Did students who have struggled in the area of reading all throughout school finally feel too dejected to keep trying? The team has a lot of questions because of these findings. They feel for next year they need to increase teacher-led instruction and provide positive experiences with reading so students’ self-concepts increases.

According to the case study inclusion in the general education curriculum did not increase reading achievement for students with special needs in the area of reading. Does this mean we pull-out students for all services? The case study elementary school needs to find a balance of inclusion, as well as small group intense instruction, in the area of reading.

Preliminary findings demonstrate flexible grouping by itself does not appear to affect an increase in reading achievement for sixth graders. In the 2007/2008 school year there was a similar decrease in the mean as the previous year when whole group instruction was used. It is recommended to keep utilizing flexible grouping as a vehicle for differentiation. In the study conducted by Castle, Dents, and Tortora (2005) they saw the increase of student achievement after students were exposed to flexible grouping for at least three years. This finding indicates students need to be exposed to the model for at least three years. The first step would be to try to unify the model each grade level is using. The model the school will implement for the 2008/2009 school year is to have
whole group instruction for 20 minutes and break into flexible grouping for the rest of the reading hour. The teacher would facilitate literacy centers for students. The students would rotate and this would allow the teacher to have a block of time to teach specific skills to specific students.

How does the school accomplish this? There needs to be staff development demonstrating how the model should look in the classroom for teachers, how to teach target reading skills for all grade levels, how to create and implement effective learning centers so the students are engaged in their learning, and how to effectively group students. Without this staff development the teachers will not be able to implement a uniform flexible grouping model. The model should be implemented and used for the next three years. It is also important to have continuing staff development in the above mentioned areas in order to keep training fresh and train new incoming teachers.

The administrator needs to complete a longitudinal quantitative study in order to make judgments on whether this flexible grouping model increases reading achievement. It is imperative the district not change reading instruction is to be provided each year. They need to gather solid data and provide adequate staff development to support the implementation of the flexible grouping model.

**Recommendations for Future Research**

Future research for flexible grouping should be both quantitative and qualitative. It should look at the whole picture of student achievement, students’ responses, and teacher perceptions and feelings. The quantitative data should be collected over a number of years to get a true picture of student growth. As stated in the literature review Castle, Dentz and Tortora (2005) conducted a research study over a five year period.
They examined the relationship between flexible grouping and student achievement over time. In their findings they found an increase in student achievement on state tests. Their study was over a five year period and may have allowed for adequate time for students to demonstrate their growth. There is not going to be a quick fix or the “right” way of increasing student achievement, but it is important to keep striving for strategies that may lead us in the right direction.

The case study school may want to look for a trend of decreasing reading achievement between fifth and sixth grade across the district. It may be district wide even a nationwide trend. They may want to look at what may be the cause of this trend and see if they can answer some of their questions.

There needs to be more quantitative research in the area of inclusion. When researching inclusion the researcher found one major study out of 10 or more that was quantitative in nature; therefore there is little quantitative data supporting the belief inclusion increases academic achievement for students who receive special education services. Most studies are qualitative and do not discuss the quantitative benefits surrounding inclusion. We often have these education initiatives from the government and we do not always look at the quantitative research. Is this always best for increasing achievement? Flexible grouping is a strategy said to aid in differentiation of instruction, which in essence assists in inclusion of all students in the curriculum. This researcher would like to see further study done in this area.

**Conclusion**

This quantitative case study provided valuable information for the sixth grade team this year. As a member of the team for the past few years, the researcher felt this
study provided more focus and understanding for the teacher. We decided to implement this strategy to increase reading achievement and instruct all students using the core reading curriculum. Unfortunately it did not increase reading achievement as we had hoped. However, it provided us with the opportunity to include all students in the core reading instruction and to set a precedent of using differentiation and flexible grouping to meet students’ needs.

There is a need for future quantitative research in the area of flexible grouping. The case study elementary will continue to analyze the data and have it assist them in planning their instruction. Educators want to find strategies that are best for students, not just best for legislation or administrators. As a special educator, this researcher was pleased with most of student’s reading ability and realized they are not always the lowest readers in the group. It made her feel like we must be doing something right with our students.

All schools must continue to collect hard data and concrete evidence to show whether a strategy is effective in increasing achievement. I foresee staying constant is the need to increase student achievement. We can improve student achievement by working together and sharing effective research based strategies we have implemented in our classrooms with other schools. Flexible grouping may not be the answer for the case study school, but they are heading in the right direction by analyzing the data and searching for effective strategies.
Appendix A

Histograms displaying distributions for fifth grade NPR 2007

Displays Negative Skewness

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**5th grade NPR 07**

- **Frequency Distribution:**
  - Bars showing frequency distribution of scores.

- **Summary Statistics:**
  - Mean = 66.1467
  - Standard Deviation = 23.8348
  - N = 75

---

**6th NPR 08**

- **Frequency Distribution:**
  - Bars showing frequency distribution of scores.

- **Summary Statistics:**
  - Mean = 60.5867
  - Standard Deviation = 26.2334
  - N = 75
REFERENCES


