To Examine Teachers' Perception of Co-teaching and Student Achievement

Tramene Maye, *University of West Alabama*

Rural school leaders are faced with challenges to close the achievement gap between subgroups, mainly general and special education. Schools and school systems face several barriers to move forward with positive trends in the data provided by the Alabama State Department of Education. The purpose of this study was to examine teachers' perceptions of co-teaching and the impact it had on student achievement between general and special education subgroups. The study employed a sequential mixed method design. The questionnaire's qualitative data showed the following themes about teachers' perception of co-teaching and student achievement: collaboration, engagement, professional development and planning, and achievement. The quantitative archived data for third, fourth, and fifth graders data showed that there's no significant difference between groups in co-taught and non-co-taught classrooms based on the One-way ANOVA Post Hoc statistical test. The study's findings may assist rural area leaders with research-based strategies that will help teaching and learning to potentially close the achievement gap between subgroups.

Keywords: Achievement Gap, Co-teaching, Rural, Student Achievement, Additional Targeted Support and Improvement (ATSI).

The focus of this study was to examine teachers' perception of co-teaching and the impact co-teaching has on student achievement in general and special education subgroups. According to Riser-Kositsky (2019), 13.7% of students in the United States ranging in age (3-21) received special education services during the 2017-2018 school year. Alabama currently serves 12.2 percent of the student population with special education services. For over a decade (2007-2018), students identified as special education have increased from 6.5 million to 7 million. Statistical numbers are steadily growing due to the process to be identified if a student should receive services. Special education eligibility is bound by the Individuals with Disabilities Education Act (IDEA), but there is no one rule to determining if a student qualifies (Riser-Kositsky, 2019). There are currently 13 types of disabilities. The disabilities are as follows: autism, deaf-blindness, developmental delay, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment (Riser-Kositsky, 2019). Therefore, more students are being identified with learning disabilities in rural and urban area schools, and the achievement gap is steadily increasing throughout the summative assessments given yearly. The study focused on examining teachers' perceptions of co-teaching and the impact that co-teaching had on student achievement in general and special education subgroups which sought to answer the question: What are the differences in the perceptions of the impact of co-teaching on student achievement between general and special education teachers?

Literature Review

This section explores related literature that starts from the history of special education to closing the achievement gap between general and special education subgroups. This review starts with an overview of the History of Special Education, progressing into No Child Left Behind Act (NCLB), moving toward Every Student Succeeds Act (ESSA), inclusion, co-teaching, student achievement, teacher perception of students with disabilities, teachers' perception of co-teaching, theoretical framework, and summary. Research-based strategies must be identified to assist schools and overall school systems with student achievement, with an increasing number of subgroups being identified with achievement gaps.

The History of Special Education

As we know it, in today's K-12 schools, special education began with the Education for All Handicapped Children Act (Public Law 94-142) in 1975 (Wright, 2020). Programs for children with specific learning disabilities (called "brain injury," or "minimal brain dysfunction") became more common in the 1940s (Wright, 2020). The political language identifying disabilities evolved into many different forms since the beginning of programs that began serving this population of students.

The Individuals with Disabilities Education Act (IDEA)

The concern remains around quality education for all children. According to the U.S. Department of Education, The Rehabilitation Act of 1973, Section 504 addresses protections for students with disabilities. Section 504 is a federal law designed to protect the rights of individuals with disabilities in programs and activities that receive federal financial assistance from the government (Ennis, Blanton & Katsiyannis, (2017).

Every Student Succeeds Act (ESSA)

The Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015. This bipartisan measure reauthorizes the 50-year-old Elementary and Secondary Education Act (ESEA), the nation's national education law, and longstanding commitment to equal opportunity for all students. Fusarelli & Ayscue (2019) stated, “ESSA was intended to fix NCLB’s many flaws, particularly its narrow emphasis on using standardized tests to measure school performance and hold educators accountable for student achievement."

Alabama Literacy Act (2019)

In an effort to improve reading outcomes for students across Alabama, the Alabama Legislature passed the Alabama Literacy Act, which became law on June 10, 2019. This legislation extends comprehensive information and other guidance for educators to focus concentrated and systematic efforts to improve the reading skills of all public school students in early literacy so that every student is reading at or above grade-level by the end of third grade (Alabama Literacy Act, 2019).

Inclusion

In the inclusive school, all students are educated in general education programs. Inclusion is when a student with individual learning and behavioral needs is taught full-time in the general education program. Essentially, inclusion means that the student with special education needs is attending the general school program, enrolled in age-appropriate classes 100% of the school day (Idol, 1997). Idol (2006) examined and described how special education services were provided in four elementary schools and four secondary schools in a large metropolitan school district in a southwestern city.

Co-teaching

According to the U.S. Department of Education, (Aud et al., 2012) schools, and classrooms of the 21st century represent diverse student populations representative of our larger society. Some of that increased diversity reflects a growing number of students with disabilities who are included in general education class environments. The push for inclusive education has been the focus of many educational systems all over the world over the past decade. This push has seen a lot of students with disabilities, who were once educated in segregated settings, moved into regular education settings with their peers. This trend towards inclusive schooling escalated the need for collaboration among teachers (Chitiyo & Brinda, 2018).

Student Achievement

There have been studies done on co-teaching and student achievement. Reinhiller (1996) stated Students with LD might benefit from collaboration between general education teachers and special education that is directed at increasing the likelihood of students' success and keeping students in school. Time spent on collaboration between the teachers of general education and special education is an essential contributor to student success (Reinhiller, 1996). Saint-Laurent, Fournier, & Lessard (1993) investigated the effects of an in-class service model on the academic

achievement of students with and without disabilities and students at risk. The results show significant improvement in reading and math for the students with and without disabilities, but not the students with learning disabilities (LD) in the at-risk group.

Teacher Perception of Students with Disabilities

Children go to school academically and socially learn to become adults who are eventually productive members of society. For learners with disabilities, however, researchers and educators predominantly focus on the psychosocial influences of inclusion, and very little attention is paid to the actual academic learning that transpires when learners with disabilities attend mainstream classes. In a study of inclusion in Lesotho (Johnstone & Chapman, 2009), teachers were found to teach learners with disabilities in their classes in the few extra minutes they had 44. Moreover, the teachers admitted that their pedagogical approaches were not effective for learners with disabilities but were fine for the rest of the class (Johnstone & Chapman, 2009), indicating that ensuring learners with disabilities actually were engaged and participating in the learning process within the classroom was not a priority for some teachers.

Teachers' Perception of Co-teaching

Although the co-taught classroom should be the best possible environment for students with disabilities based on the combined talent, knowledge, and experience of the educators, this is not always the case. There are deterrents to the potential success of the co-taught classroom that are differentiated into two categories, structural and perceived (King-Sears, Brawand, Jenkins & Preston-Smith, 2017). Structural deterrents for co-teachers include those elements of the school system out of direct teacher control. A lack of time in the school day for co-planning, pairing the best possible co-teaching teams, and a lack of professional development for co-teachers are all structural issues (Cook & Friend, 1995). Although these have an undeniable impact on the co-teacher success, they have potential remedies.

Methods

The following research questions were answered: First, what are the differences in the perceptions of co-teaching on student achievement between general and special education teachers? Second, how does assessment data show the difference in student achievement in co-taught vs. non-co-taught classrooms? The research hypothesis stated that there is a difference between co-teaching on student achievement in different sub-groups in a rural education classroom.

Research Design and Rationale

Throughout the research study, a sequential mixed-method design was used. The study consisted of quasi-experiments that are conducted in field settings in which random assignment is difficult or impossible. They are often conducted to evaluate the effectiveness of treatment, such as an educational intervention. In contrast, sequential experimental designs treat the sample size as a random variable by allowing sequential interim analyses and decision making based on cumulative data and previous design decisions while maintaining appropriate control over experiment-wise errors in decision making (Salkind, 2010). The study focused on 50 general and

special education teachers in co-taught and non-co-taught classrooms in rural Black Belt area schools in West Alabama based on the qualitative study sample size calculator. A mixed-methods design incorporates quantitative and qualitative data to answer a research question in which one type of data is used to inform the other in some way (Privitera, & Ahlgrim-Delzell, 2019). Quantitative research data came from archived third, fourth, and fifth-grade fall and winter performance series growth measurements, which compares two scores on a similar test given multiple times a year so student progress can be easily identified. The analysis of the data from the questionnaire and archived data provided much-needed information for rural area school systems on how to close the achievement gaps of special and general education subgroups through co-teaching. The results will also assist school districts with implementing co-teaching strategies that will benefit both teachers and students if utilized successfully to increase their academic achievement level.

Population and Sample

The setting for this study was Rural West Alabama Black Belt area schools. The study included approximately ten schools within the 18 counties of the Black Belt. The schools consisted of K-12 schools with diverse ethnic groups and students with different exceptionalities. The schools' faculty consisted of administrators, general and special education teachers. The sample consisted of 50 general and special education teachers in rural Black Belt area schools in West Alabama. The participants in the questionnaire consisted of different certified personnel. Specialty area teachers were excluded from this study due to these individuals not working in a co-teaching setting in core subject classes with general and special education students. The study focused on examining general and special education teachers' perceptions of co-teaching on student achievement in co-taught and non-co-taught classrooms. This sampling better suited the study because I examined general and special education teachers' perceptions in co-taught and non-co-taught classrooms.

Data Analysis

Thematic analysis was used to examine teachers' perceptions of co-teaching and student achievement. According to Braun and Clarke (2013), thematic analysis is flexible in that there is no specific research design; it can be utilized for case studies, phenomenology, generic qualitative, and narrative inquiry, to name a few. The open and closed-ended teacher questionnaire was administered, and the researcher will look for common themes or threads throughout the respondent's replies. Teachers' perception of co-teaching and the impact on student achievement is consistently viewed by both general and special education teachers. The themes that were coded from the questionnaire were consistent with the participants' responses to the questions on co-teaching. Professional development, planning, collaboration, and achievement were all tied together from the analysis drawn from the coding of the questionnaire. The data was transcribed by color-coding the unique identifiers utilized by all respondents. The researcher matched the color codes from the respondents to development the listed themes that grew into patterns from what the general and special education teachers perceived as necessary components to close the achievement gap between subgroups.

Paired t-test was used when the researcher is interested in the difference between two variables for the same subject. Often the two variables are separated by time. The paired sample t-test requires the sample data to be numeric and continuous, as it is based on a normal distribution. One sample t-test was used to determine whether the sample mean is statistically different from a known or hypothesized population mean. The test is a parametric test. A one-sample t-test is a hypothesis test for determining whether the mean of a population is different from some known (test) value. The researcher begins by selecting a sample of observations from the population of interest and estimates the population mean by calculating the mean of the sample (Salkind, 2010). A two-way ANOVA was used to estimate how the mean of a quantitative variable changes according to the levels of two categorical variables. Use a two-way ANOVA when you want to know how two independent variables, in combination, affect a dependent variable (Bevans, 2020). The data collected examined if student achievement is different in a co-taught versus non-co-taught classroom. ANOVA one-way repeated measures will examine the archived Scantron Performance series data. The data were compared using the Statistical Package for the Social Science (SPSS). The test compared the differences between the groups. The test identified if the general and special education subgroup students increased or decreased from the fall to the winter assessment in a co-taught vs non-co-taught classroom.

The following quantitative analysis will answer RQ2 from the archived Scantron Performance series third, fourth, and fifth-grade fall and winter data. The data was analyzed from co-taught and non-co-taught third, fourth, and fifth-grade classrooms with comparable schools in the West Alabama Blackbelt area. The grades and classes were determined based on the rural location and comparable demographics of the school. The classes were either deemed as co-taught or non-co-taught. The total number of students both co-taught and non-co-taught was 125. Co-taught students were 61, and non-co-taught was 64. There were 75 females, and 50 males that made up the student population of third, fourth, and fifth grade classes. Out of the 125 students, 27 were classified as special education students who had an IEP.

The Scantron Performance series data were analyzed through SPSS by running a paired t-test, one t-test of two means independent, and one-way Anova. The paired t-test was used to find a difference in pre and post-scores for third, fourth, fifth, and all grades Special Education (SPE) for co-taught and non-co-taught classes. T-test of two means independent was used to determine a difference between third, fourth, fifth, and all grades SPE mean scores. One-way Anova was ran on all grades co-taught and non-co-taught was to see if co-teaching played a difference in student achievement in both classrooms on general and special education students. Teachers and students had no prior knowledge of the study. The study utilized archived data from the previous year for analysis. The researcher chose third, fourth, and fifth grades because all are accountability grades and are assessed yearly through a summative assessment. Also, more students become identified with their exceptionality and receive an Individualized Educational Plan around second grade. The statistical data in this study allowed the researcher to determine the accuracy of the hypotheses of the co-teaching model. Additionally, the researcher was able to answer RQ2 based on the findings from the data analyzed.

Summary of Findings

Analysis of the data and findings from the questionnaire and archived data revealed information about teachers' perception of co-teaching and the impact it had on student achievement

and if co-taught vs. non-co-taught classes had an impact on student achievement in special and general education subgroups.

RQ1: What are the differences in the perceptions of co-teaching on student achievement between general and special education teachers? Teachers' perception of co-teaching and the impact on student achievement was consistently viewed from both general and special education teachers. The themes that were coded from the questionnaire were consistent with the participants' responses to the questions about co-teaching. Professional development, planning, collaboration, and achievement were all tied together from the analysis drawn from the coding of the questionnaire. Findings indicated that teachers related professional development, planning, collaboration, and engagement to the alignment of the success of all students throughout co-teaching.

The quantitative findings revealed the results from analyzing the third, fourth, and fifth grade archived Scantron Performance series summative data to answer RQ2. How does assessment data show the impact of student achievement in co-taught vs, non- co-taught classrooms? The results yielded 13 hypothesis from the different test ran. The researcher ran a paired t-test for co-taught and non-co-taught classes for all grades and SPE all grades specifically, one t-test of two means independent for all grades and SPE all grades specifically, and One-way Anova for all grades to determine if there was a difference in co-taught vs. non-co-taught classrooms in rural areas schools in the Blackbelt area in West Alabama. Findings also showed that between co-taught and non-co-taught classrooms in rural area schools scores were different, but not significantly different through the co-teaching model. The data indicated that the mean score for co-taught vs. non-co-taught was greater in all grade levels. Moreover, after removing SPE for all grades, the results still showed the same for the mean being greater in co-taught vs. non-co-taught rural classrooms. However, the average mean scores for SPE was 1959 for all grades, and for general education students all grades with a mean score of 2275 which identifies a significant achievement gap between subgroups from fall to winter performance series results.

Conclusions

The research study has given the researcher an opportunity to explore an issue that has become more important yearly. Districts that choose to utilize the co-teaching model should make sure that every component is outlined before full implementation. If school districts allow input from the practitioners, there are greater chances of full implementation and closing the achievement gap. Conducting this study has allowed the researcher to explore a concern that is at the forefront of all rural school districts that have been identified by the state.

References

Alabama Literacy Act 2019-523. (2019). https://www.alsde.edu/sec/ari/Leadership/act2019-523.pdf

Aud, S., Hussar, W., Johnson, F., Kena, G., Roth, E., Manning, E., Wang, X., and Zhang, J. (2012). The Condition of Education 2012 (NCES 2012-045). U.S. Department of Education, National Center for Education Statistics. Washington, DC. https://nces.ed.gov/pubs2012/2012045.pdf

Bevans, R. (2020). An introduction to the two-way anova. https://www.scribbr.com/statistics/two-way-anova/

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Sage.

Chitiyo, J., & Brinda, W. (2018). Teacher preparedness in the use of co-teaching in inclusive classrooms. *Support for Learning, 33*(1), 38-51.

Cook, L. & Friend, M. (1995). Co-teaching: Guidelines for creating effective practices. *Focus on Exceptional Children, 28*(3).

Ennis, R. P., Blanton, K., & Katsiyannis, A. (2017). Child find activities under the individuals with disabilities education act: Recent case law. *TEACHING Exceptional Children*, *49*(5), 301–308.

Fusarelli, L. A., & Ayscue, J. B. (2019). Is ESSA a retreat from equity? *Phi Delta Kappan.* *https://kappanonline.org/essa_retreat-from-equity-fusarelli-ayscue/*

Idol, L. (2006). Toward inclusion of special education students in general education. *Remedial & Special Education, 27*(2), 77-94.

Johnstone, C. & Chapman, D. W. (2009). Contributions and constraints to the implementation of inclusive education in Lesotho. *International Journal of Disability Development and Education, 56*(2), 131-148.

King-Sears, M. E., Brawand, A. E., Jenkins, M., & Preston-Smith. (2014). Co-teaching perspectives from secondary science co-teachers and their students with disabilities. *Journal of Science Teacher Education, 25*(6), 651-680.

Privitera, G. J., & Ahlgrim-Delzell, L. (2019). *Research Methods for Education*. SAGE.

Reinhiller, N. (1996). Co-teaching: New variations on a not so new practice.*Teaching Education and Special Education, 19*(1), 34–48.

Riser-Kositsky, M. (2019). Special Education: Definition, statistics, and trends. Education Week. https://www.edweek.org/ew/issues/specialpopulations/index.htm

Saint-Laurent, L., Fournier, A. L., & Lessard, J. C. (1993). Efficacy of three programs for elementary school students with moderate mental retardation. *Education and Training in Mental Retardation and Development Disabilities, 28*, 333-348.

Salkind, N. J. (2010). *Encyclopedia of research design*. Sage. http://dx.doi.org/10.4135/9781412961288

Wright, P. (2020). The history of special education law. *Wrights Law*. https://www.wrightslaw.com/law/art/history.spec.ed.law.htm