Original Paper

Inclusive Practices and the Achievement Gap between Students with and without an Individualized Education Plan

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Abstract

Philosophy, ethics, legal mandates, educational theory, classroom application, and research has neither concluded nor reached scholarly saturation on the successful implementation of inclusion. This study examines inclusive practices for students with special needs by focusing on one innovative approach to narrowing the achievement gap between students on an Individual Education Plans (IEP) and students not on IEP. The innovative approach examined combined three research-based practices to create one school-wide pedagogy. The public middle school in this study integrated three educational approaches known as “Tribes,” “Integrated Thematic Instruction (ITI)”, and “MicroSocieties”. An 11-year study revealed statistically significant relationship between the innovative approach and the achievement gap between students on IEPs and students not on IEPs. Descriptive statistics and parametric testing, a linear regression, were used to make inferences in the relationship. Implications of the study continue to support existing research on individual inclusive practices, but more importantly the innovative integration of inclusive practices.

Keywords

inclusion, tribes, microsocieties, middle school, achievement gap

1. Introduction

The issue of inclusion remains a hotly debated issue, converging with social justice (Polat, 2011), equity (Forlin, 2017; Mazzoli, Smith, & Cambell, 2016; Perez, Robbins, & Harris, 2019), and social differences (Cefai et al., 2015). When measuring outcomes against legislated standards and state mandated exams, stakeholders question the effectiveness of inclusion programs (Mastropieri & Scruggs, 2000; ESSA, 2015). Institutional practices demonstrating the longitudinal success of inclusive
programs need research-based support in the literature. The purpose of this study was to examine the relationship between three specific inclusive practices and the achievement gap between students. The data in this report includes an 11-year testing design at a public middle school in the southwest United States. The school incorporated full inclusion practices while implementing three educational approaches: Tribes, Microsocieties, and Integrated Thematic Instruction (ITI). The trend in the achievement gap between students with IEPs and students without IEPs served as the longitudinal measure.

The institution in this study is an urban public middle school in the southwest United States. The designation as an academy allowed the public middle school the structural freedom to integrate an aggressive inclusive practice with three educational approaches. Full inclusion at this school means special education students attend all regular education classes, use the same textbooks, have no resource rooms, have no pull-out programs, and all accommodations and modifications are required to be implemented in the regular classroom. The three school-wide educational approaches are “Tribes”, “Integrated Thematic Instruction (ITI),” and “MicroSocieties”.

1.1 Inclusion

The practice of inclusion, established through the Rehabilitation Act, Section 504 (1973), legislated a Free and Appropriate Education (FAPE) by prohibiting exclusion based on disability in any federal program or activity receiving federal assistance from the government, which includes public schools. In addition, the Individuals with Disabilities Education Act (IDEA), signed into law in 1990, and its additional reauthorizations have established essential practices including Individualized Education Program (IEP), proper assessments, due process, and a Least Restrictive Environment (LRE) (EHA, 1975; ADA, 1990; IDEA, 1990). Most recently, with slight variations and a name change, a reauthorization of the Elementary and Secondary Education Act (ESEA, 1965) was signed into federal law on December 10, 2015, as the Every Student Succeeds Act (ESSA, 2015). For the purposes of this study, with a continued commitment to protecting educational rights for all students, the term "inclusion" is used in reference to education for students with disabilities, including continued legislative extensions in 1973, 1975, 1965, 1990, 2001, and 2015.

These terms define legal standards that require Local Education Agencies (LEA's) to provide students with disabilities education opportunities in classrooms alongside students without disabilities, to the maximum extent possible (NCLB, 2000). Students with a disability benefit from the general classroom in several ways, which provides an opportunity for students with various disabilities to see peers without disabilities to model normed social, behavioral, academic skills (IDEA, 2004). Also, this equal opportunity provides a sense of community, where students have a chance to accept individual differences and overcome misconceptions of disabilities (IDEA, 2004).

In the traditional classroom, inclusion allows a student with a disability to remain in the regular education classroom and participate in regular education instruction and activities. Through collaboration with the special education professionals, the family, and doctors, the regular education
teacher is responsible for providing modifications and accommodations for the student with disabilities. However, inclusion practices involve more than teacher mandates and practices.

Innovative curricular strategies provide structure for inclusive practices and purposeful learning. In an inclusive strategic model, a purposeful classroom facilitates students and teachers merging their thinking and transforming learning through both curricular and individual goals, activities, and assessments (Stewart, 2016). Using innovative pedagogies, valuing diversity, and honoring contributions of every student, in an inclusive classroom has a significant impact on learning (Lindberg, 2012). The school in this study specifically used a strategic model of inclusion, a three-pronged approach, for integrating innovative curricular programs and pedagogies; Tribes, Integrated Thematic Instruction, and Micro-societies.

1.2 Tribes

Created in 1995 by Jeanne Gibbs, Tribe Learning Communities (Tribes), is specifically designed to promote social and academic development by creating a positive learning environment (Gibbs, 1995, 2001). A Tribe is assigned to a teacher, which consists of 13 to 15 students from multiple grade levels and all ability levels. The Tribe serves a community where each student becomes a member and agrees to follow four tenets; “attentive listening, appreciation/no put-downs, the right to pass, and mutual respect” (Gibbs, 1995; Gregory & Parry, 2006). Guided by these four tenets and willful participation, the Tribe provides a safe place for using cooperative learning, collaborative skills, and communication skills and develops a sense of belonging, shared leadership, and mutual goals (Gibbs, 2001). This process establishes a unique learning atmosphere as students are explicitly active participants in classroom management; expectation setting, problem-solving, and task selection (Gibbs, 1995). This innovative approach includes all students in the process of sustaining a positive learning environment.

There are three phases of Tribe implementation each aligned with the goals of belonging, shared leadership, and community. In the first phase, Tribes focus on developing a student’s sense of belonging through the inclusion of diverse ideas and abilities. Center Source Systems, an education management company, provides trainers, supportive strategies, and descriptive activities to help the classroom teacher guide Tribe citizens toward a sense of belonging. Examples of guiding activities include the Name Game, Spider Web, J.O.Y., Kitchen Kaper, Wishful Thinking, and the I’m Proud Circle (Gibbs, 1995).

The second phase of Tribes focuses on developing a student’s contribution and influence through a practice of shared leadership. Areas of shared leadership include goal setting, conflict management, problem-solving, supported decision-making, and cultural celebration. Goal Storming, Client Consulting, and Personal Journal are three specific strategies used in Tribes to create shared leadership. Goal Storming is an example of a goal-setting activity, in which students record goals in a journal. In the area of teaching students’ problem-solving skills, students can use two strategies, Client Consultant, which helps students with individual interest and career exploration, or a Personal Journal, followed by a reflection with a trusted peer (Gibbs, 2001).
The third phase of Tribes focuses on developing a school-wide community, which helps students experience and learn the effects of individual and collaborative contributions made on the school-wide culture. Through inter-Tribe strategies and a safe environment, students develop social and team building skills through group challenge and support, calling forth of personal gifts, and celebrating achievement (Gibbs, 2001). Relying on intra-Tribe trust, these activities help students with special needs develop social skills and academic growth by using group support (Gibbs, 2001).

Center Source Systems presents research findings on Tribes as an educational approach, which includes studies by Judith Holt (2000), the Derick Kiger (2000), Hanson, Izu, Petrosino, Cotty, and Zheng (2011), and WestEd (Evaluation Study Summary, n.d.). Holt (1993) used a randomized designed at Thomas Edison Preparatory school in Oklahoma, which included 280 sixth grade students. The study evaluated the impact of Tribes on discipline at the middle school level. The number of disciple referrals in the traditional non-Tribe classroom reported 73% of the students were referred to the principal’s or councilor’s office for all types of behavior, as compared to 27% reported referrals in the classroom when using the Tribes approach. Kiger (2000) conducted a 3-year longitudinal study at the Beloit School District in Wisconsin, which included 3,000 elementary and middle school students. The study examined the impact of Tribes on academic achievement and classroom management. In a comparison between classrooms that implemented Tribes well and those that did not, the study found 4th graders scored significantly higher on the CTBS test and, consistent with Holt’s (1993) study, teachers reported spending 60% less time dealing with student behavior. More recently, Hanson, Izu, Petrosino, Delong-Cotty, and Zheng (2011) used a mixed methods approach to investigate the implementation of Tribes. In part of the study, they examined 120 schools, 40 using Tribes and 80 not using Tribes, using two-years of standardized testing and a school survey. According to the Evaluation Study Summary (n.d.), the findings on the implementation of Tribes included:

- the Tribes TLC process was fully implemented
- Tribes was seen as a vehicle for facilitating continuous school improvement
- there was evidence of improved student inclusion, collaboration, respect for multicultural populations, sense of value, resiliency, and student engagement
- students and staff enjoyed safe and supportive classroom and school environments
- teachers and principals reported declines in student referrals and suspensions
- there was evidence of better classroom management and increased teacher collaboration and planning
- three-quarters of teachers reported that the Tribes process helped them to address academic standards and helped students master standards
- 2nd and 5th-grade reading and math scores increased more in high-growth Tribes schools than in comparison schools (https://tribes.com/evaluation-study-summary/)

Both Bruner’s (1996) theory and Gibbs’ (1995, 2001) strategy of student involvement in constructing their own knowledge through participatory, proactive, communal, collaborative, and constructive
meaning, resulting in an impact on student academic performance and behavior is supported in the research above. This study examined Tribes as one part of a three-pronged approach. Specifically, the relationship to the academic achievement gap between students with IEP’s and students without IEP’s.

Integrated Thematic Instruction (ITI)

Integrated Thematic Instruction (ITI) is based on the educational work by Susan Kovalik and Karen Olsen (1994). The ITI conceptual model uses three interlocking circles with interdependent principles (Kovalik & Olsen, 1994). The first circle represents the biology of learning, which emphasizes the importance of students needing to immediately recognize meaning and relevance for the content and learning process. The ITI model is a brain-compatible instructional model which combines effective instructional strategies, cross-curriculum thematic instruction and the development of conceptional curriculum (1994). These two components, provide meaning and relevance, enhance how the brain receives, stores, and retrieves information (1994). The second circle represents instructional strategies that are products of what Marzano (2017) would call the art and science of teaching. These strategies scientifically connect standards through theme-based units, which allow students to make personal connections with background knowledge. In addition, an ITI classroom environment artfully incorporates a variety of resources, music, plants, and animals, to create a more natural learning environment. The last circle represents curriculum development. According to Kovalik and Olsen (1994), “curriculum development…cannot be mandated by textbook publishers from afar, but must be developed at the classroom level from the knowledge and understanding only the classroom teacher can bring to bear” (p. 2). This requires teachers to become part of the formal and informal curriculum, which includes costumes, role-playing, time-period music, tangible artifacts, a flexible scope and sequence, and flexible scheduling within the school day (Kelly, 2009).

In this study, the school-wide implementation of the ITI model created a unique environment (Bressler, personal interview, May, 2015, 2019). For example, the physical design of the classroom maximized cooperative learning by exchanging individual desks with tables arranged for groups of four to six students. Also, the rooms were decorated with colors found in nature, a carpeted comfort area, an alternative learning area including a chair or couch with a lamp and small table, a light fragrance of the outdoors, and soft playing music. Student/teacher interactions emphasized positive contact, a verbal greeting, and handshake upon entrance to the room. The class is called to order by ringing chimes, never a raised voice. The teacher demonstrates respect by allowing students to finish their thoughts and statements. The curriculum is guided by a year-long theme reinforced with decorations, wall coverings, outside speakers, supplemental resources, technology, and learning outside of school. Curricular elements are designed by both the students and teachers and maintain alignment to state standards.

1.3 MicroSocieties

MicroSociety, Inc., founded in 1991, is a student-based, school-wide approach that connects traditional academic content with “real-world” contexts through active participation in relevant activities for elementary and middle grades students (Bennett, 1974). Christman, Goldwasser, and Kutzik (2003)
defined MicroSocieties as a “program that creates miniature societies that contain a legislature, judicial system, governmental and social service agencies, and an array of profit-oriented business ventures (p. 4).” The approach is guided by six strands; government and citizenship, technology, HEART (humanity, ethics, aesthetics, reflection, and trust), arts, economy, and academics.

In a study of MicroSocieties implemented in a sample of Florida schools, a significant number of students reported using “reading, writing, [and] math in carrying out their jobs; students also realized that these academic skills were important to their success on the job” (Christman, Goldwasser, & Kutzik, 2003, p. 7). Further findings of the program included improvements:

- Improvement in attendance in three of the four schools
- 88% of students judged MicroSociety learning as beneficial to them as adults
- 85% of students confirmed they gain a skill needed to get a job in the future
- 81% of students confirmed they learned citizenship skills such as time management, problem-solving, information literacy, and project planning
- 83% of students stated they had a choice about their job (Christman, Goldwasser, & Kutzik, 2003).

In this study, students spent one class period learning academic content consistent with the previously mentioned ITI model, often using vignettes of "real world" situations and vocations as the context for discussions and critical thinking. Then, students spent one class period either creating and operating a MicroSociety or working in their Tribe. To manage these activities and maintain academic integrity, grade levels routinely rotated between MicroSociety and Tribe activities. In the MicroSociety, students worked with local community businesses to learn how to run a business, apply technology, develop governance structures, and understand how a free-market economy functions, which included income, taxes, property concerns, and political issues. Full functioning MicroSocieties were established. Each student was required to apply, obtain, and hold a job for an entire semester. Typically, the MicroSociety program occurs several times a week in one or two-hour blocks and culminates with students operating their business amongst the other MicroSocieties in the school (students buying and selling their products). The Tribes served as an undercurrent of collaboration for not only instructional time, but also application of the MicroSociety experience.

2. Method

2.1 Design

This quantitative, ex-post facto study, used parametric testing to examine the relationship between the achievement gap between students with IEP’s and students without IEPs, the dependent variable, and time, the independent variable. A simple linear regression was used to examine the differences between group means for five standardized achievement scores, including a composite score and four subsets. All six assumptions of a linear regression were met; continuous variables, linear relationship, no significant outliers, independence of observations, homoscedasticity, and normal distribution of
residuals (Pool & O’Farrell, 1971).

2.2 Sample
The study included all eighth-grade students over 11 yearly observations (N=1716). The participants were coded into two categories, Non-IEP and IEP. Participant coding was accomplished by using official IEP status as the determinant. All coding was done with certified site personnel, and personal identifiers were removed. All participant demographic information was collected but outside the purview of this study, and therefore, unreported.

2.3 Instrument
Evidence of academic achievement was obtained from a standardized testing instrument, the American College Testing "Explore Program," which was administered to all eighth graders at the research site. The results included an overall “Composite” score and subset scores in Math, Reading, Science, and English. The gap was calculated for the Composite score and each subset score by comparing the mean scores of the two groups, students with IEP’s and students without IEP’s. This data was then inserted into the Statistical Package for the Social Sciences (SPSS) for data analysis.

3. Result
Descriptive statistics are reported for the composite score and each subset in a histogram, which shows the decrease in the achievement gap, represented by differences in group means, over time (See figure 1). The descriptive data shows a decrease in the composite score and each subtest. However, further testing was needed to determine significance.

![Figure 1. Achievement Gap between IEP and Non-IEP Groups](image_url)
Inferential statistics were examined, and reported, using Pearson’s r and a linear regression for each of the standardized scores. Pearson’s r revealed a statistically significant relationship between the mean differences in the achievement gap on the composite score and time \((r = .724, p = .012)\), the English subset and time \((r = .828, p = .002)\), the Math subset and time \((r = .809, p = .003)\), the Reading subset and time \((r = .636, p = .035)\), and the Science subset and time \((r = .603, p = .050)\).

Overall, a significant downward trend was found between the achievement gap in the composite score and each subset between students with IEPs and students without IEPs and time. The regression equations for predicting the achievement gap are as follows:

- Composite Score Achievement Gap = \((-0.157)\) (Time) + 3.662
- English Score Achievement Gap = \((-0.186)\) (Time) + 4.182
- Math Score Achievement Gap = \((-0.188)\) (Time) + 3.460
- Reading Score Achievement Gap = \((-0.189)\) (Time) + 4.547
- Science Score Achievement Gap = \((-0.105)\) (Time) + 2.920

4. Discussion

This 11-year longitudinal study is significant for three major reasons. First, the study is significant because of the duration, and therefore, the examination of a system beyond short-term extraneous variables, such as specific student performance, specific teacher ability, school leadership, and testing trends. Second, it is significant because it not only confirms existing research on the success of Tribes, ITI, and MicroSocieties, but also establishes an initial statistical relationship between a combined three-pronged approach and the foundational, philosophical purposes in inclusion, the equity in learning for students with disabilities. Third, it is significant because it examined a long-term programmatic impact. Social issues are best examined through longitudinal studies, which take multiple measures of the same sample, in this case, the innovative approach for inclusion (Berrington, et al., 2014). This helps control for variations in population. For this study, it was important to measure the program and not the specific leadership, teachers, or students. Furthermore, the statistical significance over the 11-year intervention provides findings not previously reported in the literature for a combined approach toward inclusion.

The implications of these statistically significant findings support the continued legislative vision for equitable learning and inclusive practices, integration of research-based programs, innovative combinations of best practices, and support for current inclusive programs. Furthermore, the implication of the 11-year study suggests that although initial program success may flatten, it is essential to provide continuity and sustainability in successful research-based programs. The study’s findings might have been different if a snapshot of data was taken at various two-year intervals (e.g., years 8 and 9). However, findings of the extensive study imply a commitment to vision, effort, and support of inclusive programs is not only the legislatively appropriate response and the educational leader’s responsibility, but also the philosophical imperative of equitable education for all marginalized students, specifically students with disabilities.

Study limitations include student population, group sample size, and true experimental design. The
student population at the research site included students who petitioned to attend the public academy option. This adds to the limitations of accurate representation. Although IEP status was not a factor on selection to attend the school, other variables such as past behavior, support at home, and desire to attend may affect the study results. Furthermore, the study sample was not controlled for types of IEP’s, which includes both students are gifted and students who have learning limitations. Last, although relationship and correlation are established, this study falls short of making any causation statements.

The purpose of this study was to examine the relationship between a three-pronged curricular approach and the achievement gap between students with IEPs and students without IEPs. Additional correlational designs and experimental designs are needed to examine these curricular approaches and student achievement. Furthermore, future studies should isolate IEP variations and student needs. Overall, this research adds to the body of knowledge on inclusion, innovative curricular approaches, and student achievement.

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