

Investigating a Mixed Methods Study Using an Art-Based Festival for Children with Disabilities on The Preparedness of Preservice Teachers

Vicki Koslin Howell, Rebecca Kate Hopkins, Ashley Weatherwax Johnson
University of North Alabama
USA

Abstract

The shift towards inclusive education in the United States, driven by pivotal legislation such as the Individuals with Disabilities Education Act (IDEA) and the Every Student Succeeds Act (ESSA), has reshaped how students with disabilities are integrated into general education classrooms. These legislative mandates emphasize equal access to the general education curriculum for all students, regardless of ability, and promote the benefits of inclusive learning environments for both students with disabilities and their typically developing peers. A growing body of research supports the notion that inclusive education fosters not only academic achievement but also significant socio-emotional benefits, including improved social skills, greater peer acceptance, and enhanced self-esteem among students with disabilities. Moreover, inclusive practices have been shown to benefit non-disabled students as well, promoting empathy, social responsibility, and improved interpersonal skills. However, the success of inclusive education is heavily contingent upon teacher attitudes and preparedness, as general education teachers often report feeling inadequately trained to meet the diverse needs of students with disabilities. This literature review explores the evidence supporting inclusive education, highlights the critical role of teacher education in shaping positive attitudes toward inclusion, and examines how hands-on experiences in inclusive settings can better prepare preservice teachers to implement effective inclusive practices.

1. Introduction

The shift towards inclusive education in the United States, driven by pivotal legislation such as the Individuals with Disabilities Education Act (IDEA) and the Every Student Succeeds Act (ESSA) [18], has reshaped how students with disabilities are integrated into general education classrooms. These legislative mandates emphasize equal access to the general education curriculum for all students, regardless of ability, and promote the benefits of inclusive learning environments for both students with disabilities and their typically developing peers. A growing body of research supports the notion that inclusive education fosters not only academic achievement but also significant socio-emotional benefits, including improved

social skills, greater peer acceptance, and enhanced self-esteem among students with disabilities. Moreover, inclusive practices have been shown to benefit non-disabled students as well, promoting empathy, social responsibility, and improved interpersonal skills. However, the success of inclusive education is heavily contingent upon teacher attitudes and preparedness, as general education teachers often report feeling inadequately trained to meet the diverse needs of students with disabilities. This literature review explores the evidence supporting inclusive education, highlights the critical role of teacher education in shaping positive attitudes toward inclusion, and examines how hands-on experiences in inclusive settings can better prepare preservice teachers to implement effective inclusive practices.

2. Literature Review

The notion of inclusion gained further legislative traction in the United States through the enactment and subsequent amendments of the Individuals with Disabilities Education Act (IDEA) in 1990, 1997, and 2004, as well as the passage of the No Child Left Behind Act (2001), both of which reinforced the principle that all students, regardless of ability, should have access to the general education curriculum.

A growing body of empirical research has consistently demonstrated the academic and socio-emotional benefits of including students with disabilities in general education classrooms when appropriate supports are provided. Studies have shown inclusive education can enhance the academic performance of students with disabilities, particularly when they are exposed to high-quality instruction alongside their typically developing peers [13,7]. Additionally, inclusive environments have been associated with significant socio-emotional benefits, such as improved social skills, increased self-esteem, and greater peer acceptance [5]. Inclusion, therefore, supports both the academic and personal development of students with disabilities, aligning with the overarching goals of inclusive education.

Beyond the positive outcomes for students with disabilities, expanding evidence suggests benefits to their non-disabled peers as well. A number of studies indicate students without IEPs demonstrate increased

academic achievement and improved social skills when educated in inclusive classrooms. Similarly, Madden et al. [12] observed non-disabled students in inclusive settings exhibited stronger interpersonal skills and demonstrated greater empathy and acceptance towards students with disabilities. A meta-analysis by Lippiello et al. [11] reinforced these findings, concluding that inclusive education settings foster a sense of social responsibility and cooperation among all students. These findings suggest inclusive education provides opportunities for all students to develop competencies that are critical in today's diverse and interconnected world.

Historically, concerns about the potential disadvantages of inclusive education for non-disabled students have been prevalent, particularly regarding the potential for reduced academic performance. However, research has increasingly refuted these concerns. Kalamouka et al. [10] in a review of 26 studies, found that 81% of non-disabled students experienced either no negative effects or positive academic gains in inclusive classrooms. In addition, studies examining the long-term benefits of inclusion, such as that by Meyer and Fuchs [14], suggest the benefits of inclusion extend beyond immediate academic outcomes, fostering a more inclusive and collaborative mindset that can influence future social and professional interactions.

Further socio-emotional advantages of inclusion are also well-documented. Bunch and Valea [4] found that students in inclusive schools were more likely to develop friendships with peers with disabilities compared to their counterparts in non-inclusive settings. These findings underscore the value of inclusive education not only for academic achievement but also for fostering social development and empathy among students.

One of the key factors influencing the success of inclusive education is the attitude of educators toward inclusion. A substantial body of research has demonstrated teacher attitudes and beliefs about inclusion are critical in shaping the success of inclusive practices in the classroom [2], [17]. Teacher preparedness, particularly in terms of attitudes, has been identified as a significant predictor of successful inclusive education outcomes [15]. Positive teacher attitudes, characterized by beliefs in the value of inclusion and the efficacy of differentiated instruction, correlate with higher levels of student engagement and achievement in inclusive classrooms. Glasman and Albarracín [8] further suggest positive attitudes towards inclusion can predict future behaviors, such as increased participation in inclusive practices and advocacy for inclusive policies.

However, research also highlights the challenges faced by general education teachers in effectively implementing inclusive practices. Many general educators, who are not specifically trained in special education, report feeling unprepared and unsupported

when tasked with meeting the needs of students with disabilities [18]. The gap in preparedness can result in ineffective inclusion practices, with students with disabilities receiving limited instructional support in general education settings [16]. Given the increasing diversity of classrooms and the growing number of students with IEPs, it is essential that teacher education programs provide comprehensive training in inclusive practices to ensure teachers are equipped with the knowledge, skills, and attitudes necessary to support all learners.

Teacher training and professional development are critical factors in shaping teachers' attitudes toward inclusion. Preservice teacher education programs, however, often fail to provide sufficient exposure to inclusive practices and students with disabilities. Wehmeyer, Shogren, and Kurth [20] found the vast majority of preservice teachers felt their preparation in special education was inadequate. Only a small percentage of preservice teachers reported receiving sufficient coursework or field experiences in inclusive settings. The lack of hands-on experience with students with disabilities has been linked to lower levels of confidence and a lack of efficacy in implementing inclusive practices [6]. This gap in training is concerning given the increasing demand for inclusive classrooms.

Research consistently supports the idea that hands-on experiences in inclusive settings can significantly improve preservice teachers' attitudes toward inclusion. Hodge and Jansma [9] found preservice teachers who had direct experience working with students with disabilities were more likely to support inclusive practices and report higher levels of confidence in their ability to teach diverse learners. This finding is consistent with Allport's Contact Hypothesis [1], which posits that direct interaction with individuals from different groups can reduce prejudice and improve attitudes. Similarly, a study by Forlin et al. [6] demonstrated preservice teachers who participated in inclusive field placements reported more positive attitudes and greater self-efficacy in relation to inclusive education.

To bridge the gap between theory and practice, many researchers advocate for more intentional integration of inclusion-focused coursework and field experiences into teacher preparation programs. Stites et al. [18] argue preservice education programs must explicitly integrate content on inclusive teaching practices, particularly through extended field placements in inclusive classrooms.

In summary, while research overwhelmingly supports the benefits of inclusive education for both students with and without disabilities, the success of inclusion is highly contingent upon teacher attitudes, preparedness, and ongoing professional development. Preservice teacher education programs play a critical role in shaping the attitudes and perceptions of future educators.

3. Methodology

The research gathered in this research article was conducted by convergent mixed methods.

3.1. Participants

Participants of this study were students enrolled in an introductory course on special education at a southern regional university in Fall of 2023. This course introduces individuals with exceptional learning needs across the lifespan in terms of state and federal legislation and how they manifest in public schools. Students enrolled in this course were undergraduates pursuing the Teacher Education Program with intent to graduate in one of the following areas: Early Childhood Education, Elementary Education, Collaborative Education (Elementary Education major with Special Education endorsement), Music Education, Physical Education, Art Education, or Secondary Education. Course modules covered the IDEA disability eligibility categories (US Department of Education, 2004), with emphasis on accommodating and/or modifying instruction for students identified within each category.

Participants in this study, as teacher education students, were required to plan and participate in a community-based experience called the Very Special Art Festival (VSAF), which is a twice-yearly art-based carnival exclusively created for K-12 students with significant disabilities from communities local to the university. Teacher education students in 2-3 person groups created an engaging and accessible booth activity for students with significant disabilities. They were to use their knowledge gained from the course throughout the semester to adapt, accommodate, and/or modify an activity (musical art, visual art, physical games, sensory stations) for K-12 students with a range of disabilities. Some examples of group activities from this semester were creating pumpkin crafts, making mix-n-match felt monsters, bubble painting, and a percussion follow-a-rhythm activity. The event lasted a total of three hours, not including an hour of preparation and an hour of cleaning up.

3.2. Procedure

A survey consisting of both closed- and open-ended questions was developed to assess participants' attitudes and experiences related to inclusive education. This survey was administered at two time points: before and after the event, to capture any changes in participants' perspectives.

The survey was created in two versions: a pre-event survey and a post-event survey, which were closely aligned in content. The pre-survey was distributed via QR code one hour prior to the start of

the event, during the setup phase. The post-survey was disseminated immediately following the conclusion of the event, after the last K-12 school bus had left. In order to link pre- and post-survey responses for each participant, respondents were asked to generate a unique passcode that they would use for both surveys.

A total of 63 pre-surveys and 64 post-surveys were submitted. Survey responses were subject to the following inclusion and exclusion criteria:

Consent

Surveys where participants did not indicate consent (by failing to click the "I agree" option) were excluded.

Matching Passcodes

Only surveys with matching passcodes from pre- and post-surveys were included in the analysis. Non-matching passcodes were excluded as they could not be linked. Additionally, the participant who submitted a post-survey, but not a pre-survey, was excluded.

Survey Completion

Surveys where participants did not complete 100% of the questions were excluded from analysis.

Following these exclusions, 53 participants remained for inclusion in the final analysis. Passcodes of the included participants were anonymized by assigning them a random number to ensure confidentiality and facilitate data sorting.

Quantitative data from the surveys were coded as follows:

Five questions assessing participants' comfort levels with various aspects of inclusive education were rated on a 1-5 scale, where:

- (1) = Extremely uncomfortable
- (2) = Somewhat uncomfortable
- (3) = Neither comfortable nor uncomfortable
- (4) = Somewhat comfortable
- (5) = Extremely comfortable

Two questions evaluating participants' desire to teach students with disabilities were also coded on a 1-5 scale, where:

- (1) = Definitely not
- (2) = Probably not
- (3) = Might or might not
- (4) = Probably yes
- (5) = Definitely yes

The pre- and post-surveys were identical in structure, except for the final open-ended questions:

Pre-survey - “What do you hope to learn from this event?”

Post-survey - “What did you learn from this event?”

4. Data Analysis

This study utilized a combination of quantitative data measures and qualitative open-ended questions, resulting in a convergent and convergent parallel mixed methods study. For quantitative methods, some data were averaged and converted to percentages.

4.1. Results

Quantitative data were taken in three sections: comfortability interacting with a child with special needs, preparedness to teach inclusively, and desire to teach students with disabilities. In the first section, participants were asked the following questions: “How comfortable are you currently feeling, in this moment, about interacting a young child (0-5 years) with a disability?”, “How comfortable are you currently feeling, in this moment, about interacting with an early/elementary age child (6-12 years) with a disability?”, “How comfortable are you currently feeling, in this moment, about interacting an adolescent child (13-18 year) with a disability?” There were five possible answers to these questions, ranging from “extremely uncomfortable” to “extremely comfortable”, which were then converted to a 1-5 score, respectively, (see Table 1).

Table 1. Disability Interaction Comfortability Ratings Across Ages

How comfortable are you interacting with a child in a given age group with a disability?			
Age	0-5	6-12	13-18
Pre-Test Average	3.72	3.74	3.70
Post-Test Average	4.30	4.32	4.26
Percent Increase	15.74%	15.66%	15.31%

In the second section, participants were asked to respond to the following statements: “Right now, I feel prepared to make my future classroom fully inclusive, including students with disabilities (see Table 2). “Right now, I feel prepared to make my future classroom fully inclusive, including students with significant disabilities (significant communication deficits, major cognitive deficits, and/or multiple disabilities),” (see Table 3), and “Right now, I feel prepared to make my future classroom fully inclusive, including students with

major behavioral concerns,” (See Table 4). The answers to these questions were presented as a 1-10 dial, with 1 indicating “not at all prepared” and 10 indicating “overly prepared.”

Table 2. Feelings of Preparedness in the Moment to Teach Students with Disabilities Inclusively

Right now, I feel prepared to make my future classroom fully inclusive, including students with disabilities. [Scale 1-10]		
	Overall Averages	Averages among students who initially responded 5 or less (11)
Pre-Test Average	6.96	4.55
Post-Test Average	7.66	5.55
Percent Increase	10.03%	22.00%

Table 3. Feelings of Preparedness in the Moment to Teach Students with Significant Disabilities Inclusively

Right now, I feel prepared to make my future classroom fully inclusive, including students with significant disabilities (significant communication deficits, major cognitive deficits, and/or multiple disabilities). [Scale 1-10]		
	Overall Averages	Averages among students who initially responded 5 or less (18)
Pre-Test Average	6.88	4.26
Post-Test Average	7.60	5.84
Percent Increase	13.84%	37.04%

Table 4. Feelings of Preparedness in the Moment to Teach Students with Significant Behaviors Inclusively

Right now, I feel prepared to make my future classroom fully inclusive, including students with major behavioral concerns. [Scale 1-10]		
	Overall Averages	Averages among students who initially responded 5 or less (17)
Pre-Test Average	6.70	3.88
Post-Test Average	7.68	5.76
Percent Increase	14.65%	48.48%

In the third section, participants were asked the following two questions, “Do you want to teach students with disabilities?” and “Do you want to teach students with significant disabilities?”. The answers to these questions were coded 1-5, with 1 indicating “definitely not” and 5 indicating “definitely yes”. For the first question, 8 out of 53 participants demonstrated an increase in wanting to teach students

with disabilities. For the second question, 10 out of 53 participants demonstrated an increase in wanting to teach students with significant disabilities.

Researchers also asked open ended questions, such as “What do you hope to gain from today?” (pre-survey), and “What did you gain from today?” (post-survey), “Briefly describe inclusion,” and “What preparations do you believe you need to teach an in an inclusive class?” Three individual case studies were then created, synthesizing interpersonal data.

Participant 40 was a Secondary Education major with a focus in Music. They reported experience with adults with disabilities, but not much with children with disabilities. Their definition of inclusion on the pre-survey was “Involving all in school activities and school work,” but their description of inclusion on the post-survey was “Involving all students in an accessible way to interact with activities, social activities, and classwork.” They reported a pre-survey score of 6 in both questions “Right now, I feel prepared to make my future classroom fully inclusive, including students with disabilities” and “...significant disabilities”, and a post-survey score of 9 in both. When asked what concerns they have teaching an inclusive class, their pre-survey answer was “How it applies to band. Not saying it doesn’t, but we cover broad “general school” not specific courses”. Their post-survey answer was “Nothing now. I will find a way to involve students in my classroom.” Similarly, when asked what preparations they believed they needed to teach inclusively, they originally stated “how it applies to band” and changed to “I will have to have a good conversation with IEP teams and Special Ed teachers about what preparations to make” in the post-survey. Additionally, when asked if they felt they needed more in-person experience with disabilities in order to teach inclusively, their answer went from “yes” to “not anymore.” Lastly, Participant 40 was asked what they expected to gain from the event, to which they answered, “experience with all walks of people.” But after the event, when asked what they gained, they said “It made me happy. I came into it nervous that I wouldn’t do a good job, that I wouldn’t be able to be an effective helper, but I feel like I did a great job. I’m very happy in this moment.”

Participant 19 was an Elementary Education major. They reported very little experience with adults with disabilities and a moderate amount of experience with children with disabilities. When asked the question “Right now, I feel prepared to make my future classroom fully inclusive, including students with disabilities”, they reported an initial score of 6 and post-survey score of 10. Additionally, when asked the same question but for “significant disabilities”, they reported an initial score of 5 and a post-survey score of 10. Their initial description of inclusion was “Make sure they are included” and their post-survey description of inclusion was “Making sure they get equal opportunity”. Participant 19 elected not to

answer all of the pre-survey open-ended questions, but did submit answers to the post-survey open-ended questions. When asked what they needed to teach inclusively, they indicated “making sure I have the resources to meet the criteria” and indicated “no” for needing more in-person experience with students with disabilities in order to teach inclusively. Lastly, they did not write an answer for what they hoped to gain from the event, but they did state “this made me want to possibly be a special ed teacher” in the post-survey.

Participant 20 was a Secondary Education major with a focus in Music. They indicated a 6/10 in person experience with adults and children with disabilities. For their preparedness to teach inclusively ratings, for the question, “Right now, I feel prepared to make my future classroom fully inclusive, including students with disabilities,” their score increased from 6 to 8 in pre-and post-survey data. For the same question but for “significant disabilities”, they indicated an increase from 7 to 8 in pre- and post-surveys. Their description of inclusion also changed from “inclusion is the ability to make all students feel comfortable and heard. They need to have all of their needs met” to “Inclusion is creating an environment where all feel welcome to be themselves and express themselves.” When asked the question “What preparations do you believe you need to teach an inclusive class?”, their answer began with “I believe you must have sufficient knowledge” and changed to “I think getting hands on experience is key when preparing to have an inclusive classroom.” When asked what they hoped to gain from the event, they indicated “I hope to gain confidence in interacting with exceptional students,” which after the event changed to “I really enjoyed getting to interact with students of all ages and exceptionalities! I also learned that I really enjoy working with the younger age group!”

5. Discussion

This study was an exploration of the effects of an already- established bi-yearly event. It is not uncommon for preservice teachers to express gratitude for their experience after this event, which led to the surveys and measurement to evaluate how effective the VSAF was to their perceptions. Respondents, through preparation from course material and collaboration, were very positive in their thoughts towards the VSAF serving as a hands-on experience prior to beginning their career. The data shown here solidifies the research that shows experience cannot be solely provided in the classroom, and instead requires hands-on interactions to effectively prepare teachers to teach in diverse classrooms [3]. There was a statistically significant increase in the participant’s perception of preparedness to teach inclusively across all three measured areas. Additionally, the number of participants who increased in their desire to teach

students with significant disabilities following this event increased by 10, which only strengthens the literature behind Contact Hypothesis [1] and preparedness behind tied to experiential learning [18]. Additionally, the qualitative data also supported these findings.

For example, Participant 40 felt comfortable knowing how to apply inclusivity to their future music classrooms and band. Additionally, they indicated that their preparations-into-action with students led to them feeling excited and happy, which are pre-requisites to building preservice teacher perceptions of inclusivity [14]. Although Participant 19 opted not to answer many of the open-ended questions in the pre-survey, their feelings of preparedness to teach inclusively nearly doubled in the span of the event, and even expressed an interest in changing majors to become a special educator. Participant 20 inadvertently agreed with research when they stated that hands-on experiences are key to becoming prepared to teach inclusively. Participant 20, like most participants, expressed enjoyment through interaction after the event, but notably also expressed interest in teaching younger students, as well. By integrating more comprehensive and hands-on experiences with inclusive practices into teacher training, it is possible to foster more positive attitudes toward inclusion and improve the overall effectiveness of inclusive education. As the evidence suggests, preparing teachers to work in inclusive classrooms is not only crucial for the success of students with disabilities but also for the social and academic development of all students.

6. Limitations

While this study is one of many demonstrating the benefits to hands-on experiences with diverse student populations in preparing for future teachers, [3], it should be noted that there may be limitations to this study. The pre-survey was disseminated between an hour and 30 minutes prior to the event starting, which also coincided with set-up time. Participants may have responded with haste given this situation. The post-survey was also disseminated immediately after the event, which coincided with both wrapping up and the desire to go home, rest, or attend other classes. Although participant submissions that did not earn 100% completion (as dictated by mandatory closed-ended questions but optional open-ended questions) were dismissed and not utilized, not having the open-ended questions answered in some situations may have inflated or deflated the value of the accompanying pre- or post- survey answers.

7. References

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