Preservice Teachers' Attitudes Toward Inclusive Education Policy in the United States

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Abstract

The attitudes of 224 preservice teachers from eight universities in the United States were measured to determine if participants' sentiments, attitudes, and concerns about inclusion can be positively affected through a single course, i.e., using pre and post data gathered with one instrument. There were significant differences between a number of institutions' pre and post attitudes, sentiments, and concerns that likely stem from variations in the curricula and timing of the individual courses. Key demographic variables appeared to significantly account for the wide range of responses in sentiments, attitudes and concerns in both the pre and post-training surveys. The percent variance explained by each demographic variable indicates the most influential factors were the level of confidence in one's ability to teach in an inclusive setting, the candidates' level of interactions with persons with a disability, previous training related to working with persons with a disability, knowledge of legislation and policy regarding inclusion, and in their previous experience teaching students with disabilities. Legislation and policy can easily be taught in inclusive programs, but important factors relating to confidence and experience with persons with a disability require "real world", structured opportunities to promote inclusion.

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As used in this study, inclusive education refers to children and youth with disabilities becoming part of the milieu of general education, receiving a meaningful curriculum with necessary supports and services, and being instructed with effective strategies. This education paradigm has increased expectations on both general and special education teachers. The practice of inclusion has also brought to the forefront the need for reform in teacher preparation programs (Fisher, Frey, & Thousand, 2003; Shade & Stewart, 2001; Stayton & McCollum, 2002; Van Laarhoven, Munk, Lynch, Bosma, & Rouse, 2007). Universities are now beginning to reexamine their philosophy and responsibilities as they prepare educators for inclusive classrooms. Forlin, Loreman, Sharma and Earle (2009) have argued that a number of demographic variables such as close contact with a person with a disability, training, teaching experience, knowledge of policy and law, and confidence levels, can significantly impact attitudes. Consequently, preservice training may be viewed as the appropriate time to evaluate teachers' sentiments and concerns, and modify any negative attitudes about inclusion. Research indicates strong evidence that personnel preparation programs need to examine preservice teachers' attitudes and knowledge of

inclusive education (Dingle, Falvey, Givner, & Haager, 2004, p. 38), while others have cited the need for additional teacher preparation and general education support (Janney, Snell, Beers, & Raynes, 1995; Wolery, Werts, Caldwell, Snyder, & Lisowski, 1995).

The U.S. Dept. of Education (2007) stated that, on average, approximately 80% of students with disabilities spend a substantial portion of the school day (40% or more) in a general education classroom. Today, more and more schools in the country practice inclusive education. Thus, researchers are beginning to realize that teachers' preparation, attitudes and, more importantly, opportunity for collaboration and teamwork, are critical to the success of the inclusion model (Hobbs & Westling, 1998; McLeskey, Rosenberg, & Westling, 2010). Reynolds and Birch (1977) noted that teachers will benefit from training prior to receiving students with disabilities in their classrooms; however, such training should occur at the preservice level, where prospective teachers acquire well-grounded techniques in teaching and managing the complex behaviors of some special needs learners, and in building collaboration with other stakeholders. Hammon (2003) showed that there were a number of variables that affected the efficiency of the inclusive classroom. These include: access to opportunities to collaborate on inclusion, adequate training from preservice and in-service programs, initial and ongoing support from administrators and co-teachers, and involvement in the planning and implementation of an inclusionary program. According to Norrell (1997), an inclusive classroom requires prior and ongoing training for teachers, additional planning time, restricting the number of special education students to three per class, provision for para-educators, additional incentives, as well as administrative support.

It has also been argued that the shaping of positive attitudes towards students with disabilities is an important component of the training of preservice teachers (Loreman & Earle, 2007), and that teacher training in the awareness of disabilities and appropriate strategies will have a positive impact on academic success, social outlook, employability and future independence of students with special needs. Thus, teachers who have a negative attitude towards the inclusion of students with disabilities or who have not been trained in the appropriate inclusion strategies are less likely to be successful in assisting such learners to reach their full potential.

The question frequently asked today by administrators and teachers is: How can teacher education programs be shaped to foster positive regard concerning the accommodation of students with disabilities in general education? Roberts (1982) suggested that the most direct step that can be taken is to include in these future teachers' training programs a course in which they are taught about different areas of disabilities, children's learning challenges, how to identify them, how to teach the children despite their learning deficits, and how to remediate their learning problems by instructing them through their strong learning channels. Researchers have also identified consultation, collaboration, and practical problem-solving as major prerequisites to inclusive education (Giangreco, Edelman, & Dennis, 1991). These skills may also be taught in coursework at the preservice level.

Research Objective

The principal objective of this study was to determine the effectiveness of including a course within general and special education programs that provides an overview of exceptionalities dealing with the issues and needs in inclusion. Participants' sentiments, attitudes, and concerns were evaluated separately through the three numerically balanced subscales of the instrument.

Potentially important demographic variables such as gender, age group, educational background, etc. of participants, were investigated to provide greater insights into issues of inclusion.

Methods

Participants

The 224 preservice teachers in this study represented a combination of general elementary and secondary education majors. All of the participants had the common experience of being enrolled in a course where the curriculum provides an overview of issues related to exceptionalities. The respondents' sentiments, attitudes, and concerns towards inclusion were measured with an instrument at the beginning and the end of an introductory course in special education in which participants were enrolled.

Responses to the survey were collected from eight post-secondary institutions across the United States, namely: Missouri State University, Springfield, MO, Portland State University, Portland, OR, McDaniel College, Westminster, MD, Columbus State University, Columbus, GA, Texas Tech University, Lubbock, TX, University of Toledo, Toledo, OH, Dominican College, Orangeburg, NY, and New Mexico Highlands University, Rio Rancho, NM.

Instrument

The latest revision of the Sentiments, Attitudes, and Concerns about Inclusive Education (SACIE) numeric scale developed by Forlin, Earle, Loreman and Sharma (2011) was employed to gather the research data. The instrument is made up of two main sections: Section One addresses the general demographics about each respondent, and Section Two consists of a 15-item questionnaire that elicits information about each participant's sentiments, attitudes and concerns regarding teaching students with disabilities.

For the purpose of examining preservice teacher preparedness for inclusion, we have made a clear distinction between the often confusing concepts of sentiments and attitudes. Sentiments towards inclusion are represented in the SACIE scale by questions probing the thoughts or views of an individual that are based on their emotions instead of reason. Conversely, attitudes towards inclusion represent a person's views or opinions based on reason in an evaluative manner. Consequently, the scale distinguishes between emotional response and practical opinion. The overall scale and its three components (sentiments, attitudes, and concerns) are designed to accurately measure and objectively evaluate the average state of preparedness of preservice teachers before and after the completion of an introductory course on exceptionalities dealing with the issues and needs of teaching in inclusive classrooms.

The SACIE scale, developed from two pilot studies with a combined size of 483 respondents from universities in Canada, Hong Kong and Australia, demonstrated high internal reliability and cross-validation with a second independent set of data consisting of 542 respondents that confirmed the three-factor substructure of the instrument (Forlin, Earle, Loreman, & Sharma, 2011). The internal reliability of the instrument as measured by Cronbach's alpha was relatively high for both the final stage of the development study ($\alpha = 0.85$) and the cross validation study (α

= 0.74) as reported by the developers. The authors noted that values above an α value of 0.70 are considered high, especially given the small number of items comprising the instrument (Netemeyer, Bearden & Sharma, 2003). The independent nature of the three components of the SACIE scale was confirmed by inter-subscale correlations not being significantly different from zero (prob. » 0.10). Comparable results were found in this study where internal reliability for the total SACIE scale (α = 0.81) and the three subscales (sentiment scale α = 0.82, attitude scale α = 0.85, and concern scale α = 0.77) were all relatively high.

In typical survey fashion, questions relating to the main themes were organized in random order so as not to develop any systemic patterns of answering. The nature of the negative wording of questions that relates to one's attitudes and concerns dictates that low value responses on the four-point Likert scale in the survey represent positive improvements. On the other hand, the positive nature of the questions related to the respondent's sentiments suggests improvement in the thoughts and views relating to inclusion are represented by higher scale measurements.

Results

Characteristics of Preservice Survey Population

As previously noted, a total of 224 preservice teachers participated in this study. Of the total number of respondents reporting their gender, 80% were female (n = 175) and 20% were male (n = 44). With respect to age, the majority were 29 years or younger (n = 133). Regarding the level of education, they came into the program with 92 having had a High School Diploma, 90 respondents (40%) had a Bachelor's degree, 26 respondents (12 %) had the Associates of Arts (AA) Certificate, and 14 students (6%) had a Master's degree.

Of the 222 participants who identified their gender, 16 (7%) reported having a disability themselves, while the majority (93%) did not (n = 206). Five respondents self-identified themselves as having blindness/partial sight/low vision, three identified themselves as having a physical impairment, four with a learning disability, and four with Attention Deficit Hyperactivity Disorder. The majority of people surveyed reported they were teaching or receiving training to teach at the secondary school level (n = 70), 68 reported preliminary/elementary, 50 reported special education, and the remaining 26 reported early childhood training.

When asked if they had significant or considerable interactions with a person with a disability, 142 participants responded yes, while 80 participants answered no. Furthermore, the majority (n = 103) reported they had no training in special education, 92 had some training, and only 28 had at least 40 hours of training. On the same note, 105 participants had no experience teaching a student with a disability, 77 reported they had some experience, and only 41 reported they had at least 30 full days of experience. Similarly, the majority (n = 125) of respondents felt they had poor or no knowledge of the local legislation or policy pertaining to children with disabilities, and only 49 participants rated their prior knowledge as being good or very good. In respect of their self-confidence, 85 respondents had very low or low confidence in teaching students with disabilities, while 88 had average confidence and only 49 had high or very high confidence.

Key Demographic Components Influencing Inclusive Education

There were significant institutional differences in the mean pre-course and post-course sentiments, attitudes and concerns (Table 1). Institutional differences in the three SACIE subscales accounted for 6.4% to 10% of the variation in the responses to the questions. Of the three scale components, concern towards inclusive practices in the classroom was responsible for the largest proportion of the variance, 9.9% (pre-course) and 10% (post-course), followed by attitudes (9.5% pre-course and 8.6% post-course), and sentiments (8.8% pre-course and 6.4% post-course), respectively. (Note that all three components accounted for a greater proportion of the variance in responses from the survey taken prior to the respondents having completed the course on special education). Individual institutional differences were not reported by name to maintain anonymity. Notably, only three of the eight institutions proved to be significantly different than the others.

Following the completion of a course with a major component on inclusion, preservice teachers generally showed a substantial improvement across two of the three components of inclusion. Primarily, respondents showed a very highly significant increase in positive sentiments towards inclusion ($p<0.001$), and a very highly significant decrease in the level of concerns regarding their ability to meet the needs of students with disabilities in a regular classroom ($p<0.0001$) (Table 2). An increase in positive attitude towards inclusion was evident after the completion of the course, but the mean differences were not statistically significant ($\alpha=0.05$). The marked reduction in the level of concerns regarding inclusion accounted for the highest proportion of the variance (16.9%), compared to sentiments (6.4%), and attitudes (1%).

A degree of prior interaction with one or more persons with a disability appears to have had no influence on the sentiments that preservice teachers held towards inclusion, either before or after completing a course that contained a component of inclusion (Table 3). Significantly improved attitudes and substantial lower levels of concern were however experienced by respondents that had reported having previous interactions with individuals with a disability. This was true both before (pre-course) and after (post-course) having completed the special education course. The highest component of the variance in responses was explained by the differences between pre-course attitudes (10.6%) and pre-course concerns (9.5%).

Experience teaching persons with a disability prior to embarking on the education program had a positive influence on all three components of inclusion (Table 4) both before and after completing the special education course. Sentiments, attitudes and concerns all markedly improved with increasing levels of previous experience teaching in a special needs situation. Notably, only the improvement in sentiment levels of teacher trainees expressed after receiving instruction on inclusion (post-course) could not be demonstrated statistically ($\alpha=0.05$). It is also apparent that the greatest improvement in sentiments, attitudes and concerns occurred when respondents reported the highest level of previous teaching experience, as opposed to only some previous experience (Table 4). The proportion of the variance explained by differences between the three levels of experience was not notably high (i.e., 0.4% to 8.5%). The highest proportions were consistently found in the pre-course surveys.

Previous training in special education prior to enrolling in the education program appears to have markedly reduced the concerns of preservice teachers both before ($p = 0.001$) and after ($p = 0.003$) attending the course on special education (Table 5). No difference in the mean level of sentiments was evident in the pre-course survey, while a significantly more favorable level of sentiment is evident in the post-course group that reported having had a high level of previous training in special education. Pre-course and post-course data showed opposing trends in attitudes among the two groups. In the pre-course group, increasing levels of previous training was negatively correlated with values that represent more favorable attitudes, while the post-course group responses indicated those with a higher level of training exhibited a significantly more favorable attitudes towards inclusion. The most important components of the variation (i.e., attitudes and concerns) accounted for 5.4% to 10.5% of the differences observed in the study (Table 5).

There was no evidence of a significant difference in sentiment scores associated with the five levels of knowledge of the legislation and policy pertaining to inclusion in either the pre-course or the post-course groups (Table 6). On the other hand, concerns (pre-course and post-course), and attitudes (pre-course only), improved significantly as the level of perceived understanding of the legislation and policy increased. Notably, post-course attitudes also increased substantially with perceived understanding of the legislation, but the differences were not sufficiently high to be statistically significant. The concern component accounted for the largest improvement in attitudes with perceived level of understanding of legislation and policy, i.e., 10.1% (pre-course) and 9.6% (post-course).

Perceived level of confidence to teach in an inclusive classroom was not linked to sentiment values, accounting for only 0.9% (pre-course) and 1.5% (post-course) of the variance in the level of sentiments expressed by preservice teachers (Table 7). Attitudes and concerns on the other hand improved substantially with increasing confidence level. Indeed, the influence that confidence to teach in an inclusive classroom had on concerns and attitudes was marked and very highly significant. The level of confidence expressed by preservice teachers had a much greater influence on their concerns pre-course (25.4%) than post-course (11.4%). Notably, no overall change in the mean level of attitudes was observed between the pre-course and post-course results for any of the levels of confidence expressed by preservice teachers. Conversely, concerns among all levels of confidence were substantially lower across all expressed levels of confidence after respondents completed the course.

There was no evidence of a gender difference in the level of sentiments or concerns for either pre-course or post-course data (Table 8). Attitudes, however, were significantly more favorable in women than in men for both the pre-course ($p = 0.001$) and post-course ($p = 0.021$) results. However, the proportion of the variance in attitudes accounted for by gender was not very high ($\leq 3.8\%$).

Individuals who identified with a personal disability exhibited no difference in mean sentiment level compared to those who did not identify themselves as having a disability (Table 9). A significantly more favorable level of attitude was, however, observed in those that reported a disability. This trend occurred in both the pre and post-course groups, but the influence of personal disability on attitudes towards inclusion was relatively small, each accounting for only

about 2% of the total variation in the data. The mean level of concern was also lower in the pre-course and post-course groups reporting a personal disability, but neither was significant (Table 9).

There was little evidence to suggest that the level of education reported by the respondents had any influence on their attitudes or concerns towards inclusion. Sentiments towards the practice of inclusive education were highest in those candidates possessing the Master's degrees, and decreased sequentially in those with a Bachelor's degree, AA Certification and High School Education, respectively. Despite this trend, the only significant difference (α=0.05) in the mean sentiment levels was between those that had a Master's degree and those that possessed either an AA Certification or a High School diploma (Table 10).

Discussion

Influence of Demographic Differences in Preservice Teachers on Sentiments, Attitudes and Concerns

Key demographic variables appeared to significantly account for the wide range of responses in sentiments, attitudes and concerns for working in inclusive classrooms expressed by preservice teachers. The percent variance explained by each demographic variable and the level of significance associated with differences between the group responses within each demographic indicate the most influential demographics were the respondents' level of interactions with persons with a disability (Table 3), previous experience teaching students with disabilities (Table 4), previous training related to working with persons with a disability (Table 5), and knowledge of legislation and policy regarding inclusion (Table 6). Essentially, these demographics had a much stronger influence on preservice teachers prior to their completion of an introductory course on inclusive education.

The authors believe that the reduced influence of these factors in the post-survey results suggests that a lack of previous experience, training and interaction with persons with disabilities, and a lack of knowledge about legislation regarding inclusive education can be overcome through classroom instruction on issues related to inclusion. The authors further speculate that the noted differences in sentiments, attitudes and concerns towards inclusion among the eight institutions (Table 1) may be accounted for by differences in the curricular and instructional methodologies employed and the timing and extent of the inclusion component within the various programs. Comparisons of the content and delivery of the special education courses taught at the various institutions should provide insight into the most effective approaches to addressing the sentiments, attitudes, and most importantly, the concerns of preservice teachers anticipating the challenges ahead of them.

Previous Interactions with Persons with a Disability

Respondents who had previous interactions with a person with a disability had a significantly more positive attitude and significantly lower level of concern about inclusion, both before and after completion of the course (Table 3). Clearly, contact with a person with a disability has a strong impact on the formation of appropriate attitudes and in lessening fears and concerns related to inclusionary practices. This suggests that it is important to encourage students to seek

out opportunities to interact with people with disabilities on a personal and professional basis so as to better understand and become comfortable with their goals and needs. Surprising perhaps, the data also suggests that people do not require prior contact with individuals with a disability to feel sympathy for their situation, as evidenced by the high level of sentiments held for such individuals, irrespective of any prior interaction with persons with disabilities.

Previous Experience Teaching and Training

Not surprisingly, previous experience teaching one or more persons with a disability, and previous instruction in teaching persons with a disability, has a strong influence on all aspects of inclusion, especially in the areas of attitudes and concerns (Tables 4 and 5). Previous experience has the greatest impact on forming positive attitudes and reducing implementation concerns during the early stages of the teacher education program (i.e., prior to completing additional instruction on inclusive practices). This does not negate its influence later on in the program, after subsequent instruction in inclusion. Consequently, previous experience teaching persons with a disability can provide benefits that supersede the additional instruction on inclusion received during the educational program. Similarly, early instruction regarding inclusion and early experience teaching persons with a disability are useful at any stage of teacher education and is to be encouraged.

The lesser importance of previous teaching experience and training relating to inclusion on the formation of positive sentiments towards inclusion is also generally apparent (Tables 4 and 5), once again suggesting that the emotional aspects of equal educational opportunities for all persons is less of an issue than the practical aspects of its implementation.

Knowledge of Law and Confidence in Ability to Teach

Preservice teachers' knowledge of national and state legislation and policy, and their perceived level of confidence to teach in an inclusive classroom had a strong positive effect on their attitudes and concerns, both before and after specific training (Tables 6 and 7). Sentiment levels once again appeared not to be influenced by these demographic variables, suggesting the clear distinction between practical (attitude) and emotional (sentiment) issues related to inclusion. Given these findings, it seems prudent that any course curriculum on inclusion contain comprehensive instruction on current legislation and policy. The authors recognize the impact that instruction on specific issues related to inclusion have on bolstering student confidence, and anticipate that such instruction will markedly increase positive attitudes and reduce the student's level of concern.

Gender and Self-Identifying as Having a Disability

Among the three identified areas of inclusion accounted for in the SACIE scale, only attitudes towards inclusion appeared to differ significantly between the genders. Average measures of attitudes as reported by female preservice teachers were significantly more positive than those of their male counterparts on both the pre-course and post-course surveys (Table 8). Encouragingly, the mean level of attitude towards inclusive education appears to have improved in both genders after participants completed the course. This suggests that instruction can improve the attitude of

trainees towards the adoption and implementation of inclusive practices in schools. Despite the lack of any statistically significant evidence of differences between male and female sentiments and concerns, the overall trend in both followed the expected pattern of improvement after completion of the course, especially in females. Again, this suggests that directed instruction is important in the development of appropriate attitudes and in reducing concerns related to inclusion.

Sentiment levels were comparable in both those that self-identified as having a disability and those who indicated they had no disability (Table 9). This finding was unexpected as the authors believed there would be more positive sentiments from those individuals that have experienced the realities of living with a disability than in those with no such practical experience. These results were similar to those reflecting on the influence that experience through personal interactions with persons with a disability had on sentiment levels (Table 3).

A lower level of concerns, especially in the pre-course survey, was noted in those that possess a disability, but the difference was not large enough to demonstrate objectively through statistical analysis (Table 9; $p < 0.05$). Consequently, this may suggest that many individuals with disabilities have learned through experience to deal with the challenges of living with a disability.

Attitudes towards inclusive practices, on the other hand, were substantially higher in the group that identified themselves as having a disability (Table 9). This strongly suggests that persons with a disability have a greater sense of the need to accommodate all levels of learners in regular classrooms. It should be noted that such a strongly positive attitude towards inclusion is evident despite the varying opinions of people with disabilities and organizations they represent. It may be suggestive of the fact that inclusion is far from being universally accepted. A number of organizations of general and special educators and of advocates for students with disabilities, e.g., the Commission on the Education of the Deaf, the Learning Disabilities Association, and the National Education Association, have issued policy statements in favor of a strong separate special education system (Fuchs & Fuchs, 1994). In the opinion of the American Federation of Teachers (1994), there is need to reevaluate the goals and objectives of inclusion in the interest of all stakeholders, including parents of children with multiple disabilities who are being placed in neighborhood schools. These opponents contend there are insufficient medical personnel in school districts to care for medically fragile children under existing circumstances, and inclusion would impose extraordinary burden on educators, paraprofessionals, and administrators. Critics who themselves have a disability, e.g., members of the National Federation of the Blind, have lamented the paucity of resources, as well as untrained teachers who are today charged with instructing special needs children in the various public schools' inclusion programs. Anecdotal evidence points to poor instruction from under-resourced public schools resulting in students with deficits in academic and social skills, and who are consequently unable to fully integrate into society.

Lack of administrative support has also been cited by professionals and parents as militating against meaningful integration of special needs children in general education. This lack of administrative support has been compounded by current changes in economic fortune that continue to impact the level of funding allocated to special education and development of related

services in K-12 schools. We see inadequate funding of inclusion as a potential threat to school systems that are already extremely vulnerable - especially in rural areas with great poverty and social needs.

In our opinion, the preceding split argument may have influenced how participants with disabilities reacted to our research questionnaire. They may have put a lot of consideration into the issue of inclusion and based their opinion from personal experience that may have been a push towards inclusion or a step back from it. Therefore, we believe that their opinions may be based on personal perceptions of inclusive education, as well as their perception of other kids with disabilities. This observation warrants further empirical research to establish its validity and relevance to current practices in special education.

Level of Qualification

The level of advanced education obtained by preservice teachers prior to enrolling in the course on inclusion appears to have had a strong influence on their sentiments towards inclusion. Notably, candidates with a Master's degree (n = 14) had significantly higher levels of sentiments in the pre-test results, compared to those with only a Secondary School diploma (n = 92), or an AA certificate (n = 26) (Table 10). A plausible explanation for this variance could be the increased experience and exposure that participants with higher qualification showed when responding to the questions. It may well be that these participants have had greater previous interactions with students with disabilities, and/or were involved with work in clinical settings that have impacted their sentiments. There was no evidence, however, that higher educational qualifications were sufficiently influential to have a significant impact on respondents' attitudes or concerns. Admittedly, the disproportionate sample size of the different levels of attained education and the small number of respondents with a Master's degree makes any interpretation of educational experience on the issues related to inclusion problematic.

Conclusion and General Recommendations

Participants' overall sentiments, attitudes and concerns significantly improved upon their completion of the course, and this is a testament to the effectiveness of the programs offered at the eight institutions. This finding suggests that the curricula are not equally effective across the three areas of interest. Indeed, the courses are considerably more effective at reducing the concerns that preservice teachers have about teaching in an inclusive environment than on improving either their attitudes or sentiments. Instruction is also quite effective at fostering positive attitudes but considerably less influential on changing preservice teacher's sentiments. Consequently, the curricula should focus on enhancing the attitudes of teacher-trainees. The correlation between sentiments and attitudes in the structure of the SACIE scale (Forlin, Earle, Loreman & Sharma, 2011) suggests that improving one curriculum to address one area will also have a positive influence on the other. The unique structure of the concerns component of the scale, however, indicates changes in curricula to reduce the level of concerns experienced by preservice teachers will necessitate its own set of approaches.

The diverse nature of the skills and experiences seen in preservice teachers as measured by the eight demographic variables characterizing each individual has a strong influence in shaping

their sentiments, attitudes and concerns towards inclusive education. All of the demographic variables in the study, except gender, have a fairly strong influence on the level of concerns felt by the respondents. To a lesser extent, demographic diversity also accounts for the substantial differences observed in attitude, and to a much lesser extent, to the variations in sentiments seen in preservice teachers. The most influential of the demographic variables appears to be the level of confidence that each individual has that they can effectively teach in an inclusive environment. Confidence in one's teaching ability does not appear to have a noticeable effect on a person's emotional feelings or views regarding inclusion (i.e., sentiments). These are most likely formed through life experiences leading up to adulthood. Among the eight demographic variables tracked in this study, only gender had little or no influence. Given the apparent influence that demographic variables have on inclusion issues, it seems prudent to investigate how curricula can best be designed to overcome any common deficiencies identified within the preservice teacher's population.

In addition to identifying marked improvements within individual preservice teachers as noted above, the study also indicated very highly significant differences between the subjects, even after instruction ($p<0.001$). These considerable differences should be seen as an opportunity to foster even more positive attributes towards the acceptance and implementation of inclusion. To improve on the general acceptance of inclusion among preservice teachers, we recommend that university programs inculcate in their trainees innovative curricular approaches that will enable prospective educators to deal with challenges that are prevalent today in inclusive education practices. Duncan (2009), in a speech to Teachers College, Columbia University, challenged teacher education programs to make their mission to train teachers with qualifications to provide better outcomes for all students. The Secretary of Education posited: "... Education is no longer just a pathway to opportunity and success - it is a prerequisite to success" (Duncan, 2009). We believe teacher education programs are in a position to ensure that preservice teachers acquire the knowledge, dispositions, and performances required to succeed in educating all learners before they get to the classroom. Specifically, special education standards of the National Council for Accreditation of Teacher Education (NCATE) state that "professional education programs should prepare all school personnel to contribute to the education of exceptional learners" (cited in Connard, 1984, p. 1). This realization implies an urgent need to restructure teacher education programs to focus on teaching the common core of knowledge and skills that all teachers should possess to function effectively in inclusive schools. Thus, colleges of education need to begin to be more aggressive in redesigning their teacher education curricula to provide novice teachers with this common knowledge base and set of experiences.

One effective strategy to increase understanding and build confidence and skills in prospective teachers is to sensitize them to the disability culture and experience by having them observe what it is like to have a disability firsthand, from people in the disability community. By inviting well-placed persons who have a disability to share their experiences in an introductory course on exceptionalities, trainees' attitudes will gradually improve and their concerns minimized over time. This type of exposure will likely help everyone to keep the disability perspective in focus as they are assigned to inclusive classroom tasks.

In our own professional work, we have embedded into the curriculum reading of pertinent inclusive literature, use of media, among other course projects. Preservice teachers then engage

in discussions and analyses around plots and themes in the selected readings and media. This type of strategy is in line with the thinking of researchers. Safran (1998) posited that use of movies that portrayed disabilities can be particularly helpful for those who have had minimal or no contact with individuals with specific impairments. Winsor (1998) stated that the utilization of inclusion literature is a worthy topic for discussions among preservice and in-service teachers. Prater (2003) also advocated teacher educators seek out fictional portrayals of individuals with disabilities. Furthermore, she suggests several ways to utilize these books in different courses. These may include: having university students compare the characteristics portrayed in a juvenile fiction book with the characteristics learned in an introductory course on disabilities, or assigning students in an instructional methods course to write lesson plans involving the use of books to teach about other aspects of disabilities.

Because teachers in reality are responsible for making inclusion work, it follows that their training should develop in them the pedagogical knowledge and skills to deal with the significant challenges that confront practitioners of inclusion, and of creating a classroom culture where all children are valued. Through a structured process of infusing these miscellaneous ideas into the curriculum, we believe personnel preparation programs will be suitably positioned to perform their roles and responsibilities in actualizing inclusive education practices. Finally, we recommend that universities design introductory courses to special needs education which can be accessed also by students from other disciplines who may wish to enter the teaching profession. This approach will no doubt indirectly help to prepare all trainees to gain knowledge in relation to teaching children with special needs who may be enrolled in subject matter disciplines in K-12 settings. However, we caution that such courses must allow for critical examination of theories and practices of inclusion and pedagogical effectiveness, as well as collaborative team building and behavioral management techniques. More fundamentally, participants in such courses will need to be given structured opportunities to experience inclusive education in reality. It is our opinion that exposure to the methods of teaching children with disabilities in general classrooms is one of the essential components in the process of eliminating barriers and building positive attitudes.

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Table 1: Comparison of mean differences in Sentiments, Attitudes and Concerns between the 8 Post-Secondary Institutions participating in this study, as reported for both pre-course and post-course phases of the study.

SACIE COMPONENTs	Probability of a Difference	Variance Explained by Component
Pre-Course Sentiments	0.006	8.8%
Post-Course Sentiments	0.047	6.4%
Pre-Course Attitudes	0.003	9.5%
Post-Course Attitudes	0.007	8.6%
Pre-Course Concerns	0.002	10.0%
Post-Course Concerns	0.002	9.9%

Table 2: Repeated measures ANOVA comparing pre-course and post-course paired subjects for preservice teacher's sentiments, attitudes and concerns about inclusive education. NS = Non-significant (α>0.05) comparison of means.

	Pre-Training	**Post-Training**	**Effect Evaluation**		
Inclusion Components	***Mean ± Std***	***Mean ± Std***	***Fs***	***Probability***	***% Variance***
Sentiments	2.735±0.49	2.894±0.54	15.04	<0.001	6.4
Attitudes	2.244±0.44	2.281±0.47	2.22	0.138 (NS)	1.0
Concerns	2.529±0.46	2.340±0.48	44.83	<0.0001	16.9

Mean responses range from one (strongly disagree), two (disagree), three (agree) and four (strongly agree).

Table 3: Influence of previous interactions with disabled persons on the sentiments, attitudes and concerns of preservice teachers both before (pre) and after (post) completing a course on special education.

Previous Interaction with Disabled Person(s)		***MEAN ± STD***	***PROB.***	***VARIANCE EXPLAINED***
Pre-Sentiments	Yes (n=142) No (80)	2.76±.51 2.79±.45	NS 0.267	0.6%
Post-Sentiments	Yes (n=142) No (80)	2.89±.54 2.88±.54	NS 0.863	3.0%
Pre-Attitudes	Yes (n=142) No (80)	2.35±.42 2.06±.38	<0.001	10.6%
Post-Attitudes	Yes (n=142) No (80)	2.36±.48 2.13±.42	<0.001	2.1%
Pre-Concerns	Yes (n=142) No (80)	2.41±.45 2.71±.53	0.001	9.5%
Post-Concerns	Yes (n=142) No (80)	2.26±.50 2.48±.39	0.001	5.1%

Mean responses range from one (strongly disagree), two (disagree), three (agree) and four, (strongly agree). NS = Non-significant (α>0.05) comparison of means.

Table 4: Influence of previous experience teaching disabled persons on the sentiments, attitudes and concerns of preservice teachers both before (pre) and after (post) completing a course on special education.

Previous Experience Teaching Disabled Persons		***MEAN ± STD***	***PROB.***	***VARIANCE EXPLAINED***
Pre-Sentiment	None (n=105) Some (77) High (41)	2.70±.50 2.67±.50 2.93±.39	0.015	3.7%
Post-Sentiment	None (n=105) Some (77) High (41)	2.87±.55 2.87±.53 2.95±.53	NS 0.673	0.4%
Pre-Attitude	None (n=105) Some (77) High (41)	2.17±.42 2.22±.43 2.49±.40	0.001	7.4%
Post-Attitude	None (n=105) Some (77) High (41)	2.20±.47 2.31±.46 2.42±.47	0.029	3.2%
Pre-Concern	None (n=105) Some (77) High (41)	2.63±.43 2.53±.45 2.25±.48	0.001	8.5%
Post-Concern	None (n=105) Some (77) High (41)	2.41±.47 2.34±.45 2.17±.40	0.019	3.6%

Mean responses range from one (strongly disagree), two (disagree), three (agree) and four, (strongly agree). Non-significant (α>0.05) comparison of means are indicated NS.

Table 5: Influence of previous special education training on the sentiments, attitudes and concerns of preservice teachers before (pre) and after (post) completing a special education course in inclusion. Non-significant ($\alpha>0.05$) comparison of means are indicated NS.

Previous Training in Special Education		***MEAN ± STD***	***PROB.***	***VARIANCE EXPLAINED***
Pre-Sentiment	None (n=103) Some (n=92) High (n=28)	2.72±.41 2.57±.55 2.71±.50	NS 0.885	0.1
Post-Sentiment	None (n=103) Some (n=92) High (n=28)	2.85±.55 2.84±.51 3.16±.53	0.019	3.6
Pre-Attitude	None (n=103) Some (n=92) High (n=28)	2.56±.08 2.28±.04 2.13±.04	0.001	9.6
Post-Attitude	None (n=103) Some (n=92) High (n=28)	2.21±.45 2.28±.49 2.56±.41	0.003	5.2
Pre-Concern	None (n=103) Some (n=92) High (n=28)	2.65±.42 2.49±.44 2.18±.55	0.001	10.5
Post-Concern	None (n=103) Some (n=92) High (n=28)	2.42±.45 2.32±.49 2.04±.40	0.003	5.2

Table 6: Influence of perceived understanding of the legislation and policy dealing with inclusion on the sentiments, attitudes and concerns of preservice teachers before (pre) and after (post) completing a course in inclusion. NS = Non-significant (α>0.05).

Knowledge of Existing Policy and Legislation		***MEAN ± STD***	***PROB***	***VARIANCE EXPLAINED***
Pre-Sentiment	None (n=33) Poor (n=92) Average (n=74) Good (n=19) Very Good (n=5)	2.53±.47 2.74±.50 2.79±.48 2.75±.53 2.88±.27	NS 0.126	3.2%
Post-Sentiment	None (n=33) Poor (92) Average (74) Good (n=19) Very Good (5)	2.82±.47 2.85±.52 2.91±.61 3.11±.42 2.68±.52	NS 0.282	2.2%
Pre-Attitude	None (n=33) Poor (92) Average (74) Good (n=19) Very Good (5)	2.05±.41 2.22±.44 2.30±.42 2.43±.39 2.52±.33	0.007	6.3%
Post-Attitude	None (n=33) Poor (92) Average (74) Good (n=19) Very Good (5)	2.15±.52 2.25±.46 2.32±.48 2.44±.40 2.52±.39	NS 0.139	3.1%
Pre-Concern	None (n=33) Poor (92) Average (74) Good (n=19) Very Good (5)	2.78±.42 2.58±.41 2.42±.49 2.28±.39 2.16±.71	<0.001	10.1%
Post-Concern	None (n=33) Poor (92) Average (74) Good (n=19) Very Good (5)	2.61±.46 2.38±.46 2.22±.48 2.22±.38 1.96±.38	<0.001	9.3%

Table 7: Influence of perceived confidence to teach in an inclusive classroom on the sentiments, attitudes and concerns of respondents before (pre) and after (post) completing a program course in inclusion. Non-significant (α>0.05) comparison of means are indicated as NS.

Confidence to Teach in Inclusive Classroom		***MEAN ± STD***	***PROB.***	***VARIANCE EXPLAINED***
Pre-Sentiment	Very Low (n=16) Low (n=69) Average (n=88) Good (n=38) Very Good (n=11)	2.60±.48 2.71±.44 2.78±.49 2.75±.59 2.71±.49	0.745	0.9%
Post-Sentiment	Very Low (n=16) Low (69) Average (88) Good (n=38) Very Good (11)	2.93±.43 2.86±.53 2.85±.55 3.02±.57 2.80±.56	0.50	1.5%
Pre-Attitude	Very Low (n=16) Low (69) Average (88) Good (n=38) Very Good (11)	1.97±.44 2.16±.45 2.21±.37 2.54±.40 2.44±.40	<0.001	13.3%
Post-Attitude	Very Low (n=16) Low (69) Average (88) Good (n=38) Very Good (11)	2.06±.44 2.23±.51 2.23±.40 2.55±.49 2.42±.35	0.001	8.4%
Pre-Concern	Very Low (n=16) Low (69) Average (88) Good (n=38) Very Good (11)	2.89±.33 2.74±.44 2.48±.37 2.15±.46 2.20±.37	<0.001	25.4%
Post-Concern	Very Low (n=16) Low (69) Average (88) Good (n=38) Very Good (11)	2.56±.47 2.50±.49 2.29±.38 2.16±.52 2.01±.30	<0.001	11.4%

Table 8: The Influence of gender on the sentiments, attitudes and concerns of preservice teachers before (pre) and after (post) completing a course on special education dealing with inclusion. NS = Non-significant (α>0.05) comparison of means.

SACIE THEME	*MEAN ± STD*	*PROB.*	*VARIANCE EXPLAINED*
Pre-Program Sentiments	Male 2.80±.44 (n=44) Female 2.72±.51 (n=175)	NS 0.321	0.5%
Post-Program Sentiments	Male 2.83±.08 (n=44) Female 2.90±.04 (n=174)	NS 0.447	0.3%
Pre-Program Attitudes	Male: 2.08±.48 (n=44) Female: 2.24±.41 (n=175)	0.005	3.6%
Post-Program Attitudes	Male 2.13±.53 (n=44) Female 2.32±.46 (n=174)	0.020	2.5%
Pre-Program Concerns	Male 2.56±.51 (n=44) Female 2.52±.46 (n=175)	NS 0.652	0.1%
Post-Program Concerns	Male 2.44±.50 (n=44) Female 2.32±.47 (n=174)	NS 0.144	1.0%

Table 9: The influence that personal disability has on the sentiments, attitudes and concerns of preservice teachers both before (pre) and after (post) completing a course on special education dealing with inclusion. NS = Non-significant (α>0.05) comparison of means.

SACIE THEME	*Disability*	*MEAN ± STD*	*PROB*	*VARIANCE EXPLAINED*
Pre-Program Sentiment	Yes (n=16) No (n=206)	2.73±.53 2.74±.49	NS 0.977	0.001%
Post-Program Sentiment	Yes (n=16) No (n=206)	2.84±.29 2.89±.55	NS 0.722	0.1%
Pre-Program Attitude	Yes (n=16) No (n=206)	2.48±.41 2.23±.43	0.026	2.2%
Post-Program Attitude	Yes (n=16) No (n=206)	2.52±.37 2.26±.48	0.032	2.1%
Pre-Program Concern	Yes (n=16) No (n=206)	2.33±.51 2.54±.46	NS 0.068	1.5%
Post-Program Concern	Yes (n=16) No (n=206)	2.26±.48 2.35±.48	NS 0.502	0.2%

Table 10: Significant differences in preservice teachers' pre-program sentiments in relation to highest level of education completed. NS = Non-significant (α>0.05) comparison of means.

	Pre-Training			**Main Effect**
Level of Education	***N***	***Mean***	***Std. Dev.***	***Probability (in comparison to Master's Degree)***
Master's Degree	14	3.07	0.13	N/A
Bachelor's Degree	90	2.83	0.45	0.455 (NS)
AA Certificate	33	2.59	0.63	0.010
High School	92	2.64	0.05	0.012