Addressing Inclusion in an Era of Education Reform: Dispositions of Secondary and Elementary Pre-Service Educators in the Pipeline

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Abstract

A study conducted at a regional university investigated initial preservice educator dispositions toward inclusion of students with disabilities to determine if these changed after participation in a required introductory course, Introduction to Students with Exceptionalities. The sample consisted of 479 students enrolled in this course (of which 207 were secondary/content specialists) who completed a pre- and post-survey instrument. Results indicate statistically significant differences on all pairwise comparisons of inclusion process attitudinal items and on including students with 13 specific disabilities in the general education classroom. Preservice elementary educators were found to have attitudes that are more favorable toward inclusion than preservice secondary educators. A significant difference was found in comparing the level of change from pre-survey to post-survey, with preservice secondary educators reporting greater gains in favorable attitudes toward mainstreaming.

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The number of students with disabilities receiving the majority of their education in the general education classroom has increased dramatically in the last decade. The Twenty-Fourth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (U. S. Department of Education 2002) indicated that 95.9% of all students with disabilities were served in regular schools. Of these students, 47.3% were served outside the general education classroom less than 21% of the school day.

In addition to serving students with disabilities in more inclusive environments, *No Child Left Behind* requires states to establish education standards and annual assessments to measure students' success on the standards, including students with disabilities. Although students with disabilities spend a majority of their day being taught by general education teachers, "most of those teachers have little or no preparation in addressing students' individual needs to help them learn standards-based curricula" (Stodden, Galloway, and Stodden 2003, 14). With the increased emphasis on educating students with disabilities in general education classrooms, teachers need an understanding of various types of disabilities and corresponding modifications required for classroom and curricular inclusion (Turner 2003). Secondary teachers have additional challenges of helping students understand the content of the curriculum, helping them develop needed skills and strategies, and planning and delivering transition services and activities (Conderman and Katsiyannis 2002). For many secondary special education students, this is "their last opportunity to master basic skills, acquire essential social or functional skills, and develop efficient learning strategies" (Conderman and Katsiyannis 2002, 176).

IDEA 2004 Part A (CEC 2004) supports the need for highly qualified general and special education teachers by ensuring students with disabilities have access to the general education curriculum in the regular classroom, to the maximum extent possible, and "supporting high quality preservice preparation and professional development for all personnel who work with children with disabilities in

order to ensure that personnel have the skills and knowledge necessary to improve the academic achievement and functional performance of children with disabilities."

Because knowledge and skills in implementing inclusive practices for students with disabilities is preceded by attitudes and beliefs in the need for inclusive education and the ability of general educators to address specific needs effectively (deBettencourt 1999), understanding the dispositions (i.e., attitudes and beliefs) of preservice educators remains is critical. "Although teaching preservice educators the skills associated with effective instruction is a focus of teacher education programs, cultivating and developing teacher candidates' beliefs and attitudes that will serve to inform professional practice and decision-making throughout their careers are also priority outcomes" (Renzaglia, Hutchins, and Lee 1997, 361).

Unless general education teachers are competent in modifying and adapting their curricula and instructional practices, one essential stakeholder of standards-based education, students with special needs, will continue to be at a distinct educational disadvantage .The purposes of this study were to investigate initial preservice educators': 1) dispositions toward inclusive practices, 2) to assess their knowledge of inclusive practices and individualized student needs, and 3) to examine potential differences among preservice teacher groups (elementary and secondary).

Method

Participants

Participants were preservice teachers enrolled in a required introductory inclusion course. The majority of these preservice teachers were female (72%) and White (90.6%), greater majorities than the university student population as a whole. The ethnicities of non-White pre-service teachers were Hispanic (4.0%), Asian/Pacific Islander (2.4%), Native American (1.8%), and African American (1.26%).

During six successive quarters, a voluntary survey was administered at the beginning and end of each quarter. Throughout 15 classes, 479 students completed at least portions of both the pre- and post-surveys. Of these, 207 were secondary/content specialists. Due to absences, withdrawals, or student choice to decline participation, approximately twenty percent of students enrolled in the courses at the

beginning of a quarter did not complete either the pre- or post-surveys and were not included as part of the sample. Demographic information included academic level, major(s), and whether or not student teaching had been completed prior to the course. Academic levels included 21 sophomores, 174 juniors, 188 seniors, and 94 post-baccalaureates (two missing or unclear responses). A classification of participants by major is described in the Results section.

Instrument

A pre-/post-survey was modeled in part from Berryman (1989) Attitudes Toward Mainstreaming Scale. This survey consists of 21 Likert-type, four-point (strongly disagree to strongly agree) inclusion related items (see Table 1). Items surveyed student baseline perceptions and the post-survey identified changes in initial perceptions.

Procedure and Course Content

The first three authors served as instructors for the courses. On the first day of the course, the survey was administered to all students in the course on a voluntary basis. Students were encouraged to respond honestly to each item and informed that responses would be confidential and would not impact their grades. During the final class session, students were again administered the same survey. Pre- and post-surveys were matched using the last four digits of the students' social security numbers.

To maintain consistency across classes, instructors used a common syllabus that contained student learning outcomes, performance indicators and assignments. The instructors shared course content and taught this content in the same order.

Course content included historical and legal foundations as well as the general educator's role in pre-referral, referral, assessment, team membership, individualized education program development, and instructional modifications. Since a majority of students with mild disabilities receive all or a portion of their education in general education classrooms (Mastropieri and Scruggs 2000), categorical information concerning these disabilities was covered in-depth. Information included definitions (federal and state), etiology, characteristics, assessment and intervention strategies, inclusionary practices, and transition

needs. Because the number of students with low incidence disabilities may or may not be served in general education classrooms, these disability areas were briefly discussed.

Results

Three research areas guided the analysis of results. These included: (1) the impact of the course on preservice teacher attitudes toward elements of the inclusion process in general, (2) the impact of the course on preservice teacher attitudes toward the inclusion of students with specific disabilities or special needs, and (3) the relationship of teaching preparation emphasis (e.g., content generalizing - elementary and content specializing - secondary) to inclusion.

Attitudes Toward the Inclusion Process

Table 2 provides pre- and post-survey mean scores, *t*-test comparisons, and effect sizes for each of the eight items that measured attitudes toward the general inclusion process. Mean score values increased on all items from the pre-survey to post-survey. While most of the items indicated moderately strong initial positive attitudes toward inclusion (mean scores > 3.00 at pre-survey), two items indicated somewhat less positive attitudes. These involved the feasibility of teaching a wide range of students in one classroom ($M = 2.86$) and the skill of the general educator to teach a variety of students ($M = 2.96$). Moderate to very strong positive attitudes were indicated for all inclusion process items at post-survey. Also, a very strong positive attitude toward the inclusion of parents in the educational goal setting for their student with disabilities was indicated at both pre- and post-survey ($M = 3.78$ and $M = 3.92$ respectively).

Because multiple (eight) t-tests were employed, Bonferroni critical alphas (alpha / number of tests) were used to control for type I errors at the .05 and .01 levels (Thorndike and Dinnel 2001). Highly significant differences between pre- and post-survey scores for all general inclusion items were found (see Table 2). Lastly, after Wiersma (2000), all the eight effect sizes can be described as moderate (.41 - .60) or substantial (> .61) with the exception of that for the item, “parents should be included in educational goal setting for their student with disabilities.” Here the effect size was modest (.25 - .40) and can be

reasonably accounted for by a ceiling effect. The average effect size across the eight items was a substantial .66.

Specific Disability and Special Needs

Table 3 lists the pre- and post-survey mean scores, *t*-test comparisons, and effect sizes for 13 items addressing the inclusion of specific disability or special needs students in the general classroom. At the beginning of the courses preservice educators were least in favor of including students with more severe special needs involving intellectual ability (mental retardation, $M = 2.40$) and behavior (behavior disorders, $M = 2.65$; persistent discipline problems $M = 2.81$) in the general education classroom. While increases in mean scores for all items were present at the post-survey, these three items continued to be rated less positively than the others. This is consistent with findings from a comprehensive literature review conducted by Scruggs and Mastropieri (1996) that summarized the implications for inclusion from twenty-eight studies conducted between 1958 and 1995. Teachers were found to be more willing to include students with mild disabilities than those with more severe disabilities.

As with the items addressing inclusion in general, because multiple (13) t-tests were employed, Bonferroni critical alphas were used. Highly significant differences between pre- and post-survey scores for all general inclusion items were found (see Table 3). The average effect size across these 13 items was a moderate .50.

Teaching Preparation Emphasis: Content Generalizing versus Content Specializing

A final analysis explored possible differences in inclusion attitudes in relation to the teaching preparation emphasis of participants: content generalizing or content specializing. Elementary and early childhood education majors were classified as content generalizing ($n = 229$) and secondary or other specific content majors (e.g., Art, English, History, Physical Education, etc.) were classified as content specializing ($n = 207$). Special education majors ($n = 35$) and participants either not identifying a major or providing an unclear response ($n = 8$) were excluded from this analysis. There were no instances in which a double major placed a participant in both groups.

Responses to the eight items addressing the general inclusion process (see Table 2) were summed to create a total inclusion process scale with a possible range of scores from 8 to 32 (Likert-scale scores of 1 to 4 *x* 8). Three comparisons were planned and Bonferroni critical values of alpha were employed. Because of missing item responses at either pre-or post-survey, the *df* for each comparison differs. In addition, the reported effect sizes were based on the pooled *SD* for each comparison.

The scores for the content generalizing ($M = 26.43$; $SD = 3.05$) and content specializing ($M = 24.98$; $SD = 2.83$) groups differed significantly at pre-survey on the total inclusion process scale, with the former group exhibiting more a more positive attitude ($t(391) = 4.84$, $p < .01$; effect size = .48). Likewise, the scores for the content generalizing ($M = 28.84$; $SD = 2.64$) and content specializing ($M = 28.01$; $SD = 2.75$) groups similarly differed at post-survey ($t(417) = 2.97$, $p < .01$; effect size = .30). These findings are similar to those reported in earlier studies in which many educators suggested that it is not realistic to make the instructional accommodations needed for students with disabilities beyond the elementary level (Espin, Deno, and Albyrak-Kaymak 1998; Mamlin 1999; Taylor, Richards, Goldstein, and Schilit 1997). However, the increase in positive attitude for the content specializing group ($M = 3.14$; $SD = 2.83$) was significantly greater, albeit with only a modest effect size, than that for the content generalizing group ($M = 2.47$; $SD = 2.55$) ($t(381) = 2.47$, $p < .05$; effect size = .25). This suggests that providing information about the inclusion process in the context of a course may be a valuable tool in encouraging secondary specialists to embrace the process.

Discussion

Limitations. Results of this study should be interpreted with caution due to the representativeness of the sample of preservice educators; the instrumentation); and reliance on the accuracy of self-report data. Moreover, the ability to generalize the information gained to actual classroom practice may be limited. Nevertheless, the research used conservative analysis procedures and careful consideration of the results can add to the body of research on effective teacher preparation practices for inclusive schools.

Changing Dispositions Toward Inclusion. Literature on the practices and dispositions of practicing secondary and elementary general education teachers indicates that many teachers remain

doubtful about or reluctant to implement inclusive practices such as the provision of specific types of individualized accommodations (deBettencourt 1999; Scott, Vitale, and Masten 1998). The present study indicated that the inclusion content of a required course for secondary and elementary teacher candidates demonstrate a positive influence on dispositions of preservice educators towards inclusion tenets or practices. These results support that even a single course can significantly change dispositions and instructional competencies of preservice teachers toward inclusion of students with disabilities into the general education classroom (Shade and Stewart 2001; Turner 2003). As more students with disabilities receive a majority of their education in general education classrooms, secondary educators must be not only be willing but also adequately prepared to effectively deliver content and instruction to these students.

Equipping Secondary Educators with Skills for Differentiated Instruction. Although a number of researchers and professionals have reported a greater reluctance to implement inclusive placement or practices at the secondary level (Coutinho and Repp 1999; deBettencourt 1999; Masters, Mori, and Mori 1999), the results of this study demonstrate a larger impact occurred in attitudes of preservice educators who have a secondary or content specializing focus in their preparation. Only one half to one fourth of secondary teachers report having coursework or training in making instructional accommodations or adaptations (Smith, Polloway, Patton, and Dowdy 2001). Given the necessity of addressing rigorous content standards at the secondary level, strengthening the skills of preservice educators to differentiate instruction is essential (Stodden, et al. 2003).

Providing Adequate Preservice Preparation. Given the increasing role general educators play in educating students with disabilities (Turner 2003), effective preservice preparation for inclusive practices remains paramount. The challenges inherent in many secondary settings such as school structure and scheduling as well as changing graduation requirements and high stakes assessments can impact the ability of educators to effectively individualize instruction or to collaboratively problem solve and deliver curriculum (Stodden, et al. 2003). Prospective secondary educators must have a clearer understanding of the potential challenges as well as the skills needed to effectively teach all students. This necessitates that

teacher education faculty in content disciplines (secondary content fields) and in pedagogy (education methods and/or special education) collaborate to provide articulated and comprehensive training programs that support best practices in inclusive education.

A Mandate for Future Research. Inn order to truly realize the potential of inclusive education at the secondary level, additional research is needed that investigates: (1) the effectiveness of specific competencies or objectives in preservice educator course content in inclusion on preservice teacher knowledge, skills, or dispositions, (2) successful instructional components in the design and delivery of preservice secondary education courses on inclusion which impact teacher attitudes and practices, and (3) the impact of preservice education courses on actual inclusive classroom practices. With improved understanding and coordinated teacher preparation programs, we may then be able to ensure that all students are able to meet the expectations and standards needed for success at the secondary level and adulthood.

Table 1

Inclusion Survey Item

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1. Students identified as needing Special Education services have the right to be educated in general education classes.

   The following students should be taught in the general education classroom; students with:

   1. learning disabilities.
   2. mental retardation.
   3. visual impairments/blindness.
   4. hearing impairments/deafness.
   5. physical disabilities who are confined to wheelchairs.
   6. physical disabilities who are not confined to wheelchairs.
   7. cerebral palsy who cannot control movement of one or more limbs.
   8. stuttering difficulties.
   9. speech that is difficult to understand.
   10. epilepsy.
   11. diabetes.
   12. behavior disorders who cannot readily control their own behavior.
   13. persistent discipline problems.

14. General education teachers have the skills to teach a variety of students.
15. General education teachers are important members of educational teams for students with disabilities.
16. General education teachers are responsible for adapting and modifying some instructional materials and strategies for students with disabilities in their classes.
17. It is feasible to teach gifted and talented, "normal," and students with mental retardation in the same class.

Table 1 (Continued)

18. Parents should be included in educational goal setting for their student with disabilities.
19. In general, inclusion (teaching students with disabilities in general education classrooms) is a desirable educational practice.
20. Inclusion will be sufficiently successful to be retained as an educational practice.

Note. Each item was rated on Likert-type, four-point scale with the following values: 1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree.

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Table 2

Pre- and Post-Survey Means, Mean Changes and T-Tests for General Attitudes Toward the Mainstreaming Items

Attitude Toward Mainstreaming Item	*N*[a]	Pre-Survey	Post-Survey	Mean Change[b]	*t*[*]	*ES*[c]
Students needing special services have the right to general education classes.	469	3.14 (.57)	3.73 (1.95)	.59	6.40	1.04
General education teachers have the skills to teach a variety of students.	455	2.96 (.74)	3.31 (.69)	.35	9.92	0.47
General education teachers are important members of teams for students with disabilities.	467	3.43 (.56)	3.79 (.43)	.36	12.80	0.64
General education teachers are responsible for adapting for students with disabilities.	468	3.45 (.57)	3.76 (.44)	.31	10.45	0.54
It is feasible to teach gifted, normal and students with mental retardation in same class.	458	2.86 (.79)	3.40 (.72)	.54	13.71	0.68

Table 2 (Continued)

Parents should be included in educational goal setting for their student with disabilities.	468	3.78 (.43)	3.92 (.29)	.14	6.43	0.33
Mainstreaming is a desirable educational practice.	458	3.12 (.69)	3.62 (.54)	.49	14.38	0.71
Mainstreaming will be sufficiently successful to be retained as an educational practice.	446	3.02 (.61)	3.53 (.58)	.52	15.37	0.85

Note. Items are sequentially those numbered 1 and 15 – 21 on Table 1. Also, see Table 1 for the full wording of some items. Scale: 1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree. Standard deviations in parenthesis.
[a]479 total participants. *N* for items differ due to missing item responses on pre- and/or post-survey.
[b]Mean change = post-survey – pre-survey scores.
[c]*ES* (effect size) = Mean change/Pre-Survey *SD*.
[*]All *t* values have Bonferroni $p < .01$ with df = Item $N - 1$.

Table 3

Pre- and Post-Survey Means, Mean Changes and T-Tests Specific Special Needs Items

Item Stem: The following students should be taught in the general education classroom; students with:

Specific Special Needs	*N*[a]	Pre-Survey	Post-Survey	Mean Change[b]	*t*[*]	*ES*[c]
Learning disabilities.	471	3.24 (.61)	3.76 (1.88)	.52	5.98	0.85
Mental retardation.	460	2.40 (.70)	3.00 (.76)	.59	15.93	0.84
Visual impairments/blindness.	469	3.04 (.77)	3.57 (.56)	.53	15.00	0.69
Hearing impairments/deafness.	470	3.05 (.77)	3.54 (.59)	.49	13.18	0.64
Physical disabilities confined to wheelchairs.	472	3.56 (.53)	3.76 (.44)	.20	7.80	0.38
Physical disabilities not confined to wheelchairs.	476	3.53 (.54)	3.74 (.45)	.20	7.57	0.37
Cerebral palsy who cannot control limbs.	467	2.90 (.82)	3.28 (.69)	.38	9.74	0.46
Stuttering difficulties.	475	3.56 (.55)	3.77 (.42)	.21	8.11	0.38
Speech that is difficult to understand.	474	3.41 (.62)	3.65 (.50)	.24	7.84	0.39
Epilepsy.	467	3.28 (.68)	3.54 (.61)	.26	8.21	0.38

Table 3 (Continued)

Diabetes.	468	3.73 (.47)	3.86 (.35)	.13	5.49	0.28
Behavior disorders who cannot control behavior.	455	2.65 (.72)	2.98 (.69)	.33	8.61	0.46
Persistent Discipline problems.	461	2.80 (.69)	3.10 (.68)	.30	8.48	0.43

Note. Items are sequentially those numbered 2 - 14 on Table 1. Also, see Table 1 for the full wording of some items. Scale: 1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree. Standard deviations in parenthesis.

[a] 479 total participants. *N* for items differ due to missing item responses on pre- and/or post-survey.

[b] Mean change = post-survey – pre-survey scores.

[c] *ES* (effect size) = Mean change/Pre-Survey *SD*.

[*] All *t* values have Bonferroni $p < .01$ with df = Item $N - 1$.