

**ENHANCING PRESERVICE TEACHERS' SENSE OF EFFICACY AND ATTITUDES  
TOWARD SCHOOL DIVERSITY THROUGH PREPARATION: A CASE OF ONE U.S.  
INCLUSIVE TEACHER EDUCATION PROGRAM**

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*Conducted in one inclusive teacher education program in the United States, this study explored the trajectory of and the relationships between preservice teachers' sense of efficacy and attitudes toward school diversity through the course of preparation. Findings revealed that, in general, changes of preservice teachers' perceived efficacy, attitudes towards inclusion, and beliefs of socio-cultural diversity reflected the particular foci at different phases of the program. Overall, participants' perceived sense of efficacy showed significant, positive associations with their attitudes towards inclusion and beliefs about socio-cultural diversity. However, regardless of their perceived levels of efficacy, participants were negative about teaching children with behavioral disabilities. On the one hand, the study suggests the effectiveness of the program to educate preservice teachers to positively respond to school diversity. On the other hand, it also indicates that preservice teachers across the board persistently hoarded negative feelings about children with behavioral disabilities. The study recommends that teacher educators may need to devote ample resources and employ effective strategies to improve preservice teachers' attitudes towards children with behavioral challenges.*

The U.S. society is characterized by its diversity. In a narrow sense, diversity refers to the racial and ethnic differences of the society (Simmons, 1998). More broadly, diversity pertains to the variations of race, gender, social class, sexual orientation, disabilities, age, and people's values and beliefs about the self-evident moral goods in the society (Haidt, Rosenberg, & Hom, 2003). Increasingly, schools in the U.S. mirror the diversity of the broader society, the phenomenon of which is termed as *school diversity* in this study. Earlier studies show that 30-40% of public school classrooms consist of children of color (Kuhlman & Vidal, 1993; Nel, 1992). More recent statistics predict that children of color will account for nearly half of the nation's school-age population by 2020 (Federal Interagency Forum on Child and Family Statistics [FIFCFS], 2005). Immigrants from different cultural and linguistic backgrounds bring more diversity into the U.S. classrooms. According to FIFCFS (2005), from 1994 to 2004, the percentage of all children living in the U.S. with at least one parent who was foreign born rose from 15 to 20 percent, 19 percent of school-age children spoke a language other than English at home, and five percent of school-age children had difficulty speaking English. The growing complexity of family structures, discrepancies in parents' socio-economic status and the emerging self-identification of sexual orientation of school-age youth also contribute to the diversity in schools. Furthermore, the growing trend of including children with disabilities in general classrooms renders schools more diverse. The National Center for Education Statistics (2005) showed that 3,900,000 students had Individual Education Plans (IEPs) in the 2002-2003 school year. Nowadays, more than three million children with special needs spend 80 percent or more of the school day in the general education classroom, while only 25 percent could find themselves learning in general classrooms back to 1985 (U.S. Department of Education, 2005).

To serve all children from different backgrounds and with varied needs, teachers need to be highly cultural sensitive and responsive; in other words, they should develop the beliefs and capacities to cope with school diversity. Yet, this has been proved to be a tough goal, because teachers are inclined to stick to stereotypical views of school diversity that oftentimes result in unpleasant teacher-student relationships and poor student achievement (Gibson, 2004). Oftentimes, U.S. classroom teachers have both unfavorable attitudes towards and little confidence in teaching students with special needs in regular settings (Frankel, 2004; McLeskey & Waldron, 2002; Sadler, 2005).

As Banks and Banks (2001) argue, *An important aim of teacher education in the first decades of the new century is to help [preservice] teachers acquire the knowledge, values, and behaviors needed to work effectively with students from diverse groups* (p. xii). Nevertheless, researchers (Bradfield-Kreider, 2001; Irvine, 2003; Larke, 1990) have consistently noted that many teacher education programs have not adequately prepared preservice teachers to understand and act on school diversity.

For the purpose of preparing more diversity-minded educators, a number of inclusive teacher education programs have been remodelled to integrate special and general teacher preparation in the U.S. (Cook, 2002; Meyer & Biklen, 1992; Lombardi & Hunka, 2001; Villa, Thousand, & Chapple, 1996). It is worth exploring what changes these programs may bring about over the years of preparation with regards to preservice teachers' attitudes towards school diversity and their confidence in educating all children.

Researchers (Woolfolk-Hoy & Spero, 2005) have found that preservice preparation experiences are key to the development of teacher efficacy, that is, teachers' confidence in producing positive student learning (Ashton, 1985). Teacher efficacy has been identified as a stable and vital indicator of teacher motivation and practice (Pohan, 1996), teacher receptivity to innovative strategies (Guskey, 1988), student motivation (Woolfolk & Hoy, 1990), and student success (Bandura, 1997; Gibson & Dembo, 1984). Studies show that teachers with a high sense of efficacy usually set challenging goals, maintain confident and motivated in face of demanding educational tasks, are able to cope with stressors and negative feelings, and demonstrate greater willingness to choose tough environments (Bandura, 1997). With the emphasis on school diversity, inclusive programs may yield different impacts on teacher efficacy throughout the course of preparation.

This study took place in one Inclusive Elementary Teacher Education Program at a private university in an eastern state of the U.S., attempting to inquire into how preservice teachers' attitudes towards school diversity and their perceived sense of efficacy shifted through the years of preparation in the inclusive program. We were also interested in the relationships between teacher efficacy and teachers' attitudes toward school diversity: How preservice teachers with different perceived levels of teacher efficacy might view school diversity differently. To paint a historical picture, the study began with an overview of different models of inclusive teacher preparation programs designed in recent years.

#### *Developing Inclusive Teacher Preparation Programs*

To better educate preservice teachers for classroom diversity, two major approaches have been used to reform teacher preparation programs. Program restructuring is a large-scale method, which aligns all coursework and fieldwork with a common set of standards required of both special and general educators. As an alternative, program enhancement is a more flexible approach: revising existing courses, integrating field practicum, or adding new courses is common (Peterson & Beloin, 1998).

#### *Selective Models of Program Restructuring*

Villa and his colleagues (1996) summarized four exemplary programs retool their teacher preparation programs in this fashion in the early 1990's. The four places are Trinity College (Burlington, Vermont), Syracuse University (New York), the University of California at San Marcos, and Arizona State University-West (Phoenix) in the early 1990's. These institutions have been active in partnering with the local communities and school personnel to better ready graduates for meeting the challenges of inclusion and diversity in contemporary schooling. Earlier efforts can refer to the works by Kemple, Hartle, Correa, and Fox (1994), Meyer and Biklen (1992), and Pugach (1994).

Benner and Lesar (2000) illustrated how the faculty at the University of Tennessee restructured their teacher education program to address the themes of inclusion, diversity, and developmentally appropriate practices during the 1994 and 1995. These themes were covered directly, embedded into other courses, or built into field experiences. The researchers found preservice teachers in the pre-internship block were confused about constructivism and needed supports from professors, and considered the one-year full-time internship most beneficial. Several issues remained to be addressed. Among which are lacking coverage of special education during the pre-internship block, lacking guidance to interns in adjusting to schools where alternative instructional approaches are not present or accepted, and assigning too heavy work to interns. The program was also confronted with the difficulty in pairing up interns with classroom teachers demonstrating best practices. Apart from those local challenges, the state licensure requirements were too restrictive and prevented different programs from unifying.

Faculty members in the College of Education at the University of Hawaii at Manoa (UHM) worked with local schools and designed a dual licensure program in special education and elementary education (Jenkins, Pateman, & Black, 2002). The program was implemented in 1996 and established new school-university partnerships. Accordingly, the roles of university faculty members, school-level mentor teachers, and school administrators were redefined and specified. The authors shared four critical lessons learned from the restructuring experiences: a) recruiting schools and mentor teachers with greater emphasis on inclusion, 2) integrating special and general education practices and philosophies, 3) modifying coursework and assignments, and 4) increasing communication among all stakeholders.

In a similar manner, the University of Northern Iowa (UNI) managed to integrate the early childhood education major and the early childhood special education major into a single program (Heston, Raschke, Kliever, Fitzgerald, & Edmiaston, 1998). They started by taking three steps. Firstly, initiating collaboration in the fall semester of 1995, they set up the Interdisciplinary Task Force with four faculty members and began meeting generally to develop an action plan. They engaged the faculty in discussions and some members revealed strong doubts about the value of inclusion. Secondly, identifying inclusive school settings that utilized effective inclusion practices were singled out for faculty members to observe how inclusion could be successfully implemented. By the end of the year, some professors once negative about inclusion seemed to take *a more reflective posture*. Thirdly, developing a list of competencies--the Task Force developed an extensive list of specific competencies in each major area and competencies related to child development, instruction, assessment, and professionalism were delineated. The program made promising progress. However, faculty members' professional identities and ingrained beliefs about teaching obstructed the merger of teacher education programs.

Another curricular and organizational change was implemented in a teacher preparation program at the Miami University (Everington, Hamill, & Lubic, 1996). The faculty members first agreed upon the key activities to do: articulating a mission, having administrative support, conducting staff development, carrying out collaborative planning and implementation, and having sufficient meetings for constituents. Through the restructuring process, they documented the effectiveness of the training provided, identified competencies for preservice teachers, and established a team teaching model, the Distinguished Professional in Residence Project. Resonating with the experiences of other universities, the program also encountered similar obstacles in terms of resources and conflicting philosophies of faculty members. Consequentially, team teaching between professors was out of the question, time was lacking for implementing the change, and there was no qualified faculty to sustain and further the change.

A Dual License Teacher Preparation Program was designed at the University of New Mexico (Keefe, Rossi, de Valenzuela, & Howarth, 2000). Graduates of the Program are eligible for licensure in general education (K-8) and special education (K-12). Two faculty members formed a collaborative team and re-designed university-based courses and school-based field experiences. The professors modeled the collaboration between general and special education. They made specific academic and dispositional admission requirements, detailed student competencies, and streamlined the program structure, coursework, and staffing. Right from the start, inclusion of best practices for students with severe disabilities was emphasized as an integral part of curriculum development. Admittedly, they found it challenging to maintain collaborative relationships with all participants in the university and partner schools; moreover, some faculty members did not fully demonstrate the inclusive philosophy to the degree which they advocated.

The School of Education at the University of Colorado at Denver merged its special and general education programs in 2000 (Sobel, Iceman-Sands, & Basile, 2007). All students in all fields as a result would take the same core courses (23 credits in total). Before that change, the general education program had infused the issues on special education into multiple courses, but, no courses for students pursuing a special education license overlapped with their general education peers. Based on a shared philosophical foundation of social justice, inclusion, equity, and access, a more formal process was carried out to integrate special education, technology, and ELL in the curriculum. Thus, each syllabus was designed and reviewed by the content specialists from all three areas to meet respective professional standards. Key course activities and readings were identified to support those learning goals. The associate dean of the teacher education program initiated a structure that a lead instructor was selected from a course team. Together with the lead instructor, all instructors of a particular course met as a course team on a weekly or biweekly basis and addressed issues on special education, technology, and ELL. Lead instructors also met monthly as a group to ensure the program coherence, resolve student concerns, mentor new and honoraria faculty, and address program-level issues. Similarly, echoing the previous findings, the

program also suffered from meager resources available to them and inconsistent philosophies between the University and school sites.

Four faculty members at one university took a different approach (Smith, Frey, & Tollefson, 2003). In one graduate teacher education program, all courses were delivered in the field by all four professors to model collaboration to preservice teachers. The program consists of six-week student teaching, 10-week five graduate courses, and one 16-week internship. Preservice teachers can choose to take the campus-based track or the field-based collaborative one in which five courses are integrated into one block and delivered every Tuesday and Thursday afternoon at two schools. Thirty students out of 160 candidates enrolled the collaborative cohort. The authors found that the collaborative group showed improved attitudes towards collaboration and was more confident to teach in inclusive settings. Yet their actual collaborative behaviors declined, because the schools did not actually value collaboration. The study indicates that positive school environments are essential to the development of favorable behaviors in preservice teachers.

#### *Selective Models of Program Enhancement*

The single course enhancement approach is often used to infuse content relating to teaching children with special needs into old courses. Peterson and Beloin (1998) reported an experiment at two universities to retool a course from one that exclusively provided information on disabilities to one that focused on the provision of instructional support and accommodation strategies. The revised course was more valued by students. The authors suggest that individual faculty can lay the foundation for change in their own departments by restructuring the typical *mainstreaming course* as a first step to begin developing an effective inclusive teacher education program.

More recently, preceding a program-wide restructuring, Van Laarhoven and colleagues (2007) launched a program entitled Project ACCEPT at an Illinois university to enhance its teacher education programs. Eighty-four preservice special and general teachers were enrolled in an existing course entitled *Collaborative Teaching in Inclusive Settings* in the third year of the programs. A ten hour lab and a minimum of six hour field experience in an inclusive classroom were incorporated into the course. One student from each of the elementary, secondary, and special education programs formed a team and collaborated throughout the experience. The team delivered a co-planned and co-taught lesson at the exit point. Most Project ACCEPT participants (91%) felt positive about their experience. Collaboration with students from different programs and participation in simulations and hands-on experiences with assistive technologies were found beneficial to students.

Collaborative infusion is an alternative to the single course enhancement method. Instead of offering one or two courses on special education, collaborative infusion purports to infuse special education content throughout the teacher preparation program. Voltz (2003) surveyed the practice of collaborative infusion in 432 four-year teacher education institutions. Including both general and special education preparation programs, among the 252 (58.3%) returned completed survey instruments; approximately 25 percent of programs (63) used collaborative infusion in some form, primarily using it to supplement other approaches, such as a separate special education course. The majority found this approach beneficial both to students and to participating faculty. However, the disadvantages of the approach, such as time-intensiveness, faculty's heavy workloads, and the lack of congruence within university structures, prohibit it from being widely implemented.

In the West Virginia University's five-year preservice teacher education program, special education learning outcomes and competencies were incorporated into the core courses for all education majors (Lombardi & Hunka, 2001). The fourth year students reported acquiring more outcomes and competencies. But, only four of the 11 professors reported that they felt competent and confident to teach preservice teachers to work with special needs students in inclusive settings. The authors recommend that faculty from both general and special education should team teach core courses. In particular, special education faculty members should make themselves available to assist their colleagues in strengthening the special education core courses.

Cook (2002) studied one teacher education program at a large Mid-western university, which infused special education and inclusion curricula into four seminar courses that covered a variety of topics such as diversity, technology, educational psychology, and history and culture of American schooling. By surveying 136 undergraduate students, they found: (a) preservice teachers were more positive about including students with learning disabilities than about students with behavior disorders, mental

retardation, and multiple disabilities; and (b) preservice teachers' preparation experiences and instructional skills related to inclusion were inadequate, and attitudes regarding inclusion did not typically improve along years of preparation. Students noted the lack of college coursework, preparation, and training, lack of classroom teaching experiences, and inclusive instructional techniques. It shows the limited effects of the approach by infusing special education content into a course or several courses. Preservice teachers cannot effectively develop the necessary attitudes and competencies to succeed in schools with increasing school diversity. To better the issue, probably all preservice general educators should take extensive coursework on educating children with disabilities.

### *Research Questions*

As shown above, many innovations have been made in preparing preservice teachers for the increasing school diversity. Yet much remains to be known regarding how preservice teachers in inclusive teacher education programs perceive school diversity, such as educating children in general classrooms, equity, social justice, and multicultural issues, and how teacher efficacy interacts with teachers' attitudes towards school diversity. This study made a preliminary effort to explore the preceding issues. Two main research questions guide our exploration:

- 1) How do preservice teachers' perceived sense of efficacy and attitudes towards school diversity shift over the course of preparation?
- 2) How do preservice teachers with different degrees of perceived efficacy view school diversity?

### **Method**

#### *Profile of the Inclusive Program*

*An overview.* The study was carried out in one four-year dual-certification inclusive teacher preparation program at a private university in one eastern state of the United States. The institution is accredited by the National Council for the Accreditation of Teacher Education (NCATE). The program is designed with the overarching constructivist learning theory and embraces an inclusion philosophy. The emphasis is placed on school diversity by the program in order to enable preservice teachers to teach both *typical* and *special* children in today's culturally pluralistic schools and classrooms. The program requires between 128 and 139 credits. Program requirements include liberal arts skills, a concentration or major of no less than 30 credits in an approved liberal arts and sciences area, and professional coursework. In addition to courses that aim at establishing the solid theoretical foundation for the prospective teachers, fieldwork serves as an integrated part of the preparation to enable preservice teachers to translate theories into practice. Supervised field experiences take place throughout the program at a variety of the University area settings, and include placements in schools that are at the forefront of inclusive education. Preservice teachers have nine placements in urban and suburban schools, general classrooms and pull-out resource rooms, and lower and higher grades, beginning from their first year of study. This program meets the academic requirements for Childhood 1-6 and Special Education/Childhood 1-6 initial certification.

*Program philosophy, purposes, and proficiencies.* The program upholds two core beliefs: a) all persons learn through active engagement in the process of learning, and b) every person is able to learn. The program aims at preparing skilled, reflective, and knowledgeable teachers that can engage all students. To materialize these beliefs and purposes, educational practitioners must be knowledgeable about and skillful in using different instructional and assessment approaches to educating learners with diverse backgrounds, abilities, and needs.

Throughout the program, the faculty across the fields of special education, mathematics education, science education, social studies education and educational leadership works around a consistent set of core beliefs that strive to advocate for equity for all students. Preservice teachers are cultivated in five professional dispositions. Firstly, they should show commitment to *understanding and respecting diversity* in order to address social injustices and inequalities related to race, class, gender, ethnicity, sexual orientation, language, religion, family, disability, etc. Preservice teachers should treat all students with dignity and respect, and should work patiently with student who demonstrates challenging behaviors or struggling learners. Secondly, they should *enact the belief that all children can learn* by using praise effectively and appropriately and expecting all students to participate and be involved in the lesson. Thirdly, they should *promote professional self-growth* by being open to constructive feedback from university supervisors, being an active participant in all post observation conferences, and attending annual and triennial meetings. Fourthly, preservice teachers also need to *foster collaboration* by developing interpersonal behaviors that promote partnerships with students, peers, university and school

staff, parents, and community members. Lastly, they should *demonstrate professional and ethical conduct* that is suitable to the profession throughout all stages of the program.

Preservice teachers in the program are expected to show high proficiencies in five interrelated aspects: *critical reflection and explanation of practice, content knowledge, inclusive and culturally responsive pedagogy, assessment of student learning, and professional conduct and collaboration*. The program prepares preservice teachers to critically reflect on their experiences with diverse students and refine their theories of practice in inclusion. Preservice teachers are intensively developed to obtain the knowledge, skills, and propensity to plan, implement, and adapt lessons that meaningfully engage all students regardless of their backgrounds. They also learn to use various assistive and instructional technologies to reach out to children with varied abilities and learning needs. Particularly, diversity is addressed in the overall assessment of preservice teachers' proficiency in providing inclusive and culturally responsive pedagogy to all students.

*Coursework and fieldwork.* The program's commitment to addressing the issues of diversity and equity for all students is woven into the gamut of coursework and fieldwork. The mission of cultivating preservice teachers to be culturally responsive inclusive educators is evident in the materials assigned in a variety of content and method courses. In classes, preservice teachers are encouraged to contest a wide range of issues from ethnicity, race, gender, disability, to sexual orientation. Preservice teachers are also involved in university-wide lectures and workshops with a focus on diversity. For instance, several national conferences on diversity, disabilities, and inclusion have been held by this institute to expose preservice teachers to up-to-date information on diversity issues.

The program requires all preservice teachers to have at least seven field placements and one 20-hour observation experience in pre-K settings. Each semester, preservice teachers have ample opportunities to work with diverse K-6 students in urban, suburban, and rural settings. More than 60 percent of placements were in the City School District, where nearly 70 percent of students are students of color.

The seven practicum experiences include: two with at least 20 hours, one with minimum two hours tutoring reading in an elementary setting, one with minimum 90 hours with students with special education needs, one with minimum 90 hours in elementary settings with a focus on reading and language arts, and two in a grade 1-3 and a grade 4-6 setting with focus on mathematics, science, and social studies (one with minimum 105 hours, and the other with minimum 175 hours). That is, preservice teachers should have a total of 522 hours of field experiences before student teaching. To exit, preservice teachers will have two more seven-week, full-time student teaching placements, respectively in a grade 1-3 and grade 4-6 setting.

According to particular emphases of the program, preservice teachers have seven major phases of preparation:

*Phase 1:* beginning in the first semester, taking fundamental courses in special education and general education. They conduct 20-hour fieldwork in urban or suburban inclusive classroom settings. The courses aims to help them develop a basic understand of schools and inclusive education;

*Phase 2:* taking introductory special education courses with one 20-hour fieldwork experience in general classrooms. Preservice teachers need to critically examine diverse perspectives on disabilities and multicultural issues;

*Phase 3:* starting more fieldwork by taking one course on inclusive schooling and one 20-hour field practicum focused on children with disabilities;

*Phase 4:* entering the first Professional Practice. They are required to teach lessons in mathematics, social studies, science, and adaptations in the 120-hour field placement;

*Phase 5:* continuing the six-week second Professional Practice. In addition to taking university lectures, they need to teach a whole unit of mathematics, social studies, science, and adaptations in two field placements

*Phase 6:* engaging the Special Education Practicum and working with children with severe disabilities;

*Phase 7:* student teaching full-time with one weekly seminar on university campus.

Following the completion of coursework and student teaching, preservice teachers are required to develop and present their portfolios which are judged based on four criteria: plans and lessons with clear purposes, plans and implement lessons to meaningfully engage all learners, plans and implements lessons to make effective use of technology, and plans for and sustains respectful, cooperative, challenging, culturally responsive academic environments.

### Participants

Two hundred sixteen preservice teachers in the Program from all seven phases were asked to participate in the study and 168 valid responses were received. The response rate of each cohort varies, ranging from 100% (Cohort 3) to 40% (Cohort 2), as shows in table 1. The majority of the participants were female (n = 160), Caucasian (n = 156), and the mean age was 19.4 years.

**Table 1**  
**The Response Rate from the Cohorts**

Stage	Survey Distributed	Valid No.	Percentage	Cohort
Introduction to Education	83	61	73.5%	1**
Introduction to Special Education	25	10	40.0%	2**
Special Education Practicum I	32	30	93.8%	2**
Professional Practice I	14	14	100.0%	3**
Professional Practice II	18	14	77.8%	4**
Special Education Practicum II	23	21	91.3%	5**
Student Teaching	21	18	85.7%	6**
Total	216	168	77.8%	

### Measures

Four questionnaires, *demographics*, *sense of teacher efficacy*, *attitudes towards inclusive education*, and *beliefs of diversity*, were given to participants. School diversity is measured from both inclusive and multicultural aspects. Since including children with disabilities is particularly challenging to teachers in contemporary schools, a separate measure, *attitudes towards inclusive education*, was used to gauge inclusive diversity. The scale of *beliefs of diversity* focused particularly on teachers' beliefs about multicultural diversity.

*Demographic Questionnaire.* The instrument was designed to obtain participants' professional and demographic background. They were asked to provide information about gender, age, and race/ethnicity. The questionnaire further asked their disability exposure, such as contact with people with disabilities or having a disability in person. Information on multicultural experiences was also collected.

*Teacher Efficacy Scale (TES).* This measure has 22 items rated on a 6-point Likert scale developed by Gibson & Dembo (1984). It is made up of two independent subscales, Personal Teaching Efficacy (PTE) and General Teaching Efficacy (GTE). PTE represents teachers' beliefs in their personal impact on student learning, and GTE refers to teachers' general confidence in how teaching as a profession can affect student learning. PTE has 12 items and GTE includes 10. The total score of PTE ranges from 12 to 72 and GTE from 10 to 60. The reliability tests show that Cronbach's alpha for the PTE Subscale was 0.80 and 0.65 for the GTE Subscale, indicating relatively high internal consistency of the scales.

*Attitudes Toward Inclusive Education Scale (ATIES).* Representing a narrow definition of inclusive education, the scale was selected to specifically measure how preservice teachers viewed educating children with specific disabilities in general classrooms. This instrument has 16 items on a 6-point Likert scale, with four subscales, respectively measuring teachers' attitudes toward children with social, physical, academic, and behavioural disabilities. The total score for each subscale ranges from 4 to 24. A higher the score implies a more favourable attitude to inclusion. Adequate reliability and validity were established (Wilczenski, 1995). ATIES is used by researchers internationally (e.g., Sharma, Ee, & Desai, 2003).

*Professional & Personal Beliefs of Diversity.* This scale is a 40-item, self-report measure of teachers' professional and personal beliefs of diversity (Pohan, 1996). The scale consists of two parts: the 15-item Personal Beliefs of Diversity (Personal BoD), and the 25-item Professional Beliefs of Diversity (Professional BoD). Both are rated on a 5-point Likert scale. Scores for Personal BoD range from 15 to

75, and for Professional BoD from 25 to 125. Cronbach's Alphas for Personal BoD and Professional BoD were 0.83 and 0.81 respectively, indicating high internal consistency of the scales.

#### *Procedure*

The survey was implemented three weeks before the end of the semester. The participants had most major course requirements fulfilled and acquired nearly full experiences of the semester. The questionnaires took approximately 30 minutes to complete. Those few preservice teachers who straddled both phases and had completed the survey in another class were asked not to respond; hence, duplication of responses was avoided. In two classes, the course instructors asked students to respond the survey at home and collected it one day later. That arrangement caused the lowest response from Phase 2 participants. Besides, several students were enrolled in both Phase 2 and Phase 3, so the two cohorts were combined into one larger group.

#### *Data Analysis*

The mean scores of all subscales were calculated. One-way ANOVA tests were performed to identify mean differences of the variables of GTE, PTE, ATIES, and BoD, using gender, ethnicity, and cohort respectively as independent variables. Post hoc Scheffe's tests were run to determine groups that were significantly different. Correlation analyses were performed to test for relationships between all subscales. Lastly, respondents were divided into two groups by a mean split, one with negative sense of TE and the other with positive sense of TE, one-way ANOVA tests were run to test for differences between these two groups in perceiving school diversity.

### **Results and Discussion**

#### *Means and ANOVA of TE, ATIES, BoD by Gender and Ethnicity*

Table 2 reports the mean scores, standard deviations, and significant tests of GTE, PTE, ATIES, and BoD. Overall, the participants in the program showed positive teacher efficacy, favorable attitudes towards inclusive education, and positive beliefs of diversity. The mean scores of GTE, PTE, ATIES showed no significant differences between male and female preservice teachers. Caucasian preservice teachers and Non-Caucasians showed no significant differences in any of the ratings. One-way ANOVA tests revealed that male preservice teachers were significantly lower in both Personal and Professional BoD than females. Noting that there were only eight male students, the small sample size of male participants in the study might contribute to the statistical significance reported here.

**Table 2**  
**Analysis of Variance of TE, ATIES, BoD by Gender, Ethnicity, and Cohort**

Group		N	Teacher Efficacy (TE)			
			GTE		PTE	
			M	SD	M	SD
Female		160	41.56	5.70	49.56	6.79
Male		8	40.75	4.40	46.75	4.83
F(1,166)			.16		1.34	
p						
Caucasian		156	43.67	5.52	49.75	6.41
Non-Caucasian		12	41.35	5.63	49.40	6.76
F(1,166)			1.89		0.03	
p						
Cohort1		61	40.79	4.84	47.25	6.88
Cohort2		40	39.58	6.44	49.25	6.30
Cohort3		14	43.29	5.50	48.36	7.52
Cohort4		14	43.79	3.87	50.79	4.15
Cohort5		21	43.48	5.65	51.62	5.47
Cohort6		18	42.89	6.15	54.44	6.49
Overall			41.52	5.64	49.43	6.72
F(5,162)			2.74*		4.32*	
p			p<0.021		p=0.00	



**Table 2 (Continued)**  
**Analysis of Variance of TE, ATIES, BoD by Gender, Ethnicity, and Cohort**

Group		ATIES							
	N	Behavioral		Academic		Physical		Social	
		M	SD	M	SD	M	SD	M	SD
Female	160	16.64	3.63	17.66	3.77	18.83	4.08	19.89	3.16
Male	8	15.75	3.33	18.13	1.46	18.50	3.78	20.50	2.51
F(1,166)		0.47		0.12		0.05		0.29	
p									
Caucasian	156	16.67	3.31	18.33	2.53	19.33	3.92	19.75	3.25
Non-Caucasian	12	16.60	3.64	17.63	3.77	18.77	4.08	19.94	3.12
F(1,166)		0.00		0.40		0.21		0.04	
p									
Cohort1	61	15.70	3.06	16.41	3.32	17.25	4.01	18.72	3.19
Cohort2	40	15.68	3.51	16.65	3.65	17.98	4.20	19.48	2.58
Cohort3	14	16.36	2.82	17.07	3.08	19.00	3.28	19.14	3.21
Cohort4	14	19.43	3.18	20.07	2.13	21.14	2.07	21.50	1.99
Cohort5	21	17.71	4.01	20.05	3.41	20.81	2.91	21.86	2.57
Cohort6	18	18.39	4.17	20.11	3.72	21.67	3.79	22.11	2.85
Overall		16.60	3.61	17.68	3.70	18.81	4.06	19.92	3.12
F(5,162)		4.78*		7.97*		6.94*		7.43*	
p		p=0.00		p=0.00		p=0.00		p=0.00	

Group	N	Beliefs of Diversity (BoD)			
		Professional		Personal	
		M	SD	M	SD
Female	160	98.53	9.21	63.28	6.90
Male	8	90.88	12.57	54.25	11.42
F(1,166)		5.07*		12.13*	
p		p<0.026		p<0.01	
Caucasian	156	100.92	8.51	64.42	6.04
Non-Caucasian	12	97.95	9.56	62.72	7.48
F(1,166)		1.09		0.58	
Cohort1	61	94.58	8.96	61.10	7.91
Cohort2	40	99.33	8.99	63.43	8.70
Cohort3	14	101.43	6.94	63.29	5.34
Cohort4	14	103.50	8.60	65.57	5.64
Cohort5	21	100.76	10.86	62.67	6.41
Cohort6	18	97.76	9.79	65.22	4.83
Overall		98.16	9.50	62.85	7.39
F(5,162)		3.63*		1.52	
p		p<0.004		p<0.186	

\*p<.05

#### *TE, ATIES, and BoD by Cohort*

*Teacher Efficacy.* Overall, the mean GTE scores displayed a complex growth pattern across the program. Cohort 2 showed the lowest score among all cohorts; GTE increased subsequently for two cohorts (Professional Practice I and Professional Practice II), but decreased again in Special Education Practicum

and Student Teaching. Perhaps, GTE varied in accordance with the experience preservice teachers underwent. When preparation emphases differed, preservice teachers might reevaluate to what extent teaching matters to children. First year preservice teachers might be more idealistic owing to their limited experiences with children and teaching, and hold a high appreciation of the significance of teaching as a profession. Since Cohort 2 started working with children with disabilities in their fieldwork, they might encounter some real challenges and become less confident. Before entering Professional Practice I, always a number of preservice teachers quit the program. That might explain why GTE of Cohort 3 and 4 had increased. As they progressed to Special Education Practicum and full-time Student Teaching, having more teaching experiences with children with diverse needs, preservice teachers might become pragmatic about teaching.

Different from GTE, PTE showed almost a linear growth pattern from the phases of Introduction to Education to Student Teaching. GTE and PTE exhibited different growth patterns. Perhaps, GTE might be more context-dependent, while PTE be more individual. GTE might be affected by preservice teachers' contingent exposures to different aspects of school diversity. When preservice teachers are confronted with children with special needs as they progress in the program, a challenging incident with students with severe disabilities might be discouraging enough for these burgeoning teachers to question about whether it is realistic for teachers to educate all children. They might breed concerns and beliefs about the importance of teaching in general might waver. As for PTE, as preservice teachers received more rigorous training, acquired more teaching strategies, and had a better knowledge of children, their confidence in their own competencies may grow accordingly. It may explain why GTE and PTE of those preservice teachers demonstrated different developmental patterns during the course of preparation.

Preservice teachers from different cohorts demonstrated significantly different perceived levels of GTE and PTE. Post hoc Scheffe's tests were administered. Cohort 6 was identified to have significantly higher PTE than Cohort 1.

*ATIES*. Overall, all six cohorts held positive attitudes toward children with disabilities. The participants showed the most favorable attitudes towards inclusion of children with social disabilities. They were the least favorable (but still positive) to include children with behavioral disabilities.

Significant differences were found between different cohorts with regards to particular disabilities. Even though all six cohorts were favorable or strongly favorable to children with *physical* disabilities, significant differences were identified across the cohorts. As Table 3 tells, Cohort 6 showed the most positive attitudes, Cohorts 6, 5 and 4 showed much more positive attitudes than Cohort 1, and Cohort 6 was also more positive than Cohorts 2. Differences between cohorts were less distinguishable from Cohort 3 onwards. It suggested that preservice teachers' attitudes to inclusion of children with *physical* disabilities in this program improved in early years and remained relatively stable afterwards.

**Table 3**  
**Mean Differences of ATIES-Physical**

	1	2	3	4	5	6
1	0	-0.73	-1.75	-3.90*	-3.56*	-4.42*
2		0	-1.025	-3.168	-2.835	-3.691*
3			0	-2.143	-1.810	-2.667
4				0	0.333	-0.524
5					0	-0.857
6						0

\* $p < .05$

As for children with *social* disabilities, all six cohorts were positive to strongly positive. Cohort 1 had significantly lower willingness to teach children with *social* needs in general classrooms than Cohort 5 and Cohort 6. More advanced preservice teachers seemed to be more receptive to social inclusion.

All cohorts showed favorable attitudes towards children with *academic* disabilities in general classrooms. Cohorts 5 and 6 were more positive than the beginning two cohorts. It suggested that the program might have made distinctive impacts on participants over the course of preparation.

**Table 4**  
**Mean Differences of ATIES-Social**

	1	2	3	4	5	6
1	0	-0.754	-0.422	-2.779	-3.135*	-3.389*
2		0	0.332	-2.025	-2.382	-2.636
3			0	-2.357	-2.714	-2.968
4				0	-0.357	-0.611
5					0	-0.254
6						0

\* $p < .05$

As reported in Table 6, different cohorts exhibited varied degrees of acceptance to students with *behavioral* challenges in the general classroom. Cohorts 4 and 5 showed much more positive attitudes than Cohorts 1, 2, and 3, suggesting that Cohorts 4 and 5 preservice teachers' attitudes to physical disabilities increased significantly. But, Cohort 5 was considerably less positive than Cohort 4. Worth noticing, since Cohort 5 was in intensive special education placements, they might encounter more challenging experiences than Cohort 4. Preservice teachers might particularly need extra support during that period of preparation. Another strange phenomenon is that Cohort 6 participants' attitudes towards children with behavioral disabilities were not distinguishable from those of any other cohorts. Namely, student teachers were not any more willing to teach children with behavioral disabilities than those beginning cohorts.

**Table 5**  
**Mean Differences of ATIES-Academic**

	1	2	3	4	5	6
1	0	-0.240	-0.662	-3.662*	-3.638*	-3.701*
2		0	-0.421	-3.421	-3.398*	-3.461*
3			0	-3.000	-2.976	-3.040
4				0	0.024	-0.040
5					0	-0.063
6						0

\* $p < .05$

**Table 6**  
**Mean Differences of ATIE-Behavioral**

	1	2	3	4	5	6
1	0	0.030	-0.652	-3.724*	-2.009*	-2.684
2		0	-0.682	-3.754*	-2.039*	-2.714
3			0	-3.071	-1.357*	-2.032
4				0	1.714*	1.040
5					0	-0.675
6						0

\* $p < .05$

*Beliefs of Diversity.* The results in Table 2 also show that the participants overall held positive professional and personal beliefs of diversity. There was a significant difference in teachers' Professional BoD across the six cohorts. Post hoc Scheffe's tests did not reveal which two cohorts had a significant difference. Cohort 1 showed the least positive Professional and Personal BoD, while Cohort 4 had the highest ratings in both Professional and Personal BoD.

Several researchers found that preservice teachers' attitudes to multicultural diversity maintained through the teacher preparation program, suggesting that teacher education has a little impact on improving preservice teachers' multicultural attitudes (Brown, 2000; Sleeter, 2001). This study echoed previous studies and revealed that preservice teachers' personal beliefs of diversity did not demonstrate statistically significant changes across the cohorts. However, the case was different for professional

beliefs of diversity. An apparent growth in Professional BoD ratings from Cohort 1 to Cohort 4 was noted. This result suggested that preservice teachers may uphold their personal beliefs about diversity through the course of their preparation, but their professional beliefs about diversity can be alleviated as a result of teacher education.

#### *Correlations between Teacher Efficacy, ATIES, and Beliefs of Diversity*

Except for GTE and PTE, all other constructs were significantly associated, as table 7 shows. It shows that GTE and PTE capture different aspects of teacher efficacy. Compared with PTE, GTE showed a stronger positive association with teachers' attitudes towards inclusive education and beliefs of diversity.

Teachers' perceived sense of efficacy and beliefs of school diversity may positively reinforce one another. It is possible that a teacher having confidence in teaching in general will be less anxious about teaching children with special backgrounds. In practice, teachers' perceived favorable attitudes towards inclusion seem to reward them with more positive experiences in inclusive classrooms (Briggs, Johnson, Shepherd, & Sedbrook, 2002), which may further feed back to their perceived sense of efficacy.

#### *Levels of Teacher Efficacy and ATIES & BoD*

The respondents were split into two groups: one with negative TE and the other with positive TE. As Table 8 illustrates, than those with negative PTE, preservice teachers with positive PTE showed significantly more favorable attitudes towards children with academic and social disabilities, and had significantly stronger Personal BoD. In other words, the more confident the teachers felt about their own teaching, the more positive their attitudes were towards children with academic or social disabilities, the more willing they were to include children in general classrooms, and the more positive Personal BoD they had.

**Table 7**  
**Correlations between Teacher Efficacy Scales, ATIES, and Diversity Scales**

Variable	M	SD	1	2	3	4	5	6	7	8
1. PTE	49.43	6.72	1							
2. GTE	41.52	5.64	.092	1						
3. Physical	18.81	4.06	.180*	.307**	1					
4. Academic	17.68	3.70	.288**	.398**	.764**	1				
5. Behavioral	16.60	3.61	.195*	.236**	.581**	.697**	1			
6. Social	19.92	3.12	.289**	.372**	.749**	.787**	.632**	1		
7. PersonalBoD	62.85	7.39	.175*	.351**	.382**	.370**	.313**	.338**	1	
8. ProfessionalBoD	98.16	9.50	.217**	.431**	.448**	.451**	.316**	.460**	.621**	1

\*. Correlation is significant at the 0.05 level (2-tailed). \*\*. Correlation is significant at the 0.01 level (2-tailed).

As for attitudes towards children with physical or behavioral disabilities, or professional beliefs of diversity, there were no significant differences between those with negative PTE and those with positive PTE. In other words, children with physical or behavioral disabilities equally challenged preservice teachers regardless of the degrees of PTE. Indeed, teachers are less willing to accept children with behavioral or physical disabilities (Subban & Sharma, 2006; Wilzenski, 1992, 1995). General strategies to enhance teachers' PTE may have little impacts on the improvement of preservice teachers' attitudes towards children with physical or behavioral disabilities. Teacher educators should create specific opportunities for all teachers to contact and teach children with physical or behavioral disabilities.

As shown in Table 9, significant differences were identified between those with positive GTE and those with negative GTE in perceiving inclusive education and school diversity. Those with positive GTE were more likely to include children with physical, social, or academic disabilities in general classrooms, and they had stronger professional and personal beliefs on multicultural diversity. It seems that if preservice teachers held strong beliefs that teaching a profession can make a significant difference to the society, they were very likely to be diversity-minded. The results suggest that GTE may be used as a reliable predictor of preservice teachers' attitudes towards inclusion and beliefs about multicultural diversity. Thus, teacher education programs may explore and employ these strategies that can effectively enhance preservice teachers' perceived GTR.

**Table 8**  
**Negative PTE v.s. Positive PTE with ATIES and BofD**

Negative PTE v.s. Positive PTE with ATIES and Bold									
Group	N	ATIES							
		Physical		Social		Academic		Behavioral	
		M	SD	M	SD	M	SD	M	SD
Negative PTE	19	17.74	3.54	18.21	3.07	16.03	4.17	15.21	3.14
Positive PTE	149	18.95	4.11	20.14	3.07	17.89	3.68	16.78	3.64
total		18.81	4.06	19.92	3.12	17.68	3.70	16.60	3.61
F(1,166)		1.5		6.65*		4.23*		3.22	
				p<0.01		p<0.04			
*p<.05									

Group	N	Beliefs of Diversity			
		Professional		Personal	
		M	SD	M	SD
Negative PTE	19	94.95	9.67	58.63	10.47
Positive PTE	149	98.58	9.43	63.38	6.76
total		98.16	9.50	62.85	7.39
F(1,166)		2.48		7.23*	
				p<0.01	
		*p<.05			

**Table 9**  
**Negative GTE v.s. Positive GTE with ATIES and BoD**

Negative GTE v.s. Positive GTE with ATIES and BoD									
Group	N	ATIES							
		Physical		Social		Academic		Behavioral	
		M	SD	M	SD	M	SD	M	SD
Negative GTE	16	16.06	3.59	17.94	3.15	15.13	3.45	15.38	2.80
	152	19.10	4.00	20.13	3.06	17.96	3.13	16.73	3.67
Positive GTE		18.81	4.06	19.92	3.12	17.68	3.70	16.60	3.61
Total									
F(1,166)		8.47*		7.41*		8.84*		2.06	
		p<0.004		p<0.007		p<0.03			
*p<.05									

Group	N	Beliefs of Diversity			
		Professional		Personal	
		M	SD	M	SD
Negative GTE	16	92.56	11.71	57.56	10.11
Positive GTE	152	98.76	9.07	63.40	6.85
total		98.16	9.50	62.85	7.39
F(1,166)		6.36*		9.50*	
		p<0.013		p<0.002	
*p<.05					

But, as for inclusion of children with behavioral disabilities, there was no significant difference between teachers with negative GTE and those with positive GTE. That is, children with behavioral disabilities

equally challenged both groups. It suggests that no matter how prospective teachers viewed the significance of the teaching profession, they as a whole were reluctant to educate children with behavioral disabilities in general classrooms. This phenomenon should alert teacher educators. Teacher preparation programs may particularly stress the importance and practicability of educating children with behavioral disabilities.

### Conclusion

The present study achieved three major findings. Firstly, overall, participants in this inclusive teacher preparation program showed positive teacher efficacy, favorable attitudes towards inclusive education, as well as positive beliefs of diversity. The findings suggest the effectiveness of the inclusive teacher preparation program. However, participants' GTE varied along with particular learning experiences they had, while their PTE showed linear increase across over the course of preparation. Preservice teachers were most favorable towards inclusion of children with social disabilities, but were the least favorable (still positive) to children with behavioral disabilities. Male participants had significantly lower beliefs about Personal and Professional BoD than females.

Secondly, specifically, participants in more advanced phases of preparation exhibited higher perceived sense of PTE, more positive attitudes towards inclusion, and stronger professional beliefs of diversity. But, those in Special Education Practicum (Cohort 5) showed less positive attitudes towards inclusion than other senior preservice teachers (Cohort 4-Professional Practice II and Cohort 6-Student Teaching). Teachers' professional beliefs of diversity did change significantly overtime and showed a significantly increasing trend from Cohort 1 (beginning student) to Cohort 4 (Professional Practice II), but their personal beliefs of diversity remained independent of the preparation.

Lastly, preservice teachers' attitudes towards inclusion and beliefs of diversity were distinguishable by their perceived levels of teacher efficacy. Those with positive PTE had more favorable attitudes towards including children with academic or social disabilities in general classrooms and they also held stronger personal beliefs of diversity. Those with positive GTE were more willing to include children with physical, social, or academic disabilities in general classrooms and they had stronger professional and personal beliefs on school diversity. But, children with behavioral disabilities appeared to challenge all preservice teachers disregarding their perceived levels of teacher efficacy.

Since teacher's perceived sense of efficacy, teachers' attitudes towards inclusion, and their beliefs about school diversity are positively associated with one another, improvement on any one of these three aspects may bring positive impact on the other two. For example, the strategies employed by teacher education programs to enhance preservice teachers' beliefs of diversity may at the same time foster teachers' perceived sense of efficacy and attitudes to inclusive education. Preservice teachers demonstrating high sense of efficacy may be more willing to accommodate the needs of diverse learners after they enter schools full of complexity.

Teachers' sense of efficacy and attitudes toward school diversity developed over time, though, vacillation might occur at certain points of the preparation. Educating children with behavioral disabilities equally challenges all teachers, whether they are confident in other diversity-relating areas or not. The faculty of the inclusive teacher education program may need to place a higher emphasis on this issue and to allocate more resources and time to better teachers' preparation in this regard, for example, adding more fieldwork on behavioral disabilities.

It should also be pointed out that this study had a small sample size predominately made up of white female students from one university. A more diverse population of preservice teachers should be sought. Besides, preservice teachers in this study might possess more favorable attitudes toward diversity and inclusion than those in other programs or general inservice teachers. Preservice teachers who decided to enroll in an inclusive preparation program in the first place might be more aware of diversity issues. Further studies with participants from different nationalities and cultural backgrounds are necessary in order to develop a global understanding of strategies that can best improve preservice teachers' efficacy and attitudes towards diversity.

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