

## Physical Education Preservice Teachers' Attitudes and Intentions to Teach Students with Disabilities

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**Abstract:** *The study investigated the impact of an adapted physical education methods course on preservice teachers' (PTs') attitudes and intentions to teach students with disabilities. Participants included 29 physical education (PE) PTs enrolled in an adapted PE methods course in Midwestern United States. They completed the Attitudinal Survey on Students with Disabilities (ASSD), consisting of a 7-item 5-point Likert scale and one open-ended item. The Likert scale consisted of four subscales: attitudes (AT), instructional techniques (IT), perceived comfort (PC), and behavioral intentions (BI). PTs responded to items on a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1). The ASSD had a Cronbach's alpha of .794. The ASSD was administered twice during the semester. Frequencies and percentages were used to describe PTs' attitudes, knowledge of instructional techniques, perceived comfort, and behavioral intentions. Paired-Samples t-Test analyses were computed to determine the impact of the methods course on each subscale. The results indicated that the adapted methods course had significant positive impact on PTs' knowledge of instructional techniques, perceived comfort, and intentions to teach students with disabilities. Conversely, it did not significantly affect PTs' attitudes toward students with disabilities. The qualitative data identified three categories: contact, personal qualities, and pedagogical issues. Teacher education programs need to prepare PTs with positive attitudes toward students with disabilities, since attitude is a predictor of inclusion.*

**Keywords:** *Attitudes, preservice teachers, perceived comfort, disabilities, behavioral intentions*

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### I. Introduction

The Education for All Handicapped Children Act (PL 94-142, 1975) ensures access to individuals with special needs to a free appropriate education in the least restrictive environment—one that allows the maximum possible opportunity to interact with non-impaired students [1]. The preparation of future professionals in Physical Education Teacher Education (PETE) programs continues to evolve in order to provide developmentally appropriate services to students with disabilities [2]. This evolution has become necessary due to the changing role of the regular physical educator.

Whereas negative peer attitudes toward students with disabilities serve as major barriers to inclusion [3], there is evidence to suggest that students without disabilities can have positive attitudes toward their peers with disabilities [4]. In fact, the attitude of a general education teacher is an important predictor of effective integration of students with disabilities in general education settings [5].

Providing opportunities for PTs to work with individuals with disabilities [6] would increase their confidence in working with students with disabilities [7]. Research suggests that teachers who have more experience, contact, and training with students with disabilities often have positive attitudes toward students with disabilities [8, 9]. Thus, PTs should be well-prepared to meet the needs of an increasing number of students with disabilities who are being educated in general physical education classes [10].

Curricula for most PETE academic preparation require one course in adapted physical education. Such a course should prepare PTs to develop an understanding and acceptance of individuals with disabilities. Well-prepared PTs would be able to plan and implement developmentally appropriate instruction for diverse students, including those with disabilities [11]. However, as [12] noted, often these courses overemphasize knowledge acquisition to the neglect of practical skills. Practical skills are important for teaching a diverse range of students, since the only exposure for many PTs is a mandatory introductory adapted course and related field experience [12, 13].

Field experiences constitute an important component in teacher education programs [14], providing PTs with the opportunity to develop their pedagogical skills and put theory into practice [15]. Some studies have focused on the impact of field experiences on PTs' attitudes towards working with students with special needs. For example, [16] found that prospective teachers who felt more competent showed more favorable attitudes to the challenge of teaching groups with diverse needs. Other findings suggest that PTs' attitudes could be influenced by the academic preparation, the type of training and exposure, and by hands-on experience with individuals with disabilities [12, 17].

Overall, research suggests that after exposure and working with students with disabilities, the attitude of PTs is generally positive towards teaching students with disabilities [6, 18]. A previous study [12] reported

that PTs felt less ignorant, and had a better understanding of how to interact with persons with disabilities after a 10-week course. Students who have had hands-on experience with individuals with disabilities hold significantly more favorable attitudes than students without experience [19]. Furthermore, PTs' beliefs and attitudes toward students with disabilities also influence their intentions to teach this group of students [20]. For instance, [21] examined the influence of academic preparation of two cohorts of PE PTs on their beliefs, attitudes, and intentions to teach students with disabilities. The results showed that both cohorts had favorable dispositions towards students with disabilities. However, the cohort that received more training in teaching students with disabilities had more favorable attitudes and intentions than their less-trained counterparts. However, other studies do not report any influence of prior exposure to disability [17]. For example, [22] reported a 10-week PE adapted course positively impacted PE preservice teachers' attitudes with or without a field experience component. If PTs have little or no practical experience working with students with disabilities, it can result in negative attitudes towards working with students with disabilities in their programs [13].

To date, very few studies examining the impact of methods courses and field experiences on PTs' regarding teaching students with disabilities have considered multiple variables simultaneously. Specifically, few studies have investigated PTs' attitudes, self-efficacy, perceived comfort, knowledge of instructional techniques, and intentions to teach students with disabilities simultaneously. Understanding how methods courses impact these variables simultaneously would enable PETE faculty identify effective strategies to better prepare PTs to teach students with disabilities.

### **1.1 Purposes of the study**

While some research has focused on attitudes towards students with disabilities in an effort to enhance PTs' attitudes, few have investigated PTs' intentions to teach students with disabilities. Therefore, the primary purpose of the current study was to examine physical education preservice teachers' attitudes and intentions to teach students with disabilities. The secondary purpose was to assess the impact of an adapted physical education methods course on preservice teachers' attitudes and intentions to teach students with disabilities.

### **1.2 Research Questions**

These research questions examined PTs' attitudes and intentions to teach students with disabilities:

1. What are PE preservice teachers' attitudes toward students with disabilities?
2. What are PE preservice teachers' level of perceived comfort about teaching students with disabilities?
3. What are PE preservice teachers' intentions to teach students with disabilities?
4. What is the influence of an adapted physical education methods course on PE preservice teachers' attitudes, perceived comfort, and intentions about teaching students with disabilities?

## **II. Method**

### **2.1 Participants**

The study included a purposive sample of 29 (21 males and 8 females) physical education PTs enrolled in an adapted physical education course at a university in Midwestern United States. Nineteen of the PTs were juniors while 10 were seniors. Twenty-six of the PTs were Caucasian, two African-American and one of Hispanic origin.

### **2.2 Instrument**

The Attitudinal Survey on Students with Disabilities (ASSD) served as the main data source. The ASSD consisted of a 7-item 5-point Likert scale and one open-ended item designed purposefully for this study. The scale contained a section on biographical information and four subscales consisting of closed-ended items: attitudes (AT), instructional techniques (IT), and perceived comfort (PC), and behavioral intentions (BI). The AT subscale consisted of three items that assessed PTs' attitudes toward students with disabilities. The IT subscale assessed PTs' knowledge of instructional techniques relating to students with disabilities. The PC subscale investigated PTs' level of perceived comfort in teaching students with disabilities. The IT and the PC subscales each consisted of one item. The BI subscale had two items. It examined PTs' intentions to teach students [20] with disabilities in a general physical education context and in an adapted physical setting. Participants indicated the extent to which they agreed or disagreed to each of the seven statements by checking the appropriate box for strongly agree (5), agree to strongly disagree (1). Thus, a high rating (5 or 4) represented a positive rating, while a low rating (2 or 1) for an item meant a negative rating. However, one item, "Generally, students in an adapted PE class will have behavior problems," was reversed during coding. That is, for this item, a rating of "5" was coded as "1" and rating of "1" as "5". The 7-item scale of the ASSD had a Cronbach's alpha of .794. In addition, the open-ended item examined PTs' perceived knowledge and skills to teach children with disabilities.

The original ASSD consisted of 15 items (14 closed-ended and one open-ended). The instrument was given to two PETE faculty with doctorate degrees for validation. Based upon their input, four of the closed-ended items were deleted from the original instrument. However, three additional items were deleted upon running a reliability analysis (Cronbach's alpha) using SPSS Version 23 [23]. The Human Subjects Committee at the authors' university granted approval for the study. In addition, PTs signed informed consent prior to data collection. PTs were assigned identification numbers for the purpose of matching the pretest and posttest data. Data were analyzed at the end of the semester and only after the final grades for the course were posted.

### **2.3 Intervention**

A 3-credit hour semester-long undergraduate adapted physical education methods course (400 Level) with a field experience component served as the intervention. The study employed the one-group pretest-posttest design. PTs met twice a week on campus for 75 minutes each day. The ASSD was administered to the PTs twice— at the beginning and at the end of the semester.

The coursework component of the course consisted of lecture and laboratory activities covering topics such as: understanding individuals with disabilities, motor learning and perception, Individualized Education Programs (IEP), teaching adapted physical education, instructional strategies, assessing students with disabilities, motivation, and organization and administration of adapted physical education programs.

The field experience took place at a local area high school. PTs were placed into groups of 7-8 for purposes of visiting the school on different days. The field experience consisted of 15 contact hours, the first three were used for observation. Prior to commencing the field experience, the lead cooperating teacher met with the PTs on campus to communicate to them the classroom protocols and expectations at the school.

PTs were assigned to an adapted PE class that had students with extreme disabilities and who did not participate in the general physical education class. The adapted PE class was taught by two adapted physical education teachers. Content for the class included fitness activities (whole class), individual tasks and a culminating activity (whole class). Each PT was assigned a student with a disability to work with during the school visit. In addition, each PT was assigned to a different student each time they visited the school.

PTs were required to submit lesson plans to their cooperating teacher for approval prior to teaching each lesson. The lesson plans contained developmentally appropriate movement tasks for students with disabilities. Finally, at the end of each week, PTs submitted reflection papers on their experiences to the instructor of the course.

### **2.4 Data Analysis**

The closed-ended items were analyzed using descriptive and inferential statistics. Pre- and post-intervention data for each item were analyzed using frequency counts and percentages. In addition, Paired-Samples t-Test analyses were computed for each subscale, comparing the pre-intervention and post-intervention data. PTs' responses to the open-ended item were analyzed using comparative analysis and analytic induction (Patton, 2002). First, the three authors read and re-read the responses independently to identify tentative categories and subcategories. Second, the authors compared notes and arrived at consensus on the categories. Trustworthiness was established via researcher triangulation and peer debriefing [24]. One PETE expert did the debriefing for the authors. The first author sent the tentative categories and sample excerpts to the expert for feedback. The expert provided comments without recommendations to change the tentative categories.

## **III. Results**

### **3.1 Quantitative Data**

#### **3.1.1 Preservice teachers' attitudes, instructional knowledge, perceived comfort, and behavioral intentions at the start of the methods course**

Table 1 presents pre-intervention data on PTs' attitudes, instructional knowledge, perceived comfort, and behavioral intentions, pertaining to teaching students with disabilities. The results indicated that most PTs strongly agreed or agreed (65.52%) that they had positive experiences with students with disabilities during their grades K-12 years. In addition, 68.97% of the PTs believed students with disabilities would act poorly. Table 1 also shows that many PTs were neutral regarding their intentions to teach students with disabilities in their first year of teaching in a regular PE class (48.28%) and in an adapted PE setting (50.84%). Only 24.14% of the PTs indicated their intention to students with disabilities at the start of the semester.

#### **3.1.2 Preservice teachers' attitudes, behavioral intentions, instructional knowledge, and perceived comfort at the end of the methods course**

Table 2 presents post-intervention data on PTs' attitudes, instructional knowledge, perceived comfort, and behavioral intentions, at the end of the semester. The highest percentage (75.87%) of PTs strongly agreed or agreed that students with disabilities would act poorly in class. More than 72% of the PTs also indicated they

had positive experiences with students with disabilities during their K-12 years. Most PTs were unsure if they would teach a regular PE class (58.62%) or an adapted class (62.07%) to students with disabilities in their first year of teaching. Only 34.48% of them indicated they planned to teach in either context. Slightly more than 41% of the PTs strongly disagreed or disagreed with the statement that general teaching techniques for adapted PE and regular physical education would not differ. In other words, 37.93% believed that teaching techniques for the two contexts were similar, with modifications for students with disabilities.

### **3.1.3 Impact of methods course on PTs' attitudes, instructional knowledge, perceived comfort, and behavioral intentions**

Table 3 shows pretest-posttest Paired-Samples t-Test analyses for PTs' attitudes, instructional knowledge, perceived comfort, and behavioral intentions. The data indicate that posttest (3.83) mean score for AT was higher than that for the pretest (3.67). However, the t-Test analysis showed that the mean difference was not statistically significant. Similarly, the posttest scores for IT (3.03), PC (4.07) and BI (3.29), were higher than their respective pretest scores: 2.38, 3.07, and 2.91. The Paired-Samples t-Test analyses indicated that the mean differences for the three subscales were statistically significant. That is, the adapted methods course had significant positive impact on PTs' perceived knowledge of instructional techniques, perceived comfort, and intentions to teach students with disabilities. Conversely, the methods course did not have a significant effect on PTs' attitudes toward students with disabilities, even though their attitudes were more positive at the end of the semester than at the beginning.

## **3.2 Qualitative Data**

### **3.2.1 Pre-intervention**

The open-ended item asked PTs the extent to which they had the requisite knowledge and skills to teach students with disabilities. Findings from the pre-intervention qualitative data were grouped into two categories: contact and personal qualities. Analysis of the post-intervention data identified pedagogical issues as the main category. All names used for reporting results on the qualitative data are pseudonyms.

#### **3.2.1.1 Contact**

PTs identified contact with students with disabilities as a factor that would enable them teach this group of students. The category had three subcategories. First, PTs identified contact with family members as the source for their perceived knowledge and skills for teaching students with disabilities. Larry stated, "I have the knowledge to some extent to teach students with special needs, because I have worked with my blind cousin on certain activities in the past." Similarly, Ken attributed his perceived ability to growing up with an autistic family member, "I think that I have more knowledge than some people in teaching special needs students because my brother is autistic and I have been around him enough to understand what it takes." PTs like Larry and Ken believed their observations of and interactions with family members with disabilities gave them the knowledge and skills to teach this group of students. Second, PTs indicated their contact with students with disabilities in K-12 school settings had prepared them to teach students with disabilities. For example, Matt wrote, "The high school I attended was the only one around that helped with adapted students, so I know a little from visual experience [observation]." Thus, PTs' early school experiences served as references for their perceived knowledge and skills in teaching students with disabilities. Finally, PTs based their perceived ability to teach students with disabilities on their contact with this group of students in physical activity and sport settings outside school. Examples of settings outside school included community recreational facilities, summer camps, and the Special Olympics. Jackie indicated that she had experience working with children with disabilities, "At my job, I already work with kids that have both physical and mental disabilities in rec programs." Lionel expressed a similar view, "From working at the YMCA, I am able to be around special needs kids in the sport environment." The Special Olympics provided opportunities for many PTs to work with students with disabilities. As one PT wrote, "I have some knowledge with students with disabilities because I helped out several times at the Special Olympics" (Darren).

#### **3.2.1.2 Personal qualities**

PTs in the current study identified patience as a critical personal quality needed to teach students with disabilities. "Special needs students need to have someone work with them that has a great deal of patience" (Ashley). Karen believed she had the knowledge and skills to teach students with disabilities, "I have the patience for the students [with disabilities] . . . and can teach them." Katie expressed a similar view when she stated, "I have the patience and understanding of what it takes to educate children with disabilities." Thus, PTs thought they were capable of teaching students with disabilities because they had the appropriate levels of patience. Conversely, some PTs felt they lacked the knowledge and skills to teach students with disabilities

because they lacked that personal quality (patience). For example, Lauren wrote, "I have yet to acquire the patience for it [teach students with disabilities]."

### 3.3 Post-intervention

#### 3.3.1 Pedagogical issues

PTs responses to the open-ended item at the end of the semester were grouped under pedagogical issues. First, most PTs felt they had a better understanding of disabilities and how students with disabilities learn. As Laura stated, "I have learned so much about children with disabilities." Matt had a similar sentiment when he indicated, "I believe I do have more adequate knowledge to teach students with special needs after taking the class." Second, most of the PTs felt more confident teaching students with disabilities after taking the adapted methods course. Donna's account exemplified such confidence, "After going to the high school this semester, I feel more confident in my ability to teach students with disabilities." Mary felt the same when she stated, "After taking this [adapted PE] class I think I am better able to teach an adapted PE class." That is, PTs felt "... comfortable teaching an adaptive class" (Johnson) on completion of the methods course. Third, PTs believed they had learned instructional strategies for teaching students with disabilities. Jackie, for example indicated, "I have learned many teaching strategies to be able to teach students with wide range of abilities or disabilities." She added that she was very eager to "... have my own adapted class or have individuals with disabilities in a general PE classroom setting" (Jackie).

Despite their positive dispositions for teaching students with disabilities after taking the methods course, PTs in the present study felt they still had more to learn. Matt's account supported this assertion, "The field experience has made me much more comfortable in teaching these students. I still need to know a little more about individual disabilities in specific situations." They acknowledged that they were still in training and the methods course did not make them experts in adapted PE. Caleb, also agreed he had learned a lot from the methods course, and needs "... to pair the knowledge with more experience, and I will be fine." Kaden summarized this notion in these words, "I believe I have adequate training in my major, but I do not feel I am qualified yet to teach students with special needs."

## IV. Tables

**Table 1:** Pre-intervention frequency counts and percentages for PTs' attitudes, instructional knowledge, perceived comfort, and intentions

Category	Strongly Agree/Agree		Neutral		Disagree/Strongly Disagree	
	f	%	f	%	f	%
<b>Attitudes</b>						
1. I had positive experiences with students with disabilities during my grades K-12 years	19	65.52	9	31.03	1	3.45
2. I expect students with disabilities to act poorly.	20	68.97	6	20.69	3	10.34
3. Generally, students in an adapted PE class will have behavior problems.	12	41.38	12	41.38	5	17.24
<b>Instructional Techniques</b>						
4. General teaching techniques for adapted PE are the same as teaching general physical education classes.	3	10.34	6	20.69	20	68.97
<b>Perceived Comfort</b>						
5. At the present time, I feel comfortable about teaching the adapted physical education class.	11	37.93	10	34.48	8	27.58
<b>Behavioral Intentions</b>						
6. I intend to teach students with disabilities in a regular PE class in my first year of teaching.	7	24.14	14	48.28	8	27.58
7. I intend to teach students with disabilities in an adapted PE class in my first year of teaching.	7	24.14	15	50.84	7	24.14

**Table 2:** Post-intervention frequency counts and percentages for PTs' attitudes, instructional knowledge, perceived comfort, and intentions

Category	Strongly Agree/Agree		Neutral		Disagree/Strongly Disagree	
	f	%	f	%	f	%
<b>Attitudes</b>						
1. I had positive experiences with students with disabilities during my grades K-12 years	21	72.41	8	27.58	0	.00
2. I expect students with disabilities to act poorly.	22	75.87	4	13.79	3	10.34
3. Generally, students in an adapted PE class will have behavior problems.	14	48.28	12	41.38	3	10.34
<b>Instructional Techniques</b>						
4. General teaching techniques for adapted PE are the same as teaching general physical education classes.	11	37.93	6	20.69	12	41.38
<b>Perceived Comfort</b>						
5. At the present time, I feel comfortable about teaching the adapted physical education class.	21	72.41	7	24.14	1	3.45

Behavioral Intentions						
6. I intend to teach students with disabilities in a regular PE class in my first year of teaching.	10	34.48	17	58.62	2	6.90
7. I intend to teach students with disabilities in an adapted PE class in my first year of teaching.	10	34.48	18	62.07	1	3.45

**Table 3:** Paired Samples t-Test PTs' attitudes, instructional knowledge, perceived comfort, and behavioral intentions.

Subscale	Pretest		Posttest		t-value	
	M	SD	M	SD	t	p-value
Attitudes	3.67	.62	3.83	.54	-1.38	.178
Instructional Techniques	2.38	.86	3.03	1.12	-2.93	.007**
Perceived Comfort	3.07	1.19	4.07	.88	-4.58	.000***
Behavioral Intention	2.91	.79	3.29	.68	-3.75	.001**

\*\*p ≤ .01; \*\*\*p < .001

### V. Discussion and Conclusions

The purpose of the present study was to examine physical education PTs' attitudes and intentions to teach students with disabilities, and the impact of an adapted physical education methods course on their attitudes and intentions to teach students with disabilities. The data suggested that most PTs entered the methods course with positive attitudes towards students with disabilities. This is consistent with previous studies that teachers exposed to individuals with disabilities were more open to inclusion [25, 26]. PTs in the current study indicated they had contact with students with disabilities during their K-12 years or had family members with disabilities. Others had worked with students with disabilities in physical activity and/or sports settings. Another finding was that the adapted methods course did not significantly impact PTs' attitudes toward students with disabilities. As [27] argued, attitudes are not inherent, but rather PETE programs need to provide experiences that help develop these attitudes.

The quantitative data suggested that most PTs started the methods course with limited knowledge of instructional skills for teaching students with disabilities. In contrast, the qualitative data indicated PTs perceived themselves to have the requisite knowledge and skills to teach students with disabilities due to observations of their teachers during their K-12 years. PTs enter teacher education programs after having spent thousands of hours observing and evaluating trained teachers, what [28, 29] referred to as "apprenticeship of observation." These early experiences shape their beliefs about teaching. It is important that PETE programs provide PTs opportunities to challenge their lay beliefs, as some of the beliefs may be in conflict with appropriate practices or program philosophy.

Even though most PTs entered the methods course with positive attitudes toward students with disabilities, most of them were not comfortable teaching this group of students. Also, they were unsure if they would teach students with disabilities in the future. The methods course had a positive impact on PTs' perceived comfort and intentions to teach students with disabilities. This finding is consistent with previous studies that reported hands-on experiences with children with disabilities increased PTs' confidence and preparedness to teach students with disabilities [7]. Thus, the laboratory activities and field experience component of the methods course helped PTs in the current study to apply instructional strategies they learned from their coursework [15, 30].

The findings from the present study have two implications. First, PETE programs need to help PTs examine their beliefs and attitudes toward students with disabilities throughout their training. For research indicates that teachers with more experience tend to have less positive attitude towards inclusion [31, 32]. In addition, the examination of their beliefs and attitudes should continue into their early years of practice through professional development programs [33]. Second, PETE programs can influence PTs' attitudes toward students with disabilities through contact or interaction with students with disabilities during field experiences [30]. Positive attitudes in turn would result in favorable dispositions for teaching students with disabilities.

The present study utilized only one open-ended questionnaire item with closed-ended items to study PTs' perceived knowledge and skills in teaching students with disabilities. Participants' attitudes, perceived comfort, and intentions to teach this group of students were assessed using closed-ended questionnaire items only. Future research should use qualitative data collection tools to examine these variables. Interviews, for example, would provide deeper insight into PTs' attitudes, perceived comfort, and intentions. In addition, future research could use a longitudinal design to investigate PTs' attitudes, perceived comfort, and intentions to teach students with disabilities after the adapted methods course through student teaching. Findings from such a study would provide valuable information for PETE faculty to plan appropriate interventions. Finally, future researchers could replicate the present study at multiple teacher education program sites, for a better representation of physical education PTs.

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