

Service-Learning and Disability Simulations: Comparing Their Influence on Candidate Teaching Dispositions

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Abstract

As one of five key standards for program accreditation, the Council for the Accreditation of Educator Preparation expects graduates to display “dispositions necessary to demonstrate positive impact on *all* P-12 students learning and development” (2015). Defining these dispositions and determining whether or not they could be cultivated through structured learning experiences became the goals of this study. Both service learning and disability simulations were implemented with first- and second-year undergraduate Education majors in a required “Overview of Human Exceptionalities” course. The disposition of empathy was measured before and after these activities. Results indicated slight increases in empathy among participants with little prior experience with disability, but also suggested that both service-learning and simulations are viable options for teacher educators who wish to address teaching dispositions in early courses about disability.

Keywords: service-learning, disability, teaching of dispositions, simulations

Students eligible for special education under the Individuals with Disabilities Education Act are served in a continuum of settings ranging from segregated residential schools to fully included general education environments. According to the National Center for Educational Statistics (2015), the percentage of these students who are served separately from their non-disabled peers has dropped from 30.7% in 1989 to only 5.1% in 2011, strongly showing that all teachers, both general and special education, must have the skills and dispositions for working with diverse learners. Teacher educators across program types, consequently, must address disability within their pre-service coursework and many have responded by requiring an overview of exceptionalities course for every Education major (Simpson, Whelan, & Zabel, 1993).

While factual knowledge and pedagogy are essential aspects of a teacher’s interaction with students who have disabilities, equally important is whether these teachers have favorable dispositions toward working with such children. But what exactly are dispositions? Early literature seems to equate dispositions with either attitudes or personality traits (Oser,

1994), but more recently Sockett (2009) describes dispositions as “virtues” that can predict voluntary and frequent actions. Jung and Rhodes (2008) help further clarify the term. They suggest that there is a difference between *pre-dispositions* and *dispositions*, proposing that pre-dispositions are actually beliefs which are “manifested in behaviors” called dispositions, and these dispositions can be “observed, developed, and cultivated (p.651).” Jung and Rhodes’ definition of dispositions implies that instruction and measurement of candidate dispositions are tasks that all teacher education programs can accomplish.

A follow-up question teacher educators may ask is whether there are any dispositions specifically connected to educating children with disabilities. A few dispositions that might be desirable for any teacher candidate, but especially for those who work with students who have special needs, might be: kindness and having an appreciation for diversity (Helm, 2006), fairness and empathy (e.g. Armstine, 1990; Jamieson, Krupa, O’Riordan, O’Connor, Paterson, Ball, & Wilcox, 2006), and caring with a belief that all can learn (Collier, 2005). Regardless of which dispositions are selected, once dispositions are prioritized

within a teacher education program, the choice of pedagogy for teaching these dispositions must next be considered.

How Are Dispositions Taught?

Identifying strategies teacher educators can use to shape their candidates'

predispositions into measurable, positive dispositions becomes the first piece of the research-to-practice puzzle. As Jung and Rhodes note, "Without a foundation of related research, efforts to operationalize concepts and terms and a clarification of related issues, cultivating these dispositions would seem to be a distant goal (2008, p.656)."

Often teacher educators will select methods that they believe will instill sensitivity to special needs populations. For example, case studies and scenarios are popular choices. In these instructional approaches, a character with a disability is described and analyzed using carefully chosen discussion questions (Phelps, 2006). Another approach is the use of "book talks" or disability-themed literature with guided discussions following the read (Marable, Leavitt-Noble, & Grande, 2010). One hypothesis the author considered that might increase her students' sensitivity to individuals from unfamiliar populations would be to increase systematic exposure to these populations, hoping that as interactions such as could occur through service learning increased, stereotypes and anxieties about unfamiliar populations might decrease.

By its simplest definition, service-learning allows "students to learn course content as they serve the community" (Muwana & Gaffney, 2011, p.22). Growing as pedagogy in many universities, service-learning offers an ideal chance for such community interactions to occur in an atmosphere that offers mutual benefit to participants (Mayhew & Welch, 2001). Echoing this sentiment are Novak, who discusses service learning in light of "social justice and disability issues" (2010, p.121), and Santos, Ruppard, and Jeans (2012), who support service learning as a means to understand disability within a social context. Stringfellow and Edmonds-Behrend (2013) offer a discussion of how service-learning impacted special education teacher candidate dispositions. These authors describe how the four components of service-learning (collaboration between school and community, academic curriculum integration,

application of knowledge in real-world situations, and reflection) helped "promote principles of global citizenship" (2013, p.45). Finally, though not specifically targeting future teachers, Muwana and Gaffney (2011) describe how service-learning involving a varied group of college freshmen and consumers with disabilities affected both knowledge and attitudes about disability.

While less research exists regarding the use of simulation to increase disability awareness or sensitivity in future teachers, another route toward the development of positive dispositions is an experience in which a student could "get into the shoes" of a person with a disability through a realistic simulation experience (Mickel & Griffin, 2007). One type of simulation could be a web-based "real classroom" simulation (Girod & Girod, 2008), a methodology on the rise with the surge in online education in many universities. In a comprehensive discussion of best practices when using simulation as a learning method, Herbert (2000) supports this method's value in facilitating disability awareness, while at the same time notes the adverse effects simulations can have on students, effects which must be considered and pro-actively addressed by an educator choosing to use this teaching strategy.

How Are Dispositions Assessed?

Research defining how dispositions related to disabled populations are assessed is also somewhat sparse. Surveys of attitudes about inclusion abound (e.g. Loreman, Sharma, & Forlin, 2007), but these fall somewhat short on the issue of objectivity. Portfolios and in-the-field observations are common assessments that might reveal a candidate's dispositions in the classroom. Unfortunately, in the overwhelming daily demands in a teacher education program, determining the reliability and validity of rubrics for such assessments may not occur, and few research-validated tools to assess dispositions are yet available to teacher educators.

One type of assessment teacher educators use in order to evaluate student dispositions is the use of journal reflections. Welch and James (2007) describe a quantitative rubric for evaluating student journal reflections called the "ABC123 Method." Their process involves examining student entries for representative statements of affect (what and how students feel), behavior (how students behaved before, during, and

after an experience), and cognition (what students learned). These dimensions, when converted using a point system, allow a characterization of the student as oriented more toward self, others, or global interests.

A close look at the “dispositional knowledge” of graduate students who were already teaching in the field of special education was compiled by LePage, Nielsen, and Fearn (2008). These researchers offered their analyses of vision statements, surveys, and interviews as potential qualitative tools for assessing dispositions toward disabled populations.

Dispositions of advocating, collaborating, empathizing, encouraging, instructing, and problem-solving are surveyed using *The Self-Assessment of Modes* (Taylor, 2008). Taylor described these six dispositions (called “therapeutic modes”) as often prevalent among those in helping professions such as teaching, occupational therapy, and nursing. *The Self-Assessment of Modes* questionnaire asks participants to answer multiple choice questions describing how they think they would respond in situations about persons with disabilities, and although reliability and validity metrics have yet to be established, this tool can nevertheless offer “a point of departure and reflection and conversation in the classroom” (R.R. Taylor, personal communication, May 19, 2016). In summary, only a few studies have been published which isolate the most desirable candidate dispositions specific to populations with disabilities, the most effective strategies for teaching or influencing such dispositions, or even how to assess the presence or absence of desired dispositions prior to candidate graduation.

Method

Design and Procedure

This study, conducted during a required introduction to disabilities course, examined two teaching approaches targeted at influencing one such candidate disposition, the disposition of empathy toward populations with disabilities. The purpose of this study was to assess if a measurable impact occurred on teacher candidate empathy following service-learning and extended disability simulations. Specifically, the following questions were explored:

- Would teacher candidates’ self-reported dispositions (i.e. defined by Taylor, 2008 as “therapeutic modes”) change following a semester in which they engaged in either ser-

vice-learning or disability simulations?

- Would empathy level at the end of the semester in which service-learning or disability simulations change more significantly for those without prior experience with people having disabilities than the empathy level changed for those with prior experience?
- At the end of the semester in which students performed either service-learning or disability simulations, would there be a significant difference in empathy levels between these types of experiences?

Candidates were invited to choose which type of engagement they wanted to experience: service-learning involving individuals with disabilities, or performance of disability simulations, either of which was estimated would take a minimum of 10 hours outside of class meeting time to complete. In allowing for candidate choice, rather than randomly assigning students to the type of contact activity, the instructor initially expressed the desire that students select either service-learning or the simulations based on where they expected to gain the most insight about disabilities. Although some students expressed that they chose the type of activity based on which they thought would be easier to accomplish, five of the students engaged in more than the required 10 hours, performing service learning for 20 hours total by the semester’s end.

Service-learning assignments included participation in recreational and residential (non-school) settings where candidates engaged directly with persons who had cognitive, physical, and emotional disabilities. Students chose to engage in 10 hours doing one of the following:

- Volunteering in a structured recreation program involving crafts, music, and physical activity based on a monthly theme that provided an afternoon of respite to parents of children with disabilities ages 5-13;
- Joining adolescents with disabilities in community-based recreation activities such as bowling, shopping, sports events, etc.;
- Assisting adults in a group home to compile autobiographical scrapbooks based on oral histories;
- Providing childcare and support to a child with a disability during worship events and family outings;

- Assisting in a nationally-recognized athletic practice and competition for athletes with disabilities (Special Olympics); or
- Tutoring in after-school programs serving children from an ethnically-diverse, impoverished local school district, and many of whom also had accompanying learning disabilities in reading, writing and math.

Students who chose to do disability simulations were required to do all four of the following activities, with each taking approximately two to three hours to complete:

- Using a wheelchair while shopping at a mall, making a purchase, using the public restroom, and being fed lunch by a friend (simulated physical impairment);
- Riding public transportation in an unfamiliar area (simulated cognitive impairment);
- Engaging in a leisure activity with peers while using only non-verbal means of communication such as handwriting, texting, sign language, gestures, pictures, or spelling board (simulated communication impairment), and
- Using earplugs while ordering and eating in a restaurant (simulated hearing impairment).

Participants

A total of 44 undergraduate teacher candidates in their first or second year of preparation consented to participation in the research. The study took place at a small, private university in Pennsylvania whose mission and core values stress the importance of community involvement and service throughout its curriculum. Participants were first and second year students enrolled in a mandatory semester-long course designed to provide an introduction to disabilities. Ranging in age from 18 to 46, these students included 10 males and 34 females. Among the 44, two came from minority groups, and one had a disability himself (hearing impairment). Prior to the start of the study, all participants were asked to self-identify as “inexperienced” (having little or no prior experience with persons who have disabilities beyond a few brief encounters or distant personal connections) or “experienced” (having extended experience as volunteers, employees, or family members with disabilities). In order to further review what pre-study dispositions might be, students were asked to respond to *The Self-Assessment of Modes* (Taylor, 2008) scenarios,

revealing that at the start of the term, the majority saw themselves as having a high therapeutic mode in “problem-solving” and “encouraging.” The modes of “empathizing” and “collaborating” were identified by fewer students as their dominant mode at the start of the study.

Assessment Tools

A measure called *The Empathy Quotient* (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004) was selected for this study because it measured a specific disposition commonly associated with disability (i.e. empathy) and because it appeared to have adequate validity and reliability. Lawrence et al. assessed their measure of empathy for its reliability and validity in several studies which involved individuals they describe as either “healthy” or having Asperger syndrome, since individuals with Asperger syndrome have been characterized by some as lacking empathy. Test-retest reliability between first and second administrations of the EQ was reported as good (correlation coefficient was $r=.835$, $p<.0001$). Concurrent validity was established using Davis’ 1980 Interpersonal Reactivity Index, with moderate correlation to the subscales for “empathic concern” ($r=.423$, $p=.025$) and “perspective-taking” ($r=.485$, $p=.009$).

Participants completed both *The Self-Assessment of Modes* and *The Empathy Quotient* scale twice, once before engaging in service learning or disability simulations, and once again at the end of the semester.

Results

Dispositions Change among All Students

Comparison of Taylor’s self-reported therapeutic modes for beginning and end of semester allowed for some indication of how candidates may have changed over the experiences they had during the term. *The Self-Assessment of Modes* scores noted that only one disposition, the disposition of “advocating,” was consistently higher as a dominant mode following the course activities. Since one of the units taught in the introductory course did relate to the legal and ethical rights of persons with disabilities, this result was satisfying to see. The other five therapeutic modes defined by Taylor (collaborating, empathizing, encouraging, instructing, and problem solving) showed some variability (both increases and decreases) following service-learning and disability simulation experiences, but none increased as consistently as did the mode of “advocating.”

Differences Related to Prior Experience with Persons Who Have Disabilities

Using the definitions given for “inexperienced” and “experienced,” the total group sizes using this definition were relatively equal (19 Experienced and 25 Inexperienced). Paired t-tests on *The Empathy Quotient* data from the beginning and end of the course were applied on participants grouped by this level of prior experience with disabilities to see if scores changed significantly following the semester’s activities.

As shown in Table 1, some candidates who self-identified as having had little or no prior experience with disabilities before taking the introductory course showed slight (not significant) increases in mean *Empathy Quotient* score following service-learning and simulation activities; in the Spring semester (N=11), mean *Empathy Quotient* increased by 3.551 ($p=.141$). Those students in the “experienced” group actually decreased in their mean *Empathy Quotient* scores, but similar to the inexperienced group, the change representing that decrease was not statistically significant from

the beginning to the end of their courses.

Differences Related to Type of Activity

Among the 44 total participants in this study, 26 elected to engage in one of the service-learning options, and 18 elected to complete all of the disability simulation activities. Independent Sample T-testing at the end of the semester was conducted with candidates grouped by the two types of instructional activities (service-learning and disability simulation). *Empathy Quotient* scores were compared to see if either type of activity reflected a higher level of the empathy disposition at this time.

Results displayed in Table 2 show that, interestingly, there was no significant difference in end-of-semester *Empathy Quotient* scores based on type of activity in either the Fall or Spring groups. The small sample sizes involved in this study may account for the lack of variability that could be measured, but anecdotally, students reported benefits from both types of interaction with people with disabilities, with the simulations perhaps producing a stronger emotional effect on them.

Table 1

Changes in Empathy Quotient Following Activities: With and Without Prior Experience with Disability

<u>Students with Prior Experience</u>			
	<u>Mean Pre EQ</u>	<u>Mean Post EQ</u>	<u>Significant Difference (2 tailed)</u>
Fall N=10	56.6250	54.000	p = .350
Spring N=9	65.4167	63.4722	p = .630
<u>Students without Prior Experience</u>			
	<u>Mean Pre EQ</u>	<u>Mean Post EQ</u>	<u>Significant Difference</u>
Fall N=14	62.2321	65.8929	p = .141
Spring N=11	68.6364	68.8636	p = .926

EQ – Empathy Quotient

Table 2
Empathy Level Post-Experience: Service Learning vs. Disability Simulations

<u>Fall Semester</u>			
<u>Experience Type</u>	<u>N</u>	<u>Mean Post EQ</u>	<u>Significant Difference (95% confidence)</u>
Service Learning	11	59.318	p = .569
Disability Simulation	13	62.307	
<u>Spring Semester</u>			
<u>Experience Type</u>	<u>N</u>	<u>Mean Post EQ</u>	<u>Significant Difference (95% confidence)</u>
Service Learning	15	66.8750	p = .794
Disability Simulation	5	68.5000	

EQ – Empathy Quotient

Discussion

Changes in candidates' preferred therapeutic mode might be expected according to recent work published by Taylor, Lee, and Kielhofner who suggest that a "fixed pattern of mode use across clients is not the most desirable approach to practice" (2011, p.13). Rather a more effective practitioner can flexibly change their method of responding based on the situation at hand. Therefore, educating candidates about therapeutic modes may be a valuable assist as they learn how to respond differently to challenges in the teaching situation at hand. Future researchers may find a longitudinal examination of dispositions worthwhile that explores how candidates change and become more self-differentiated over the years of preparation for becoming a responsive teacher.

Despite the lack of significant differences in empathy after the implementation of service-learning and disability simulations during an introductory education course on the basis of either prior experience with disability or on the basis of type of learning activity, teacher educators may nevertheless observe more influence on the disposition of empathy, in a positive direction, among candidates with little prior experience. These findings suggest that while teacher

educators might utilize either service-learning or disability simulations, more time in such activities than this study involved may be needed to accomplish the goal of influencing candidates' empathy toward individuals with disabilities.

One might surmise that the challenges inherent in having a disability may generate more empathy during the simulations, but positive encounters where strengths and commonalities among persons with and without disabilities are seen may be more easily promoted during service learning. Indeed, this study suggests that giving students a choice of learning activity is reasonable in anticipation of a relatively similar impact from either instructional activity. However, in order to balance the dispositional response to the concept of disability as including appreciation for the challenges and rewards persons with disabilities experience, incorporating both service learning and disability simulations in an introduction to disabilities class may be a better approach, especially for students who have little prior experience with disability.

Limitations and Implications for Teacher Educators and Future Research

Although this study examined two promising instructional strategies expected to influence dispositions about disability among future teachers, its gen-

eralizability is limited to a large degree by the small sample size. While *The Empathy Quotient* instrument used in this study appears to have adequate social validity and reliability for future teachers, many teacher educators may also want to use their own rubrics to assess how candidates' dispositions are evidenced. If so, instrument development must begin with a clear theoretical framework for the types of dispositions to be assessed and then minimally, carry out some form of inter-rater reliability check in how their students' dispositions can be "scored." Suggesting that either service-learning or simulation afford positive approaches to impact teacher candidate dispositions toward disability cannot be supported using the data from this study alone, since only one disposition (empathy) was measured and only one valid assessment tool was employed.

Despite the limitations of this study, establishment of partnerships within the community gives college students the opportunity to gain valuable experience with individuals who have disabilities prior to participation in formal field experiences. As such, service-learning is an important tool that teacher educators can continue to use with confidence. At the same time, meaningful disability simulation as an instructional tool may be an inexpensive and meaningful alternative in university settings where service-learning is unfeasible or unsupported.

By investigating activities universities use to promote and assess dispositions in future professionals and that encourage their reflective practice, this study is nevertheless useful. Both service-learning and simulation activities might affect professional dispositions, especially the disposition of advocating, and service-learning can be a desirable option especially for undergraduates who have little prior involvement with persons with disabilities. Overall, this research moves forward the discussion about two specific practices that teacher educators implement and safely assume could increase candidate readiness for teaching children with disabilities who will most certainly exist in their future classrooms.

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