International Comparisons of Inclusive Instruction Among College Faculty in Spain, Canada, and the United States

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Abstract

Across the globe, students with disabilities have been increasing in prevalence in higher education settings. Thus, it has become more urgent for college faculty to have a broad awareness of disability and inclusive teaching practices based on the tenets of Universal Design. In this study, we examined faculty attitudes toward disability-related topics and inclusive teaching practices and their implementation of these practices using the Inclusive Teaching Strategies Inventory (ITSI). We examined responses from faculty in the United States, Spain, and Canada in order to better understand the phenomenon of inclusive teaching across international contexts. Findings show Canadian faculty tend to positively endorse legal mandates (e.g., the provision of accommodations and disability-related laws) the most; whereas American faculty tend to positively endorse inclusive teaching practices the most. With regard to implementation, there were mixed results among the three countries, and no significant differences between Spanish, Canadian, and American faculty on incorporating inclusive features into the classroom environment. Implications for practice specifically related to disability services personnel and faculty outreach strategies are discussed.

Keywords: Higher education, disability, university faculty, college teaching, universal design

College students with disabilities are a growing subgroup in university settings in both the United States and abroad. A new learning paradigm in higher education has emerged; one that emphasizes diverse learning environments whereby faculty create competencies flexible and suitable enough for a wide spectrum of learners (Embry & McGuire, 2011). In the United States, for example, college students with disabilities now represent approximately 11% of the national college student population. Students with disabilities qualify for and will typically request exam and/or instructional accommodations. At the same time, the rise in online course curricula and demands to provide material in multiple and accessible formats is also occurring. As such, faculty must teach course material in multiple formats and be flexible to students with a wide variety of needs.

The purpose of this study was to compare the inclusive instructional practices of faculty representing universities in the United States, Spain, and Canada. Inclusive instruction is based on several frameworks of Universal Design (McGuire, 2014; McGuire, Scott, & Shaw, 2003; Rose, Harbour, Johnston, Daley, & Abarbanell, 2006; Thompson, Johnston, & Thurlow, 2002). Faculty at participating universities reported their attitudes and actions toward inclusive instruction using a self-report measure that was previously validated and utilized within the United States (Lombardi & Murray, 2011; Lombardi, Murray, & Dallas, 2013; Lombardi, Murray, & Gerdes, 2011).

Literature Review

For the past decade, Universal Design (UD) has been the centerpiece of the literature in postsecondary education and disability (McGuire, 2014). There are various UD frameworks, such as Universal Design for Assessment ([UDA]; Thompson et al., 2002), Universal Design for Instruction ([UDI]; Scott et al., 2003), and Universal Design for Learning ([UDL]; Rose et al., 2006). These frameworks are meant to aid faculty

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in promoting maximum usability and accessibility in the planning, delivery, and evaluation stages of instruction. Ultimately, the various UD frameworks promote *inclusive* instructional practices.

University faculty should consider integrating inclusive instructional practices for at least three reasons. First, although such practices have the potential to benefit students with disabilities who may have difficulty learning through only one mode of instruction, or processing information as quickly as other students during an exam, these practices can benefit all students and provide greater access to learning opportunities within postsecondary settings. Second, if UD principles were systematically encouraged and adopted, instruction could potentially become more accessible and inclusive to a wide range of learners, including other historically underrepresented groups (e.g., first generation college students, English language learners, and students of color) who are at a heightened risk of performing poorly in higher education settings (Chen, 2005; Lombardi, Murray, & Gerdes, 2012; Strayhorn, 2006). Third, systematic implementation of UD has the potential to reduce the need for other, more specific accommodations for students with disabilities including the two most commonly requested accommodations in postsecondary settings: extended exam time and note-taking services (Ketterlin-Geller & Johnstone, 2006; Orr & Hammig, 2009). While UD frameworks are promising in helping faculty create more accessible and equitable learning environments, the literature base remains very much in development. In fact, very few empirical studies on the effectiveness of UD on student outcomes exist (McGuire, 2014; Roberts, Park, Brown, & Cook, 2011). This is understandable considering that there has not been a standardized way to assess UD practices across different UD models. Yet, the conceptual value of UD frameworks is undeniable, exemplified by the recognition and incorporation of the Universal Design for Learning in the reauthorization of the Higher Education Opportunity Act of 2008 in the United States (Edyburn, 2010). For the purpose of investigating the extent to which postsecondary faculty accommodate and support students with disabilities, the UD instructional models present the most extensively elaborated framework to operationalize the concept of inclusive instructional practices.

In the United States, recent research shows a critical need for training in inclusive instruction among faculty and teaching assistants (Embry & McGuire, 2011; Raue & Lewis, 2011). Of particular importance, faculty attitudes towards students with disabilities and the provision of accommodations can improve after receiving disability-related training (Lombardi & Murray, 2011; Lombardi et al., 2011; Murray, Lombardi, Seeley, & Gerdes, 2014; Murray, Lombardi, & Wren, 2010; Murray, Lombardi, Wren & Keys, 2009). Despite the promise of these findings, particularly to support institutional initiatives to fund and provide such training opportunities to faculty, a recent national survey of 29 public four-year institutions found that the greatest barriers of UD implementation were limited staff resources and minimal faculty interest (Raue & Lewis, 2011). Moreover, when faculty positively endorse aspects of inclusive instruction, these same faculty might not be implementing such practices (Cook, Rumrill, & Tankersley, 2009; Lombardi, Murray, & Gerdes, 2011; Zhang et al., 2010). These findings suggest that faculty may understand the importance of inclusive instruction, yet may lack the time and resources to adopt such practices which, in turn, may affect their interest.

For years, college faculty have relied on institutional resources (e.g., the Office for Disability Services) to provide additional supports to students with disabilities. In fact, many faculty may have been unaware they had students with disabilities enrolled in their classes. However, given the steady increase in the population of college students with disabilities and the lack of funding to bolster supports for such institutional personnel, faculty now find they are in a position to provide accommodations and modifications to exams and assignments in their courses. Oftentimes, requests for modifications come from students with and without disabilities. Examples of such requests might include (but are not limited to) extended deadlines and alternate exam formats and assignments. Even though more faculty are directly supporting students with disabilities, at most universities there is no professional development or training to ensure faculty are aware of their legal obligations. Further, the majority of faculty receive little to no training in effective teaching practices that will benefit diverse learners including students with disabilities.

Some research findings further support the need for disability-awareness training beyond faculty to university staff, such as student affairs, counseling center, and administrative staff (Goad & Robertson, 2000; Murray et al., 2011). Similar to the findings on faculty, the lack of disability awareness tends to be the issue; if available, staff seem agreeable to training opportunities. Thus, at the institutional level, it is important to prioritize disability-related training opportunities for faculty and staff.

Influential Policies Across International Contexts

The Higher Education Opportunity Act (HEOA) of 1965 was among the earliest policies directed toward inclusive higher education in the United States. Among the seven titles of the original policy were the provisions for financial aid programs, as well as scholarships, insured loans, interest subsidies, and work study programs (Madaus, Kowitt, & Lalor, 2012). Decades later in 2008, "programs to provide students with disabilities with quality postsecondary education" was specified among the general provisions of the reauthorization.

Perhaps the most influential policy to encourage inclusive higher education environments in Spain was the European Higher Education Area (EHEA), which was launched in 2010. Part of the larger Bologna Process, the EHEA is a cooperative effort of over 30 European countries to collectively strengthen higher education across Europe (EHEA, 2014). Equal opportunity and access to higher education in Europe has been a major goal of EHEA, including equality for people with disabilities. Several researchers have studied the influence of EHEA in Spain on a preliminary level (Diez, 2005; González, 2005). For the most part, it is unknown whether or not the EHEA has benefitted Spanish students with disabilities, but data show the numbers of students with disabilities in higher education have increased. Thus, at the very least, trends show that access to higher education has increased, and the EHEA has been influential.

Representing a Canadian context and the most populous province, Ontario regulates postsecondary supports for students with disabilities through Ontario Human Rights Code and Accessibility for Ontarians with Disabilities Act of 2005 (AODA). With respect to inclusive instructional practices, AODA mandates postsecondary institutions to provide educators at all levels of schooling with "accessibility awareness training related to accessible program or course delivery and instruction" (Ontario Gazette, 2011). Indeed, college students with disabilities continue to increase in prevalence; in Ontario, for example, the numbers in enrollment have increased as much as 66% (McCloy & DeClou, 2013). Thus, legal mandates may have had some influence in affecting change within university contexts regarding students with disabilities, an increasing population in all three countries.

Measuring Faculty Attitudes and Actions

In order to examine the effects of inclusive teaching practices on student performance, it is important to first operationalize and measure inclusive instruction. In a recent systematic literature review of UD-related empirical studies across K-12 and postsecondary education settings, Rao, Ok, and Bryant (2014) found a wide variety of study designs and definitions of UD principles. Ultimately, these authors concluded the need for more explicit connections between UD frameworks and interventions in which they are the basis, including the measures used in research studies (Rao et al., 2013). Similarly, Roberts and colleagues (2011) reviewed existing empirical research related to UD and postsecondary settings. These authors concluded with a recommendation to operationalize UD principles to ensure more consistent data collection and analysis in future research. As such, there is a clear need to use consistent definitions of UD in order to develop and test measures that are used in future empirical research on the effects of UD on student learning.

Careful measurement of faculty knowledge and disability and inclusive teaching practices will help aid disability services personnel and the broader campus to make data-based decisions about faculty training opportunities. Prior researchers have examined faculty attitudes toward disability, their knowledge of disability law, and their responses to accommodation requests from students (Murray, Wren, & Keys, 2008; Vogel, Holt, Sligar, & Leake, 2008). Recent research efforts have incorporated issues pertaining to UD principles. However, these researchers did not evaluate the extent to which faculty reported implementing these principles into their own teaching. Further, international research studies of this nature are sparse. In one study, faculty at one U.S. university and one Mexican university were surveyed on attitudes and perceptions toward students with disabilities (Wolman, McCrink, Rodriguez, & Harris-Looby, 2004). When compared, U.S. and Mexican faculty were very similar in their overall willingness to provide accommodations at students' request; although U.S. faculty showed greater willingness to accommodate students from a range of disabilities (e.g., LD, deaf, hard of hearing, emotional/behavioral disorders). Also, U.S. faculty demonstrated more disability-related knowledge and reported greater opportunities for professional development at their university (Wolman et al., 2004). These results provide much needed comparisons between countries with regard to disability and higher education; however, this study did not address teaching practices, particularly those promoted by UD. As such, little is known about faculty teaching practices and how they might vary between countries.

In this study, university faculty attitudes and actions toward disability-related content and inclusive instruction were measured with the same instrument, the Inclusive Teaching Strategies Inventory ([ITSI];

Lombardi et al., 2011). The measurement of attitudes and actions was purposeful. Previous findings show that faculty might positively endorse disability-related topics (e.g., knowledge of law and providing accommodations) and inclusive instruction based on the tenets of UD (e.g., accessible course materials); however, these positive endorsements do not necessarily translate into instructional practices (Cook et al., 2009). Also, faculty might implement certain inclusive instructional practices but not as a by-product of positive endorsements of support of disability-related advocacy and efforts. In other words, faculty could be using more accessible course materials simply because departmental policies have recently changed, not necessarily because they believe multiple formats of course materials is important for students with disabilities and other diverse needs (Lombardi et al., 2011). Thus, a major objective in the current study was to examine the differences between self-reported attitudes and actions toward disability-related topics and inclusive instruction across several university settings in three different countries.

Methods

Sample and Procedures

United States. One university participated in this study in the U.S. This university is a medium-sized, public institution located in the Pacific Northwest. At the time of the study, there were approximately 21,000 students and approximately 1,200 tenure-line and instructional faculty. Overall, 82% of faculty were white, 7% were Asian/Pacific Islander, 3% were Hispanic, 1% was African American, 1% was Native American, and 1% was Multi-ethnic. Approximately 4% declined to report racial identity, and there are slightly more male (54%) than female (46%) faculty. At the time of study, there were 765 graduate and undergraduate students with disabilities (approximately 4% of the student population). At this university, the majority (70%) of students with disabilities were diagnosed with either a learning disability (LD) or Attention Deficit Hyperactivity Disorder (ADHD), 10% were diagnosed with a psychological disorder, and the remaining 20% were diagnosed with another disability type, such as mobility, hearing, visual, speech impairments, health disability, brain injury, or seizure disorder.

At the time of this study, the university was in the process of implementing new resources for teaching faculty. These resources were meant to support faculty in teaching students with disabilities, emphasized inclusive instructional practices, and were delivered in three forms: (1) workshops, (2) print resources delivered online as e-newsletters, and (3) website resources. The funding source behind these initiatives was the U.S. Department of Education, Office of Postsecondary Education's Demonstration Projects to Ensure Quality Higher Education for Students with Disabilities.

A focal point of these efforts was an intense four-day workshop in the summer. The workshop content included disability definitions, legal obligations, providing accommodations, promotion of inclusive strategies in the planning for and delivery of instruction, as well as alternate, inclusive strategies for assessing student knowledge and acquisition of course content. Faculty (n = 102) participated in these workshops over a three-year period and were compensated for their time. In addition to attending the four-day summer institute, these participants were asked to disseminate the workshop content to their colleagues in their respective departments. Participants were given resources specifically for the purpose of dissemination. Essentially, this was a "train-the-trainer" approach to changing the university culture so that a large number of faculty would become more informed about disability-related topics. Detailed information about this project has been published (Murray et al., 2014).

In addition to the summer workshop, researchers and disability services staff collaborated in writing regular issues of an e-newsletter. These newsletters were emailed to all faculty and staff at the university. There were six issues per academic year, and each issue focused on a specific topic area. Some examples of e-newsletter topics are procedural information from the Disability Services office in terms of accommodations, assistive technology, inclusive strategies for planning and delivering instruction, inclusive assessment strategies, and disability-related laws and concepts.

To administer the ITSI, all full-time teaching faculty received a recruitment email that described the research project and a link to the online ITSI. Participants were asked to complete the survey on a voluntary basis and were offered a $5 coupon to a campus café regardless of whether they completed the survey. Prior to participating in the survey, participants completed an online consent form. If participants did not consent, they were not able to advance to the survey. Following the initial contact, three additional follow-up requests were sent spaced approximately two weeks apart.

In the U.S., the ITSI was administered to 1,011 tenure-line and instructional faculty at one university. From this population we received responses from 23% of the target population (n = 231). The study sample included 115 males (49.7%) and 116 females (50.3%). Consistent with the overall demographics of the university, 86% of respondents were white, 4% were Asian American (4%), 3% reported Multiple Races, 2% were

Latino less than 1% were American Indian/Alaskan Native, and 5% declined to report race.

Canada. A comprehensive university in Ontario was the study participant representing the Canadian perspective. At the time of the study there were 22,957 full-time and 4,867 part-time students enrolled, including undergraduate, graduate, and special (no degree) students. There were slightly more male students at just over 52% compared to female students at 48% in the undergraduate and graduate population. With respect to Canada's officially bilingual English and French status, the student population is predominantly native English speaking with only 2.8% whose native language is French but with a considerable proportion of students whose first language is neither English nor French at 19.6%.

The data for students with disabilities comes from the Disability Service Office (DSO), a centralized university unit serving this population. The services of the DSOs are partially funded by the provincial government and are focused on academic accommodations and support services such as extra time for exams or learning strategists. At the time of the study, there were a total of 1,922 students with a primary disability registered with the DSO. The largest proportion were students with LD at 29%, followed by psychiatric or mental health disabilities at 24%, ADHD at 19%, and medical disabilities at 13%, while the other six categories such as mobility, sensory, and autism spectrum comprised the remaining 15%. Close to 22% of all students registered at the DSO had multiple disabilities, i.e. other documented disability or disabilities in addition to the disability documented as the primary disability.

At the time of the study, the university employed 841 full-time academic staff including professors, lecturers, and instructors, as well as 717 contract (or sessional) instructors. The faculty at the university are generally well informed of the existence and purpose of the DSO. Historically, the DSO has been actively engaged in faculty outreach and professional development, most often in partnership with the teaching and learning unit. The DSO delivers on average of six to seven workshops per academic year to various groups of educators at the university and takes part in the new faculty orientation and other events at the university that cater to educators. The DSO also directs the course instructors to its online resources for educators at the university with a link included in all formal accommodation emails.

The results reported in the present article are part of a larger research study that investigated the effectiveness of a workshop on faculty attitudes and practices toward students with disabilities. Specifically, data included here are from a survey administered to the comparison or non-workshop group of faculty members and instructors. The invitation to the survey was sent to course instructors who taught a course at the university and received one or more letters that requested specific student accommodations over a three-year period. Following two email invitations and consolidation of responses 315 survey submissions were collected, representing a 27% response rate.

Spain. Unlike the U.S. and Canada, where the ITSI was administered at a single university within each country, the Spanish data collection efforts were broad in scope. A translated version of the ITSI was administered across 76 public and private universities in Spain. The research team sent letters to resource offices for students with disabilities and to the head of each university in Spain (similar to a university Dean), where they were invited to collaborate in the research study. Specifically, they were asked if they could send the online survey link to all instructors in the institution. This process was handled via email. Once the heads of the universities decided to collaborate in the study, they received a recruitment letter that was prepared by a member of the research team via email. The letter invited the instructor to participate in the study, included the purpose of the research, offered to support any questions they may have, and ensured maximum efforts to maintain confidentiality of the data. The program google.docs was used to administer the online survey. In total, 649 instructors from 43 Spanish universities responded to the survey, which represents 67.2% of all universities in Spain. It is important to note there are an additional twelve universities in Catalonia, where the primary spoken language is Catalan. These universities were not included in the present study.

Measure

The ITSI was administered to faculty at all participating universities in the U.S., Canada, and Spain. The ITSI measures seven constructs in the broad areas of disability-related knowledge and laws and inclusive instructional practices based on the tenets of UD across several frameworks. These constructs are: (a) Accommodations, (b) Accessible Course Materials, (c) Course Modifications, (d) Inclusive Lecture Strategies, (e) Inclusive Classroom (f) Inclusive Assessment, and (g) Disability Laws and Concepts. There are two response types: Attitudes and Actions. The Attitudes response options range from 1 (*strongly disagree*) to 6 (*strongly agree*). Each item begins with the stem "I believe it's important to." The Actions response options range from 1 (*never*) to 4 (*always*) with a *no opportunity* option. Each item begins with the stem "I do this."

The ITSI has undergone multiple development phases and validation studies (Lombardi & Murray, 2011; Lombardi, Murray, & Gerdes, 2011) and has been used in previous studies to examine institutional context (Lombardi et al. 2013; Sprong, Dallas, & Upton, 2014). Recently, a Spanish-language version of the ITSI was examined for validity with promising preliminary evidence (Sala-Bars, 2013). The ITSI items and subscales are provided in the Appendix.

The first subscale, Accommodations, contains eight items specific to accommodations requests from students (e.g., "make individual accommodations for students who have disclosed their disability to me). The second subscale, Disability Law and Concepts, contains six items that relate to knowledge of Section 504 of the Rehabilitation Act and the Americans with Disabilities Act, as well as understanding of the terms "disability" and "Universal Design." The third subscale, Accessible Course Materials, contains four items relevant to use of a course website, posting electronic course materials, and allowing students to submit assignments in electronic formats.

The fourth subscale, Inclusive Lecture Strategies, contains four items that measure teaching strategies specific to a typical postsecondary lecture-style class, including simple strategies faculty may utilize to assess student comprehension such as repeating student questions to the class before answering and periodically summarizing key points throughout the lecture. The fifth subscale, Inclusive Classroom, contains nine items related to presentation of course content with a particular emphasis on flexibility, use of technology, and various instructional formats (e.g., small group work, peer-assisted learning, and hand-on activities). This subscale also includes items that measure willingness to make announcements in class or include written statements in the course syllabus that encourage students to disclose a disability or any barriers to learning they anticipate they might have. The sixth subscale, Inclusive Assessment, contains four items pertaining to flexible response options on exams, non-traditional exams, and flexibility with deadlines.

The seventh subscale, Course Modifications, contains four items related to major changes in course assignments or requirements for students with and without disabilities (e.g., "allow a student with a documented disability to complete extra credit assignments" and "allow any student to complete extra credit assignments"). These are called modifications because they are not typical accommodations that faculty are required to provide, and in some cases faculty might see these changes as going above and beyond what they ought to do to support students with disabilities. Further, we include items about students with disabilities and any students on this subscale because we anticipate that, if faculty are flexible in these areas, they tend to be flexible for students regardless of whether they have a disability. While these modifications may not always be appropriate, we believe it is important to measure the willingness of faculty to provide these types of modifications for students with and without disabilities. By measuring this willingness, disability service providers can get a better sense for areas where faculty may be more or less flexible with course requirements.

Results

We conducted statistical *t*-tests to compare mean scores on the Attitudes and Actions subscales across the U.S., Canadian, and Spanish samples. The results of the mean score comparisons across all Attitudes and Actions subscales between the U.S., Canada, and Spain are presented in Tables 1 and 2.

Comparisons in Attitudes and Actions

With regard to Attitudes (See Table 1), the three countries were statistically significantly different across the seven subscales of the ITSI. For the most part, the U.S. responses were the highest, specifically indicating U.S. faculty believed it was important to provide accessible course materials to all students, promote an inclusive classroom, use inclusive lecture strategies while teaching, use inclusive assessment methods when evaluating student performance, and employ course modifications should a need arise for any student, with or without a disability. The Canadian faculty responses were highest in regards to awareness and knowledge of disability-related law and concepts as well as the belief that the provision of accommodations is important. Across the seven subscales, the Spanish faculty responses were consistently the lowest of the three countries.

With regard to Actions (See Table 2), the U.S. faculty responses were the highest for the inclusive assessment and course modifications subscales. These scores indicate U.S. faculty integrated these practices into their teaching at the time of the study. The Canadian faculty responses were highest on the provision of accommodations. The Spanish faculty responses were highest in providing accessible course materials and their use of inclusive lecture strategies. Scores were very similar on the inclusive classroom subscale, indicating no significant differences among the faculty in promoting an inclusive classroom environment across the three countries.

Discussion

In this study, we compared the reported practices of university faculty in inclusive instruction as measured by the ITSI across three countries, the United States, Spain, and Canada. The findings demonstrate the utility of the ITSI across different university contexts within and outside of the United States to measure faculty disability-related knowledge and inclusive instructional practices in two languages. Although there are existing instruments intended to measure campus climate, faculty attitudes, and disability-related knowledge (Murray et al., 2008; Vogel et al., 2008; Wolman et al., 2004), other measures of inclusive instruction based on UD principles are not established in the current literature base. Further, numerous researchers agree there is a gap in the literature between the theoretical basis of UD and empirical support for the benefits on student learning and outcomes (McGuire, 2014; Rao et al., 2013; Roberts et al., 2011). A measure developed based on several theoretical UD frameworks may be the first step to building a sound empirical literature base.

The comparison of ITSI scores across the U.S., Spain, and Canada was particularly revealing. With regard to disability-related law and policies, we might assume the U.S. faculty would score the highest in their attitudes and actions simply because laws on accessibility and higher education have existed for a longer period of time in the U.S. For example, Section 504 of the Rehabilitation Act was passed in 1973, and the American with Disabilities Act was first passed in 1992, then amended in 2008. Canadian faculty responses showed a more positive endorsement of these laws than U.S. and Spanish faculty, as reflected in the Accommodations and Disability Law and Concepts subscales.

In this study, the course modifications subscale was defined as modifications to the content or curriculum of a course that may reduce the overall workload (e.g., reduced reading assignments, offering extra credit opportunities) for students with and without disabilities. It is important to clarify that the authors of this study do not necessarily promote that faculty make such modifications; but rather, aimed to clarify and differentiate modifications from inclusive teaching practices that are operationalized in the other subscales (e.g., inclusive classroom, inclusive assessment, inclusive lecture strategies, accessible course materials). With regard to course modifications, Canadian faculty responded with the lowest overall endorsement of these practices. Interestingly, the Canadian responses were consistent between lower endorsement (attitudes) and implementation (actions), indicating Canadian faculty did not endorse nor implement these practices; whereas, the U.S. and Spanish faculty showed greater inconsistencies between a somewhat positive endorsement but lack of implementation.

U.S. faculty scored the highest in their beliefs that other facets of inclusive instruction are important, yet they did not score the highest in regards to the actual implementation of these practices. In other words, U.S. faculty reported they believed accessible course materials, inclusive classroom, and inclusive lecture strategies were important, but yet they may not necessarily use these strategies. These findings are similar to previous studies that showed university faculty positively endorse inclusive instruction based on the tenets of Universal Design, yet do not implement such practices (Cook et al., 2009; Lombardi et al., 2011; Raue & Lewis, 2011). While it is not entirely clear why faculty do not implement inclusive instruction, some evidence shows lack of institutional support, time, and resources may play a part (Raue & Lewis, 2011; Zhang et al., 2010).

Limitations

Although these findings offer a preliminary glimpse of the differences between the U.S., Spain, and Canada, there are several important limitations to consider in the interpretation of the findings. First, faculty within the respective universities were compared broadly and not across departmental affiliation. Further, the U.S. and Canadian samples were of one university each, whereas the Spanish sample represented 43 different universities. These limitations create difficulties in making broad generalizations between the three countries. Future researchers in these countries and beyond should be more calculated in their research design to ensure proportional representation of faculty across multiple institutions and within departments, institutional types (e.g., private, public, for-profit, not-for-profit), and in consideration of demographic variables (e.g., gender, race), which were not reported in this study. Overall, the rigor of the sampling practices and study design should be improved in future research so that more generalized comparisons across countries can be made.

Implications

Perhaps the most important implication of this study is the potential of the ITSI. Ideally, institutional administrators will use the ITSI to determine training needs of faculty, and professional development and resources will be made available accordingly. In other words, the ITSI has the potential to help institutions promote and enact data-based practices in inclusive instruction based on UD principles. The ITSI as a self-

assessment with immediate feedback would perhaps be most useful. In this format, faculty could take the ITSI, receive immediate and automated feedback based on their responses, and gain a deeper understanding for how they might adjust their course so that inclusive instruction is promoted. This sort of exercise could be beneficial during the course planning and design phase that occurs prior to the start of the teaching term.

Disability services personnel may find the ITSI useful in identifying and targeting professional development opportunities on college campuses. For example, after administration and examination of ITSI response data, it may be clear that faculty know about the provision of accommodations and legal mandates; yet, they are not sure how to implement inclusive instruction. As such, disability services personnel may decide to hold a series of workshops or distribute e-newsletters on topics related to planning and delivering course content that is inclusive of a wide range of learners. These suggested approaches encourage more pro-active, preventive strategies, which is more consistent with the concept of inclusion. In opposition are the more reactive approaches, such as making accommodations for students, which tend to be commonplace in postsecondary education today.

Disability services personnel will continue to face the challenge of providing a variety of resources to faculty. It is important to offer a wide range of resources to faculty. These resources could be as intense as multi-day workshops or as flexible as online modules. If possible, disability services personnel should plan for a large training event (one that would span multiple days) and then use the content to create smaller modules that could be delivered as short workshops, lunchtime "brown bags", or online modules. There are published examples of this approach (Murray et al., 2014; Murray et al., 2009). The ITSI may be a useful tool to help prioritize topics and content. Results can help confirm faculty areas of need.

Conclusion

The continuing increase in prevalence of college students with disabilities shows that more faculty will teach students with diverse learning styles across the United States and abroad. Faculty across many disciplines, including professional schools with perceived non-negotiable standards that can be academic or practical in nature (e.g., nursing, other medical professionals), will experience more diverse student populations over time. The findings from this study show there are effective and efficient ways to identify areas of need of faculty with regard to increasing disability awareness and adopting inclusive instructional practices. The ITSI helps to identify these areas, encourages data-based decision making, and ultimately helps disability services personnel to focus their outreach efforts on empowering faculty with the resources they will need to support college students with disabilities.

Table 1

Comparison of Attitude Across U.S., Spain, and Canada

	U.S.		Spain		Canada	
ITSI Subscale	*M*	*SD*	*M*	*SD*	*M*	*SD*
Accommodations	3.02[ab]	0.46	2.08[ac]	0.43	**3.47[bc]**	0.49
Disability Law and Concepts	2.75[ab]	0.76	1.62[ac]	0.57	**2.97[bc]**	0.59
Accessible Course Materials	**3.49[ab]**	0.54	2.58[ac]	0.47	3.37b[c]	0.57
Inclusive Classroom	**3.47[ab]**	0.51	2.52[ac]	0.41	3.36b[c]	0.49
Inclusive Lecture Strategies	**3.79[ab]**	0.42	2.78[ac]	0.38	3.64[bc]	0.46
Inclusive Assessment	**3.01[ab]**	0.71	2.37[ac]	0.45	2.66[bc]	0.62
Course Modifications	**3.60[ab]**	0.69	2.29a[c]	0.64	1.86[bc]	0.70

Note. [a] *t*-test between U.S. and Spain significant, $p < .05$; [b] *t*-test between U.S. and Canada significant, $p < .05$; [c] *t*-test between Spain and Canada significant, $p < .05$; **bolded** values denote the highest score

Table 2

Comparison of Actions Across U.S., Spain, and Canada

	U.S.		Spain		Canada	
ITSI Subscale	*M*	*SD*	*M*	*SD*	*M*	*SD*
Accommodations	2.21[ab]	0.76	1.55[ac]	1.07	**2.82[bc]**	0.80
Accessible Course Materials	3.09[a]	0.57	**3.21[a]**	0.71	3.14	0.67
Inclusive Classroom	2.72	0.57	2.67	0.62	2.72	0.62
Inclusive Lecture Strategies	3.16[a]	0.54	**3.31[ac]**	0.61	3.21[c]	0.58
Inclusive Assessment	**2.34[ab]**	0.69	2.19[ac]	1.01	2.07[bc]	0.74
Course Modifications	**3.03[ab]**	1.03	1.47[ac]	1.29	1.15[bc]	0.69

Note. [a] *t*-test between U.S. and Spain significant, $p < .05$; [b] *t*-test between U.S. and Canada significant, $p < .05$; [c] *t*-test between Spain and Canada significant, $p < .05$; **bolded** values denote the highest score

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Appendix

Inclusive Teaching Strategies Inventory (ITSI) subscales, items, and response stems

Response Stem	Attitudes: I believe it's important to… Actions: I do...

Subscale	Item
Accommodations	allow students with documented disabilities to use technology (e.g. laptop, calculator, spell checker) to complete tests even when such technologies are not permitted for use by students without disabilities
	provide copies of my lecture notes or outlines to students with documented disabilities
	provide copies of my overhead and/or PowerPoint presentations to students with documented disabilities
	allow flexible response options on exams (e.g. change from written to oral) for students with documented disabilities
	allow students with documented disabilities to digitally record (audio or visual) class sessions
	make individual accommodations for students who have disclosed their disability to me
	arrange extended time on exams for students who have documented disabilities
	extend the due dates of assignments to accommodate the needs of students with documented disabilities
Accessible Course Materials	use a course website (e.g. Blackboard or faculty web page)
	put my lecture notes online for ALL students (on Blackboard or another website)
	post electronic versions of course handouts
	allow students flexibility in submitting assignments electronically (e.g. mail attachment, digital drop box)
Course Modifications	allow a student with a documented disability to complete extra credit assignments
	reduce the overall course reading load for a student with a documented disability even when I would not allow a reduced reading load for another student
	reduce the course reading load for ANY student who expresses a need
	allow ANY student to complete extra credit assignments in my course(s)
Inclusive Lecture Strategies	repeat the question back to the class before answering when a question is asked during a class session
	begin each class session with an outline/agenda of the topics that will be covered
	summarize key points throughout each class session
	connect key points with larger course objectives during class sessions

Inclusive Classroom	use technology so that my course material can be available in a variety of formats (e.g., podcast of lecture available for download, course readings available as mp3 files)
	use interactive technology to facilitate class communication and participation (e.g., Discussion Board)
	present course information in multiple formats (e.g., lecture, text, graphics, audio, video, hands-on exercises)
	create multiple opportunities for engagement
	survey my classroom in advance to anticipate any physical barriers
	include a statement in my syllabus inviting students with disabilities to discuss their needs with me
	make a verbal statement in class inviting students with disabilities to discuss their needs with me
	use a variety of instructional formats in addition to lecture, such as small groups, peer assisted learning, and hands on activities
	supplement class sessions and reading assignments with visual aids (e.g., photographs, videos, diagrams, interactive simulations)
Inclusive Assessment	allow students to demonstrate the knowledge and skills in ways other than traditional tests and exams (e.g., written essays, portfolios, journals)
	allow students to express comprehension in multiple ways
	be flexible with assignment deadlines in my course(s) for ANY student who expresses a need
	allow flexible response options on exams (e.g., change from written to oral) for ANY student who expresses a need
Response stem	*I am confident in…*
Disability Law & Concepts	my understanding of the Americans with Disabilities Act (1990) *
	my responsibilities as an instructor to provide or facilitate disability related accommodations
	my knowledge to make adequate accommodations for students with disabilities in my course(s)
	my understanding of section 504 of the Rehabilitation Act of 1973 *
	my understanding of Universal Design
	my understanding of the legal definition of disability

Note. *Canadian and Spanish versions of the ITSI included the legal wording of laws that are similar to these listed American laws.