Practitioners' Perceptions of Their Knowledge, Skills and Competencies in Online Teaching of Students with and without Disabilities

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Abstract

The need for skilled teachers in online learning environments is presently evident and projected to grow into the future. A survey of education practitioners ($N = 127$) about their knowledge and competencies in online teaching of students with and without disabilities found that they generally recognized the importance of online learning and the specialized competencies it requires. However they lacked confidence in both themselves and their colleagues to effectively use online learning environments in their teaching, and were particularly unprepared to teach students with disabilities. Although many indicated that they currently taught online or blended courses, they had low awareness of online learning platforms, which hold promise for individualizing education for students with and without disabilities. A call is issued to address this lack of knowledge, skill, and competency in online instruction among current and future educators.

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In recent years, K-12 online and blended learning have entered the mainstream of American education, providing opportunities for students across the academic spectrum in all 50 states and the District of Columbia (Repetto, Cavanaugh, Wayer & Liu, 2010). A current report estimates that several million students, or slightly more than 5% of the U.S. K-12 population, participate in some form of online or blended learning (Watson, Murin, Vashaw, Gemin, & Rapp, 2012). To date two main reasons students are enrolling in online courses are for advance placement and credit recovery purposes (Watson et al., 2012). This enrollment trend is slowly changing, as many states are now beginning to see the importance of preparing students to take online courses before they graduate in order to prepare them for college or career readiness. Four states now require all students, with limited exceptions, to complete at least one online learning experience in order to graduate from high school (Alabama State Board of Education, 2008; Brown, 2012 [Virginia]; Florida Department of Education, 2011; State of Michigan, 2012) and some states (e.g. Georgia and Idaho) are encouraging students to have an online learning experience before graduating.

As states begin to require students to take online courses in order to graduate, rates of online enrollment will continue to climb, creating a demand for more teachers to have the knowledge and skills necessary to teach a more diverse population of students, including students with disabilities, within online learning environments. Currently, the best available estimate of the proportion of students in online or blended courses who also receive special education services is 6% (Watson et al., 2011). This estimate, however, may be considerably under-representing the real rate of participation among students with disabilities in online environments because districts and states currently do not have to report the online courses students take for credit recovery or supplemental purposes.

In 2009, survey results from state directors of special education found that 12 states' virtual public schools served students with disabilities (Müller, 2009). The challenges these schools faced included inadequate preparation to serve students with disabilities, difficulties revising curriculum to meet accessibility requirements, inability to meet the needs of students with severe disabilities, lack of communication between students' schools of residence and online school, difficulty ensuring that students with disabilities received sufficient support, insufficient staff for providing services to all enrolled students with disabilities, and lack of adequate funding (Müller, 2009). A more recent survey (Authors, 2012) of state special education directors indicated the number of states that include students with disabilities in online learning has more than doubled to 25 states. Many online programs now serve a full range of disability categories, including students with specific learning disabilities, emotional disturbance, autism, and other health impairments.

Teaching Online

Supporting and elaborating on the challenges that state special education directors identified in 2009, many authors are starting to note that online and blended course instruction have technological and pedagogical differences with traditional face-to-face instruction that require a distinct set of instructor competencies (e.g., iNACOL, 2011; Learning Technology Center, 2010; National Education Association, 2012; Southern Regional Education Board Educational Technology Cooperative, 2009). Skills unique to online learning include asynchronous communication, facilitating online discussions with and between students, posting content in forms that are accessible for students with disabilities, and integrating sound pedagogy with the technology in ways that result in student collaboration and knowledge acquisition (Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009). For a comprehensive summary of the similarities and differences in online and face-to-face instruction, see Kennedy and Archambault (2012).

In addition to the technological and pedagogical differences, online teachers may also be expected to play numerous roles typically filled by other school staff members in traditional settings (iNACOL, 2011; McPherson & Nunes, 2004; Repetto et al., 2010; Salmon, 2003). An online educator, for example, may be required to serve as a teacher, instructional designer, course facilitator, local key contact, administrator, mentor, technology coordinator, and even guidance counselor (Ferdig et al., 2009).

The current demands of K-12 online education necessitate that teachers be fully prepared with effective pedagogical strategies and equipped to perform many roles (Duncan & Barnett, 2009).

Yet, Dawley, Rice, and Hinck (2010) reported that most K-12 online teachers rely on their training for and prior experiences in teaching traditional classrooms rather than on formal education in online and blended instruction. For instance, only 12% of entry-level online teachers and 43% of those with 6 to 10 years of classroom teaching experience participated in college or university courses in online instructional methods. This general lack of preparation in the theories and practical skills needed in online educational environments has been a cause for concern (Duncan & Barnett, 2009; Kennedy & Archambault, 2012; Rice & Dawley, 2009).

Teaching Students with Disabilities

Compounding the lack of preparation for online instruction, most online teachers have little or no experience working with students with disabilities in face-to-face or in an online environment (Dawley et al., 2010). As a result, nearly two-thirds (64%) of online teachers surveyed indicated that their highest need for professional development was in how to meet the needs of students with special needs in online learning.

To the extent that current online educator professional development programs address students with disabilities, the focus is typically on accessibility issues (i.e., how to use captioning media, making web pages accessible to screen reading software) and not on understanding the unique learning needs of students with disabilities (Fichten et al., 2009; Weir, 2005). This limited scope of professional development is especially concerning because most online delivery platforms address sensory and physical accessibility, but require teachers to identify, develop and implement online accommodations that center on learning or cognitive accessibility demands (Kennedy, Evans, & Thomas, 2010). Cognitive accessibility demands relate to system features that allow a learner to perceive, understand, navigate and interact within the online delivery platform.

Additionally, online educators may not understand evidence-based practices for meeting the individual needs of students with disabilities (e.g., explicit instruction, specialized interventions). Likewise, they may have no prior experience or professional development to guide them through the legal requirements associated with special education services (e.g., IEP planning).

Survey Purpose

Based on the current enrollment trends and graduation requirements, online and blended learning is expected to continue growing at an accelerated rate, with estimates as high as 50 percent of all secondary courses going online by 2019 (Christensen & Horn, 2008). The continued growth in online learning coupled with the increased inclusion of struggling students and those with an identified disability will require more teachers to teach in online and blended environments. To be successful teachers must have the skills to integrate pedagogy and evidence-based practices with online technology, facilitate online communication and collaboration, carry out new roles and responsibilities, and fulfill all or part of the special education requirements. These tasks are decidedly difficult for well-prepared and experienced teachers, and perhaps insurmountable challenges for teachers without sufficient education or experience. The field is in need of a better understanding of what is being done, and what should be done in professional development and teacher preparation programs to prepare teachers to meet their roles and responsibilities in online and blended learning. This article presents survey findings for the purpose of developing a better understanding of practitioners' perspectives of online learning and

their preparedness to teach students with and without disabilities. From these findings inferences are made to inform future examinations that may guide revisions to teacher preparation programs.

Methodology

The research team chose an exploratory survey method to identify education practitioners' perceptions of the importance, knowledge, skills and competencies for teaching in online learning environments, both in general and with respect to students with disabilities.

Survey Instrument

The researcher-created survey is a compilation of questions that address three broad topics: (a) the perceived importance of online learning for students with and without disabilities (3 questions), (b) issues related to preparedness of practitioners to teach online in general (4 questions), and (c) perceived preparedness to teach students with disabilities online (2 questions). The survey used Likert-like and other rating scales appropriate to each of the items shown in Figure 1, and was available in both online and paper formats.

Figure 1. *Survey Items*

Importance of Online Learning for Students with and without Disabilities

1. Given the growth in K-12 online instruction, how confident are you that online instruction will play a significant role in improving the quality of instruction experienced by normal-achieving students?
2. Given the growth in K-12 online instruction, how confident are you that online instruction will play a significant role in meeting the needs of students with mild to moderate disabilities?
3. Given the growth in K-12 online instruction, how confident are you that online instruction will play a significant role in meeting the needs of students with significant/severe disabilities?

Preparedness to Teach Online in General

4. Teachers need a unique set of skills/competencies to effectively teach online.
5. How confident are you of your ability to effectively use online environments to meet the needs of the students that you teach?
6. Consider the majority of your colleagues, how confident do you feel in their ability to effectively use online environments to meet the needs of students they teach?
7. Teachers are receiving the kinds of professional development that enables them to effectively use online environments in their teaching.

Preparedness for Teaching Online with Students with Disabilities

8. Teachers have sufficient knowledge, and skills for how to effectively teach individuals with disabilities in online environments.
9. Current learning management systems provide teachers with the necessary tools/resources to support struggling learners in online environments.

Sample

A convenience sample of volunteers (N = 127) was drawn from attendees at four professional conferences. Twenty-six percent (n = 33) of the respondents attended the International Society for Technology in Education (ISTE) conference held June, 2012 in San Diego. The conference was a comprehensive education technology conference with participants from around the world. Twenty-five percent (n = 32) of respondents attended the Strategic Instruction Model® (SIM) conference held July, 2012 at the University of Kansas, which drew 134 educators from across the nation who worked in school districts, universities, and independently as professional developers. SIM® promotes strategies for effective teaching and learning of critical content. Thirty-eight percent (n = 48) of respondents attended the Instructional Coaching Institute conference on Partnership Principles held August 2012 at the University of Kansas, which drew 81 educators who serve as coaches for other teachers. Lastly, 11% (n =14) of respondents attended the Center for Applied Special Technology (CAST) 2012 Summer UDL Institute titled *Universal Design for Learning (UDL): Addressing the Variability of All Learners*. This three day institute was designed for individuals and teams of K-12 classroom teachers, special educators, curriculum supervisors, staff developers and administrators who were interested in learning about and applying UDL to practice. Although a varied group of respondents, the sample represents teacher educators, administrators, teachers, and other professionals engaged in K-12 instruction, especially targeted in the use of technology, the education of students with disabilities, or both.

Overall, 87% (n = 111) of respondents completed the survey on paper and 13% (n = 16) completed the survey online. The respondents' primary educational roles and the level at which they provide instruction are profiled in Table 1. Teacher educators and K-12 general educators were the two largest groups of respondents, with twice as many respondents from secondary level.

Table 1
Survey Respondent Profiles

	n	Percent of respondents
Primary educational roles		
Teacher educator	34	27%
K-12 general educator	28	22%
Other roles	22	17%
Administrator	18	14%
K-12 special educator	9	7%
Technology specialist	7	6%
Related service personnel (OT/PT/SLP, etc.)	3	2%
Not reported	6	5%
Instructional contexts		
Secondary	58	46%
Elementary	29	23%
Higher education	9	7%
Early childhood	2	1%
Non-instructional role	29	23%

Proportion of instruction delivered online		
0 – 25%	97	77%
26 to 50%	17	13%
51 to 75%	3	2%
76 to 100%	5	4%
Not reported	5	4%

Note. $N = 127$

Data Analysis

To examine differences across respondents' primary educational roles (Table 2) and instructional contexts (Table 3) one-way ANOVAs were performed for survey items. The distributions of all variables were checked for normality. None of the variables required transformation to meet the assumptions for ANOVA. Levene's tests indicated that assumption of homogeneity of variance was violated for the analysis of educational roles for one item (regarding learning management systems), and one item for instructional contexts (regarding teachers' need for unique skills to teach online). These items, therefore, are omitted from the ANOVA.

Table 2
Difference across Educational Roles

Items	Educational roles	*n*	*Mean*	*SD*	*F*	*Sig.*	η^2
Importance of Online Learning for Students with and without Disabilities							
Significance of online instruction for normal-achieving students	K-12 General Educator	28	3.11	1.10	0.37	.87	0.01
	K-12 Special Educator	9	3.67	1.00			
	Administrator	17	3.12	1.32			
	Technology Specialist	7	3.43	1.27			
	Teacher Educator	34	3.26	1.38			
	Other	22	3.32	1.09			
	Total	117	3.26	1.21			
Significance of online instruction for students with mild to moderate disabilities	K-12 General Educator	27	2.96	1.29	0.13	.98	0.01
	K-12 Special Educator	9	3.00	1.50			
	Administrator	17	2.88	1.27			
	Technology Specialist	7	3.29	1.25			
	Teacher Educator	34	2.91	1.55			
	Other	22	2.82	1.30			
	Total	116	2.93	1.36			
Significance of online instruction for students with significant/severe disabilities	K-12 General Educator	27	2.56	1.40	0.59	.701	0.03
	K-12 Special Educator	9	2.56	1.74			

Items	Educational roles	*n*	*Mean*	*SD*	*F*	*Sig.*	η^2
	Administrator	17	2.47	1.42			
	Technology Specialist	7	2.86	1.57			
	Teacher Educator	34	2.21	1.30			
	Other	22	2.09	1.27			
	Total	116	2.37	1.37			
Preparedness to Teach Online in General							
Teachers need a unique set of skills/competencies to effectively teach online.	K-12 General Educator	28	4.14	.80	1.45	.21	0.06
	K-12 Special Educator	9	4.33	.71			
	Administrator	17	4.41	.51			
	Technology Specialist	7	4.71	.49			
	Teacher Educator	34	4.44	.79			
	Other	22	4.59	.50			
	Total	117	4.40	.70			
Teachers are receiving the kinds of professional development that enables them to effectively use online environments in their teaching.	K-12 General Educator	23	2.26	1.05	0.20	.96	0.01
	K-12 Special Educator	9	2.33	1.32			
	Administrator	17	2.29	.85			
	Technology Specialist	7	2.14	.69			
	Teacher Educator	30	2.37	.89			
	Other	22	2.14	.64			
	Total	108	2.27	.89			
How confident are you of your ability to effectively use online environments to meet the needs of the students that you teach?	K-12 General Educator	28	2.32	.86	1.43	.22	0.06
	K-12 Special Educator	9	2.44	1.01			
	Administrator	17	2.82	1.33			
	Technology Specialist	7	3.29	.49			
	Teacher Educator	32	2.94	1.32			
	Other	19	2.84	1.21			
	Total	112	2.73	1.16			
Consider the majority of your colleagues, how confident do you feel in their ability to effectively use online environments to meet the needs of students they teach?	K-12 General Educator	28	2.11	1.07	0.14	.98	0.01
	K-12 Special Educator	9	2.33	.87			
	Administrator	17	2.12	.93			
	Technology Specialist	7	2.00	.82			
	Teacher Educator	33	2.09	1.07			

Items	Educational roles	*n*	*Mean*	*SD*	*F*	*Sig.*	η^2
	Other	21	2.19	.75			
	Total	115	2.13	.95			
Preparedness for Teaching Online with Students with Disabilities							
Teachers have sufficient knowledge, and skills for how to effectively teach individuals with disabilities in online environments.	K-12 General Educator	24	2.04	.86	0.54	.75	0.03
	K-12 Special Educator	9	2.22	.97			
	Administrator	17	2.00	.79			
	Technology Specialist	7	1.71	.49			
	Teacher Educator	28	2.07	.81			
	Other	21	1.86	.57			
	Total	106	2.00	.77			

Note. * $p < .05$; ** $p < .01$

Table 3
Difference across Instructional Contexts

Items	Instructional Contexts	*n*	*Mean*	*SD*	*F*	*Sig*	*η2*
Importance of Online Learning for Students with and without Disabilities							
Significance of online instruction for normal-achieving students	Primary/Elementary	29	3.24	1.09	1.37	.26	0.03
	Secondary	58	3.14	1.18			
	Higher Education	9	4.00	1.00			
	Not Applicable	22	3.14	1.49			
	Total	118	3.23	1.22			
Significance of online instruction for students with mild to moderate disabilities	Primary/Elementary	29	2.97	1.27	0.90	.45	0.02
	Secondary	57	2.84	1.36			
	Higher Education	9	3.56	1.13			
	Not Applicable	22	2.73	1.45			
	Total	117	2.91	1.34			
Significance of online instruction for students with significant/severe disabilities	Primary/Elementary	29	2.41	1.21	0.61	.61	0.02
	Secondary	57	2.40	1.43			
	Higher Education	9	2.56	1.24			
	Not Applicable	22	2.00	1.38			
	Total	117	2.34	1.35			
Preparedness to Teach Online in General							
How confident are you of your ability to effectively use online environments to meet the needs of the students that you teach?	Primary/Elementary	28	2.86	1.35	4.43**	.01	0.11
	Secondary	58	2.40	.99			
	Higher Education	9	3.78	.97			
	Not Applicable	18	2.72	1.13			
	Total	113	2.67	1.16			
Consider the majority of	Primary/Elementary	28	2.18	1.02	0.82	.49	0.02

Items	Instructional Contexts	*n*	*Mean*	*SD*	*F*	*Sig*	*η2*
your colleagues, how confident do you feel in their ability to effectively use online environments to meet the needs of students they teach?	Secondary	57	2.04	.94			
	Higher Education	9	2.56	1.13			
	Not Applicable	22	2.09	.81			
	Total	116	2.12	.95			
Preparedness for Teaching Online with Students with Disabilities							
Teachers have sufficient knowledge, and skills for how to effectively teach individuals with disabilities in online environments.	Primary/Elementary	26	2.35	.69	6.31**	.00	0.14
	Secondary	52	2.06	.80			
	Higher Education	9	1.78	.67			
	Not Applicable	20	1.45	.51			
	Total	107	1.99	.77			
Current learning management systems provide teachers with the necessary tools/resources to support struggling learners in online environments.	Primary/Elementary	23	2.52	.85	0.49	.69	0.02
	Secondary	46	2.35	.92			
	Higher Education	9	2.67	.71			
	Not Applicable	18	2.39	.61			
	Total	96	2.43	.83			

Note. * $p < .05$; ** $p < .01$

Findings

Importance of Online Learning for Students with and without Disabilities

The survey presented three items on which respondents rated their confidence regarding the role online instruction will play in (a) improving the quality of instruction experienced by typically achieving students, (b) meeting the needs of students with mild to moderate disabilities, and (c) meeting the needs of students with significant/severe disabilities. They ranked their levels of confidence using a 5-point Likert-like scale on which "not confident" equaled a rating of 1, "moderately confident" equaled 3, and "very confident" equaled 5. On average, respondents were more than moderately confident ($M = 3.3$, $SD = 1.2$) that online learning will play a significant role in improving the quality of instruction experienced by typically achieving students. Their average confidence level was just a little less than moderate ($M = 2.9$, $SD = 1.4$) for online learning's role in meeting the needs of students with mild to moderate disabilities; and was less than moderate ($M = 2.4$, $SD = 1.4$) in meeting the needs of students with severe disabilities. No significant differences were found for these three items across primary educational roles and instructional contexts.

Perceived Preparedness to Teach Online in General

Several items investigated practitioners' perceptions about the needed competencies and professional development opportunities related to online learning. In response to the statement, "Teachers need a unique set of skills/competencies to effectively teach online", 95% ($n = 120$; $M = 4.4$, $SD = 0.7$) of respondents either strongly agreed (49%, $n = 62$) or agreed (46%, $n = 58$). In

contrast, only two participants either strongly disagreed or disagreed and five were neutral. No significant difference by primary educator role was found.

The respondents rated their confidence in both their own ability and their colleagues' ability to use online environments to effectively meet the needs of the students they teach. Again using the 5-point Likert-like scale described above, respondents rated their own ability (i.e., self-efficacy), on average, as less than moderate (M = 2.7, SD = 1.2). The responses significantly differed by instructional context, F (3, 112) = 4.43, p =.006, η^2 = 0.1. Using the Tukey HSD approach to multiple comparisons at the .05 level of significance, the higher education group (M = 3.8) had a significantly larger mean for this item than the secondary group (M = 2.4).

Respondents' confidence in the majority of their colleagues' ability effectively meet the needs of the students they teach was virtually equidistant between no confidence and moderate confidence (M = 2.1, SD = 1.0). No significant differences across primary educational role and instructional context.

Only 9% (n = 15) of respondents agreed that their professional development enabled them to effectively use online learning environments in their teaching. Sixty-five percent (n = 83) of respondents indicated professional development did not enable them to effectively use online environments in their teaching (n = 16 strongly disagreed; n = 67 disagreed), and 23% were neutral (n = 19), did not know (n = 9), or did not respond (n = 1) to the statement. Their responses did not significantly differ by primary educational role or instructional context.

Perceived Preparedness for Teaching Online with Students with Disabilities

Several survey items investigated perceived knowledge and skills for teaching students with disabilities online, including knowledge about online learning platforms, which hold promise for meeting the individual needs of these students. First, respondents indicated their agreement or disagreement with the statement "Teachers have sufficient knowledge and skills for how to effectively teach individuals with disabilities in online environments." Only three respondents (3%) agreed with the statement. Seventy-seven percent (n = 87) of respondents did not agree (n = 26 strongly disagreed, n = 61 disagreed), and the remaining 20% of respondents were neutral (n = 10), did not know (n = 11) or did not respond to the statement (n = 2). Mean responses to this item significantly differed by instructional context, F (3, 106) = 6.31, p =.001, η^2 = 0.14. As might be expected, the results of Tukey's HSD Post Hoc test indicated that both the Primary/Elementary group (M = 2.4) and the Secondary group (M = 2.1) showed a significantly higher mean for this item than the Not Applicable group (M = 1.5). No significant difference by primary educational role was observed.

The survey assessed the degree to which educators' believed the currently available learning management systems (online learning platforms) provided teachers with the necessary tools/resources to support struggling learners in online environments. Almost half (49%, n = 62) of the respondents viewed the systems as insufficient to support struggling learners (n = 11 strongly disagreed, n = 51 disagreed). In contrast, only 18% (n = 23) of respondents agreed that current systems equipped teachers to support struggling learners in online environments. One third (33%) of respondents were neutral (n = 30), did not know (n = 10) or did not respond (n = 2). No significant difference was observed across instructional contexts.

Discussion

The recent rapid growth in online learning signals a future in which most, if not all, K-12 students in the U.S. will engage in some form of online learning (Ferdig et al., 2009; Project Tomorrow, 2011; Repetto et al., 2010; Watson et al., 2012). Thus, not surprisingly, the education practitioners who participated in this survey were more than moderately confident in the significant role online learning will play in improving the quality of instruction experienced by typically achieving students. The more interesting finding was that they were less confident that online learning would play an important role in the education of students with mild to moderate disabilities, and had much less confidence of such a role for students with significant/severe disabilities. This lower confidence suggests that online environments may not be widely perceived as inclusive educational settings. Certainly not all traditional schools and classroom settings are fully inclusive either, but flexibility and individualization through online learning platforms and tools may offer greater opportunities to facilitate inclusion of students with disabilities. Alternatively, students who need related special education services (e.g., speech therapy, physical therapy) or a life skills curriculum may require blended learning environments, but cannot and should not be excluded from learning to use online applications. Rather, students with disabilities should be taught to relate to the world around them through these tools.

A second important finding from this survey was that most of the practitioners expressed a low level of confidence in themselves and their colleagues to effectively provide online instruction, despite the fact that many of them currently provided some online or blended instruction. Some of the challenges that cause practitioners to feel overwhelmed when teaching in online environments may be structural (e.g., student-teacher ratio). Further, a mismatch between their pre- and in-service education and the demands of their online teaching contexts may be at the core of their low self-confidence for online teaching. Indeed, only a few of those surveyed perceived the professional development they had received as having prepared them to be effective instructors in online learning environments. This finding is consistent with several studies (e.g., Archambault & Crippen, 2009; Ferdig et al., 2009; Kennedy & Archambault, 2012; Levine, 2006; Rice & Dawley, 2009) that cite a lack of education in online learning methods.

The third major finding from this survey was that a mere 3% of those surveyed indicated they had sufficient knowledge about how to teach students with disabilities in online learning environments. Given the growth in online learning in general and the high school graduation requirements in many states, the practitioners who were surveyed very likely have or will encounter students with disabilities in the courses they instruct online. Just the requirements of compliance with the federal laws (e.g. Americans with Disabilities Act, Title II, Individuals with Disabilities Education Act; see U.S. Department of Education, 2012) can be daunting to general educators. Thus, expecting online instructors to possess the specialized knowledge needed to assess, accommodate, support, and monitor academic progress for students with disabilities in online environments may appear to be an overwhelming challenge. Online courses or schools associated with a local school district may provide special educator support to the online instructor. However some unaffiliated online schools may expect their instructors to perform the

majority of the special educator role, perhaps with only consultation from an administrative special education director.

Finally, online learning proponents frequently tout the benefits of the technical platforms and tools for developing personalized learning plans and fulfilling monitoring and reporting requirements of *all* students, including those with disabilities (e.g., Graf, Kinshuk, & Liu, 2005). Thus, an opportunity exists to increase educators' knowledge about how to use online learning platforms and tools to create inclusive learning environments.

Implications for Teacher Preparation

The evident knowledge and skills gaps among current practitioners must be addressed through school or district level professional development. However, teacher education programs have significant opportunities to develop the needed skills among the next generation of educators. National standards for online teachers are starting to take shape (e.g., National Education Association, 2012; Southern Regional Education Board Educational Technology Cooperative, 2009), but little empirical evidence exists for the presence and efficacy of teacher preparation programs that teach to these online standards.

With respect to meeting needs of students with disabilities, few standards exist and research to support preparation of the special educator role in online learning environments is nascent (e.g., Brownell, Leko, Kiely, Sindelar, 2012; Cavanaugh, Repetto, & Wayer, 2011; Repetto et al., 2010). Likewise, the Council for Exceptional Children (CEC, 2008) professional standards, which describe the necessary skills for special educators to work with students with disabilities, make no mention of the unique skills needed to develop or provide accommodations for students in online learning environments (Repetto et al., 2010). CEC's current emphasis on teacher development and technology resides in the narrow area of assistive technology, setting a low threshold for what educators need to know as part of their initial preparation program and potentially limiting the role technology plays in educating students with disabilities (CEC, 2008). As a result, observers contend that teacher education programs, both general and special education, need to more purposefully prepare their students to be effective in online teaching roles (e.g., Duncan & Barnett, 2009; Kennedy & Archambault, 2012; Learning Technology Center, 2010; Repetto et al., 2010).

Limitations and Future Research

Because this survey used convenience sampling and has a relatively small sample size, no claims of generalizability can be made. However, survey findings serve an important function as a basis for formulating researchable questions and policy discussions. For instance, what are the necessary and sufficient requirements for general teacher education programs with respect to online learning? How can students with disabilities be more fully included in online learning? To what degree do general educators need to be prepared to function in special educator-like roles in online environments? Because the sample included only 7% special educators, more insight from their perspective would also be beneficial to shaping teacher preparation research and policy discussions.

Conclusion

The tremendous growth in blended or completely online K-12 instruction demands a reexamination of how best to develop teachers for these learning environments. As struggling learners and students with identified disabilities are increasingly included in K-12 online environments, the need for improved practitioner knowledge, skills and competency becomes especially relevant. Our findings suggest that educators generally perceive online and blended learning as having an important place in effective education, although it is perceived as less important for students with disabilities than typically achieving students. Practitioners also perceive the need for professional development in order to become effective online teachers. However, a majority of the educators lacked knowledge and experience with the systems that hold the potential to help them educate students with and without disabilities in online learning environments.

Online and blended learning environments can be useful tools for educating all students, including those with disabilities, if used appropriately. Both district led in-service professional development initiatives and university led pre-service teacher education programs have the potential to prepare competent online educators. However, the current state of practitioner competency to provide online and blended learning experiences to students with disabilities falls short. If we are to purposefully and meaningfully include all students in online K-12 instruction, the field needs to re-consider its current professional development priorities as well as post-secondary education programs.

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