Preparing Educators to Teach Effectively in Inclusive Settings

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Florida Senate Bill 1108, requires educators applying for re-certification to earn one college credit or the equivalent in-service points in teaching students with disabilities (SWD). To assist educators in fulfilling this requirement, a college of education designed an online course and an educator's summer institute (ESI). This article examines the changes in perception of self-efficacy and knowledge of content in specialized instruction in working with SWD in inclusive settings resulting from participation in the two offerings. Results describe participants' gains in ESE content knowledge and a significant and positive impact on perceptions of self-efficacy to teach in inclusive settings.

The educational landscape in Florida schools has changed dramatically in the last twenty-five years. Immigration and inclusive classrooms have created a diverse, changing world for educators. As the result of the Consent Degree in 1990 teacher preparation programs are required to prepare their teacher candidates to meet the needs of English language learners. The natural next step was to address the needs of students with disabilities. In 2013 the Florida Senate passed Senate Bill 1108 requiring applicants who are renewing their professional educator certificate to earn a minimum of one college credit or the equivalent in-service points in the area of instruction for teaching students with disabilities.

The urgent need for teacher preparation in ESE as mandated by Florida Senate Bill 1108 and the inclusive nature of today's classrooms is impacting all levels of the education system. Level 1: Teacher educators in regular elementary and secondary teacher preparation programs must be knowledgeable about ESE content and strategies to infuse this content in their courses to prepare teachers to be successful in any inclusive setting. Level 2: Pre-service teachers must receive this information prior to their internships so they can be effective teachers for ALL students. Level 3: In-service teachers need the ESE content as part of their re-certification requirements and also to effectively address the needs of all students in the inclusive classroom.

Federal and state legislation and accountability mandates have high expectations for the academic performance of all students; yet there are still staggering performance gaps for students with diverse learning needs and disabilities. According to the National Assessment of Educational Progress (NAEP; National Center for Education Statistics, 2011a and 2011b), students with diverse needs and disabilities continue to score well below their counterparts in all areas tested and across all grade levels. For example, on 4th grade reading assessment, 68% of 4th graders with disabilities scored below basic proficiency as compared to 30% of their peers without

disabilities. Further, these gaps generally do not diminish, and in mathematics, the gaps increase as students progress through school. On 4th grade math assessments, 45% of students with disabilities (SEDs) scored below basic proficiency, compared to 15% of their peers without disabilities.

Literature Review Inclusion

Today students with disabilities have access to programs and resources they need because of laws such as the *Individuals with Disabilities Education Act* (IDEA) of 1990 and No Child Left Behind (NCLB) of 2002. IDEA mandates that individuals with disabilities must be educated in the least restrictive environment which often means the regular classroom setting. NCLB and most recently, the Every Student Succeeds Act (ESSA) of 2015 address performance standards for effective teachers with diverse learners. However research reveals that teachers are leaving the profession early because they do not feel prepared to teach in an inclusion classroom (Burke & Sutherland, 2004). An inclusive classroom places students with disabilities in the regular classroom with appropriate in-class support. Teachers who completed their preparation before these important pieces of legislation were enacted may not have received the training needed to be successful in an inclusive setting. Despite colleges of education's effort to prepare teacher candidates for the difficult job ahead, there is evidence that indicates both in-service and pre-service teachers may not feel prepared to meet the needs of students with disabilities in the regular classroom setting (Gokdere, 2012; DeSimone & Parmar, 2006; Hodkinson, 2005; Pavri, 2004).

Teacher candidates are not alone in their concern about feeling unprepared; teacher education faculty may share this concern. A study reported in 2008 described one university's attempt to assess teacher educators' individual and collective education practice in relation to preparing their teacher candidates for inclusive settings (Cooper, Kurtts, Baber & Vallecorsa, 2008). When asked to rate their own knowledge and skill level relative to preparing candidates to work with students with disabilities in inclusive settings approximately 37% of the faculty described themselves as "somewhat or extremely limited" (p. 163). The authors reported that the faculty wanted professional development experiences where regular education and special education faculty would collaborate. The collaboration resulted in a dual major in elementary education and exceptional education. "This is an excellent opportunity for faculty in these areas to collaboratively provide the knowledge and skills that will enable our teacher candidates implementing instruction that ensures the success of *all* students in inclusive settings" (Cooper, et.al., p. 173).

Self-efficacy. After Bandura (1977) introduced the concept of self-efficacy in his classic text, *Social Learning Theory*, it was quickly adopted by educators. Teachers' self-efficacy is "teachers' confidence in their ability to promote student learning" (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). Managing a classroom of children and meeting their individual needs has always been challenging. The inclusion of children with disabilities into the classroom changes this dynamic in ways that require specialized training in differentiation. However, researchers have shown that the instruction in differentiation does not always translate into a teacher feeling confident in his/her ability to meet the needs of children with disabilities. What will truly help the classroom teacher feel capable to meet the needs of all students?

Dixon, Yssel, McConnell and Hardin (2104) studied teachers in two school districts to determine if greater professional

development in differentiation enhanced both the teachers' efficacy and the teachers' sense of efficacy beliefs. By placing emphasis on the philosophy behind differentiation as well as the process of differentiation the researchers observed that it was not the grade level or content area taught that impacted the teacher's efficacy to differentiate. Rather it was the amount of professional development that mattered.

In addition to professional development, social support from colleagues has been shown to have an impact on teacher efficacy. When preschool teachers were invited to participate in an online community where they could interact, ask questions, and share resources their efficacy increased (Gebbie, Ceglowski, Taylor & Miels, 2012).

Realizing that teacher efficacy plays an important role in the success of classroom teachers' differentiation effort, the current study explored the changes in perception of self-efficacy and knowledge of content in specialized instruction as it pertains to working with students with disabilities in inclusive settings resulting from participation in two in-service teacher offerings.

Method. The primary concern of this study was to examine the changes in content knowledge and perceptions of self-efficacy of participants enrolled in an online credit course and a blended model summer institute toward ESE specialized instruction as it pertains to working with students with disabilities in inclusive settings. This study was grounded in a postpositivistic approach (Creswell, 1994; Phillips & Burbules, 2000). The research used a quasi-experimental research design without a control group, using pre/post-survey analysis of online modules and a face-to-face summer institute applying a no-randomized sampling. The researchers followed Institutional Review Board protocols for working with human subjects for this study. Our research questions were:

Question 1: To what extent is there a difference in content knowledge on specialized instruction of teacher educators and in-service teachers as a result of completion of the online modules?

Question 2: To what extent is there a difference in the perception of self-efficacy of teacher educators and in-service teachers as a result of completion of the online modules?

Participants. Participants in the study were educators enrolled in either a credit online course or an educator summer institute (ESI); both created to meet a new state requirement of one college credit or the equivalent in-service points in the area of instruction for teaching students with disabilities for renewal of the professional educator certificate.

All students enrolled in the online course and participants of the ESI were asked to create a personal ID to protect their identity and to be used to match the pre- and post-surveys. Unfortunately, only 47 participants had a matching ID to enable pairing the pre and post-test. Consequently, data analysis was limited only to that data set.

Table 1

Age of Respondents (n=47)

Age	**Percent**
20-29	13
30-39	23
40-49	28
50-59	21
Over 60	15

Of the total 47 participants with a pre-/post-test, there were 41 females and 6 males. Table 1 presents the distribution of respondents' ages. There were 7 participants older than sixty, 10 in their

fifties, 13 in their forties, 11 in their thirties, and 6 in their twenties.

Table 2 presents the level of education of the participants. This was determined based on the highest degree earned. There were 27 with graduate degrees, 19 with bachelor degrees, and 1 with an associate degree.

Table 2

Highest Degree Earned (n=47)

Highest Degree earned	**Percent**
Graduate degree	57
Bachelor degree	40
Associate degree	2

Table 3 presents the employment status of the participants. There were 29 participants that were teaching in the regular classroom, 1 exceptional education teacher, 6 working at schools in a different capacity other than teaching, 4 employed not in education, and 7 not employed or retired.

Participants completed one self-efficacy survey and pre- post-tests for the online modules. All instruments were administered through Webcourses, the online course management system used by the university. The platform provided easy access and convenience for the participants.

Table 3

Employment Status (n=47)

Employment status	Percent
Regular classroom teacher	62
Exceptional education teacher	2
Educator other than teacher	13
Not employed in education	8
Retired or unemployed	15

Survey Instrument/Pre-Post Tests. The Moran & Hoy (2001) Teacher's Sense of Efficacy Scale was completed by the participants at the beginning and end of both the online credit courses and the summer institute. The survey was not timed and participants did not receive a score, just an acknowledgment of completion.

Pedagogical content knowledge data was collected by using the pre- and post-tests for the online modules. The tests were offered to the participants through the Webcourses platform. Tests were taken online and had 10 questions to be answered within 20 minutes. Participants received a score on their tests of 0-10 points.

Course Curriculum. Ten online modules were created to enhance the knowledge of exceptional education for teacher educators and in-service teachers. Topics addressed included: Foundations of Special Education, Assessment, MTSS, Behavior Management, Low Incidence Disabilities, High Incidence Disabilities, Universal Design for Learning (UDL), Technology for Educators, Effective Communication and Collaboration, and Life-Long Learning. Each module provided a video presentation on the topic, professional readings, links and resources, an instructional activity or task to apply the knowledge gained and a quiz to assess mastery of the content. The modules considered different learning preferences and exemplified the concepts of Universal Design for Learning.

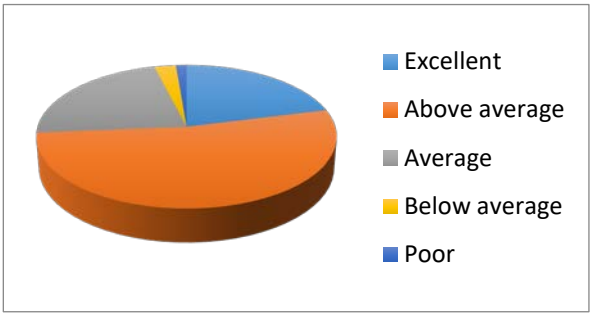
Results

Quantitative analysis was used to determine if there was a significant change on the educators' test scores. Demographic characteristics of the participants were analyzed to determine any possible correlation with the dependent variables.

Assessment of Impact on Learning. The project attained goals 1-4 while impacting educators' content knowledge of ESE and sense of self efficacy in regards to working with students with disabilities.

Goal 1: Co-construct and or enhance online modules for professional development of teacher educators, teacher candidates and in-service teachers. The ESI (Educators Summer Institute) satisfaction evaluation conducted by the university's Continuing Education demonstrated that 73% participants rated the online components of the project as excellent or above average.

Figure 1: Participants' Level of Satisfaction with Online Components



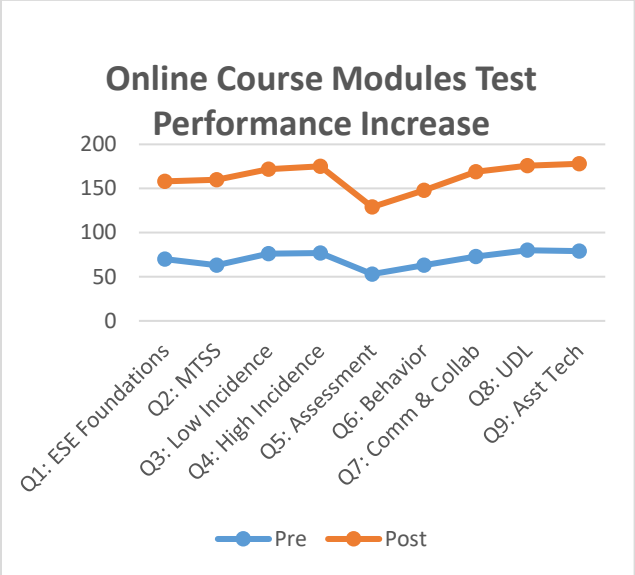
Goal 2: Increase the content knowledge of specialized instruction of teacher candidates and in-service teachers with modules focused on content on specialize instruction. The impact of the online modules on educators' content knowledge in special education was determined by analyzing the score difference between the pre- and post-quizzes for both the EEX 4932 credit course and the ESI online components. The results are depicted in the table and graph below.

Table 4

Data Comparison of Content Knowledge Pre- and Post-Testing for EEX 4932

Quizzes and Topics	Pre	Post	Increase
Q1: ESE Foundations	70	88	18
Q2: MTSS	63	97	34
Q3: Low Incidence	76	96	20
Q4: High Incidence	77	98	21
Q5: Assessment	53	76	23
Q6: Behavior	63	85	22
Q7:Communication & Collaboration	73	96	23
Q8: UDL	80	96	16
Q9: Assistive Technology	79	99	20

Figure 2: Online Course Modules Test



For EEX 4932, the online credit course had an average increase of 22 points on the quizzes, which represented a 31% increase on participants' performance. For the ESI, online modules pre- and post- data were collected for two modules showing an average gain of 31.5

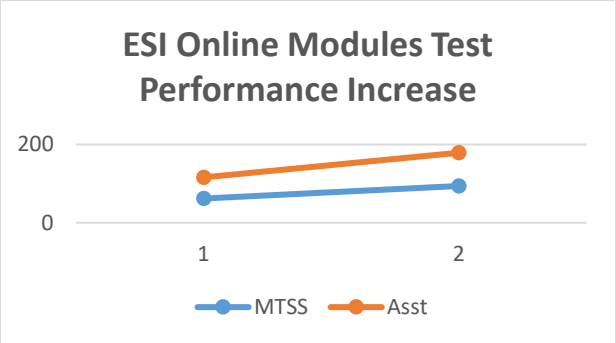
points. The results are depicted in the table and graph below.

Table 5

Data Comparison of Content Knowledge Pre and Post Testing for ESI

Quizzes and Topics	Pre	Post	Increase
MTSS	62	94	32
Assessment	54	85	31

Figure 3: ESI Online Modules Test Performance Increase



In the two ESI online modules with pre- and post-data, the performance increase was equivalent to 54%. The final performance on the behavior topics missing the pre-test data still report an average of 92 as the final score.

Goal 3: Improve dispositions and sense of self efficacy of teacher candidates and in-service teachers to effectively teach within inclusive settings. Participants' dispositions and sense of self efficacy were measured with the Moran & Hoy (2001) Teacher's Sense of Efficacy Scale. A pre- and post-survey were created using Survey Monkey and the link to take the survey was made available to participants via Webcourses, a secure website used as the main academic platform for the university's courses online. Instructions were provided to take the pre-test before beginning any course module or reading. The post-test was required at the end of the course after all requisites were completed.

To protect the identity of the participants, they were asked to create a personal ID that was used to match the pre- and post-surveys. Only 47 participants had a matching ID that enabled the pairing of their pre and post-tests. The data set was then limited to these 47 participants. The survey had 24 questions and 5 additional questions to collect demographic information and allow for the formulation of their ID. The survey provided 3 subscales; Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management.

Research Questions. Data collected during the project was used to answer the following three research questions.

Question 1: To what extent is there a difference in content knowledge on specialized instruction of teacher educators, teacher candidates and in-service teachers as a result of completion of the online modules?

Answer: Data analysis demonstrated that there was an increase in content knowledge as evidenced in the average 22-point gain in the post test for the online modules of the credit course (EEX4932) and a 31.5 gain for the two online modules of the ESI.

Question 2: To what extent is there a difference in the perception of self-efficacy of teacher educators, teacher candidates and in-service teachers as a result of completion of the online modules?*Answer:* Data were analyzed using the short form of the scale and segregated into the three major subscales. These were: Efficacy in Student Engagement (Items 2, 3, 4, 11); Efficacy in Instructional Strategies (Items 5, 9, 10, 12) and Efficacy in Classroom Management

(Items 1, 6, 7, 8). Only participants who completed all the items on the survey were considered for the statistical analysis. As a result, 2 participants were eliminated from the Student Engagement subscale and 8 from the Classroom Management subscale. The Instructional Strategies subscale had 18 participants missing data and therefore was not used in the data analysis.

Efficacy in Student Engagement

A paired-samples t-test was conducted to evaluate the impact of the intervention on participants' sense of self efficacy in classroom engagement on the short form of the Sense of Teacher Efficacy (STE). Changes in scores were statistically significant from Time 1 (pre-test) (n = 45, *M* = 29.09, *SD* = 3.92) to Time 2 (post-test) (*n* = 45, *M* = 31.69, *SD* = 3.30), *t* (44) = -4.98, *p* <. 001 (two-tailed). The mean decrease in STE scores was 2.60 with a 95% confidence interval ranging from -3.65 to -1.55. The eta squared statistic (.36) indicated a large effect size.

Table 6

Paired Samples Statistics for Efficacy in Student Engagement

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	EngageSFPRE	29.0889	45	3.91862	.58415
	EngagePOST	31.6889	45	3.29478	.49116

Table 7

Paired Samples Test for Efficacy in Student Engagement

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	EngageSFPRE - EngagePOST	-2.60000	3.50584	.52262	-3.65327	-1.54673	-4.975	44	.000

Table 8

Paired Samples Statistics for Efficacy in Classroom Management

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	CMSFPRE	28.7949	39	5.01146	.80248
	CMSFPOST	32.4615	39	3.41703	.54716

Note: Significance was established a p<.001.

Table 9

Paired Samples Test for Efficacy in Classroom Management

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	CMSFPRE - CMSFPOST	-3.66667	5.11105	.81842	-5.32348	-2.00986	-4.480	38	.000

Note: Significance was established a p<.001.

Efficacy in Classroom Management

A paired-samples t-test was conducted to evaluate the impact of the intervention on students' sense of self efficacy in classroom engagement on the short form of the Sense of Teacher Efficacy (STE). Changes in scores were statistically significant from Time 1 (n = 39, *M* = 28.79, *SD* = 5.01) to Time 2 (*n* = 39, *M* = 32.46, *SD* = 3.42), *t* (38) = -4.48, *p* <. 001 (two-tailed). The mean decrease in STE scores was 3.66 with a 95% confidence interval ranging from -5.32 to 2.00. The eta squared statistic (.35) indicated a large effect size.

Question 3: Retention of participants: What is the level of completion (retention) of teacher candidates and in-service teachers on the online modules?

There was a 100% retention and completion of the course requirements among participants in the credit course EEX 4932. For the ESI there was only 1 participant who did not complete the online modules because she registered the day of the conference and missed the online components.

Conclusion

Preparing educators for their classroom responsibilities has never been more demanding. In addition to mastery of their academic content, educators are expected to meet the diverse needs of their students in inclusive settings. In terms of the quantitative data, there was a positive increase in ESE content knowledge among participants in both the online credit course as well as the Educator Summer Institute. A significant and positive impact of the online modules and the ESI conference on participants' perception of their self-efficacy to teach in inclusive settings was also achieved. The results demonstrate that regardless of demographic variables, such an online course and Educator Summer Institute are effective in improving teacher efficacy and ESE content knowledge.

Although our study had limitations in terms of being a self-assessment of two offerings for in-service teachers offered by one university and the findings cannot be generalized, the process of creating the online course and the educators' summer institute can serve as a professional development model. Given the state requirement for teacher preparation in ESE as mandated by Florida Senate Bill 1108, other Florida colleges and universities may consider replicating the model or offering similar opportunities to in-service teachers and others seeking to renew their teaching certificates. Given the inclusive nature of today's classrooms, other states may soon implement similar requirements for their teacher renewal process.

If the intent of federal and state legislation is to enhanced learning for all students including students with disabilities, then it is imperative that educators receive the professional development that enable them to master the content and skills necessary to succeed in today's inclusive classrooms. The curriculum and delivery method used in the professional development offerings described in the study represent an effective option to provide appropriate preparation of teacher education faculty, pre-service teachers, and in-service teachers in working with students with disabilities.

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