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## **Teaching Inclusivity: Preservice Teachers' Perceptions of their Knowledge, Skills and Attitudes toward Working with English Language Learners in Mainstream Classrooms**

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### **Abstract**

This study investigated the effect of one semester of ESOL education on preservice teachers by examining their perceived knowledge and skill in working with English Language Learner (ELL) students, and their attitude toward having ELL students in their mainstream classrooms. The survey identified two factors: a) Perception of ESOL Knowledge and Skills (PEKS) and b) Attitude Toward Inclusion (ATI). Results showed that preservice teachers' perceptions of both knowledge & skill (PEKS) changed from introductory to the final ESOL course, and that PEKS changed significantly from pre- to post-test within the same course. No significant changes were found in students' attitude toward inclusion (ATI) either from course 1 to course 2 or from pre- to post-test within the same course.

Present demographic trends in the United States indicate that by the year 2025, one in every four children in public schools will initially be classified as an English language learner (ELL) (Diaz-Rico & Weed, 2010). Increasingly, ELL students, even those who speak no English, are spending more time in mainstream classrooms rather than in sheltered English for speakers of other languages (ESOL) instruction (de Courcy, 2007). In 2001, Congress passed the No Child Left Behind legislation, and subsequently the Office of Bilingual Education and Minority Languages Affairs was reorganized and renamed the Office of English Language Acquisition (OELA). Today, the goal of OELA and Title III is to 'ensure that all federal dollars are spent to close the achievement gap for limited English proficient and immigrant children' (OELA, 2011), and this emphasis on meeting the same standards regardless of English proficiency has pushed ELLs and their teachers into a new learning paradigm.

### **Background**

In the early half of the 20<sup>th</sup> century, most ELLs experienced the submersion or "sink or swim" approach to learning English in school, which often meant that non-English-speaking children were placed in grades below their age level in order to allow them to learn English through exposure to the simple language of early childhood texts and activities. Behind from the start, many ELL students eventually dropped out of school and found jobs that did not require high levels of education. In the second half of the century, the profession of teaching English to speakers of other languages (TESOL) was established, and where large concentrations of ELLs attended school, they were often placed in sheltered ESOL classes for all or part of the day,

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developing English language skills. Critics of this approach complained that ELL students missed important instructional time in academic subjects and therefore their knowledge of content suffered (Platt, Harper, & Mendoza, 2003). Proponents of this approach argued that it was a humane and research-based endeavor that segmented language into levels of difficulty that students could master through guided exercises and activities—similar to the dialogues used in foreign language classrooms.

Popularized during the 1980's, a second language (L2) teaching approach, content-based instruction (Chamot & O'Malley, 1994), suggested that learning an L2 did not have to focus solely on the language as a subject, but that it could also be learned through focusing on content in the second language. Grounded in cognitive learning theory, content-based language instruction proposed that information connected to related concepts is learned more effectively (Anderson, 1993) and that focusing on content uses a broad range of discourse skills (Byrnes, 2000) that promote second language acquisition. The emphasis began to change from learning about the language and practicing what was learned to learning to use the language through applying it to academic content.

The confluence of this new teaching method and prevailing demographic trends in the 1990s created a neo-submersion learning context for English language learners. According to the National Clearinghouse for English Language Acquisition (NCELA) between the academic years of 1998/99 and 2008/9, ELL students increased from 3.5 to 5.3 million in U.S. public schools. This represents a 51% growth (NCELA, 2011). In a 2008 report published by the National Clearinghouse for English Language Acquisition, it was stated that the majority of teachers in U.S. K-12 schools have at least one ELL in their classroom, and that only 29% of teachers with ELLs have the training required to do so effectively. Only 20 states require that all teachers have training in working with ELLs, and 57% of teachers believe they need more training in order to provide effective education for ELLs (Ballantyne et al., 2008).

### **Education of ELLs in Florida**

Florida schools have traditionally educated a large number of ELLs, particularly in greater Miami. Florida districts have differed in the type of ESOL services provided, from ESOL pull-out models to less sheltered approaches. In response to the lack of consistent quality and equity in education for ELL students, in 1990 a consent decree was signed between Multicultural Education, Training and Advocacy, Inc. (META), and the Florida State Board of Education (SBE). Popularly known in Florida as the META Consent Decree, *LULAC et al. v. State Board of Education Consent Decree* provides a structure for compliance to ensure ELL children's rights to equal education opportunities. As a result, each school district in the state of Florida is required to develop and follow an approved plan that ensures the protection of the constitutional rights of ELL students. Teachers are directly impacted by the META Consent Decree training requirements at the time an identified ELL student is placed into their classrooms. Early childhood and elementary school teachers, secondary language arts teachers, and special education classroom teachers are required to take 300 in-service hours of ESOL training, or 15 college credits of ESOL education courses. Secondary content area teachers (other

than English teachers) are required to take 60 in-service hours of ESOL training, or three college credits of ESOL education courses.

The implementation process of the Consent Decree in Florida had a profound effect on the attitudes of university personnel, school administrators, teachers, and the public in general (Wilson-Patton, 2000). Practicing teachers exerted pressure through the union to repeal the training requirements, but other than small logistical changes such as extending the time frame for compliance, the requirements withstood tactics to eliminate them. Since most language arts teachers could not avoid the 300 hours of in-service education, there was considerable resistance to the ESOL courses and in some cases outright hostility toward ESOL and ELLs. Many teachers began to call ESOL a “four letter word,” and their attitude carried over to their teaching, with resentment expressed toward ELL students placed in their classes, whose assignment to them made their completion of the in-service training requirements necessary.

These changes in educational requirements deeply impacted how colleges of education in Florida prepare future teachers. From 1990 to 1996, Florida institutes of higher education continued to graduate teacher candidates without coursework or field experiences in teaching ELL students, and most of these teachers were hired with the condition that they complete the 300 hours of ESOL in-service within a narrow time frame. Beginning teachers struggled with dedicating one or more evenings per week to complete the ESOL in-service requirements, but universities did not want to add 15 ESOL credits to their early childhood, elementary, English, and special education degrees.

In response to these issues, universities in Florida adopted an “infusion” model for the ESOL education of its pre-service teachers. This model combines ESOL education courses such as Applied Linguistics with ESOL methods infused in other teacher education courses, an early and a late field experience with ELLs, and the completion of an ESOL portfolio by each pre-service teacher. The combination of these components satisfies the Department of Education’s requirement of 15 credits of ESOL education for pre-service teachers in order to earn an ESOL endorsement. By infusing typically one half to two thirds of the ESOL content into general teacher education courses, the number of required ESOL credits has been reduced to a range of six to nine rather than 15. Beyond the obvious benefit of a shorter degree program, which also reduces tuition expenses, an infusion approach can have pedagogical benefits that an ESOL course sequence alone does not. The addition of ESOL content into theory and methods courses helps students perceive of ELLs as an integral part of their planning, teaching, and evaluating.

Moving north from the Miami/Ft. Lauderdale area to central and eventually north Florida, the ESOL infusion model eventually was implemented in most teacher education institutions. As of 2004, all Florida teacher preparation institutions must ensure that graduates meet the ESOL training requirement, either through adding 15 credits of ESOL courses or through the infusion model. Twenty plus years after the initial consent decree, it still stands. The purpose of this study is to evaluate students’ perceptions of components of the ESOL infusion program at a large, public university in central Florida, specifically how they perceive their knowledge and skills regarding ELLs.

## **Purpose of the Study**

This study investigated the effect of English for Speakers of Other Languages (ESOL) education on preservice teachers by examining their perceived knowledge and skills in working with English Language Learner (ELL) students, and their attitudes toward having ELL students in their mainstream classrooms. The researcher developed a survey which was conducted at the beginning and end of one regular semester of studies. Participants were either in their initial (course one) or final (course two) ESOL course. This study used an on-line attitudinal survey instrument, the ESOL Awareness Survey Instrument (EASI).

## **The EASI Survey**

### **Administration of the Survey Instrument**

The study was conducted in one regular semester at a public university in Florida. All participants in the introductory and final ESOL courses were invited to participate. The survey was presented twice in the semester: pre-course data were collected in the first two weeks of classes, and the post-course data were collected in the last two weeks of the semester prior to the final exams. The survey was offered online, and all participants had the opportunity to participate in both or either of the surveys (see survey instrument).

### **Participants**

The participants were volunteers at two distinct points in their studies in the college of education: There were 513 students enrolled in the two target ESOL courses during the semester of this study. Of these, 293 students volunteered to take the EASI pre-course survey (57% of those enrolled), and 273 volunteered to take the EASI post-course survey (53% of those enrolled).

### **Common Factor Analysis of the EASI**

A common factor analysis was run with all 40 items for the pre- and post-EASI using an oblique rotation since it was believed that the factors may be correlated (see Table 1). Similar factor results were obtained for both administrations. Based on the data, three factors were obtained, and they were stable across the two administrations. Three factors were retained and these factors accounted for 74% of the variability on the pre-EASI and 75% on the post-EASI. The addition of other factors did not add significantly, and interpretability was very clear for these three factors. The three factors identified were (1) Perceived Knowledge and Skill – PEKS, (2) Attitudes toward Inclusion – ATI, and (3) Perceived Effectiveness of Instructional Methods – PEIM. For the purposes of this study, only the first two factors were considered.

Cronbach's coefficient alpha for internal consistency reliability was .93 on the pre-EASI and .96 on the post-EASI. The average communality estimate for all the items was .77 on the pre-EASI and .70 on the post-EASI. Conservative positions consider scores of .7 and above as 'reasonably high' (Stevens, 2002, p. 410).

Table 1

*Factor Analysis Results for Pre- and Post-EASI*

	Pre-EASI	Post-EASI
N	219	229
Cronbach Alpha	.93	.96
Communality Estimate	.79	.70
Total Eigenvalue	30.68	28.24
Factor 1 Eigenvalue	13.15	14.69
Factor 2 Eigenvalue	7.46	4.19
Factor 3 Eigenvalue	2.23	2.44

Table 2 includes the Eigenvalues for each of the items and the factors with which they loaded. In the table, all eigenvalues were multiplied by 100 and rounded to the nearest integer. Values greater than .430295, or those considered clearly loading on one factor, were flagged by an asterisk (\*). The standardized regression coefficient scores of the pre- and post-course factor analysis are shown using the Promax rotation method, which is an oblique rotation. The reference structure for the rotated factor pattern had clear results. The items were not complex, meaning that each item loaded with one and only one factor.

Table 2

*Factor Structure of Instrument*

Item	PEKS Factor 1		ATI Factor 2		PEIM Factor 3	
	Pre	Post	Pre	Post	Pre	Post
Knowledge L3	90*	81*	4	4	-8	3
Skill L3	90*	93*	0	-13	-4	2
Knowledge L2	89*	78*	6	-8	-5	2
Skill L2	89*	90*	0	-15	1	1
Skill L4	88*	86*	-5	-10	1	-2
Knowledge Adapt. Content	88*	65*	3	22	-10	-10
Knowledge L4	87*	77*	3	4	-6	2
Knowledge L1	86*	71*	5	9	-3	7
Skill L1	85*	86*	1	-11	4	2
Knowledge ESOL Methods	85*	66*	-4	13	-3	5
Knowledge ESOL Assessment	84*	64*	-3	20	-1	-1
Skill Adapt. Content	79*	66*	-4	8	16	12

Item	PEKS Factor 1		ATI Factor 2		PEIM Factor 3	
	Pre	Post	Pre	Post	Pre	Post
Skill Policies	78*	65*	6	-3	-4	8
Skill ESOL Assessment	78*	72*	-3	-5	8	10
Skill ESOL Methods	77*	67*	-3	-4	2	-3
Knowledge Policies	73*	56*	4	10	-6	-2
Knowledge SLA	70*	50*	2	27	5	-17
Skill Culture	59*	61*	-2	12	17	-6
Skill SLA	51*	61*	-10	3	28	7
Knowledge Culture	48*	46*	12	27	5	-17
Attitude toward mainstreaming L2 learners	3	-11	85*	48*	-6	31
Attitude toward mainstreaming L3 learners	14	11	83*	73*	-12	-5
Attitude toward mainstreaming L1 learners	-6	-17	77*	42*	-7	34
Attitude support mainstreaming	-1	-10	69*	71*	9	7
Attitude benefit mainstreaming	4	2	63*	71*	6	2
Attitude toward mainstreaming L4 learners	19	20	59*	52*	-5	-11



Item	PEKS Factor 1		ATI Factor 2		PEIM Factor 3	
	Pre	Post	Pre	Post	Pre	Post
Attitude support ESOL education	-7	4	58*	76*	23	4
Attitude support ESOL teacher training	-3	0	55*	76*	23	5
Attitude benefit ESOL teacher training	-17	11	53*	64*	20	6
Attitude benefit of being bilingual	3	11	50*	58*	18	-4
ESOL infused readings	3	4	-6	-13	84*	84*
ESOL infused activities/ discussions	14	25	-11	-1	82*	64*
ESOL infused case studies	1	8	-3	-6	79*	80*
ESOL infused reflective assignments	11	4	6	-1	73*	80*
ESOL course reflective assignments	5	-7	18	15	63*	73*
ESOL infused field experience	11	9	1	3	62*	70*
ESOL course readings	-16	-2	18	-1	55*	72*
ESOL course case studies	-25	-8	17	14	50*	66*
ESOL course activities/ discussions	3	13	24	22	50*	48*
ESOL course field experience	3	13	30	25	30	48*

Similar results were obtained on both pre- and post-EASI factor analyses. The same items loaded on the same factors for both administrations with the exception of only one item. On the pre- and post-EASI, the 20 knowledge and skills items loaded on one factor which was named Perceptions of ESOL Knowledge and Skills (PEKS). Factor two loaded with the ten items on reported attitude toward inclusion of ELL students in the mainstream classroom on both of the surveys and was named Attitudes toward Inclusion (ATI). Factor three was not considered for the purposes of this study.

To establish the relationship further between the 40 items on the EASI and the factors, Pearson correlations were run between the three new factors and the items on the survey. The group of items that loaded on each of the factors was used to create a variable by computing the average scores for these items. On the post-EASI, the twenty items for participants' perception of their ESOL knowledge and skill had a correlation of .99 with factor 1 (PEKS). The ten items for participants' attitudes toward inclusion had a correlation of .97 with factor 2 (ATI). Factor three was not considered for the purposes of this study, however the ten items on the participants' perception of effectiveness of ESOL instructional methods had a correlation of .99 with factor 3.

### Descriptive Data

Table 3 contains the descriptive data for the pre- and post-EASI by factor. These data include the means, standard deviations, Cronbach alpha reliability coefficients, skewness, and kurtosis for all four measures. The following section contains the results of the tests for reliability and assumptions for MANOVAS.

Table 3

#### *Descriptive Data for Pre- and Post-EASI by Factor*

		ESOL Knowledge and Skills (PEKS)	Attitude toward Inclusion (ATI)
	<b>Mean</b>	1.49	3.19
	<b>SD</b>	.43	.59
<b>Course One Pre-</b>	<b>Γ</b>	.94	.88
<b>(n=163)</b>	<b>S</b>	1.35	-.54
	<b>K</b>	1.71	-.21

		<b>ESOL Knowledge and Skills (PEKS)</b>	<b>Attitude toward Inclusion (ATI)</b>
	<b>Mean</b>	3.03	3.38
	<b>SD</b>	.52	.49
<b>Course One Post-</b>	<b>Γ</b>	.95	.87
<b>(n=125)</b>	<b>S</b>	-.28	-.88
	<b>K</b>	-.46	.60
	<b>Mean</b>	2.65	3.20
	<b>SD</b>	.52	.60
<b>Course Two Pre-</b>	<b>Γ</b>	.95	.90
<b>(n=100)</b>	<b>S</b>	-.27	-.94
	<b>K</b>	.12	.77
	<b>Mean</b>	3.26	3.37
	<b>SD</b>	.52	.57
<b>Course Two Post-</b>	<b>Γ</b>	.96	.90
<b>(n=95)</b>	<b>S</b>	-.59	-.95
	<b>K</b>	-.20	.79

Note: Means are on a four-point scale that ranges from 1 to 4.

## Hypothesis One Results

Null hypothesis one states there are no significant differences in preservice teachers' perceptions of their knowledge and skill and their attitudes toward inclusion between students enrolled in ESOL course one and ESOL course two for either a pre-course measure or a post-course measure.

### Over-all Effect between Courses

The MANOVA for a main effect for differences between the groups by course and time was statistically significant ( $\Lambda = .68$ ,  $F(2,470) = 112.27$ ,  $p < .0001$ ). Since there was an over-all significant effect for the variable course, differences across courses were examined for the pre- and the post-course measures. To control for a type 1 error for the two sets of tests, the modified Bonferroni approach was adopted. In order to be significant, the  $p$  must be  $< .025$ .

There was a significant difference for the pre-course measure for the effect between course one and two ( $\Lambda = .39$ ,  $F(2,257) = 192.99$ ,  $p < .0001$ ,  $< \alpha = .025$ ). Participants in course two rated their ESOL knowledge and skills (PEKS) significantly higher than participants in course one,  $F(1,258) = 376.32$ ,  $p < .0001$ ,  $< \alpha = .025$ . On the other hand, participants in course two did not have significantly more positive attitudes toward inclusion (ATI) on the pre-course measure than participants in course one,  $F(1,258) = .01$ ,  $p = .9279 > \alpha = .025$ .

Results for the post-course measure by course were similar. There was a significant difference between course one and course two ( $\Lambda = .93$ ,  $F(2,211) = 7.24$ ,  $p = .0009$ ,  $< \alpha = .025$ ). Participants in course two had significantly higher ratings of their ESOL knowledge and skills (PEKS) than participants in course one,  $F(1,212) = 10.38$ ,  $p = .0015$ . Similar to the pre-course measure, participants in course two did not have significantly more positive attitudes about inclusion (ATI),  $F(1,212) = .011$ ,  $p = .7387$  than participants in course one.

### ESOL Knowledge and Skills (PEKS) Differences by Course

On the pre-course measure, course one participants' perceptions of their ESOL knowledge and skill (PEKS) were very low, with the lowest rating being 1.19 on a 4-point scale for working with level two language ESOL students. No rating was above 2.25, which was observed for perception of knowledge and skill in relating to culturally diverse students.

Course two participants' ratings of their ESOL knowledge and skill were close to the midpoint on the scale of 2.5 in all content areas, with the exception of "relating to culturally diverse students", which had a mean of 3.04. The highest means for both groups of participants related to their perception of their knowledge and skill in relating to culturally diverse students.

For course one, participants' ratings of their ESOL knowledge and skill (PEKS) across content areas shifted to the positive side of the scale, with all mean scores near 3.0 on the 4.0 scale. For course two ratings of their ESOL knowledge and skill (PEKS) on the post-EASI were more positive yet, with scores near 3.20. Again both groups were most positive about their perception of their knowledge and skill in relating to culturally diverse students. The amount of variance, as described by the standard deviations, is more similar between the two groups than on the pre-EASI.

### **Attitude toward Inclusion (ATI) Differences by Course**

There were no significant differences between participants' attitudes between course one and course two, and one can see the similarities between attitude item means across the two groups. Students were positive in their attitudes about inclusion since all item means were on the positive side of the scale in both courses. The participants' least positive attitude ratings were related to the more complex area of having the lower levels of language proficiency students in the mainstream classroom. The more proficient in English that the ELL student is, the more willing the participants are to say that the student should be in the mainstream classroom.

### **Hypothesis Two Results**

Null hypothesis two states there are no significant differences in preservice teachers' perceptions of their knowledge and skill and their attitudes toward inclusion within ESOL course one and ESOL course two, from the pre- to the post-course measures.

There were similarities across courses in the distributions for attitudes toward inclusion. Both groups' distributions were positively skewed and mound-shaped. Since the groups are similar in size, a multivariate repeated measures analysis should be robust to the observed distribution variations (Stevens, 2002).

### **Over-all Effect within Courses**

A multivariate repeated measure analysis was conducted to compare the differences from pre- to post-EASI, within each course. The over-all effect from pre- to post-course measure was significant ( $\Lambda = .75$ ,  $F(1,100) = 32.29$ ,  $p = <.0001$ ). Since there was an over-all significant effect for the variable time, differences for perception of ESOL knowledge and skill (PEKS) factor and attitude toward inclusion (ATI) factor were examined. To control for a type 1 error for the two sets of tests, the modified Bonferroni approach was adopted. In order to be significant, the  $p$  must be smaller than  $<.025$ .

There was a significant difference in the means from pre- to post-EASI for participants' perception of their ESOL knowledge and skill (PEKS),  $F(1,100) = 41.49$ ,  $p = <.0001 < \alpha = .025$ . The differences for PEKS were significant both for course one participants  $F(1,52) = 125.52$ ,  $p = <.0001$ , and course two participants,  $F(1, 48) = 47.39$ ,  $p = <.0001$ .

### **ESOL Knowledge and Skill (PEKS) Differences within Group**

Table 4 includes the means and standard deviations for the differences from pre- to post-EASI for the content area items within the knowledge and skill (PEKS) factor for course one and two. These scores represent the amount of growth for participants in each of the ESOL content areas. Mean differences within each of the content areas were positive for both groups of participants.

Course one participants' difference means range from .92 to 1.75. The lowest difference was for "relating to culturally diverse students", which was the content item with the highest rating on both the pre- and post-course measures. The highest difference means were for the items related to working with the various language levels of ELL students in the mainstream classroom, which ranged from 1.67 to 1.75. Most of the score differences represented an

increase from pre- to posttest above 1.5 points on a 4-point scale, which represents a substantial growth.

Course two participants' difference means range from .47 to .86. Similar to course one results, the lowest difference mean was for "relating to culturally diverse students", which was also the content item with the highest mean on both the pre- and post-course measures. Most of the other differences were close to .65 with exception of the difference ratings for items related to working with the various language levels of ELL students with language levels 1 – 3, which ranged from .82 to .86. Although not as large as Course one differences, they were also significant as demonstrated by the MANOVA results.

Table 4

*Differences from Pre- to Post-EASI by Course for PEKS items*

ESOL Subject matter Knowledge and Skill Perception in working with ESOL students in the mainstream classroom...	Course One n=56		Course Two n=50	
	Diff Mean	SD	Diff Mean	SD
Applying ESOL Policies and Practices	1.40	.75	.62	.67
Relating to Culturally Diverse Students	.92	.86	.47	.63
Teaching ESOL along with the content	1.11	.73	.68	.71
Using ESOL Methods	1.49	.69	.64	.66
Adapting Content for ESOL Students	1.64	.77	.64	.67
Assessing ESOL Students	1.66	.71	.75	.74
Working with Level 1 Language ELL students	1.67	.68	.84	.73

ESOL Subject matter Knowledge and Skill Perception in working with ESOL students in the mainstream classroom...	Course One n=56		Course Two n=50	
	Diff		Diff	
	Mean	SD	Mean	SD
Working with Level 2 Language ELL students	1.70	.68	.86	.68
Working with Level 3 Language ELL students	1.72	.76	.82	.71
Working with Level 4 Language ELL students	1.75	.82	.67	.69

Note: Mean differences are posttest – pretest, and SD are for the difference scores.

### Attitudes toward Inclusion (ATI) Differences within Courses

There were no significant differences between pre- and post-EASI means for participants' attitude toward inclusion (ATI),  $F(1,100) = 0.06$ ,  $p = .8066$ ,  $> \alpha = .025$ . The pre- and post-EASI means for both classes are illustrated in Table 10. Most of the means were on the positive side of the scale to begin with, and they continued on the positive side at the end of the course. The largest pre- to post-course differences were in participants' attitude toward working with students at the lower language levels in the mainstream classroom.

Table 5

#### *Differences from Pre- to Post-EASI by Course for ATI items*

ESOL Attitude toward working with ESOL students in the mainstream classroom...	Course One n=56		Course Two n=50	
	Mean		Mean	
	Mean	SD	Mean	SD
Benefit of ESOL Education to my teaching	0	.82	.38	1.08
Knowing a Second language is more of a benefit than a problem for ESOL students	.19	.75	.21	.74
All Students Benefit from having ESOL students in the mainstream classroom	.45	.77	.26	.97

ESOL Attitude toward working with ESOL students in the mainstream classroom...	Course One n=56		Course Two n=50	
	Mean	SD	Mean	SD
All teachers should have ESOL training	.09	.80	-.05	1.04
I support having ESOL students in all mainstream classrooms	.24	.86	.16	.83
ESOL education is important to me.	-.19	.93	.04	.88
Mainstreaming is best for ELL Level 1 students	.25	1.32	.62	1.06
Mainstreaming is best for ELL Level 2 students	.26	1.15	.62	.95
Mainstreaming is best for ELL Level 3 students	.63	1.05	.42	.81
Mainstreaming is best for ELL Level 4 students	.71	1.01	.20	.73

## Discussion of the Results

### Reliability and Validity of the EASI

The pre- and post-EASI yielded reliability indices of .93 and .96 respectively. The observed reliability coefficients were higher than those obtained on other similar survey instruments. For example, the Language Attitudes Scale (LATS), a survey that has been widely accepted and used in many attitudinal studies in the past had a reported Cronbach alpha index of .72 (Byrnes & Kiger, 1994). Another study assessed students' attitudes using the Cultural Diversity Awareness Inventory (CDAI) and reported a Cronbach alpha index of .56 (Milner et al., 2003), which is considered low for attitudinal measures.

All items on the EASI loaded very clearly on one of three factors on both the pre- and post-course surveys. The interpretability of the three factors is very good. The items are very easy to describe, and they do not overlap with one another.



### **PEKS Factor**

The first factor can be explained by all the items that were identified on the survey instrument as perception of “knowledge and skill”. Perception of knowledge and skill are closely related and sometimes hard to distinguish. These findings show that in the minds of these participants, the two constructs were clustered together.

The loading of knowledge and skills is consistent with literature that shows the connection between the two constructs and defines skill as the “ability to carry out a particular activity” and knowledge as “the information you need to perform the skill”. The combination of these two perceptions results in a feeling of competency (BECTA, 2004, p. 1). Perceptions of competency can help to influence personal growth plans (Ingersul & Kinman, 2002), can be very beneficial personally, and can lead to a strong sense of self efficacy. The preservice teachers’ perception of their knowledge and skill (PEKS) possibly resembles a teachers’ self-efficacy, which is defined as “the belief that one has the necessary skills and abilities to bring about student learning” (Walker, 1992, p.10).

### **ATI Factor**

The second factor can be explained by all the items that were identified on the survey instrument as “support” and “benefit” of ESOL education and inclusion. Participants in this study did not differentiate significantly between the support and benefit items, and the factor analysis showed that the benefit and support items were measuring the same thing in this study.

Participants’ ratings for attitudes toward inclusion (ATI) were encouraging to see. These ratings were already high at the beginning of the first course, and ranged in the mid-threes on a four-point scale. Most of these already high scores improved slightly over time. Research has shown that teachers’ attitudes toward diversity have improved over the past ten years (Milner et al., 2003): They are generally positive and exposure to diversity enhances appreciation (Youngs & Youngs, 2001). As this university is located in a very diverse state, it could be a factor in explaining the generally positive attitudes of the preservice teachers toward ESOL students because teachers from states with more diverse populations have been found to be more positive toward different cultures (Byrnes et al., 1996 and Garcia-Nevarez et al., 2005). Follow-up studies could examine the relationship between contact with diversity specifically and the attitude toward inclusion (ATI) factor.

### **Hypothesis One: Differences by Course**

The first hypothesis states there are no significant differences in preservice teachers’ perceptions of their knowledge and skill (PEKS) and their attitudes toward inclusion (ATI) between students enrolled in the initial ESOL course and in the final ESOL course for either a pre-course measure or a post-course measure. This question compared participants near the beginning of their course of study to participants near the end of their course of study. Significance was found for differences in the perception of ESOL knowledge and skill (PEKS) factor but not for the attitude toward inclusion (ATI) factor.

### **Differences by Perception of ESOL Knowledge and Skill (PEKS)**

There is a difference between the perceptions of participants in these two courses as it relates to their ESOL knowledge and skill (PEKS). More confidence in their knowledge and skill is indicated as preservice teachers in this program near the completion of their ESOL education. The other experiences they have in their lives and teacher education certainly have an effect on these differences as well.

Participants in this program reported their skills gradually increasing and ending at a very high level at the end of the final course. While these results could be overly optimistic, this optimism might also carry them through the initial teaching stages where they can practice the skills through experience.

### **Differences by Attitude toward Inclusion (ATI)**

There were no significant differences between the groups on their attitude toward inclusion (ATI). Participants' attitudes toward inclusion are not really different whether they are in the initial ESOL course that is taken near the beginning of their program of study, or their final ESOL course that is taken near the end of their program of study.

Little attention has been given to the impact of ESOL education on preservice teachers' attitudes, and most research has focused on looking at the effect of one course rather than the longer-term effect of a program of studies on pre-service teachers' attitudes. Most general preservice education studies have not found differences in preservice teachers' attitudes and beliefs as a result of their program of studies (Richardson, 1996; Jordan, 1995; and Kagan, 2002). Another study has indicated that students' entering attitudes and beliefs seem to serve as a filter for their learning, Garmon (2004). This is a similar finding to the conclusion in a study by de Courcy (2007), that students in her study were amenable to new ideas, but tended to construct and label learners in passive and deficit ways. She concludes that a 'small amount of information, though provided with the best of intentions, may inadvertently reinforce previously held negative opinions about second language learners' (p.199).

While possibly inflexible, similar to these studies, the preservice teachers observed in this study were very positive throughout their educational experience. The preservice teachers did not encounter anything in their programs that altered their already positive attitudes toward inclusion of ELL students in the mainstream classroom.

### **Hypothesis Two: Differences from Pre- to Post-EASI within Group**

Null hypothesis two states there are no significant differences from pre- to post-course surveys measuring preservice teachers' perceptions of their knowledge, skills, and attitudes toward having ELL students in their mainstream classrooms. This question examined growth and changes participants exhibited (from pre- to post-EASI) in a single course. Significance was found for differences in the perception of ESOL knowledge and skill (PEKS) factor but not in the attitude toward inclusion (ATI) factor.

### **Discussion of ESOL Knowledge and Skill (PEKS) within Group**

On perception of participants' ESOL knowledge and skill (PEKS), both groups had significant gains in scores from pre- to post-course scores. The gains were higher for the initial course participants than for the final course participants, but this is to be expected as the means in the final course were higher to start with and ended higher as well. The learning curve is higher at the beginning of a program. These results are similar to findings from the pilot test where there was a 46% difference in initial participants' perception of their knowledge and ability to work with ELL students from the pre- to post-course survey.

These results are encouraging to see in methods courses where practical skills are acquired. This study does not provide empirical evidence of participants' competence, but it proposed to explore differences in their perception of their knowledge and skill during one semester of course work. The participants affirm clearly that they perceive their knowledge and skill to have improved significantly. In the case of this study, a single course significantly changed participants' perceptions of their ESOL knowledge and skill (PEKS).

### **Discussion of Attitudes toward Inclusion (ATI) within Group**

ATI scores were stable and similar for both groups and only slightly higher for both the initial and final course participants on the post-course survey. These findings are consistent with studies that have shown no significant changes in preservice teachers' attitudes as a result of courses taken (Agnello & Mittag, 1999; Boger & Boger, 2000; Kagan, 1992; Knudson, 1998; Schick & Boothe, 1995). The individual item means within the ATI factor were already on the positive side of the scale at the beginning of the course, so from a practical point of view, there was little room for improvement with exception to their attitudes toward inclusion of the ELL students with lower language levels. These started out much lower and ended comparable to the other attitudinal scores.

Do courses taken at the beginning of one's program of study have a stronger effect? Future studies can be made on these differences by asking participants in the final course to compare the present course effectiveness with other ones they have taken.

### **Final Thoughts**

This study investigated the perceptions of preservice teachers' knowledge, skills and attitudes toward working with English language learners in mainstream classrooms. As the number of English language learners increases steadily, especially in states that have not traditionally served high percentages of this population, it is critical that all teachers be competent in providing comprehensible instruction and supporting English development for ELLs.

It is encouraging to note that preservice teachers see a benefit in taking ESOL education courses. It is important to build on these generally positive perceptions, and ensure that that these programs deliver what the preservice teachers need in order to acquire the knowledge and skills necessary to succeed in the classroom.

This study indicated that knowledge is related to skill in the minds of most preservice teachers. This is an opportunity for instructors to give information in a way that the preservice teachers can easily see the application. We can't expect magical results, but we can help preservice teachers to be realistic about the necessary skill set for working successfully with ELLs.

This study further indicates that preservice teachers' confidence is lowest in their perceptions of their ability to help ELLs with low levels of proficiency. Initial ESOL courses should be carefully designed to maximize the effect that a single course can have on preservice teachers' perception of their knowledge and skills particularly in their ability to help English language learners with low levels of proficiency in English.

Continued careful study of the effects of ESOL-infused teacher certification programs will further the development of integrated curricula that address the needs of diverse K-12 learners. Teacher education institutions have begun to address this need in innovative ways and further studies in this field can insure that the changes are meeting current preservice teachers' needs.

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