2010

Efficacy and Language Teacher Attrition: A Case for Mentorship Beyond the Classroom

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Recommended Citation

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Abstract

Teacher retention is problematic, especially where foreign language educators are concerned. In an effort to study if a relationship exists between foreign language teacher efficacy and retention, the author created a new quantitative instrument to measure foreign language teacher efficacy ($N = 441$) in the southeastern region of the United States. The Foreign Language Teacher Efficacy Scale was tested in 11 states in the Southern Conference on Language Teaching (SCOLT) region and was found to be valid and reliable, indentifying two dimensions of teaching languages, content knowledge and the facilitation of teaching. Results show differences between novice and veteran teachers in the areas of instructional strategy, classroom management, and student engagement. The findings provide implications for foreign language teacher preparation as well as teacher retention and professional development.

Introduction

Research surrounding teachers' sense of efficacy — "a teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 233) — has spanned more than 40 years and has led to

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many significant findings for both teachers and students. Teachers' efficacy perceptions have been linked to a variety of outcomes such as student achievement (Armor et al., 1976), teachers' classroom management strategies (Ashton & Webb, 1986), student motivation (Midgley, Feldlaufer, & Eccles, 1989; Woolfolk, Rossoff, & Hoy, 1990), and teachers' willingness to try innovative methods (Guskey, 1988; Rangel, 1997). Additionally, efficacy beliefs are said to influence teachers' persistence when things are not going well and their resilience in the face of setbacks (Tschannen-Moran & Woolfolk Hoy, 2001). Greater efficacy can be associated with teachers' capacity to be less critical of students when they err (Ashton & Webb, 1986) and teachers working longer with struggling students (Gibson & Dembo, 1984).

Research has shown that educators with higher self-ratings of efficacy demonstrate greater commitment to teaching (Coladarci, 1992), exhibit greater enthusiasm for teaching (Hall, Burley, Villeme, & Brockmeier, 1992), and tend to remain in the teaching profession longer than educators who report lower self-efficacy (Burley, Hall, Villeme, & Brockmeier, 1991), which are important findings considering the high attrition rate of educators. In the United States, almost one-third of the teachers leave the profession sometime during their first three years of teaching, and almost half leave after five years (National Commission on Teaching and America's Future: NCTAF, 2002), suggesting that novice educators, those in their first five years of teaching (Theobald & Michael, 2001), are at a higher risk of leaving the profession than veteran educators. For individuals who decide to enter teaching through an alternative route, such as emergency certification, the attrition rate can be as high as 60% (Darling-Hammond, Berry, & Thoreson, 2001) within the first two years of teaching (Lauer, 2001; Raymond, Fletcher, & Luque, 2001).

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Research Rationale

In the United States, teacher shortages are reported typically in the areas of mathematics, science, special education, bilingual education, and foreign language (Bradley, 1999). Yet while it is commonplace to hear about the need for science and math instructors, to a large extent the plight of language educators has been ignored by the media despite research showing that foreign language (FL) teachers are in great demand here and abroad (American Association for Employment in Education, 2006; Holloway, 2004; Learner, 2001; Press, 1997; Sains, 1999; Towse, Kent, Osaki, & Kirua, 2002). Moreover, while overall teacher attrition rates are startling, the rate of attrition for FL teachers can be even higher than for teachers in other content areas including special education, math, and science (Georgia Professional Standards Commission, 2006; Konanc, 1996; Murphy, DeArmand, & Guin, 2003).

Past research indicates teachers' efficacy beliefs warrant more research (Chacón, 2005) because "teachers' sense of efficacy is an idea that neither researchers nor practitioners can afford to ignore" (Tschannen-Moran & Woolfolk Hoy, 2001, p. 803). As noted earlier, teachers' efficacy beliefs have been found to play a pivotal role in teacher retention and there is a shortage of FL teachers nationally (Swanson,

2008). In order to study FL teachers' sense of efficacy, I developed an instrument to measure FL teacher efficacy and investigate the differences between novice and veteran educators.

Teacher Efficacy and Its Measurement

Teacher efficacy is a conceptual strand of self-efficacy theory, which emphasizes the exercise of human agency, that is, the idea that individuals can exercise some influence over their actions.

Teacher efficacy is a conceptual strand of self-efficacy theory, which emphasizes the exercise of human agency, that is, the idea that individuals can exercise some influence over their actions (Bandura, 2006). According to the theory, people are self-organizing, self-regulating, self-reflecting, and proactive. People set goals, predict likely outcomes, monitor and regulate their actions, and then reflect on their personal efficacy. From this perspective, self-efficacy affects people's goals and subsequent behaviors, and it is influenced by environmental factors. Moreover, self-efficacy beliefs shape how much effort people exert, how long they will persist in the face of obstacles, their resilience dealing with failures, and how much stress or even depression they experience when managing demanding tasks.

Researchers have argued that teacher efficacy is subject-matter specific, situation specific, multidimensional, and varying across tasks (Cantrell, 2003; Emmer & Hickman, 1990; Skaalvik & Bong, 2003). According to Bandura (1997), self-efficacy theory predicts that teachers with a higher sense of efficacy work harder with students and persist longer even when students are challenging to teach, partly because these teachers believe in themselves and in the students with whom they work (Woolfolk, 1998). Some research indicates that students of highly efficacious teachers outperform other students on the Iowa Test of Basic Skills (Moore & Esselman, 1992), the Ontario Assessment Instrument Pool (Ross, 1992), and the Canadian Achievement Tests (Anderson, Greene, & Loewen, 1988).

Research has identified four types of influences on efficacy beliefs: mastery experiences, social persuasion, physiological reactions, and vicarious experiences (Woolfolk, 1998). Of the four types, Pajares (1997) posits that mastery experiences tend to be the most influential because outcomes viewed as successful tend to raise self-efficacy, whereas those interpreted as failures tend to weaken it. Past performance appears to be the single greatest contributor to one's confidence and ability to achieve in school. Bandura (1997) suggests that if students have been successful at a particular skill in the past, they probably will believe that they will be successful at the skill in the future. Once strong self-efficacy is cultivated from one's personal accomplishments, occasional failures may not have a negative effect.

Social verbal persuasion is said to increase an individual's sense of self-efficacy when the person who conveys efficacy information is trusted to be competent and reliable. While hearing a teacher inform a student that he or she can perform well may increase student belief, verbal persuasion is not as strong as mastery experiences (Bandura, 1986). Short-term effects of verbal persuasion need to be accompanied with real successes and the persuader's trustworthiness, expertise, and credibility are

directly related to the influence of the verbal persuasion (Bandura, 1986; Schunk, 1989a). Physiological reactions (e.g., physical symptoms such as heart rate, fatigue, sweating) are signs of anxiety that may destabilize people's confidence of success at a specific task. Conversely, if individuals feel relaxed or excited prior to encountering a new situation, their efficacy may increase toward the upcoming task (Bandura, 1986).

Finally, vicarious experiences deal with observing modeled behaviors. That is, while observing others' attainments, individuals compare themselves as performers in the same situation (Bandura, 1997). Schunk (1989b) notes that this source of self-efficacy can become influential when individuals are uncertain of their abilities or when they have limited or no prior experience with the activity. Similar to mastery experiences, observation of successful performances of tasks by others like oneself promotes individuals to make judgments about their own capabilities. However, self-efficacy based on observing others succeed will diminish rapidly if observers subsequently have unsuccessful experiences of their own.

A person's sense of self-efficacy not only affects expectations of failure or success, but also influences motivation and setting goals. Woolfolk (1998) adds that if individuals have a high sense of efficacy in any given area, they tend to set higher goals, be less afraid of failure, and persevere longer in the face of obstacles. Conversely, if individuals have a low sense of efficacy, they may admit defeat easily when difficulties arise or may avoid the task altogether. Additionally, efficacy expectations appear in some cases to influence teachers' feelings and thoughts and their selection of classroom activities (Cantrell, 2003). These beliefs provide a base of human motivation, well-being, and personal accomplishment; unless people believe that their actions can produce desired outcomes, they have little incentive to act or persevere when confronted with difficulties (Erdem & Demirel, 2007).

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Beginning in the 1960s, researchers investigated the topic of teacher efficacy. Working on behalf of the Rand Corporation, Rotter (1966) began by composing a rather lengthy Likert-scaled survey and included two statements that would be used to identify internal and external factors: (1) "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment" and (2) "If I really try hard, I can get through to even the most difficult or unmotivated students". These two statements "turned out to be among the most powerful factors examined by Rand researchers in their study of teacher characteristics and student learning" (Tschannen-Moran & Woolfolk Hoy, 2001, p. 784). Later, other researchers developed instruments to measure teacher responsibility for student achievement (Guskey, 1981, 1982, 1988) and teacher locus of control (Rose & Medway, 1981), of which the latter was reported to be a better predictor of teacher behaviors than Rotter's scale.

Building upon the success of these previous studies, the Webb scale (Ashton, Olejnik, Crocker, & McAuliffe, 1982), the Ashton vignettes (Ashton, Buhr, & Crocker, 1984), and Gibson and Dembo's (1984) teacher efficacy scale were developed to

research various aspects of this construct. However, all of the research tended to focus on teacher efficacy from a non-content specific perspective and the aforementioned instruments supported the notion that teacher efficacy contained at least two separate dimensions of teachers' perceived efficacy: Personal Teaching Efficacy, the teacher's belief that he or she can affect student learning, and General Teaching Efficacy, one's belief that the profession in general brings about student change.

However, almost two decades later, Tschannen-Moran and Woolfolk Hoy (2001) developed the Teachers' Sense of Efficacy Scale (TSES, formerly called the Ohio State Teacher Efficacy Scale) over the course of three separate studies (reported as a single research article), which became popular with other efficacy researchers. Like the previous research instruments, the TSES employed a Likert-type scale that contained an expanded list of teacher capabilities. Their final study yielded for the first time three factors: teacher efficacy for instructional strategies, classroom management, and student engagement. For construct validity, participants in the final study not only took the TSES, they also answered items from the Rand scale and a 10-item adaptation of the Gibson and Dembo (1984) scale. Tschannen-Moran and Woolfolk Hoy (2001) reported positive correlations between their scale and the other measures. They concluded that the TSES addresses some of the limitations in the other scales because the TSES "assesses a broader range of teaching tasks" (p. 801).

While the majority of teacher efficacy research tended to focus on efficacy in a general sense, a few investigators began to study teacher efficacy in context-specific domains such as efficacy for teaching special education (Coladarci & Breton, 1997), the differences in efficacy for teaching science and for teaching chemistry (Rubeck & Enochs, 1991), and prospective primary teachers' efficacy beliefs with respect to teaching mathematics (Philippou & Charalambous, 2005). Of interest to the present study, two studies of teacher efficacy were conducted in the domain of FLs. Chacón (2005) added specific language teaching-related items to Tschannen-Moran and Woolfolk Hoy's (2001) TSES and administered it to 100 teachers of English as a Foreign Language in selected schools in Venezuela to examine participants' self-reported English proficiency and use of pedagogical strategies to teach English. She reported that a positive relationship existed between teacher self-efficacy and language proficiency. That is, the more proficient the participants judged themselves across the four skills (reading, writing, speaking, listening), the higher their sense of efficacy was. Specific to English instruction among middle school teachers, Chacón reported that the higher the participants' sense of efficacy the more likely they were to use communication or grammar-oriented pedagogical strategies.

The second study, using qualitative inquiry methods, centered on the teaching experiences, beliefs, and teacher efficacy of L2 native and non-native graduate teaching assistants of French (Mills & Allen, 2008). Tschannen-Moran and Woolfolk Hoy's (2001) TSES was used to gather initial data in addition to a background questionnaire and a set of efficacy protocol questions. Among the findings, the authors reported that native speakers of French responded with higher scores on average than non-native speakers, suggesting that content knowledge plays a role in FL instructors' conception of teacher efficacy and that steps should be taken to develop teacher efficacy in non-native speakers. Additionally, the researchers reported that an extended network of

resources available to teachers, inclusion of vicarious experiences, observations of expert teachers, and the creation of low-anxiety teacher training situations may assist in the development of strong teacher efficacy beliefs.

Whereas these two studies incorporated an efficacy instrument, neither of the samples, which were small, attempted to measure FL teachers' sense of efficacy in a broader context that would be applicable to a general FL teacher population. That is, the researchers used an instrument that was not designed for FL teachers specifically and the research appears to not be generalizable to the FL teachers. Further, neither study assessed the construct's dimensionality for FL teachers nor investigated relationships among the different factors associated with the educators' sense of efficacy teaching languages. In the present study the Foreign Language Teacher Efficacy Scale (FLTES) was created to measure FL teacher's sense of efficacy and answer the following questions:

1. What is the level of efficacy for FL educators in the southeastern United States?
2. Is FL teacher efficacy a multidimensional construct?
3. Is there a significant difference in efficacy between novice and veteran foreign language teachers?

Methods

In order to ensure content validity, participants took both the FLTES and the TSES. The FLTES was pilot tested and then administered to 441 FL teachers in the southeastern United States. Two unique factors of FL teaching efficacy emerged and these factors were found to correlate significantly to known factors of general and personal teaching efficacy.

FL Efficacy Instrument Development

To avoid the generality of what most measures of teachers' sense of efficacy offer (Bandura, 1997), the survey items focused on teachers' self-perceptions of their abilities identified as components of the Communication goal of the National Standards for Foreign Language Learning (National Standards in Foreign Language Education Project, 1999). The three modes of communication are Interpersonal, Interpretive, and Presentational. Formerly viewed as the Four Skills (speaking, writing, reading, and listening), the first two skills composed the language production skills where as the second two were known as receptive skills. Currently, language learning is now reconfigured with a focus on the interactive process rather than any one skill being addressed in isolation. The Interpersonal mode "is characterized by active negotiation of meaning among individuals" (p. 36). That is, it focuses on two-way interactive communication, which is most apparent in conversation, but also includes reading and writing, such as the exchange of information via letters and emails. However, the Interpretive mode centers on one-way communication such as the reading or listening of texts, movies, and speeches, where "there is no recourse to the active negotiation of meaning with the writer or the speaker" (p. 36). The Presentational mode addresses the clear transmission of a message from one person to multiple people such as giving presentations or even writing for publication.

Researchers argue that FL educators not only need a high level of language proficiency using the aforementioned four modalities in the target language (Peyton, 1997), but they also need the ability to understand contemporary media in the target language, both oral and written, and interact successfully with native speakers (Phillips, 1997). Therefore, survey items centered on discrete language structures such as phonology, morphology, syntax, grammar, and lexicon of the L2 seemed limited to measure efficacy teaching FLs and I did not include them because the three modes of communication tap into teachers' assessments of their competencies across the range of linguistic skills taught in FL classrooms. Further, survey items designed to measure specifically the teaching of culture were not included because culture is imbedded in instruction and is not considered a skill (Lee & VanPatten, 2003).

In addition to the measurement of teacher's self-perception about their abilities in using the L2, items were written that addressed teachers' efficacy in helping students learn at beginning and advanced levels, reducing student anxiety, fostering interest in learning FLs, and increasing student achievement and motivation. Four additional items focused on teachers' perception of the support from administrators, students, parents/guardians, and an overall perception of efficacy teaching languages.

Because the decision of how to measure teacher efficacy presents a thorny issue (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), social-cognitive researchers recommend using a rating scale that ranges from 0 to 100 (Pajares, Miller, & Johnson, 1999; Shell, Murphy, & Bruning, 1989). These 100-point scales are familiar to teachers who use them to evaluate students and they allow for greater discrimination than scales with narrower response options because such they are psychometrically stronger than a scale with a traditional Likert-type format (personal communication, F. Pajares, March 14, 2007) and are grounded in Bandura's (1997) guidelines for instrument construction. Furthermore, Bandura warns: "scales that use only a few steps should be avoided because they are less sensitive and less reliable" (p. 44). Therefore, I developed a scale beginning at 0 (*cannot do at all*) to 100 (*highly certain can do*) for all items. The final part of the instrument was the participant demographic sheet requesting information on age, gender, ethnicity, highest degree earned, state in which the participant teaches, language(s) taught, years of teaching, and length of time studying abroad, and three lines for any additional comments.

The last step in the instrument development process included adding all of the items from Tschannen-Moran's and Woolfolk Hoy's (2001) TSES. I included this scale for construct validity purposes because it has been shown to correlate strongly with other measures of teacher efficacy. The complete survey consisted of the TSES (12 items), the FL Teacher Efficacy Scale (10 items), the items asking about perceived support and overall confidence teaching languages, and the participant demographic sheet. Formatted in concert, the two instruments sought to measure efficacy in the areas of classroom management, student engagement, instructional strategy, and FL teaching (see Table 1 for the survey items).

Sample

Four hundred and forty-one in-service K-12 FL educators from 11 states in the southeast United States (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA) participated

in this study. Average age was 41.61 years (SD = 11.98) and participants reported having taught FLs for an average of 12.92 years (SD = 9.68) with 13% having taught FLs for more than 30 years. More than a quarter of the sample (28%) reported teaching languages for 5 years or less, which places these individuals into the novice category as defined in the literature (Theobald & Michael, 2001). Women (83%) outnumbered men (17%), and participants reported their ethnicities as Caucasian (73%), Latino (14%), African-American (3%), Asian (1%), and other (9%).

Thirty-nine percent reported having only a bachelor's degree and slightly more than half of the participants (53%) reported having earned a master's degree. Seven percent of the sample reported to have a doctoral degree. Over three quarters of the sample reported teaching either Spanish (62%) or French (17%), and a total of eight different languages (Spanish, French, German, Latin, Japanese, Chinese, English, Arabic) were reported as taught. Seventy-six percent of the sample reported having studied FLs outside of the United States, and the average amount of time spent studying abroad was 12.81 months.

Procedure

I created both a paper and online version of the instrument. State FL organizations in the SCOLT region and representatives of these organizations agreed to post requests for online participation on their respective states' listserv systems. Seventy-six percent of the participants (n = 334) responded using the online protocol. In an effort to increase participation among FL educators, the Executive Director of the Southern Conference on the Teaching of Foreign Languages granted permission for data collection during the 2008 conference in Atlanta, Georgia. An additional 107 participants filled out the paper version of the survey for a total study sample of 441 participants.

Results

Data Analysis

I entered data into a statistical software program (*SPSS 17.0*) and first calculated reliability coefficients[1]. Similar coefficients to those reported by Tschannen-Moran and Woolfolk Hoy (2001) were found for the 12-item TSES scale (.90) and its three dimensions: student engagement (.81), instructional strategy (.86), and classroom management (.86). The reliability for the FL Teacher Efficacy Scale was .91, indicating satisfactory consistency.

Next, I calculated means and standard deviations[2] to investigate the sample's sense of efficacy for the 22 items. Table 1 shows the survey items in rank order. The two highest ratings were found for perceived confidence in (1) writing a personal

Table 1. Means and Standard Deviations for Survey Items by Instrument

Foreign Language Teacher Efficacy Scale	Sample		Novices		Veteran	
	M	*SD*	*M*	*SD*	*M*	*SD*
How much confidence do you have in your . . .						

ability to write a personal letter to a pen pal in the language(s) you teach who is living in a foreign country?	94.34	10.28	94.16	9.47	94.76	9.93
ability to read and understand a newspaper printed in another country in the language(s) you teach?	92.56	12.05	91.90	11.37	93.03	12.01
ability to help students learn at the first year level of the language(s) you teach?	91.70	11.54	90.54**	11.24	92.31	11.84
ability to have a conversation with a native speaker in the language(s) you teach?	91.47	13.53	90.03	13.87	92.37	12.99
own knowledge of the language(s) you teach that you can lower your students' anxiety about learning the language(s) you teach.	90.00	9.96	88.35*	10.48	90.61	9.59
ability to fully understand a movie that only uses the language(s) you teach?	89.73	13.58	88.82	13.35	90.27	13.53
own knowledge of the language(s) you teach that you can foster your students' interest about learning the language(s) you teach.	88.23	11.62	85.65**	13.32	89.37	10.71
own knowledge of the language(s) you teach that you can motivate your students to learn about the language(s) you teach.	88.15	12.17	86.14**	12.81	89.33	11.10
ability to help students learn at highest levels of the language(s) you teach?	87.59	14.09	84.32**	15.20	89.24	13.16

	Sample		Novices		Veterans	
own knowledge of the language(s) you teach that you can increase student achievement in your classes?	87.46	11.17	85.11**	12.69	88.46	10.26
Teachers' Sense of Efficacy Scale	*M*	*SD*	*M*	*SD*	*M*	*SD*
How confident are you that you can . . .						
provide an alternative explanation or example when students are confused? [IS]	91.70	9.87	88.82***	12.49	93.68	7.26
use a variety of assessment strategies? [IS]	88.97	12.58	84.64***	16.68	90.65	10.84
craft good questions for your students? [IS]	87.46	11.53	84.74**	12.45	88.75	11.05
get children to follow classroom rules? [CM]	86.15	13.51	83.96*	15.25	87.03	13.28
establish a classroom management system with each group of students?[CM]	86.09	13.95	83.64**	15.98	87.60	13.02
implement alternative strategies in your classroom? [IS]	85.85	13.01	82.00***	14.91	87.11	12.54
control disruptive behavior in the classroom? [CM]	84.89	14.68	80.64***	18.37	86.91	12.84
calm a student who is disruptive or noisy? [CM]	83.56	14.52	80.90**	17.75	84.67	12.86
get students to believe they can do well on school work? [SE]	82.07	13.19	79.77*	14.37	82.67	13.35
help your students value learning? [SE]	80.25	14.87	76.65**	16.57	81.36	14.76

assist families in helping their children do well in school? [SE]	78.27	17.74	74.84***	19.16	79.65	17.25
can motivate students who show low interest in school work? [SE]	74.17	17.90	70.25***	18.94	75.40	17.83
Perceptions of confidence and support						
What is your perceived confidence to use the language(s) you teach?	91.28	11.55	88.92**	13014	92.21	10.83
Rate the level of support you feel you receive from your students.	82.16	15.81	80.25	23.93	79.51	22.61
Rate the level of support you feel you receive from your administrator(s).	80.01	22.61	78.21***	17.75	83.85	14.73
Rate the level of support you feel you receive from your students' parents/guardians.	75.84	20.99	74.01	21.81	76.61	20.76

Level of significance reflects difference in means between responses from novices and responses from veterans. IS = Instructional Strategy. CM = Classroom Management. SE = Student Engagement. *$p < .05$. **$p < .01$. ***$p < .001$.

letter in the FL(s) the participant teaches and (2) reading and understanding a newspaper printed in another country in the language(s) taught. Those two items were part of the FL Teacher Efficacy Scale. The two lowest ratings were found for perceived confidence to (1) motivate students who show low interest in schoolwork and (2) assist families in helping their children do well in school, which are part of the TSES scale.

Dimensionality of Teacher Efficacy

Following the preliminary analyses, I conducted an exploratory factor analysis procedure[3] to identify the latent constructs underlying the items on the FLTES following factor analysis guidelines recommended by Fabrigar, Wegener, MacCallum, and Strahan (1999). Additionally, expert statistical recommendations from Henson and Roberts (2006) and Thompson and Daniel (1996) on the use of factor analysis were followed by applying multiple criteria in the selection of the number of factors (Cattell, 1966; Horn, 1965; Kaiser, 1960; Turner, 1998). Lastly, I chose to employ parallel analysis because "it has been shown to be among the most accurate methods for determining the number of factors to retain (Zwick & Velicer, 1986) and generally

superior to the scree plot and eigenvalue greater than one rule" (Henson, 2001a, p. 14).

An oblique principal component Oblimin procedure on the TSES items was first conducted and three factors (a.k.a. dimensions) emerged accounting for 72.90% of the variance in the respondents' scores. Inspection of the factor loadings revealed that the three factors were the same as those identified as by Tschannen-Moran and Woolfolk Hoy (2001), with the Instructional Strategy factor accounting for the majority of the variance (52.94%). The other two factors, Classroom Management and Student Engagement accounted for 10.19% and 9.76% of the remainder of the explained variance, respectively. Guarding against incorrect interpretation of the factors (Graham, Guthrie, & Thompson, 2003), supplemental examination of the communalities focusing on both the structure and pattern matrices as well examining the screen plot confirmed that three dimensions were present and that each survey item was only measuring one aspect of teaching efficacy.

After examining the results from the TSES, a second factor analysis was carried out using only the 10 items of FL Teacher Efficacy Scale to investigate its dimensionality. The same statistical procedures were used and two strong factors (FL Teacher Content Knowledge, variance = 52.48% and FL Teacher as Facilitator, variance = 20.77%) were found that accounted for 73.25% of the total variance. Table 2 displays the structure coefficients in descending order and the factor structure appeared sound for the aforementioned reasons and because there were at least three survey items in each dimension (Velicer & Fava, 1998) and the sample met the minimal size requirements for factor analysis (MacCallum, Widaman, Zhang, & Hong, 1999).

Table 2. Structure Coefficients and Communalities for Each Instrument and Its Dimensions

| | FLTES | | | | TSES | | | | | |
| | CK | | TF | | CM | | IS | | SE | |
Item	λ	h^2	λ	h^2	λ	h^2	λ	h^2	λ	h^2
1. How much confidence do you have in your ability to read and understand a newspaper printed in another country in the language(s) you teach?	.92	.84								
2. How much confidence do you have in your ability to fully understand a movie that only uses the language(s) you teach?	.90	.82								

3. How much confidence do you have in your ability to write a personal letter to a pen pal in the language(s) you teach who is living in a foreign country?	.87	.76								
4. How much confidence do you have in your ability to have a conversation with a native speaker in the language(s) you teach?	.83	.70								
5. How confident are you in your own knowledge of the language(s) you teach that you can increase student achievement in your classes?			.85	.76						
6. How confident are you in your own knowledge of the language(s) you teach that you can foster your students' interest about learning the language(s) you teach?			.83	.73						
7. How confident are you in your own knowledge of the language(s) you teach that you can motivate your students to learn about the language(s) you teach?			.83	.69						
8. How confident are you in your own knowledge of the language(s) you teach that you can lower your student's anxiety about learning the language(s) you teach?			.80	.66						

Question										
9. How confident are you that you can help your students learn at the first year level of the language(s) you teach?			.61	.39						
10. How confident are you that you can help your students learn at highest levels of the language(s) you teach?			.62	.39						
11. How confident are you that you can calm a student who is disruptive or noisy?					.91	.82				
12. How confident are you that you can get children to follow classroom rules?					.88	.54				
13. How confident are you that you can control disruptive behavior in the classroom?					.87	.76				
14. How confident are you that you can establish a classroom management system with each group of students?					.84	.72				
15. How confident are you that you can use a variety of assessment strategies?							.80	.65		
16. How confident are you that you can implement alternative strategies in your classroom?							.76	.57		
17. How confident are you that you can provide an alternative explanation or example when students are confused?							.72	.52		

18. How confident are you that you can craft good questions for your students?						.71	.51		
19. How confident are you that you can get students to believe they can do well on school work?								.89	.79
20. How confident are you that you can help your students value learning?								.81	.66
21. How confident are you that you can motivate students who show low interest in school work?								.76	.58
22. How confident are you that you can assist families in helping their children do well in school?								.54	.36

Construct Validity

Following factor analysis, correlation analyses were performed to investigate relationships among the scales and their dimensions. First, zero-order correlation coefficients[4] were computed between the TSES and its three subscales (see Table 3).

Table 3. Zero-order Correlations of Teachers' Sense of Efficacy Scale and its Subscales to FL Teacher Efficacy Scale

	Instructional Strategy	Classroom Management	Student Engagement	TSES	FL Teacher Content Knowledge	FL Teacher as Facilitator
Classroom Management	.60	-	-	-	-	-
Student Engagement	.63	.61	-	-	-	-
TSES	.83	.87	.87	-	-	-

FL Teacher Content Knowledge	.40	.20	.29	.35	-	-
FL Teacher as Facilitator	.91	.56	.64	.75	.43	-
FLTES	.81	.49	.57	.68	.80	.88

Note. All correlations significant at p < .001

Coefficients ranging from .60 to .63 indicated that the three subscales were related and that the TSES was strongly correlated with the three subscales ($r = .79$ to .89), supporting earlier findings by Tschannen-Moran and Woolfolk Hoy (2001). I conducted correlation analysis between the FLTES and the TSES and found a positive relationship ($r = .75$, $p < .01$), suggesting that the construct of teacher efficacy was measured successfully. Next, correlation analysis between the subscales of the two instruments revealed that the FL Teacher as Facilitator subscale was more strongly correlated ($r = .85$, $p < .01$) with the TSES than the FL Teacher Content Knowledge subscale ($r = .37$, $p < .01$). Additionally, of the three TSES dimensions, the Instructional Strategy factor was more strongly related to the FL Teacher as Facilitator subscale ($r = .89$, $p < .01$).

Finally, once satisfied that the FLTES was measuring the same construct as the TSES, which was found to be related to other regarded teacher efficacy instruments (Tschannen-Moran & Woolfolk Hoy, 2001), reliability coefficients were calculated. Satisfactory Cronbach alphas for both the FL Teacher as Facilitator subscale (.90) and FL Teacher Content Knowledge subscale (.93) indicated that the coefficients were acceptable for not only research purposes (alpha values above .80) but also equal and above the alpha value of .90 that is considered appropriate for clinical or educational decisions (Henson, 2001b).

Differences among FL Educators

One-way ANOVAs[5] were conducted after statistical assumptions to perform such tests were met in order to examine the relationship between the independent variables of gender, FL taught, having studied abroad, and ethnicity for the two FL factors. Results indicated that there were not any significant differences among the groups. However, the ANOVA was significant $F(2, 418) = 4.10$, $p < .01$, $\eta^2 = .03$ for FL Teacher Content Knowledge and highest degree attained. The results of these calculations support the notion that highest degree earned has a differential effect on FL Teachers' Content Knowledge. Further analysis revealed significant yet weak correlations between FL Teachers Content Knowledge and time spent studying FLs abroad ($r = .20$, $p < .01$) and for years teaching FLs ($r = .13$, $p < .01$). A second statistically significant and weak positive relationship was discovered for FL Teacher as Facilitator and years teaching FLs ($r = .12$, $p < .05$). Evidence from these analyses support the belief that time spent teaching FLs and studying abroad have an impact on increased FL teaching efficacy.

I examined differences between novice and veteran educators for both scales (See Table 1 for means and standard deviations). All of the items of the TSES showed statistically significant differences between novice and veteran FL teachers as did the six items from the FLTES measuring the Teacher as Facilitator factor. There were no statistical differences between novice and veteran teachers for the items measuring content knowledge. Overall, there was a statistical difference between the two groups when asked about the perceived confidence to use the language(s) that the participants teach and the level of perceived support from administrators where veterans reported more confidence and support than novices.

Discussion

The present study was conducted to measure the level of efficacy for FL educators in the southeastern United States, investigate distinct factors associated with teaching FLs, and determine if there are significant differences in efficacy between novice and veteran FL teachers.

The present study was conducted to measure the level of efficacy for FL educators in the southeastern United States, investigate distinct factors associated with teaching FLs, and determine if there are significant differences in efficacy between novice and veteran FL teachers. To ensure the accuracy of construct measurement, the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) was used alongside the FL Teacher Efficacy Scale for construct validity purposes. The TSES behaved in the same manner psychometrically as described by Tschannen-Moran and Woolfolk Hoy, bolstering the findings from the TSES development studies.

Factor analysis of the FLTES revealed two distinct factors of FL teacher efficacy: (1) Teacher as Facilitator and (2) Content Knowledge. Data analysis clearly supports the conceptualization of teacher efficacy as a multidimensional construct. Further investigation showed that construct validity was achieved because marked correlations were found between the FLTES, its two subscales, and the TSES. Additional analyses indicated several interesting differences among FL teachers. First, participants' content knowledge confidence was greater than their confidence in facilitating instruction. Specifically, differences among the groups for highest degree earned indicated that those who have earned a master's degree have a higher sense of efficacy than those with only a bachelor's degree. Individuals with a doctorate have the highest perceived efficacy of the entire group. Second, length of time teaching FLs and studying abroad appear to have an impact on efficacy. While it may not seem novel that increased education in the language and studying abroad affect teachers' sense of efficacy, such a finding is still significant because it underscores the importance of school districts having salary schedules that award teachers for continuing their education. Additionally, schools should encourage in-service teachers to apply for quality study abroad opportunities and reward them upon completion. There are a variety of study abroad options available to teachers at times when school is not in session as well as scholarship opportunities to study/teach abroad. The data clearly indicate the benefits to one's sense of efficacy in teaching languages.

The participants reported a strong sense of efficacy in their content knowledge abilities, and they reported a lesser sense of efficacy in the areas of classroom management and student engagement as measured by the TSES. In fact, the means for the items measuring student engagement (motivation) showed that participants expressed having the least amount of efficacy in that area. Clearly, the emphasis on content knowledge, which is a possible effect of the *No Child Left Behind* legislation, was demonstrated here. While content knowledge is crucial for teachers, the perceived ability to motivate students in the classroom is important, and has been found to be related to teacher efficacy (Midgley, Feldlaufer, & Eccles, 1989; Woolfolk, Rossoff, & Hoy, 1990) and may contribute to one's persistence in staying in the field of education. One implication that comes from this research is the recommendation that during pre-service education, more emphasis be placed on teaching strategies focused on building student intrinsic motivation to learn and acquire languages as well as classroom management strategies.

Research has shown that teacher efficacy is related to teachers' persistence when things are not going well and to their resilience in the face of setbacks (Tschannen-Moran & Woolfolk Hoy, 2001) and teachers' patience to work longer with struggling students (Gibson & Dembo, 1984). Perhaps FL teachers would be less likely to leave teaching if they had more knowledge of how to motivate their students to embrace language learning. Furthermore, the profession should work collaboratively to induct the newest members of the profession as well as those veterans who feel they would benefit from mentorship. While mentorship traditionally takes place at school during the workday, perhaps it is time to investigate collaboration from a different perspective.

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Comprehensive induction programs have been created for novices because these individuals are faced with the same responsibilities as their veteran counterparts (Feiman-Nemser, 2003). While Sarason (1990) notes that schools historically have not been set up to support the learning of novice or veteran teachers, there has been a surge of research on and creation of induction programs. The NCTAF (2002) reported that 28 states had some type of mentoring program for new teachers, but only 10 states mandate mentorship programs and support the requirement with funding. NCTAF further reported that those who have access to intensive mentoring by expert colleagues were much less likely to leave teaching in the early years. For example, California's Beginning Teacher Support and Assessment Program, which encourages local school districts, county offices of education, and colleges and universities to collaborate in providing new teacher induction programs, successfully reduced teacher attrition rates by two-thirds over a five-year period. This program reduced the attrition rate to 9% in contrast to 37% for new teachers who did not participate in such programs (National Governors Association Center for Best Practices, 2002).

It might be wise to establish mentorship programs that take place at venues other than schools and in the late afternoon or evening. Research indicates that teachers are social creatures (Swanson, 2008) and that by broadening mentorship to include the

FL professional community at large (e.g., professors, retired teachers), transformative learning experiences about student engagement and classroom management could conceivably occur through deeper levels of communication which may not be able to happen during regular school hours in more social settings. FL teachers could collaborate with faculty in higher education, leaders of state, regional, and national organizations after school or during professional development days to discuss strategies to increase teacher efficacy in the areas of student motivation to learn languages and classroom management.

…the combination of professional development that moves beyond the classroom and an increased emphasis in the areas of motivation and classroom management could lead to structured mentorship that helps increase FL teacher efficacy.

Further, the combination of professional development that moves beyond the classroom and an increased emphasis in the areas of motivation and classroom management could lead to structured mentorship that helps increase FL teacher efficacy. Such a chain of events might help retain more quality FL educators at a time when they are needed in U.S. classrooms. Findings from this study suggest that novice educators, who are most susceptible to attrition, may benefit the most from mentorship. Teachers with a greater sense of efficacy have a greater commitment to teaching (Coladarci, 1992) and are more likely to remain in teaching (Burley et al., 1991).

While this research has shown differences between novice and veteran FL educators, questions still remain. It would be informative to know what changes take place in the efficacy of FL pre-service teachers through their training and first five years as certified teachers, and how these differences correspond to FL teacher attrition. It would also be beneficial to know what the level of efficacy of FL educators deciding to leave the profession is as compared to those who remain. While the present study highlights new and interesting phenomena in the profession, it does have its limitations. This research was limited to participants who responded to listservs or who attended a professional conference, which may indicate a more select population of FL educators. Gathering contact information for all FL teachers currently working in schools would allow for a more diverse sample and perhaps allow for broader generalizations of the findings. Additionally, the data were self-reported and the limitation of such data is that researchers have no way of verifying the accuracy of the respondents' answers to the survey. Thus, observing teachers in the classroom may help improve the correspondence between individuals' perceptions of their teaching ability and their observed teaching performance.

Although the current study's methodology is rigorous, it is important to note that this is only one possible method for investigating the issue of teacher non-retention. Using the FLTES in conjunction with qualitative interviews of FL teachers who quit the profession might be an avenue to explore. Moreover, focus groups of FL educators who have survived the profession for many years may provide some interesting findings too.

Notwithstanding the limitations of this research, a teacher shortage remains. Up to this point, a specific instrument to measure FL teachers' sense of efficacy was not available. The FLTES is a psychometrically sound instrument that can be used to measure FL teacher's efficacy beliefs. For example, it can be used with pre-service educators in teacher preparation programs as well as in school districts with novice FL teachers to identify perceived strengths and weaknesses teaching languages. Once identified, work can begin with these individuals to improve aspects of their content knowledge and/or facilitation of instruction in an effort to retain more FL teachers at this time of a teacher shortage. I call for more research not only to arrest the decline of in-service teachers but also to develop more innovative teacher recruitment and retention strategies as a means to increase the number of efficacious educators.

Notes

1. Reliability indicates the consistency of measurement and the coefficient range is from 0.0 (low) to 1.0 (high).
2. Standard deviation is a measure of central tendency that shows the spread of a dataset around the mean of the data.
3. A statistical procedure that reduces a large number of questions in a topic area to a smaller number of basic factors
4. Correlation coefficients or (*r*) range from -1.0 (an inverse relationship) to +1.0 (a perfect relationship).
5. A statistical method that makes simultaneous comparisons between two or more means to verify if a significant relationship exists between variables being tested.

References

American Association for Employment in Education. (2006). *Educator supply and demand in the United States: 2003 report*. Evanston, IL: AAEE.

Anderson, R., Greene, M., & Loewen, P. (1988). Relationships among teachers' and students' thinking skills, sense of efficacy, and student achievement. *Alberta Journal of Educational Research, 34*(2), 148-165.

Armor, D., Conroy-Oseguera, P., Cox, M., King, N., McDonnell, L., Pascal, A., Pauly, E., & Zellman, G. (1976). *Analysis of the school preferred reading programs in selected Los Angeles minority schools*. (REPORT No. R-2007-LAUSD). Santa Monica, CA: Rand Corporation. (ERIC Document Reproduction Service NO. 130 243).

Ashton, P.T., Buhr, D., & Crocker, L. (1984). Teachers' sense of efficacy: A self- or norm- referenced construct. *Florida Journal of Educational Research, 26*, 29-41.

Ashton, P. T., Olejnik, S., Crocker, L., & McAuliffe, M. (1982, April). *Measurement problems in the study of teachers' sense of efficacy*. Paper presented at the annual meeting of the American Educational Research Association, New York.

Ashton, P.T, & Webb, R.B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement*. New York: Longman.

Bandura, A. (1986). *Social foundations of thought and action: A social cognition theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.

Bandura, A. (2006). Adolescent development from an agentic perspective. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 1-43). Greenwich, CT: Information Age.

Bradley, A. (1999, March 10). States' uneven teacher supply complicates staffing schools. *Education Week*, *18*(26), 1, 10-11.

Burley, W. W., Hall, B. W., Villeme, M. G., & Brockmeier, L. L. (1991, April). *A path analysis of the mediating role of efficacy in first-year teachers' experiences, reactions, and plans*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Cantrell, P. (2003). Traditional vs. retrospective pretests for measuring science teaching efficacy beliefs in preservice teachers. *School Science and Mathematics, 103*(4), 177-185.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*, 245-276.

Chacón, C. T. (2005). Teachers' perceived efficacy among English as a foreign language teachers in middle schools in Venezuela. *Teaching and Teacher Education, 21*(3), 257-272.

Coladarci, T. (1992). Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education, 60*, 323-337.

Coladarci, T., & Breton, W. (1997). Teacher efficacy, supervision, and the special education resource-room teacher. *Journal of Educational Research, 90*, 230–239.

Darling-Hammond, L., Berry B., & Thoreson, A. (2001). Does teacher certification matter? Evaluating the evidence. *Educational Evaluation and Policy Analysis*, *23*(1), 57-77.

Emmer, E. T., & Hickman, J. (1990, April). *Teacher decision making as a function of efficacy, attributions, and reasoned action*. Paper presented at the Annual Meeting of the American Educational Research Association, Boston, MA.

Erdem, E., & Demirel, O. (2007). Teacher self-efficacy belief. *Social Behavior and Personality, 35*(5), 573-586.

Fabrigar, L.R., Wegener, D.T., MacCallum, R.C., & Strahan, E.J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*, 272-299.

Feiman-Nemser, S. (2003, May). What new teachers need to learn. *Educational Leadership*, 60(8), 25-29.

Georgia Professional Standards Commission. (2006). *Status Report: The Georgia Educator Workforce 2006 Executive Summary*. Retrieved from http://www.gapsc.net/Workforce/2006_Report/Executive_Summary.pdf

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*, 569-582.

Graham, J.M., Guthrie, A.C., & Thompson, B. (2003). Teachers' Corner: Consequences of not interpreting structure coefficients in published CFA research: A reminder, *Structural Equation Modeling: A multidisciplinary Journal, 10*(1), 142-153.

Guskey, T. R. (1981). Measurement of responsibility teachers assume for academic successes and failures in the classroom. *Journal of Teacher Education, 32*, 44-51.

Guskey, T. R. (1982). Difference in teachers' perceptions of personal control of positive versus negative student learning outcomes. *Contemporary Educational Psychology, 7*, 70-80.

Guskey, T. R. (1988). Teacher efficacy, self-concept, and attitudes toward the implementation of instructional motivation. *Teaching and Teacher Education, 4*, 63-69.

Guskey, T. R., & Passaro, P. D. (1994). Teacher efficacy: A study of construct dimensions. *American Educational Research Journal, 31*, 627-643.

Hall, B. W., Burley, W. W, Villeme, M. G., & Brockmeier, L. L. (1992, April). *An attempt to explicate teacher efficacy beliefs among first year teachers*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Henson, R. K. (2001a). Teacher Self-Efficacy: Substantive Implications and Measurement Dilemmas. Retrieved August 17, 2009, from, http://www.des. emory.edu/mfp/EREkeynote.pdf

Henson, R. K. (2001b). Understanding internal consistency reliability estimates: A conceptual primer on coefficient alpha. *Measurement and Evaluation in Counseling and Development, 34*, 177-189.

Henson, R. K., & Roberts, J. K. (2006). Exploratory factor analysis reporting practices in published research. In B. Thompson (Ed.), *Advances in social science methodology* (Vol. 6). Stamford, CT: JAI Press.

Holloway, A. (2004). The Brain Game. *Canadian Business*, 77(21), 91-92.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*, 179-185.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*, 141-151.

Konanc, M. E. (1996). *Teacher attrition 1980-1996. Statistical Notes Number 002. North Carolina Department of Public Instruction*. (ERIC Document Reproduction Service No. ED 400240)

Lauer, P. (2001). *A secondary analysis of a review of teacher preparation research*. Denver: Education Commission of the States.

Learner, S. (2001, August 3). All-nations approach to tackling shortages. *Times Educational Supplement, 4440*, p. 5.

Lee, J. F., & VanPatten, B. (Eds.) (2003). *Making communicative language teaching happen* (2nd ed.). Boston: McGraw-Hill.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, *4*, 84-99.

Midgley, C., Feldlaufer, H., & Eccles, J. S. (1989). Change in teacher efficacy and student self- and task-related beliefs in mathematics during the transition to junior high school. *Journal of Educational Psychology, 81*(2), 247-258.

Mills, N. A., & Allen, H. W. (2008). Teacher efficacy in native and non-native teaching assistants of French. In H. J. Siskin (Ed.), *From thought to action: Exploring beliefs and outcomes in the foreign language program. Issues in language program direction: A series of annual volumes* (pp. 213-234). Boston: Heinle.

Moore, W., & Esselman, M. (1992, April). *Teacher efficacy, power, school climate and achievement: A desegregating district's experience*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Murphy, P., DeArmand, M., & Guin, K. (July 31, 2003). A national crisis or localized problems? Getting prospective on the scope and scale of the teacher shortage. *Education Policy Analysis Archives, 11*(23). Retrieved from http://epaa.asu.edu/epaa/v11n23

National Commission on Teaching and America's Future. (2002). *Unraveling the "teacher shortage" problem: Teacher retention is the key*. Washington, DC: Author.

National Governors Association Center for Best Practices. (2002). *Mentoring and Supporting New Teachers*. Retrieved from http://www.nga.org/Files/pdf/010902NEWTEACH.pdf

National Standards in Foreign Language Education Project. (1999). *Standards for foreign language learning in the 21st century*. Yonkers, NY: Author.

Pajares, F. (1997). Current directions in self-efficacy research. In H.W. Marsh, R. G. Craven, & D. M. McInerney, (Eds.), *International advances in self research* (pp. 1-49). Greenwich, CT: Information Age.

Pajares, F., Miller, M. D., & Johnson, M. J. (1999). Gender differences in writing self-beliefs of elementary school students. *Journal of Educational Psychology, 91*, 50-61.

Peyton, J. K. (1997). Professional development of foreign language teachers. *Center for Applied Linguistics*. Retrieved from http://www.cal.org/resources/digest/peyton02.html

Phillips, J. K. (1997). *Upgrading the target language proficiency levels of foreign language teachers*. ERIC Document Reproduction Service (ED 328082).

Philippou, G., & Charalambous, C. Y. (2005). *Disentangling mentors' role in the development of prospective teachers' efficacy beliefs in teaching mathematics*. Melbourne, Australia: International Group for the Psychology of Mathematics Education. (ERIC Document Reproduction Service No. ED496950)

Press, H. (1997). *Teacher demand in Canada: A report on the Teacher Labour Market*. (ISBN 0-920884-54-7). Toronto, Ontario: University of Ontario, Ontario Institute for Studies in Education, Department of Theory and Policy Studies in Education.

Rangel, A. T. (1997). Venezuelan college teachers' perceptions of efficacy and their attitudes toward interdisciplinary teacher education curriculum (Doctoral dissertation, University of Montana, 1997). *Dissertations Abstracts International*, 58-2A, 427.

Raymond, M., Fletcher, S., & Luque, J. (2001). *Teach for America: An evaluation of teacher differences and student outcomes in Houston, Texas*. Washington, DC: Thomas B. Fordham Foundation.

Rose, J. S., & Medway, F. J. (1981). Measurement of teachers' beliefs in their control over student outcome. *Journal of Educational Research, 74*, 185-190.

Ross, J. A. (1992). Teacher efficacy and the effect of coaching on student achievement. *Canadian Journal of Education, 17*(1), 51-65.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, 1-28.

Rubeck, M., & Enochs, L. (1991, April). *A path analytic model of variables that influence science and chemistry teaching self-efficacy and outcome expectancy in middle school science teachers*. Paper presented at the annual meeting of the National Association of Research in Science Teaching, Lake Geneva, WI.

Sains, A. (1999, October). Schools recruit scarce teachers on-line. *Europe*, *390*, 41.

Sarason, S.B. (1990). *The predictable failure of educational reform ─ Can we change course before it's too late?* San Francisco: Jossey Bass.

Schunk, D. H. (1989a). Self-efficacy and cognitive achievement: Implications for students with learning problems. *Journal of Learning Disabilities, 22,* 14–22.

Schunk, D. H. (1989b). Self-efficacy and cognitive skill learning. In C. Ames & R. Ames (Eds.), *Research on motivation in education* (pp. 13–44). San Diego, CA: Academic Press.

Shell, D. F., Murphy, C. C., & Bruning, R. H. (1989). Self-efficacy and outcome expectancy mechanisms in reading and writing achievement. *Journal of Educational Psychology, 81*, 91-100.

Skaalvik, E.M., & Bong, M. (2003). Self-concept and self-efficacy revisited: A few notable differences and important similarities. In H.W. Marsh, R.G. Craven, & D.M. McInerney, (Eds.), *International advances in self research* (pp. 67-89). Greenwich, CT: Information Age.

Swanson, P. (2008). Efficacy and interest profile of foreign language teachers during a time of critical shortage. *NECTFL Review*, *62*, 55-74.

Theobald, N. D., & Michael, R. S. (2001). Teacher Turnover in the Midwest: Who Stays, Leaves, and Moves? Policy Issues. Naperville, IL: North Central Regional Educational Lab.

Thompson, B., & Daniel, L. G. (1996). Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement, 56*, 197-208.

Towse, P., Kent, D., Osaki, F., & Kirua, N. (2002). Non-graduate teacher recruitment and retention: some factors affecting teacher effectiveness in Tanzania. *Teacher and Teacher Education, 18*(6), 637-652.

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17,* 783-805.

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202-248.

Turner, N. E. (1998). The effect of common variance and structure pattern on random data eigenvalues: Implications for the accuracy of parallel analysis. *Educational and Psychological Measurement, 58*, 541-568.

Velicer, W. F., & Fava, J. L. (1998). Effects of variable and subject sampling on factor pattern recovery. *Psychological Methods*, *3*, 231-251.

Woolfolk, A. (1998). *Educational Psychology* (7th ed.). Boston, MA: Allyn and Bacon.

Woolfolk, A. E., Rossoff, B., & Hoy, W. K. (1990). Teachers' sense of efficacy and their beliefs about managing students. *Teaching and Teacher Education, 6,* 137-148.

Zwick, W.R., & Velicer, W.F. (1986). Factors influencing five rules for determining the number of components to retain. *Psychological Bulletin, 99*, 432-442.