

Effects of EFL Teachers' Self-efficacy on Motivational Teaching Behaviors

Wei Huangfu¹

¹ School of Foreign Languages, North China Electric Power University, Beijing, China

Correspondence: Wei Huangfu, School of Foreign Languages, North China Electric Power University, 102206, Zhuxinzhuang, Changping District, Beijing, China. Tel: 86-10-8079-8444. Email: mailto:hfu@163.com

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Abstract

This study examined the predictability of EFL teachers' self-efficacy on their motivational teaching behaviors. Participants involved 112 English teachers from China's tertiary education institutes selected by a "snowball" sampling strategy and also from an EFL teacher training camp. They completed a questionnaire survey of the demographic information of participants, their perception of self-efficacy, and their motivational teaching behaviors in English classroom. Results from the descriptive statistics and a multiple regression analysis were generated based on the survey. It indicated that college EFL teachers perceived themselves with much higher self-efficacy for instructional strategies than efficacy for classroom management and efficacy for student engagement. Also, the results revealed that two most frequently used motivational strategies by teachers in language classroom were strategies for generating students' initial motivation and strategies for maintaining and protecting students' motivation. The results also showed that teachers' self-efficacy significantly contributed to the prediction of teachers' motivational teaching behaviors and accounted for more than one third of the variance to teachers' motivational teaching behaviors. This study confirmed that there was a direct causal relationship between English teachers' perceptions of their self-efficacy and their adoption of motivational strategies.

Keywords: EFL teacher, self-efficacy, teaching behavior, questionnaire, China

1. Introduction

Research by Tschannen-Moran and Woolfolk Hoy (2007) has indicated that teachers' self-efficacy affects the amount of effort teachers devote to preparation and delivery of instruction, the goals they set, their willingness to apply new methods to contribute to students' learning, and their persistence and resilience when encountering obstacles. But empirical studies in this area have been subject-matter specific and focuses on the populations of pre-service teachers and experienced teachers in elementary school and middle school. Also, considering the scarcity of research of how strong the predictability of each variable of EFL teachers' self-efficacy and their teaching practices, especially in college or university teaching context, there is an urgent need to investigate the relationship between college EFL teachers' perceptions toward their abilities to teach EFL classes and their motivational teaching behaviors. Thus, the purpose of present study is to better understand this relationship. Previous researches concerning theories and measurements of teachers' self-efficacy and related empirical studies of the consequences of teachers' self-efficacy will be reviewed firstly.

1.1 Theories and Measurements of Teachers' Self-efficacy

There are two popular conceptual strands in the construct of teachers' self-efficacy. The construct of teachers' self-efficacy was initiated by education researchers from the independent and nonprofit RAND organization. Based on Rotter's social learning theory proposed in his 1966 article entitled "Generalized Expectancies for Internal Versus External Control of Reinforcement", the RAND researchers determined teacher efficacy as "the extent to which teachers believed that they could control the reinforcement of the actions, that is, whether control of reinforcement lay within them or in the environment" (Tschannen-Moran & Woolfolk Hoy, 2001). In the RAND researchers' study, teacher efficacy was measured through a simple measurement consisting of only two items in the questionnaire survey, in which the participants were asked to rate their level of agreement toward the two items. The 2-item scale measurement was criticized by researchers for its lack of reliability. The second conceptual strand of teacher efficacy theory was grounded in Bandura's social cognitive theory first delineated in his 1977 article entitled "Self-efficacy: Toward a Unifying Theory of Behavioral Change", in which self-efficacy

was defined as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments”. Bandura (1986) further indicated efficacy expectation as the distinct construct of efficacy measure, but outcome expectancy had little to do with the predictive power of efficacy measure. Thus, the present research’s focus is limited to the exploration of self-efficacy beliefs rather than outcome expectancies. Bandura’s perceived self-efficacy theory is not the same as Rotter’s internal-external teacher efficacy theory in terms of the definition of the construct. To be more specific, perceived self-efficacy is concerned with teachers’ beliefs in their abilities to carry out certain tasks, whereas teacher efficacy is basically focused on “teachers’ beliefs in their abilities to affect student performance” (Dellinger, Bobbett, Olivier & Ellett, 2008). Perceived self-efficacy is also claimed to have stronger predictive power of behaviors in comparison with Rotter’s teacher efficacy (Tschannen-Moran, Woolfolk Hoy, A., & Hoy, W. K., 1998). The efficacy construct and measure developed in this study is named under the term “teacher self-efficacy measure” to correspond with the notion of Bandura’s self-efficacy.

Measures of teacher self-efficacy such as *Bandura’s teacher self-efficacy scale*, the *Ohio State teacher efficacy scale (OSTES)*, and the *Teachers’ Efficacy Beliefs System—Self Form (TEBS-Self)* will need to be introduced as the bases for the present study. Among them, *OSTES* and *TEBS-Self* are adapted as the instrument of teacher self-efficacy employed in this study.

Bandura’s teacher self-efficacy scale was built up on Bandura’s (1997) claim that teachers’ sense of self-efficacy was task and subject-matter specific. By taking the specificity nature of teacher self-efficacy into consideration, a 30-item instrument derived from seven subscales was created. The seven subscales, namely efficacy to influence decision making, efficacy to influence school resources, instructional efficacy, disciplinary efficacy, efficacy to enlist parental involvement, efficacy to enlist community involvement, and efficacy to create a positive school climate, were constructed in attempts to provide teachers with an opportunity to capture the strength of their efficacy beliefs across multifaceted teaching-related dimensions. Doubtlessly, Bandura’s teacher self-efficacy has made a great contribution to the level of specificity for the measurement by measuring the construct from multifaceted dimensions. However, it is still criticized by some teachers and educators because the tasks described in the items are not representative enough concerning a teacher’s work life (Tschannen-Moran et al., 2001).

The *Ohio State teacher efficacy scale (OSTES)*, a new measure of teacher self-efficacy with a long version (24 items) and a short version (12 items), was constructed and had been more frequently applied to educational research (Chacón, 2005). Items constructed for the measure either were from Bandura’s teacher self-efficacy scale or items developed by researchers themselves in order to complement the areas neglected in Bandura’s scale. The new items included in the *OSTES* are a broad range of significant teaching tasks that are documented correlates of effective teaching and learning. The construct of teacher self-efficacy was measured from three dimensions, i.e. efficacy for instructional strategies(EFIS), efficacy for classroom management(EFCM), and efficacy for student engagement(EFSE). The three dimensions of efficacy subscales are also considered the three major elements in the core of an effective teaching and learning. The *OSTES*’s reliability and validity has been proved, so the present study adopts the long version of the *OSTES* to investigate college English teachers’ perceived self-efficacy.

The *TEBS-Self* laid its theoretical foundation on Bandura’s self-efficacy theory and related studies in effective teaching and learning. The *TEBS-Self* consists of 30 items and is composed of four to five factors—accommodation of individual difference, classroom management, clarification and feedback from teachers, higher order thinking skills, and motivation of students— identified by means of confirmatory factor analysis across three studies, i.e. Oliver (2000), Bobbett (2001), and Delliinger (2001). But more studies need to be conducted to assure the validity and reliability of this measure and a reasonable justification is required to explain an imbalance between the amounts of items displayed under each factor. While the *TEBS-Self* as a teacher self-efficacy measure still needs a further exploration, it is worthy to be noted that some of the essential teaching tasks selected by the *TEBS-Self* indeed reflect an effective teaching practice. Therefore, some of the teaching tasks have been successfully modified into items for the measure of teachers’ motivational teaching behaviors in the present study.

1.2 Consequences of Teacher Self-efficacy Beliefs

A number of empirical studies investigating the relationship between teachers’ sense of self-efficacy and their behaviors, including adoption of innovation, classroom management, and use of instructional strategies are summarized as follows. In Ghaith and Yaghi’s (1997) study, teachers with higher personal teaching efficacy considered the innovation very important and less difficult, and were more likely to implement the instructional

innovation in their teaching. Woolfolk, Rosoff and Hoy's (1990) study revealed that there was a correlation between practicing teachers' perception of their instructional ability and the way they controlled students. They found that the more efficacious the teachers were, the less custodial they were when managing students. The finding of this study corroborates the findings of Woolfolk and Hoy's (1990) study that prospective teachers with a greater sense of self-efficacy tended to be more humanistic in their pupil control, emphasizing on cooperation, interaction, and student autonomy. Eslami and Fatahi (2008) conducted a study to investigate Iranian EFL teachers' self-efficacy and their use of the grammar-translation method and the communicative language teaching approach. Importantly, their finding revealed that there was a significant positive correlation between the teachers' self-efficacy for student engagement and instructional strategies. The finding is consistent with other studies in which teachers with high self-efficacy tended to spend more efforts on individualized instruction and adapt teaching practices.

2. Methodology

2.1 Participant Selection

The research methodology employed in this present study was a quantitative method—a questionnaire survey. By all accounts, the questionnaire survey was administered in this study with a main purpose to outline a picture of college English teachers' teaching self-efficacy and their overall motivational teaching practice in China. The participants for this research were 112 teachers of English from China's tertiary education institutes. The teachers, 28 male and 84 female, 64 lecturers and 48 associate professors or above, involved in this study were with an average of thirteen years of teaching experience and asked to respond to the questionnaire based on the situation in English classes offered to non-English majors. Recruitment and sampling of these participants will be further explained in the section of data collection in this paper.

2.2 Measurement

To address the research questions, a questionnaire consisting of three main parts was used to collect information in this study. The first part was designed to acquire the demographic information of participants, composed of 4 items, surveyed teachers' job position, highest educational attainment and types of educational institutes they were working for. The second part was about the perception of EFL teachers' self-efficacy. The third part was constructed to identify the EFL teachers' motivational teaching behaviors in English classroom.

The construct of teachers self-efficacy was mainly adapted from the long form of *Ohio State teacher efficacy scale (OSTES)*, and was composed of three dimensions of efficacy, namely efficacy for student engagement, efficacy for classroom management, and efficacy for instructional strategies, with 8 items for each dimension and the reliability α of 0.87, 0.90, 0.91 for each dimension respectively, and 0.94 for the overall scale, which was reported in Tschannen-Moran et al.'s study (2001). Administered to eliminate any potential confusion caused by the language barrier, the Chinese version of the questionnaire was with 24 items on a six-point Likert scale ranging from 1= "doing this without any confidence" to 6= "doing this with great confidence".

The measure of teachers' motivational teaching behaviors was composed of 25 items, among which 14 items were constructed and modified based on Dörnyei's (2001) proposed motivational strategies in the language classroom, and 6 items were adapted and modified from Dellinger (2001) and Dellinger et al.'s (2008) *Teachers' Efficacy Beliefs System—Self Form (TEBS-Self)*. Moreover, 3 items were devised by combining items in Dörnyei's (2001) and Dellinger et al.'s (2008) measure, 2 items were added considering the importance of positive learning attitude cultivation and post-learning goal setting for enhancing students' learning motivation. Finally, this measure was developed and composed of 25 items in total.

2.3 Data Collection

The questionnaire was administered and collected through the following three ways. First, a "snowball" sampling strategy was used to recruit as many participants as possible in this study. At the beginning, several college or university teachers from different schools helped fill out the questionnaire, and then these participants were asked to further introduce other potential participants from their acquaintances such as their colleagues or their friends teaching English in the tertiary educational system to be involved in this questionnaire survey. Second, several friends and former classmates of mine studying at different universities around China were asked to help distribute the questionnaire to teachers teaching English in their school. Both mail administration and one-to-one administration were used in above mentioned two methods to distribute and collect data. Third, a cost-effective group administration in FLTRP's EFL teacher training camp was conducted in this study. Since a lot of English teachers representing their colleges or universities across China were invited to participate in this training camp annually as presenters or audiences, the questionnaire was distributed to those teachers during the

break of the presentation or workshop.

The questionnaire administration each lasted about 25 minutes. None of the participants were blind as to the nature of this questionnaire survey. They were told prior to participating that this survey was aimed at understanding college or university English teachers' teaching cognition and teaching behaviors. They were not told explicitly, however, that their responses actually reflected teachers' teaching efficacy and their motivational teaching behaviors. Moreover, before participants filled out the questionnaire, an announcement was made to inform the participants of their confidential privacy and to encourage the participants to complete the questionnaire forthrightly. In order to express gratitude toward their participation and increase the return rate, a stamped addressed envelope and a gift were attached with the questionnaire sheets. Almost all the questionnaire sheets conducted via one-to-one and group administration were collected right after the participants had completed the questionnaire. As for the mail administration, the deadline of the questionnaire return date was highlighted in the introduction paragraph. To sum up, the questionnaire return rate in this study was satisfactory, approximately 80%.

3. Results

3.1 EFL Teachers' Perceived Self-efficacy

The descriptive statistics for teachers' perceived self-efficacy for student engagement, classroom management, and instructional strategies are displayed in Table 1. The means in the three subscales indicated that the EFL college and university teachers in China perceived themselves to have slightly higher efficacy for instructional strategies ($M = 40.09$) than efficacy for classroom management ($M = 38.39$) and efficacy for student engagement ($M = 35.07$).

Table 1. Descriptive statistics for teachers' self-efficacy

Latent Variable	Indicators	Mean	SD
Teachers' Self-efficacy	Efficacy for Student Engagement	35.07	5.48
	Efficacy for Classroom Engagement	38.39	5.20
	Efficacy for Instructional Strategies	40.09	3.92

3.2 EFL Teachers' Motivational Teaching Behaviors

The descriptive statistics for EFL teachers' motivational teaching behaviors are summarized in Table 2. The findings suggested that teachers displayed much higher frequency in the use of strategies for generating students' initial motivation ($M=23.99$) and for maintaining and protecting students' motivation ($M=23.60$) in comparison with the used strategies for creating students' basic motivational conditions ($M=21.26$) and for encouraging students' positive self-evaluation ($M=16.47$).

Table 2. Descriptive statistics for teachers' motivational teaching behaviors

Latent Variable	Indicators	Mean	SD
Teachers' Motivational Teaching Behaviors	Creating the Basic Motivational Conditions	21.26	2.22
	Generating Initial Motivation	23.99	2.51
	Maintaining and Protecting Motivation	23.60	2.93
	Encouraging Positive Self-evaluation	16.47	2.16

3.3 Effects of Teachers' Self-efficacy on Teachers' Motivational Teaching Behaviors

Multiple regression analyses were performed to examine the effects of teachers' self-efficacy on teachers' motivational teaching behaviors. The extent to which teachers' self-efficacy, i.e., efficacy for student engagement, efficacy for classroom management and efficacy for instructional strategies, exerted influence on the prediction of the teachers' motivational teaching behaviors as a whole (TMTB) and on its four subscales, i.e., creating the basic motivational conditions (CBMC), generating initial motivation (GIM), maintaining and protecting motivation (MPM) and encouraging positive self-evaluation (EPSE), are exemplified in Table 3.

First, a multiple regression analysis was executed between teachers' motivational teaching behaviors in total (TMTB) as dependent variable and teachers' self-efficacy as independent variable. The result indicated that teachers' self-efficacy could significantly contribute to the prediction of teachers' motivational teaching behaviors ($F=17.168$, $p < .001$) and account for 37.2% ($R^2 = .372$) of the variance to teachers' motivational teaching behaviors. As for the predictive power of the three subscales in teachers' self-efficacy, efficacy for

instructional strategies was the best predictor of teachers' motivational teaching behaviors ($\beta = .392, p < .01$).

Second, the effect of teachers' self-efficacy on creating the basic motivational conditions for students (CBMC) was explored. The result suggested that teachers' self-efficacy significantly predicted teachers' behaviors on creating the basic motivational conditions for students ($F = 18.541, p < .001$) and explained 37.7% ($R^2 = .377$) of the total variance to teachers' use of strategies to create the basic motivational conditions for students. Moreover, both efficacy for classroom management and efficacy for instructional strategies were significant predictors of creating the basic motivational conditions for students. A further comparison between these two indicated that efficacy for instructional strategies ($\beta = .423, p < .01$) made a somewhat greater contribution to the prediction of teachers' behaviors of creating the basic motivational conditions for students than efficacy for classroom management ($\beta = .288, p < .05$).

Third, a multiple regression analysis was carried out to evaluate the effects of teachers' self-efficacy on teachers' behaviors of generating students' initial motivation (GIM). As shown in Table 3, it was revealed that teachers' self-efficacy significantly contributed to the prediction of generating students' initial motivation ($F = 12.778, p < .001$), and accounted for 29% ($R^2 = .29$) of the variance to the use of strategies to generate students' initial motivation. Considering the predictive power derived from the three self-efficacy subscales, the result found that none of the efficacy subscales showed significance. Efficacy for student engagement was the variable on the verge of significance ($\beta = .233, p = .083$).

Fourth, Table 3 provided the result of the effects of teachers' self-efficacy on teachers' maintaining and protecting students' motivation (MPM). The finding revealed that teachers' self-efficacy significantly predicted teachers' behaviors on maintaining and protecting students' motivation ($F = 11.191, p < .001$) and explained 26.9% ($R^2 = .269$) of the total variance to teachers' use of strategies to maintain and protect students' motivation. Furthermore, considering the predictive power of teachers' self-efficacy, efficacy for instructional strategies ($\beta = .282, p < .05$) held a significantly positive effect on teachers' behaviors of maintaining and protecting students' motivation.

Lastly, another multiple regression analysis was performed to investigate the effects of teachers' self-efficacy on encouraging students' positive self-evaluation (EPSE). The result showed that teachers' self-efficacy could significantly make a contribution to the prediction of teachers' behaviors in encouraging students' positive self-evaluation ($F = 15.052, p < .001$) and account for 33.2% ($R^2 = .332$) of the variance to teachers' use of strategies to encourage students' positive self-evaluation. Moreover, the result also revealed that efficacy for instructional strategies demonstrated a significantly positive effect on encouraging students' positive evaluation ($\beta = .436, p < .01$).

To sum up, of the three subscales of teachers' self-efficacy, efficacy for instructional strategies was the most explanatory variable, imposing much stronger predictive power and influence on teachers' motivational teaching behaviors and on most of its subscales.

Table 3. Multiple regression analysis of the effect of teachers' self-efficacy on teachers' motivational teaching behaviors

Teachers' Self-efficacy Variables	TMTB	CBMC	GIM	MPM	EPSE
Efficacy for student engagement	0.111	-0.052	0.233	0.141	0.164
Efficacy for classroom management	0.171	.288*	0.183	0.156	0.015
Efficacy for instructional strategies	.392**	.423**	0.189	.282*	.436**
F	17.168***	18.541***	12.778***	11.191***	15.052***
R^2	0.372	0.377	0.290	0.269	0.332

Note. * $p < .05$. ** $p < .01$. *** $p < .001$

4. Discussions

This part aims to conduct a discussion on the statistical descriptive analyses of teachers' self-efficacy and motivational teaching behaviors and make a comparison between this study and other related studies. Moreover, a further discussion on the effect of teachers' self-efficacy beliefs on teachers' motivational teaching behaviors is delineated.

The finding revealed that EFL teachers perceived themselves more competent in dealing with students' learning difficulties and present instruction in a comprehensible way, while they felt less competent to enhance students' learning motivation and classroom participation, and to manage a language classroom. The finding is consistent

with the studies done by Chacón (2005) and Eslami et al. (2008). As for the investigation of teachers' motivational teaching behaviors, the present study revealed that EFL teachers more frequently used strategies to generate students' initial motivation and to maintain and protect students' motivation in comparison with the use of strategies to create the basic motivational conditions and to encourage students' positive self-evaluation. This finding is critical and has pedagogical implications since a specific and attainable goal serves as an effective driving force to motivate language learners, to achieve better performance and to display great commitment toward language learning.

According to the regression analyses presented in part three, teachers' self-efficacy beliefs could explain more than one third of teachers' motivational teaching behaviors in the language classroom, which is significant contribution. But the remaining 62.8% may be explained by other factors, which are still unknown and worth exploring in future studies. Among the three subscales of teachers' self-efficacy, teachers' efficacy for instructional strategies was rated as the most powerful and significant predictor of teachers' motivational teaching behaviors. A possible explanation for this may lie in the fact that there is strong correspondence between them, i.e. it is more likely that the stronger the efficacy for instructional strategies perceived, the higher the frequency in teachers' use of these corresponded motivational strategies. Moreover, teachers' efficacy for classroom management has significant influence on their behaviors to form a basic condition for developing students' motivation. The more likely explanation rests in their close relationship, i.e. if a teacher shows low efficacy for classroom management, the teacher might avoid adopting related strategies of classroom environment into a classroom rather than frequently use these strategies in a classroom. Lastly, regarding the effects of teachers' self-efficacy on teachers' behaviors of generating students' initial motivation, teachers' efficacy for student engagement was found to be the variable on the verge of significance. The results implied that teachers' efficacy for student engagement including helping students to value learning, improving the understanding of a student who is failing, and motivating students who show low interest in schoolwork had moderate impacts on their teaching behaviors to generate students' initial motivation and to establish positive attitudes toward learning.

5. Conclusions and Recommendations

As for the results of descriptive analyses, this study showed that college EFL teachers perceived themselves with much higher self-efficacy for instructional strategies than efficacy for classroom management and efficacy for student engagement. Also, the results of descriptive analyses revealed that two most frequently used motivational strategies by teachers in language classroom were strategies for generating students' initial motivation and strategies for maintaining and protecting students' motivation. Strategies for encouraging students' positive self-evaluation were the least frequently used motivational strategies by teachers. In terms of the multiple regression analyses, the present study found that there was a causal relationship between teachers' self-efficacy and their reflected motivational teaching behaviors. The results indicated that teachers' efficacy for instructional strategies was the most powerful predictor of the frequency of teachers' motivational strategy use.

In terms of theoretical implications, since educators and the public have desperately called for an enhancement and improvement of the quality of tertiary English education in China, the results of this study help shed light on the college English education, particularly because the findings seem to lend great support and provide specific evidence to strengthen the general belief that there is a direct causal relationship between English teachers' perceptions of their self-efficacy and their adoption of motivational strategies. As for pedagogical aspect, since the relationship between teachers' self-efficacy and their motivational teaching behaviors is closely related, administrators and educators in teacher development institutions can pay more attention to these two constructs and incorporate these into curriculum to equip those pre-service teachers with higher teachers' self-efficacy and better command of the use of motivational strategies.

Since this research is a quantitative study, the interpretations of findings may be limited by these quantitative instruments. Thus, in order to overcome the shortcomings of quantitative data, future research is encouraged to incorporate some qualitative data collection methods such as interviews or classroom observation into the study.

References

- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Company.
- Bobbett, J. (2001). School culture, teacher efficacy, and decision making in demonstrably effective and ineffective schools. Louisiana State University, Baton Rouge, Louisiana, Unpublished Doctoral

Dissertation.

- Chacón, C. (2005). Teachers' perceived efficacy among English as a foreign language teachers in middle schools in Venezuela. *Teaching and Teacher Education*, 21(3), 257-272. <http://dx.doi.org/10.1016/j.tate.2005.01.001>
- Dellinger, A. B. (2001). A study of the measurement and sources of teachers' self and collective efficacy beliefs in professional learning environments. Unpublished Doctoral Dissertation, Louisiana State University, Baton Rouge, Louisiana.
- Dellinger, A. B., Bobbett, J. J., Olivier, D. F., & Ellett, C. D. (2008). Measuring teachers' self-efficacy beliefs: Development and use of the TEBS-Self. *Teaching and Teacher Education*, 24(3), 751-766. <http://dx.doi.org/10.1016/j.tate.2007.02.010>
- Dörnyei, Z. (2001). New themes and approaches in second language motivation research. *Annual Review of Applied Linguistics*, 21(1), 43-59. <http://dx.doi.org/10.1017/S0267190501000034>
- Eslami, Z. R., & Fatahi, A. (2008). Teachers' sense of self-efficacy, English proficiency, and instructional strategies: A study of nonnative EFL teachers in Iran. *TESL-EJ*, 11(4), 1-19. Retrieved from <http://tesl-ej.org/ej44/a1.html>
- Ghaith, G., & Yaghi, H. (1997). Relationships among experience, teacher efficacy, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education*, 13(4), 451-458. [http://dx.doi.org/10.1016/S0742-051X\(96\)00045-5](http://dx.doi.org/10.1016/S0742-051X(96)00045-5)
- Olivier, D. (2000). Teacher personal and school culture characteristics in effective schools: Toward a model of a professional learning community. Baton Rouge, LA: Louisiana State University, unpublished Doctoral Dissertation.
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783-805. [http://dx.doi.org/10.1016/S0742-051X\(01\)00036-1](http://dx.doi.org/10.1016/S0742-051X(01)00036-1)
- Tschannen-Moran, M., & Woolfolk Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, 23(6), 944-956. <http://dx.doi.org/10.1016/j.tate.2006.05.003>
- Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, 68(2), 202-248. <http://dx.doi.org/10.3102/00346543068002202>
- Woolfolk, A. E., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology*, 82(1), 82-91. <http://dx.doi.org/10.1037/0022-0663.82.1.81>
- Woolfolk, A. E., Rosoff, B., & Hoy, W. K. (1990). Teachers' sense of efficacy and their beliefs about managing students. *Teaching and Teacher Education*, 6(2), 137-148. [http://dx.doi.org/10.1016/0742-051X\(90\)90031-Y](http://dx.doi.org/10.1016/0742-051X(90)90031-Y)