

Correlation between Self-Efficacy Perception and Teaching Performance: The Case of Mexican Preschool and Primary School Teachers

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Abstract:

Self-efficacy (SE) is a key factor of the teaching-learning process success. While literature on SE and its dimensions is rich in the field of education, still there is a lack of studies aiming to explore teachers' SE in contrast with their actual teaching skills and their characteristics. For this reason, this study aims to respond to the following research questions: are there differences between perceived SE and actual teaching performance in preschool and primary school teachers? Which sources of SE can be considered as significant predictors of teachers' SE? This work employs a quantitative approach based on the observational method. Teacher Sense of Efficacy Scale and classroom observation frameworks were used to collect data from a sample of 24 teachers. Results show that there are high inconsistencies between self-judgments and actual teaching performance ($p > .05$). Experienced and medium experienced teachers show higher scores than novice teachers in several dimensions of SE ($p < .05$). However, teachers' educational background is not significantly correlated with their SE ($p > .05$). *Resource support* is found as the only significant predictor of SE in our sample of teachers ($p < .001$; $\eta^2 = .733$). Our research suggests that teachers may have a distorted perception of their in-class performance, which could drive to lower quality of the teaching-learning process. Therefore, in the future, professional training programs should focus on promoting a more realistic understanding and awareness of teachers' actions in the classroom as the first step of any intervention aiming to increase teaching quality.

Key words: assessment, classroom observation, teacher behavior, teachers' self-efficacy, teaching performance

Cite as: Cocca, M., Cocca, A., Martínez, E. A., & Bulnes, M. G. R. (2018). Correlation between Self-Efficacy Perception and Teaching Performance: The Case of Mexican Preschool and Primary School Teachers. *Arab World English Journal*, 9 (1).

DOI: <https://dx.doi.org/10.24093/awej/vol9no1.4>

1. Introduction

Globalization and free flow of people have allowed for rapidly increasing economic competitiveness amongst countries both at the national and international level. This competitiveness is being mainly reflected on educational reforms as governments are trying to keep abreast with the changing demands of educational and socio-economic realities and challenges by creating new policies and strategies. Mexico has been no exception to these global calls for educational transformation across different levels. Following the general consumption that teachers are the most important determinants of a qualified educational environment, the Mexican Ministry of Public Education (SEP) implemented a rigorous evaluation policy with its primary focus on assessing and improving teachers' quality by introducing brand new National Teaching Standards (SEP, 2015). Matching other international teaching standards, SEP has identified five key profile areas – competencies, which describe pedagogical, interpersonal, methodological, organization, and relational knowledge, skills, and/or behavior that a good teacher should possess. As a consequence of these requirements, school teachers face a new and difficult challenge, since they are required to fulfill stricter criteria and maintain their teaching standards at a higher level than in previous years. For this reason, they should adopt new strategies that can help them increase the quality of the teaching-learning process in their classes. In order to answer the demands of the 21st century, as well as to cope with the new standards of the education reform, Mexican teachers, hence, need to keep improving their performance, as well as their efficacy.

2. Teachers' self-efficacy

In the light of education, teachers' beliefs and perception of their own teaching abilities make an essential and integral part of their practice. Owing to that, many researchers have studied self-efficacy (SE), as it is believed to be one of the crucial variables that influence pre-service and in-service teachers' commitment, willingness to adapt to new reforms, implement new teaching strategies, and improve the overall teaching-learning process (Brighton, 2003).

According to Bandura's (1977) Social-Cognitive Theory (SCT), the concept of SE is defined as "people's beliefs in their capabilities to produce desired effects by their own actions" (p. vii). These beliefs function as a determinant of people's feelings, motivation, behavior, as well as they influence their cognitive processes. After a comprehensive literature review, Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) refined the definition, applying it to a teaching context and identifying teachers' self-efficacy (TSE) as a belief in one's capabilities to manage and perform actions in a way to master established teaching tasks. According to Tschannen-Moran et al. (1998), the extent to which teachers perceive their skills and abilities to be efficacious is highly correlated with specific and contextual requirements of any teaching practicum. Thus, the measure for one's success also comes from the perception of context-related resources (community support, leadership style) and constraints such as material support, or students' motivation and abilities. Yet, due to the vast concept of teaching, the interpretation and conceptualization of a successfully performed teaching task might be problematic (Klassen, Durksen, & Tze, 2014).

Owing to that, Tschannen-Moran and colleagues (1998) suggest that the perception of one's success varies depending on different TSE domains. As a consequence, the authors have proposed a three-dimension model that underpin the complexity of the teaching-learning environment in the areas of instructional strategies, classroom management, and student motivation. The first domain,

Efficacy of Instructional Strategies (EIS) addresses to the strategies teachers use in order to help their students learn a specific material. *Efficacy of Classroom Management (ECM)* refers to teachers' perception of their abilities to run a smooth class, which in fact underlines the effectiveness of the instructional strategies applied. The third domain, *Efficacy for Student Engagement (ESE)*, refers to how well a teacher can motivate students and create an appropriate learning environment in which its participants would be present both physically and psychologically. This domain is believed to be one of the most important pathways to influence students' academic and cognitive development (Bandura, 1997).

2.1. Sources of Teachers' Self-Efficacy

In order to manipulate and/or influence one's level of self-efficacy, four sources should be taken into account: mastery experiences, vicarious experiences, verbal persuasion, and physiological arousal (Bandura, 1997). Owing to the nature of teaching, of the four SE sources, *mastery experience*, which comes from the actual successful interaction between teachers and students, contributes the most to the complexity of the picture (Morris & Usher, 2011). *Verbal persuasion* is based on a verbal interaction that a teacher receives from others involved in the teaching-learning process (administrators, colleagues, observers, parents, etc.) on his/her teaching performance. *Vicarious experiences* are those connected to the observation of others. However, the effect of this type of experience relies strongly on the extent to which we identify ourselves with the model (Mills, 2011). As pointed out by Tschannen-Moran and Woolfolk Hoy (2007), when certain features, such as level of experience, training, or gender of the model, seem to be too far from the observer, the observation will not have any real impact on increasing self-efficacy regardless of the quality of the witnessed performance. Nevertheless, even the best seen activity will not make teachers as efficacious as when the performance is directly lived and/or experienced (Bandura, 1997). The last source, *psychological and emotional arousal*, also adds to this construct. In fact, the joy or pleasure that results from a successfully taught class may increase one's sense of SE (Tschannen-Moran et al., 1998). On the other hand, high levels of anxiety and stress, often related to the inability to control the educational environment, may have a negative impact on TSE (Schunk & Pajares, 2009). As suggested within the SCT, the expectation of success in teaching reflects on the effort that teachers put into preparation and instructional delivery. Regardless of the knowledge on correct strategies teachers possess, if their SE beliefs are low, they tend to give up easily when facing a difficult situation (Bandura, 1997).

2.2. Profession-related characteristics and its effect on TSE

With regard to understanding the effect of the aforementioned variables on teachers' behavior in both personal and professional settings, SE theory has triggered a rich line of research, studying different domains of TSE (Tschannen-Moran & Woolfolk Hoy, 2001, 2007), and teachers' profiles (Klassen & Chiu, 2010). Although Fackler and Malmberg (2016) point out that most of the research on TSE has focused on investigating the level of teachers' experience and its relation to SE, there seem to be an inconsistent evidence about how teachers' beliefs change over the course of time (Tschannen-Moran et al., 1998). For instance, some authors such as Bent, Bakx, and den Brok (2016) suggest that there exists a relation between age and prior work experience and high levels of SE. An opposite effect is found in Klassen and Chiu's study (2010), revealing a decline in SE related to teachers' experience. Different findings are presented by Woolfolk Hoy and Spero (2005), suggesting that once teachers establish a certain belief in their competence, SE remains

relatively stable. Studies involving novice, medium experienced, and experienced teachers show a significant difference between different stages of service and SE, indicating that the more experience teachers have, the higher their SE beliefs are (Wilson & Tan, 2004). As research further suggests, the grade level that teachers teach also seems to have an impact on TSE. For instance, a study conducted by Ryan, Kuusinen and Bedoya-Skoog (2015) examines different domains of TSE in primary and middle school teachers, reporting lower SE for classroom management in the latter sample. As regards to teachers' former education background, authors such as Raudenbush, Rowan and Cheong (1992) suggest that teaching courses that match one's field of expertise represent a significant predictor of TSE. However, these results were contradicted in other studies, as no correlation was found between the type of degree obtained and high scores of TSE (Pas, Bradshaw, & Hershfeldt, 2012). Yet, such findings could have been a result of relatively small samples in all the mentioned studies. Although there exists a vast number of studies investigating teachers' characteristics in relation to their SE beliefs, yet there are many differences between individual results. Thus, more research is required in order to investigate these contradictions.

2.3. *Internal beliefs vs. teaching performance*

There is an extensive body of literature investigating TSE from many different angles, from understanding its relation with teachers' actions and achieved outcomes, teachers' pedagogy, and/or with students' engagement and achievement (Christophersen, Elstad, Turmo, & Solhaug, 2016; Tschannen-Moran et al., 1998). Nonetheless, very little is known about the relation between SE and actual teaching performance (Tschannen-Moran & Hoy, 2007). In fact, Klassen and Tze (2014) point to the lack of studies focusing on both the internal and external measures of teaching competence. As the authors indicate, over 99% of papers deal with teacher outcomes such as job satisfaction or engagement rather than with evaluations of teaching performance. The lack of studies related to this issue might be due to the difficulty with data collection (Klassen & Chiu, 2011), as well as due to TSE being an individual judgment of one's competence (i.e. what I can do), rather than its current level.

Even though there is a general consensus that teachers should be able to evaluate the administered teaching tasks and context in a critical way (Bandura, 1997; Tschannen-Moran & Woolfolk Hoy, 2001), research has demonstrated that this is not always true. For instance, as pointed out by Bandura (1997), teachers are more likely to slightly overestimate their skills. Çakir (2010) shares his experience with language teachers stating that the majority of them claimed to be the best; yet, being unable to accept any shortcomings in their teaching practice. Due to that, the evaluation of TSE might have contradictory results compared to the external assessment of actual teaching skills (Tschannen-Moran & Woolfolk Hoy, 2007). The difference between actual and perceived performance might be even more apparent in novice and experienced teachers, as noted by the authors. This bias can appear due to the high hopes and expectancies that novice teachers start their career with and the harsh face of the reality they encounter (Woolfolk Hoy & Spero, 2005). For that reason, observation and evaluation of the actual teaching performance is suggested as the most appropriate method to gain insight into the quality of one's teaching.

As a matter of fact, many prominent researchers have centered their studies on displayed effective teachers' behaviors, i.e. teaching performance that can be observed in everyday lessons (Van de Grift, 2007). Amongst them, scholars have identified several domains such as Learning

climate, Classroom management, Instructions, and/or Teaching strategies. Ambrose, Bridges, DiPietro and Lovett (2010) define learning climate as intellectual, social, emotional, and physical environments in which students learn. As already mentioned, classroom management refers to methods and strategies that teachers use in order to prevent misbehavior and assure that a class runs smoothly. Instructions are considered as an important tool that meaningfully directs students' learning; being provided with experiences that allow them to increase the current level of skills or knowledge (Huitt, 2007). Teaching strategies is a set of different methods, structures, or techniques that a teacher employs during instructions in order to enhance students' learning. Authors such as Van den Hurk, Houtveen and Van de Grift (2016) argue that these teaching domains reflect what is considered as effective teacher behavior. Thus, in order to establish, whether a teaching behavior facilitates students' learning, i.e. is effective, the above-mentioned variables should be evaluated.

2.4. Rationale for the study

Due to the new requirements established by SEP, not only school principals, but also teachers themselves, are looking for different means of professional growth. Owing to that, one of the researcher was asked to prepare a professional training program (PTP) focusing on empowering teaching competencies and skills of English as a Second Language (ESL) teachers. Yet, in order to plan an appropriate PTP, it was essential to understand both the initial level of teachers' SE and the actual state of their teaching skills, as it can provide teacher trainers with an important insight on teachers' perceived and assessed weak points. At the same time, it can demonstrate the strength of one's actions and beliefs about his/her abilities. Considering the educational reforms taken place in Mexico, this is a very important factor, as it can explain teachers' resistance to change due to their satisfaction and belief of perfection. This phenomenon is underlined by the results of Woolfolk Hoy and Spero's (2005) study, indicating that once teachers established their efficacy beliefs, they were less likely to change. Similarly, Brighton (2003) suggests that the level of TSE may explain the extent to which teachers accept school reforms, as well as their willingness to change. Thus, in the light of the education changes established across Mexican public sector, diagnostic evaluations of TSE levels represent a necessary step before planning any training program. For this reason, the main aim of this study was to carry out a diagnostic assessment of teachers' self-efficacy beliefs in contrast with the actual state of their teaching skills in a sample of ESL teachers from 7 bilingual schools. Furthermore, relationship between the two variables and teachers' characteristics (age, teaching experience, education level) was also explored.

Considering the fact that there is a lack of studies aiming to explore teachers' SE, their actual teaching skills, and their relation to teachers' characteristics, this investigation aims to answer the following research questions:

- Is there any difference between self-efficacy in novice, medium experienced, and experienced teachers?
- Is there any difference in teachers' self-efficacy in relation to their education background?
- Is there any difference in teachers' self-efficacy in relation to the level they teach?
- Is there any difference in teachers' performance in relation to their experience, education background, or level they teach?
- Is there any correlation between teacher's self-efficacy and their actual teaching skills?
- Which sources of self-efficacy better predict it in our sample?

3. Methods

The study is based on an observational design using a quantitative approach to investigate the level of self-efficacy and its correlation to the actual state of teaching skills, and its relation to teachers' characteristics.

3.1. Sample

Due to the nature and characteristics of this study, the sampling technique was founded on a non-probabilistic approach based on convenience. As above mentioned, seven schools from the urban area of Monterrey (Mexico) requested a PTP from one of our researchers, with the aim to empower ESL teachers' skills. Therefore, all ESL teachers working in those schools were included in the study. The final sample consisted of 26 ESL female teachers (14 teaching at a primary level, whereas 12 at a preschool level) aged 22 to 47 years (M age = 32.21, SD = 6.45), as shown in table 1.

Table 1.

Descriptive data of the teachers included in the study, by grade and education

Grade	Education	<i>n</i>	Age	Experience (years)
Pre-school	No education	3	25.00 ± 2.65	3.67 ± 3.78
	BA Language	6	33.67 ± 6.94	12.17 ± 8.28
	BA other	3	29.67 ± 3.21	6.33 ± 6.81
	Total	12	30.50 ± 6.24	8.58 ± 7.56
Primary school	No Education	3	35.67 ± 10.59	12.00 ± 9.54
	BA Language	5	30.20 ± 3.56	8.80 ± 3.89
	BA other	6	36.00 ± 5.62	8.83 ± 4.07
	Total	14	33.86 ± 6.43	9.50 ± 5.18

Note: BA = Bachelor degree

The teachers were successively divided into three categories depending on their experience, which ranged from 1 to 23 years of service (M = 9.08, SD = 6.27).

3.2. Instruments

Teachers' Sense of Efficacy Scale

Considering the complexity of teaching, we used the long 24-item form of the Teachers' Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001), as it has been proposed as the most suitable instrument to assess this multi-facet construct (Klassen, Tze, Betts & Gordon, 2011). The TSES is based on Banduras' (1977) model of self-efficacy factors, evaluating three major components: 1) *Efficacy for Instructional Strategies* (EIS); 2) *Efficacy for Classroom Management* (ECM); and 3) *Efficacy for Student Engagement* (ESE) through a 9-point Likert scale, ranging from 1 = 'Nothing' to 9 = 'A Great Deal'. Tschannen-Moran and Woolfolk Hoy (2001) reported an overall Cronbach's alpha for the TSES of .94; and .87, .91, and .90 of the ESE, EIS, and ECM respective subscales. In the current study, the overall reliability of this sample population was Cronbach's α = .889. Considering each subscale separately, Cronbach's α s = .735, .692 and α .774 for ESE, EIS, and ECM respectively.

In addition to TSES, the participants were also asked to answer questions related to teaching context and demographics, including age, education background, number of years of experience, and the level at which they taught. Teachers' education background was then coded according to the degree awarded (0 = no university education, 1 = BA in teaching ESL, and 2 = BA in other field). The level at which they taught was coded as 1 (preschool), and 2 (primary school). Based on the years of teaching experience, the teachers were consequently divided into three groups: (1) novice – up to 5 years of experience; (2) medium experienced – from 6 to 10 years of experience; and (3) experienced teachers – from 11 years of teaching practice onward.

In line with Tschannen-Moran and Woolfolk Hoy's study (2007), the participants further rated the *resources (materials)* provided by their school, as well as *verbal persuasion*, addressing the quality of support and involvement provided by: (1) school administrators; (2) colleagues; (3) parents; and (4) community they had received. *Mastery experience* was assessed by means of rating one's satisfaction with professional performance of the current academic year. All variables were measured on an anchored 9-point scale ranging as follows: 1 – Nonexistent; 3 – Poor; 5 – Good; to 9 – Excellent.

Observational measures

An observational sheet adapted from the University of Pennsylvania (<http://ccat.sas.upenn.edu/~haroldfs/pedagog/evaluation/evaluate.html>) was used to evaluate the current state of teaching skill in the participants of this study. The instrument assesses six dimensions (preparation, language use, lesson presentation, classroom management, classroom atmosphere, and the use of technology) on a 4-point Likert scale, ranging from 4=outstanding, 3=good, 2=fair, to 1=poor. In order to affirm the objectivity of the assessment, each class was observed and evaluated by two independent observers. Prior to the study the observers were asked to evaluate several sample classes with the aim to reach the maximum agreement. The training stopped when the observers reached an Interrater Correlation Coefficient (ICC) of .87, which, in line with Portney and Watkins (2000), shows high reliability and homogeneity of the observation.

3.3. Procedure

The study was conducted in the beginning of the 2016 spring semester. As the seven schools belong to one owner, all the participating teachers were summoned at the main headquarters and administered the TSES form. Consequently, in the following week, the trained observers entered each teacher's class and evaluated the current state of mastery teaching.

3.4. Data analysis

Analyses were run using the statistical package SPSS v.21 for Macintosh. Prior to analyzing the data, descriptive and frequency analyses were run in order to detect any possible mistakes that could have occurred during the process of data transfer. Successively, data were examined employing *standardized scores* and *Mahalanobis D²* techniques in order to detect potential outliers. Once the data set was ready for analysis, we firstly confirmed the reliability of our instruments by calculating *Cronbach's alphas*. Following, we employed *Spearman* statistics to test for correlations between variables; *Mann-Whitney U* and *Kruskal-Wallis* tests for comparing our sample by experience, education, and grade; and multiple linear regressions (MLRs) with *Backward* method, in order to examine prediction models for teachers' self-efficacy.

4. Results

Seven participants were classified as *novice teachers* (up to five years teaching; 26.9%), with mean 2.29 ± 1.11 years of experience; six of them worked in pre-school, whereas only one was teaching in primary school. Nine teachers were included in the *medium experienced* category (6 to 10 years teaching; 34.6%), with mean 7.11 ± 1.61 years of experience; one of them was teaching in pre-school, whereas eight at primary school level. Finally, 10 participants belonged to the *experienced* category (11+ years teaching; 38.5%), with mean 15.60 ± 4.37 years of experience; five teachers in this category were working in pre-school, and five in primary school.

Outcomes from TSES showed an overall mean score of 6.85 ± 1.04 in SE, while teachers scored 6.86 ± 1.23 in ESE, 6.69 ± 1.29 in EIS, and $7.00 \pm .97$ in ECM. Results by grade and education are shown in table 2.

Table 2.

Descriptive results for the dimensions of self-efficacy

Grade	Ed.	n	ESE	EIS	ECM	TSE
Pre-school	NO	3	5.06 ± 2.31	4.66 ± 2.10	6.08 ± 1.23	5.27 ± 1.80
	BAL	6	6.70 ± 1.07	$6.20 \pm .84$	$6.18 \pm .55$	$6.36 \pm .38$
	BAO	3	$6.13 \pm .90$	$6.46 \pm .64$	$6.87 \pm .69$	$6.49 \pm .49$
	Total	12	6.15 ± 1.46	5.88 ± 1.32	$6.33 \pm .78$	$6.12 \pm .98$
Primary school	NO	3	$7.46 \pm .57$	7.26 ± 1.10	$7.91 \pm .32$	$7.55 \pm .65$
	BAL	5	$7.48 \pm .61$	$7.68 \pm .65$	$7.45 \pm .96$	$7.54 \pm .67$
	BAO	6	$7.50 \pm .43$	$7.20 \pm .77$	$7.50 \pm .73$	$7.40 \pm .61$
	Total	14	$7.48 \pm .49$	$7.38 \pm .77$	$7.57 \pm .74$	$7.48 \pm .59$

Note: Ed. = Education; ESE = Efficacy for Student Engagement; EIS = Efficacy for Instructional Strategies; ECM = Efficacy for Classroom Management; NO = No degree; BAL = Bachelor degree in Languages; BAO = Other Bachelor degrees

Regarding SE sources, means of 6.96 ± 1.53 , 6.00 ± 1.13 , and $4.75 \pm .49$ were found in the categories of *resource support*, *performance satisfaction*, and *verbal persuasion* respectively. Detailed outcomes of teachers' perceived sources of SE are presented in table 3.

Table 3.

Descriptive results for the sources of self-efficacy

Grade	Education	n	RS	PS	VP
Pre-school	NO	3	5.00 ± 1.00	5.00 ± 1.00	$4.83 \pm .38$
	BAL	6	6.50 ± 1.22	$5.17 \pm .98$	$4.66 \pm .49$
	BAO	3	$5.67 \pm .57$	$6.33 \pm .58$	$4.50 \pm .50$
	Total	12	5.92 ± 1.16	$5.42 \pm .99$	$4.66 \pm .44$
Primary school	NO	3	8.00 ± 1.73	6.00 ± 1.00	$5.25 \pm .66$
	BAL	5	7.80 ± 1.09	$6.80 \pm .84$	$4.60 \pm .42$
	BAO	6	7.83 ± 1.32	6.50 ± 1.22	$4.83 \pm .52$
	Total	14	7.86 ± 1.23	6.50 ± 1.01	$4.83 \pm .53$

Note: RS = Resource Support; PS = Performance Satisfaction; VP = Verbal Persuasion; NO = No degree; BAL = Bachelor degree in Languages; BAO = Other Bachelor degrees

The objective analysis of teachers' performance focused on *Lesson Presentation* ($M = 2.72$, $SD = .85$), *Preparation* ($M = 2.62$, $SD = .78$), *Classroom Management* ($M = 2.78$, $SD = .97$), and *Classroom Atmosphere* ($M = 3.29$, $SD = .83$). The outcomes organized by grade and education are shown in table 4.

Table 4.

Objective assessment of teachers' performance

Grade	Education	<i>n</i>	LP	PREP	CM	CA
Pre-school	NO	3	3.47 ± .08	3.50 ± .43	3.66 ± .14	4.00 ± .01
	BAL	6	2.88 ± .86	2.70 ± .75	2.87 ± 1.10	3.44 ± .88
	BAO	3	3.38 ± .22	2.91 ± .38	3.75 ± .02	4.00 ± .01
	Total	12	3.15 ± .66	2.96 ± .65	3.29 ± .86	3.72 ± .66
Primary school	NO	3	2.00 ± .62	2.00 ± .25	2.16 ± .63	2.44 ± .84
	BAL	5	2.62 ± .88	2.55 ± .76	2.60 ± 1.08	3.13 ± .69
	BAO	6	2.28 ± .97	2.33 ± 1.02	2.21 ± .83	3.00 ± .89
	Total	14	2.35 ± .85	2.33 ± .79	2.33 ± .85	2.93 ± .79

Note: LP = Lesson Presentation; PREP = Preparation; CM = Classroom Management; CA = Classroom Atmosphere; NO = No degree; BAL = Bachelor degree in Languages; BAO = Other Bachelor degrees

When comparing by experience, *Kruskal-Wallis* test and following pairwise comparisons showed that experienced teachers had significantly higher scores than novice teachers in EIS ($p = .034$). In addition, medium experienced teachers obtained higher results than novice teachers in ESE ($p = .011$), EIS ($p = .002$), ECM ($p = .010$), TSE ($p = .001$), and RS ($p = .040$). No differences were found in PS and VP or in any of the objective measurements of teachers' performance. Further, comparison by teachers' education background showed no differences in either of the dimensions of SE, nor in teachers' perceived sources of SE and their objectively measured performance. On the other hand, teachers at primary school obtained significantly higher scores than those teaching in pre-school in ESE ($p = .005$), EIS ($p = .001$), ECM ($p = .001$), TSE ($p < .001$), RS ($p = .001$), and PS ($p = .020$). No differences were found regarding VP. Opposite results were found when analyzing objectively assessed performance, as pre-school teachers obtained significantly higher scores than primary school teachers in PREP ($p = .041$), LP ($p = .027$), CM ($p = .017$), and CA ($p = .011$).

Outcomes from the correlation analysis showed that none of the dimensions of SE was significantly related to any of the objectively measured areas of performance of teachers ($p > .05$). These results are reflected in the overall TSE, being the correlations with LP ($p = .391$), PREP ($p = .342$), CM ($p = .385$), and CA ($p = .295$), statistically not significant.

Finally, we tested a predictive model for TSE, which initially included age, years of experience, RS, PS, and VP. The model was statistically significant for predicting TSE ($F_{5,25} = 32.149$, $p < .001$, $R^2 = .573$). The variables: age, years of experience, VP, and PS, did not fit into the final model and consequently were excluded. RS was the only variable adding statistical significance to the prediction ($p < .001$; $\Delta_p^2 = .733$). Regression coefficients and standard errors are shown in table 5.

Table 5.

Summary of the predictive model for Self-Efficacy

Variable	<i>B</i>	<i>SE_B</i>	□
Intercept	3.275	.646	
Age	-.048	.036	-.295
Years of Experience	.019	.024	.117
Verbal Persuasion	-.005	.346	-.002
Performance Satisfaction	.243	.142	.264
Resource Support	.514	.091	.757*

Note: ** $p < .01$; *B* = unstandardized regression coefficient; *SE_B* = standard error of the coefficient; □ = standardized coefficient

5. Discussion

The aim of the study was to investigate teachers' self-efficacy and its relation to both their characteristics and the actual state of mastery performance. When examining the self-efficacy beliefs with regards to teachers' experience, we divided teachers into three stages based on the years of their service. Differences were found between novice, medium experienced and experienced teachers, the former demonstrating the lowest mean scores in all three TSE subscales (EIS, ECM, and ESE). These findings confirmed similar results obtained in a study by Tschannen-Moran and Woolfolk Hoy (2007), suggesting that teaching experience might be related to TSE. Nevertheless, research findings have not been consistent in identifying whether the relation is, in fact, positive (Guo, Justice, Sawyer, & Tompkins, 2011) or negative (Guo, Piasta, Justice, & Kaderavek, 2010). As Van de Grift (2007) puts it, it might take up to 20 years of experience to master the most difficult teaching skills. Thus, it is not surprising that experienced teachers in our sample reported higher means for perceived efficacy on instructional strategies (EIS) than their novice colleagues, as the latter are at the beginning of building their professional confidence. On the other hand, no significant differences were found in ESE and ECM between medium experienced and experienced teachers. This outcome supports the general belief that once teachers establish a certain level of their efficacy, the result is unlikely to change (Woolfolk Hoy & Spero, 2005). Nevertheless, our results only reflect a preliminary data collection, therefore we would need to prove this hypothesis over time.

To answer the second research question, we tried to investigate, whether education background played any important role in defining the level of TSE. In line with Pas et al. (2012), our findings show that teachers' education did not mark any difference in TSE. This might indicate that although pedagogical strategies and in-class performance are independent from the subject, they still constitute a component of any teaching-learning process. The results thus suggest that if teachers have any basic pedagogical education, it does not really matter if their degree is from languages or another field. Yet, to our surprise, also those not having any degree (i.e. no pedagogical background), reported the same level of TSE in all its subdomains. These findings are in contradiction with Bent et al. (2016), who suggest that the more advanced degree teachers obtained, the better their instructional strategies are, as well as their ability to engage students in classroom activities. These findings do not apply to our outcomes. This might have been influenced by the structure of Mexican education system, with a ratio of one qualified ESL teacher per every five schools (Roldán, 2016). This low ratio is due to the fact that school principals are

allowed to hire unqualified persons to cover ESL positions at their centers. This situation might imply that schools do not consider formal education as indispensable, inducing teachers with no qualification to feel that no background is needed in order to successfully carry out high quality teaching-learning process.

With regards to the third research question, we found that in our sample, teachers teaching in primary schools reported higher means of TSE in all its dimensions than their pre-school colleagues. One possible reason might be the demands and characteristics of these two different school settings. Though having enough experience, preschool teachers may not feel as efficacious in managing a class of 20 five-year-old pupils, as primary teachers would. This is not a surprising fact, as preschool children are taught disciplines and appropriate in-class behaviors for the first time. Moreover, we can assume that, considering the psychological and cognitive characteristics of children in preschool education, teachers at this level may find designing tasks, involving and entertaining pupils more difficult than at the primary level. Therefore, as suggested by Guo et al. (2010), continuous professional development should also focus on the latest approaches in early childhood education and literacies, to deepen teachers' knowledge and to raise their self-efficacy.

We found no correlation between TSE, its subscales, and the dimensions from teachers' classes observations. In general, teachers perceived their SE to be significantly higher than their assessed mastery performance, i.e. teachers felt their actual abilities to be better than they demonstrated in the classroom. An interesting result came out when we compared the results by teaching level. Although primary school teachers reported higher mean scores in all TSE subscales than their pre-school colleagues, they obtained significantly lower scores in class evaluation. This might indicate that even if a longer experience is often accompanied by a higher self-confidence, this is not always transferred into quality in-class performances. Considering that research has found direct positive links between stronger self-efficacy beliefs and years of service (Bent et al., 2016), we may assume that having taught many years, teachers tend to believe that their teaching effectiveness and/or performance must be very good. Yet, we argue that holding strongly to this belief, they may not be able to understand whether their effectiveness is improving over the course of time or not. Our interpretation is confirmed by other studies that indicate that teaching effectiveness tends to decline with more years of service (Klassen & Chiu, 2010).

As already discussed above, teachers' education did not mark any difference in TSE. In addition, our results were similar in the objectively assessed performance, where no differences were found by teachers' degree. This is an alarming signal underpinning the fact that Mexican higher education might not be sufficiently inclined to transfer theoretical knowledge into professional practice, as demonstrated by the low average scores obtained by graduated teachers in all but one dimension. This hypothesis is supported by the results of several national and international reports, which highlights that 19% of secondary school teachers feel not at all prepared to present the contents of the subject they teach. Also, data reveals that more than 50% of English specialists failed the SEP assessment exam (National Institute for Educational Assessment and Evaluation in Mexico [INNE], 2015).

Lastly, when analyzing which variables could better predict TSE, we found out that in our sample neither age or experience have an influence on its level. The same results were obtained

when testing the impact of verbal persuasion and teachers' satisfaction with their performance. The only TSE source that was found to predict how efficacious teachers feel was resource support. Perhaps it is not a surprising result, as the schools included in the study use an ESL course book with a lot of additional material, both printed and online. Hence, teachers do not need to spend hours preparing their classes, as everything is already set, and they can follow logically structured and balanced lesson plans. On the other hand, this might also explain the generally low scores teachers obtained in their class observations, as they might rely too much on the material available, lacking time dedicated to lesson planning, as well as creativity in terms of activity modification and adaptation.

5.1. *Limitations of the Study*

With regards to the methodological standpoint used in this work (i.e. cross-sectional observational character), our study has clear limitations. Firstly, the sample size was small due to limited access to educational centers, which compelled the researchers to select participants by convenience, reducing the generalizability of the results. Secondly, considering that our study was conducted with diagnostic purposes, its cross-sectional focus did not allow to understand variables interactions overtime, or potential changes due to accumulated teaching experience.

Although we acknowledge these limitation, we also argue that this study makes an important contribution for future studies, as little research has been conducted regarding TSE and actual teachers' performance to the date. At the same time, our work may provide with directions for future research in the field.

6. **Implications and conclusions**

In order to plan appropriate PTPs and structure them according to the actual needs of teachers, understanding the judgment about their perceived ability for instructions, management, and classroom atmosphere, as well as the level of their mastery teaching performance, should become essential initial diagnostics (Tschannen-Moran & Woolfolk Hoy, 2007). Such results may well depict if and how do one's perception and an objective third-person observation vary. However, for understanding better potential differences, i.e. why there are such discrepancies, a qualitative analysis should be also carried out as a part of the process. This could uncover any factors that may lie between the "believed" and "performed". Thus, the current study may have important preliminary implications for both researchers and teacher trainers, as current education reform in Mexico focuses on the evaluation of teaching performance, i.e. planning, instructions, pedagogical and content knowledge, etc. Moreover, self-efficacy construct has been referred by researchers as a very powerful variable which indeed has a positive impact on teachers' instructional time (Enochs, Scharmann, & Riggs, 1995). Hence, providing teachers with the most fitting tailor-made PTP should become the main aim of any practitioners, institutions, or governments who intend to foster teachers' skills and abilities.

To sum up, despite presenting a first-step preliminary diagnostic measurement of self-efficacy and the observation of mastery teaching performance, our research findings are significant, as they point to the important differences between the two measured variables, as well as they display both strong and weak points in teachers' instructions. The research efforts should thus continue investigating specific factors that cause inconsistencies between perception and objective

measurement in the teaching-learning process, adding a qualitative part. Moreover, we suggest to measure the same variables during and by the end of a PTP in order to verify any changes overtime, as well as to understand if these programs allow teachers to have a more realistic perception of their actual abilities and skills. Furthermore, other variables such as students' academic performance and classroom motivational climate could be taken into account in future research.

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