Relationship between Preschool Teachers' Professional Identity and Teaching Efficacy

Su-ching Lin (Corresponding author)

Graduate Institute of Education, National Changhua University of Education, Taiwan

1, Jin De Road, Paisha Village, Changhua City, Changhua County 500, Taiwan

Tel: 886-919-089047 E-mail: sclin@ cc.ncue.edu.tw

Su-mei Tseng

Taipei Municipal Hulu Elementary School, Taiwan

95, Sec.3, Huanhe N. Rd., Shilin District, Taipei City 11171, Taiwan

Tel: 886-922970046 E-mail: sumeiceng@gmail.com

Abstract

This study investigates the relationship between preschool teachers' professional identity and teaching efficacy and selected 452 preschool teachers from central Taiwan as samples. A questionnaire was applied to collect data. This study used descriptive statistics, Pearson's product-moment correlation, and multiple regression analysis to analyze data. The findings of this study are as follows: first, teachers' professional identity is high, and teaching efficacy is good. Second, teachers with different teaching seniority show no significant differences in perceived professional identity, while there is a significant difference in perceived teaching efficacy. Third, teachers perceived professional identity and teaching efficacy as belonging to a medium positive correlation. Fourth, teachers' professional identity can predict their teaching efficacy. The study proposes some suggestions for educational authorities, schools, teachers, and future researchers based on the findings.

Keywords: preschool teachers, professional identity, teaching efficacy

1. Introduction

Teacher professional identity is conceptualized as a complex, dynamic, and continuous process of integration of the 'personal' and the 'professional' sides of becoming and being a

teacher, which identity is formed, built, and shaped through interpretations, ascribing meaning and everyday practice in various contexts (Beijaard, Meijer, & Verloop, 2004; Dillabough, 1999). Sachs (2005) explores that teacher professional identity stands at the core of the teaching profession because through professional identity, teachers deal with their professional function show their roles within the limits of their abilities and values (Chang-Kredl, & Kingsley, 2014; Maclean & White, 2007; Lee & Schallert, 2016). Many factors impact teachers' professional identity, such as teachers' beliefs and values in education (de Vries, van de Grift, & Jansen, 2014). Very often, teachers use their interpretative framework of beliefs and values to express how they see themselves as teachers (Minor et al., 2002) and strongly determine how teachers teach, how they develop professionally, and how they approach educational changes (Akkerman & Meijer, 2011; Beijaard et al., 2004). A positive professional identity is critical as it might help students cope with critical moments of their careers (Chang-Kredl, & Kingsley, 2014).

Teaching efficacy is that teachers can understand the experience and development of students before teaching, be familiar with curriculum structure and knowledge, have an in-depth understanding of pedagogical paradigm, and show enthusiasm and professionalism in teaching (Buskist, 2002). Teaching efficacy is drawn from Bandura's self-efficacy theory (Bandura, 1977), which advocated a belief in one's capability for performing a specific task. Bandura's theory states that people will be motivated to act if they are confident that they can perform that action successfully and believe that it will have a favorable result (Wong, Teo, & Russo, 2012). Bedir (2015) described the elements of teaching efficacy as course design, instructional methods/strategies, technology use, class management, interpersonal relations, and learning assessment. In other words, teachers teaching efficacy refers to teachers considering students' prior knowledge, drawing up appropriate teaching plans, actively managing a classroom, establishing high-quality teacher-student interaction, applying multiple instructional strategies, and a variety of assessment methods to assist students to achieve their learning goals.

Preschool teachers are the key person to the success of preschool education, and their professional identity and teaching efficacy have a profound impact on young children. When they identify with their work, they will be willing to actively engage, have emotional commitment, promote their professional performance. A preschool teacher with teaching efficacy will design appropriate courses, use multiple instructional methods/strategies technology, has good class management to assist youths' development and learning. As mentioned before, preschool teachers' professional identity and teaching efficacy have a profound impact on young children, so that by examining this issue and further facilitating preschool professional development is essential. Some research indicates that teacher professional identity could predict teacher teaching efficacy (such as Moslemi & Habibi, 2019). Moreover, there was a significant difference among teachers with different teaching seniorities (Akhter, 2018; Harwood & Tukonic, 2016). However, few studies investigated the relationship between the professional identity and teaching efficacy of preschool teachers in Taiwan. Therefore, the research questions in this study include 1) what are the current situations of preschool teachers' perceptions of their professional identity and teaching

efficacy? 2) Are there significant differences in professional identity and teaching efficacy among preschool teachers with different teaching seniorities? 3) What is the correlation between preschool teachers' professional identity and teaching efficacy? 4) Could preschool teachers' perceptions of professional identity predict their teaching efficacy?

2. Method

2.1 Samples

This study selected 452 preschool teachers as samples to complete the Scales of Teacher Professional Identity and Teacher Teaching efficacy. To ensure confidentiality, each respondent completed anonymously. The total number of valid samples was 452, with a valid scale rate of 99.55%. Of the 452 samples, 147 teachers (32.5%) with five years of teaching seniority or less; 108 teachers (23.9%) with 6-10 years of teaching seniority; 128 teachers (28.3%) with 11-20 years of teaching seniority; 69 teachers (15.3%) with more than 21 years of teaching seniority.

2.2 Instruments

This study used two scales to collect data. One was the Teacher Professional Identity Scale (TPIS) developed by Chen (2012) was administered to measure how preschool teachers perceived their professional identity by using 23 items in three dimensions, namely, idea and value (10 items), working engagement (9 items), and emotional commitment (4 items). The teachers responded to the items on a five-point Likert scale, ranging from 1 for "strong disagreement" to 5 for "strong agreement ."The factor analysis revealed that the factor loadings of the TPIS were higher than .52, the value of each dimensional eigenvalues was between 1.01 and 13.14. The standard variation of idea and value was 57.14%, working engagement was 8.01%, the emotional commitment was 4.39%. The cumulative total variation was 69.54%, indicating good validity of the items within each subscale. The overall internal consistency (Cronbach's α =.96) for the scale was good. The Cronbach's α for the three subscales ranged from .91 to .94, indicating good internal consistencies of the items within each subscale.

Another instrument is the Teacher Teaching Efficacy Scale (TTES) developed by Zhang (2012). This study used this scale to measure how preschool teachers perceived their teaching efficacy by using 29 items in five dimensions, namely, self-efficacy belief (6 items), teaching plan (5 items), delivery of teaching materials (6 items), teaching climate (7 items), and teaching evaluation (5 items). The teachers responded to the items on a sixth-point Likert scale, ranging from 1 for "strong unconformity" to 6 for "strong conformity ."The respondents checked according to their actual perceptions. The factor analysis revealed that the factor loadings of the TTES were higher than .39. The standard variation of self-efficacy belief was 6.72%, teaching plan was 3.83%, delivery of teaching materials was 4.16%, teaching climate was 50.68%, teaching evaluation was 5.47%. The cumulative total variation was 70.86%, indicating good validity of the items within each subscale. The overall internal consistency (Cronbach's α =.96) for the scale was good. The Cronbach's α for the five subscales ranged from .87 to .92, indicating good internal consistencies of the items within

each subscale.

2.3 Data Analysis

This study used the statistical software SPSS 20.0 for windows for data analysis. First, we computed each subscale for each respondent by adding the scores on the items in the perceived TPIS and TTES, respectively. Second, used one-way ANOVA to analyze the difference between teachers' teaching seniority in TPIS and TTES, if F value reaches the significant level of .05, and then used Scheffé to analyze post hoc comparisons. Third, we use Pearson's product-moment correlation to examine the relationship between TPIS and TTES. Finally, we used multiple regression analysis to test with TPIS as dependent variables and TTES as independent variables to determine whether or not teachers' professional identity could predict teacher teaching efficacy. All statistical tests used to address the questions in this study used .05 as the minimum alpha level.

3. Results

3.1 Analysis of the Current Situations of Preschool Teachers' Professional Identity and Teaching Efficacy

Teacher Professional Identity Scale (TPIS) is a five-point Likert scale, ranging from 1 for "strong disagreement" to 5 for "strong agreement". Table 1 shows that the mean score of the overall professional identity is 4.26 and higher than the median score of 3, so the preschool teachers' perception of their professional identity is high. The mean score of the working engagement dimension of TPIS was highest (mean=4.45).

Table 1. The mean and standard deviation of TPIS

TPIS	M	SD
idea and value	4.09	0.57
working engagement	4.45	0.50
emotional commitment	4.24	0.59
overall	4.26	0.49

n=452

Teacher Teaching Efficacy Scale (TTES) is a sixth-point Likert scale, ranging from 1 for "strong unconformity" to 6 for "strong conformity." The respondents checked according to their actual perceptions. Table 2 shows that the mean score of the overall teaching efficacy is 5.08 higher than the median score of 3.5, so the preschool teachers' perception of their teaching efficacy is high. The mean score of the teaching climate dimension of TTES is the highest (mean=5.20).

Table 2. The mean and standard deviation of TTES

TTES	M	SD
self-efficacy belief	4.96	0.58
teaching plan	5.05	0.61
delivery of teaching materials	5.08	0.57
teaching climate	5.20	0.55
teaching evaluation	5.06	0.60
overall	5.08	0.53

n=452

3.2 Analysis of the Differences in TPIS among Teachers' Teaching Seniorities

Table 3 shows the mean and standard deviation of TPIS in teachers with different teaching seniority. Table 4 shows different analysis results, indicating no significant difference in professional identity among teachers with different teaching seniority.

Table 3. Summary of mean scores and standard deviations of TPIS for teachers' teaching seniorities

Dimension	years of teaching seniority							
	1(n=147)		2(n=108)		3(n=128)		4 (n=69)	
	M	SD	M	SD	M	SD	M	SD
idea and value	4.03	0.54	4.07	0.56	4.12	0.58	4.19	0.61
working engagement	4.39	0.52	4.41	0.47	4.49	0.45	4.55	0.56
emotional commitment	4.18	0.61	4.20	0.55	4.28	0.56	4.37	0.63
overall	4.20	0.50	4.23	0.47	4.30	0.54	4.36	0.54

n=452

Note 1=5 years of teaching seniority or less; 2= 6-10 years of teaching seniority; 3=11-20 years of teaching seniority; 4=more than 21 years of teaching seniority.

Table 4. Summary of one-way ANOVA analysis of TPIS for teachers' teaching seniorities

Sources	SS	df	MS	*F* value
idea and value				
Between groups	1.40	3	.47	1.46
Within groups	143.35	448	.32	
total	144.75	451		
working engagement				
Between groups	1.73	3	.58	2.34
Within groups	110.41	448	.25	
total	112.14	451		
emotional commitment				
Between groups	2.07	3	.69	2.00
Within groups	154.47	448	.35	

	total	156.54	451		
overall					
	Between groups	1.63	3	.54	2.28
	Within groups	108.67	448	.24	
	total	110.30	451		

n=452

Note 1=5 years of teaching seniority or less; 2= 6-10 years of teaching seniority; 3=11-20 years of teaching seniority; 4=more than 21 years of teaching seniority.

Table 5 shows the mean and standard deviation of TTES in teachers with different teaching seniorities. Table 6 shows difference analysis results, which indicates that there are significant differences among different teaching seniorities in the five dimensions: self-efficacy belief (F=9.63, p＜.001), teaching plan (F=8.89, p＜.001), delivery of teaching materials (F=9.45, p＜.001), teaching evaluation(F=3.08, p＜.05), and overall(F=6.70, p＜.001). *Scheffé* tests reveal that teachers with longer teaching seniorities have higher scores in these five dimensions than teachers with less than five years of teaching seniorities.

Table 5. Summary of mean scores and standard deviations of TTES in teachers with different teaching seniorities

Dimension	years of teaching seniority							
	1(n=147)		2(n=108)		3 (n=128)		4 (n=69)	
	M	SD	M	SD	M	SD	M	SD
self-efficacy belief	4.77	0.58	5.00	0.58	5.05	0.50	5.16	0.60
teaching plan	4.90	0.64	5.06	0.52	5.17	0.41	5.29	0.64
delivery of teaching materials	4.18	0.61	4.20	0.55	4.28	0.56	4.37	0.63
teaching climate	5.16	0.60	5.19	0.53	5.19	0.43	5.34	0.67
teaching evaluation	4.96	0.65	5.07	0.60	5.06	0.49	5.23	0.67
overall	4.94	0.57	5.08	0.50	5.13	0.38	5.26	0.60

n=452

Note 1=5 years of teaching seniority or less; 2= 6-10 years of teaching seniority; 3=11-20 years of teaching seniority; 4=more than 21 years of teaching seniority.

Table 6. Summary of one-way ANOVA analysis of TTES in different years of teaching seniority

Sources	SS	df	MS	*F* value	*Scheffé*
self-efficacy belief					
Between groups	9.13	3	3.04	9.63***	4, 3, 2>1
Within groups	141.62	448	.32		
total	150.75	451			
teaching plan					
Between groups	9.47	3	3.16	8.89***	4, 3>1
Within groups	159.06	448	.36		
total	168.53	451			

delivery of teaching materials						
	Between groups	8.64	3	2.88	9.45***	4, 3>1
	Within groups	136.48	448	.31		
	total	145.12	451			
teaching climate						
	Between groups	1.55	3	.52	1.69	
	Within groups	137.14	448	.31		
	total	138.69	451			
teaching evaluation						
	Between groups	3.32	3	1.11	3.08*	4 >1
	Within groups	161.08	448	.36		
	total	164.40	451			
overall						
	Between groups	5.27	3	1.76	6.70***	4, 3 > 1
	Within groups	117.45	448	.26		
	total	122.72	451			

n=452 ***$p < .001.$ *$p < .05$

Note 1=5 years of teaching seniority or less; 2= 6-10 years of teaching seniority; 3=11-20 years of teaching seniority; 4=more than 21 years of teaching seniority.

3.3 The Correlation between Teachers' Professional Identity and Teaching Efficacy

Table 7 shows the overall and three TPIS dimensions, and overall and five TTES dimensions significantly positively correlate, indicating the higher scores on TPIS, the higher scores on TTES. The correlation coefficients between both range from .59 to .67. The correction coefficients between overall TPIS and overall TTES are the highest.

Table 7. Summary of correlation analysis between TPIS and TTES

TTES/ TPIS	idea & value	working engagement	emotional commitment	overall
self-efficacy belief	.57***	.57***	.56***	.62***
teaching plan	.50***	.59***	.53***	.59***
delivery of teaching materials	.48***	.60***	.52***	.59***
teaching climate	.53***	.62***	55***	.62***
teaching evaluation	.50***	.60***	.53***	.59***
overall	.58***	.66****	.60***	.67***

*** $p <.001$

3.4 The Prediction of Teacher Teaching Efficacy from Teacher Professional Identity

We used the multiple aggression method to analyze the relationship between TTES as the criterion variables and TPIS is as predictor variables. Table 8 shows the multiple regression

analyses indicating F (3,448)= 131.55, p＜.001, and R=.68, R2=.47. TPIS can explain 47% of the variance in perceived TTES. Further, all three predictor variables, idea, and value (t=3.18, β=.16, p＜.01), working engagement (t=7.38, β=.43, p＜.001), and emotional commitment(t=2.40, β=.14, p＜.05) can significantly predict teachers' teaching efficacy. Of them, the variable of working engagement is the best predictor.

Table 8. Summary of the multiple regression analysis of teacher professional identity to overall teacher teaching efficacy

criterion variables		TTES		
predictor variables	B	SD	β	t
Idea and value	0.15	.05	.16	3.18**
Working engagement	0.45	.06	.43	7.38***
Emotional commitment	0.13	.05	.14	2.40*
F（3.448）				131.55***
R				.68
R^2				.47
$Adj.\ R^2$				.47

$n = 452.$ ***$p < .001.$ **$p < .01.$ *$p < .05$

4. Conclusion and Discussion

This study examines preschool teachers' professional identity and teaching efficacy. Respondents were 452 preschool teachers selected from central Taiwan. The findings of this study are as follows:

This study examines preschool teachers' professional identity and teaching efficacy. Respondents were 452 preschool teachers selected from central Taiwan. The findings of this study are as follows:

First, teachers' perceptions of their professional identity are high, showing that preschool teachers have a high degree of awareness of their own professional identity, are willing to devote themselves to early childhood education, and become a vital pusher of early childhood education. Among the three levels of professional identification, "working engagement " is the highest score, which is similar to the study of Zeng (2018), implying that while preschool teachers identify with their work, they naturally become actively engaged in the work and often reflect on how to be more refined, willing to constantly enrich themselves, and strive to become a good teacher.

Second, teachers' perceptions of their teaching efficacy are high. The dimension of teaching climate reaches the highest score. This finding is similar to the study of Zhang (2012). It implies that teachers can actively implement positive teaching and maintain good interaction with young children, create a harmonious and pleasant learning atmosphere, communicate

with young children with a cordial and friendly attitude, learn in a good and kind atmosphere, and teach efficiency learning results can be enhanced.

Third, significant differences exist among different teaching seniority in the five dimensions of professional identity: self-efficacy belief, teaching plan, delivery of teaching materials, and teaching evaluation. Teachers with longer teaching seniorities have higher scores in these five dimensions than teachers with less than five years of teaching seniorities, which is similar to the studies of Lin (2017) and Huang (2017). The possible reason for this result, the increase in seniority is also the accumulation of rich experience, teachers with longer teaching seniorities can use their teaching experience and skills to adapt to complicated kindergarten teaching patterns, in the teaching process of continuous adjustment and growth, so teaching efficacy higher than those of teachers with less than five years of teaching seniorities.

Fourth, there is a positive correlation between teachers' professional identity and teaching efficacy, similar to Moslemi and Habibi (2019). The possible reason for this result is that while teachers identify with their roles, they more actively engage in their teaching jobs to improve their teaching efficacy.

Fifth, three variables of professional identity: idea and value, working engagement, and emotional commitment can significantly predict teaching efficacy. Of them, the variable of working engagement is the best predictor, which is similar to those of Guo (2015) and Zheng (2014). The possible reason is that while a teacher identifies with his profession, he/she is willing to invest more time, emotion, commitment to his/her teaching job. Therefore, working engagement is the best predictor.

Acknowledgments

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