Correlation Between Professional Identification and Work Engagement Among College Teachers in the Context of Long-Term Professional Development: Mediating Role of Organizational Identification

Chunfang Chen and Mingde Fan
Krirk University, Thailand
Corresponding Author, E-Mail: 565712165@qq.com

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Abstracts

Background. The level of work input is related to the quality of training among university teachers. Therefore, promoting the long-term professional development of teachers is crucial. Objectives. This study investigated the effects of teachers' professional identification on work engagement through organizational identification. Methods. A questionnaire based on scales on professional identification, organizational identification, and work engagement was administered to 492 teachers in Changchun, Changsha, and Beijing. The data were analyzed using SPSS 25 and AMOS 21.0 to construct a structural equation model. Bootstrapping was used to explore the mediating effect of organizational identification. Results. Professional identification and organizational identification significantly and positively affected work engagement. Professional identification significantly and positively affected organizational identification. Organizational identification mediated the relationship between professional identification and work engagement. Conclusion. Enhancing the professional identification of teachers may promote their engagement and long-term professional development. The stronger teachers' organizational identification is, the greater the effect of teachers' professional identification on teacher work engagement.

Keywords: Professional Identification; Organizational Identification; Teacher Work Engagement; College Teachers

Introduction

Teachers are key to promoting educational equity, improving educational quality, and furthering sustainable development worldwide (Liu & Li, 2020 : 101-107). Education, particularly undergraduate education, has becoming more challenging as the global economy becomes more competitive. In universities, teacher involvement is related to the quality of undergraduate education, but many teachers are also professors who are incentivized to be good researchers rather than good teachers (Liu, 2020 : 66-74); this has led to slow institutional progress in teaching reform at the university level. Thus, this study investigated the maintenance of teaching involvement and promotion of long-term professional development among teachers.

In this study, teacher work engagement was analyzed from a social psychological perspective. Notably, a teacher's work engagement may vary depending on their age, gender, individual background, or culture (Cole et al., 2012 : 1150).

Teachers with a strong professional identity tend to have a positive attitude and strong sense of investment in the profession (Wei, 2015a : 54-56 , 2015b : 33-37 ; Wei et al., 2013 : 55). According to social identity theory, the stronger an individual's sense of belonging to his occupation is, the more positive an evaluation and perception they have of themselves in achieving their professional goals, which affects the individual's behavioral motivation and work engagement.

With regard to professional development, universities are constantly improving the level and quality of undergraduate education. In addition, the requirements for faculty members are also changing; teachers are encouraged to stay up to date with the latest developments in their profession and expose themselves to new perspectives. Thus, this study explored the relationship between professional identity and work engagement among teachers.

Organizational identification is manifested through the deep cognitive and emotional psychological connection of employees to their organizations (Ashforth & Harrison, 2008 : 325-375). Teachers' organizational identification is manifested through their sense of belonging and loyalty the university organization. Organizational identification is often associated with positive outcomes in the organization, such as job satisfaction, job performance, emotional commitment, organizational self-esteem, and organizational citizenship behavior (Abernethy, 2019 : 78 ; Qiu et al., 2019 : 44). A previous study found that professional identification and organizational identification are generally developed at the same time and exert a positive effect on professional performance (Zhang et al., 2013 : 53-59).

Professional identification is a teacher's professional experience of their professional norms (i.e., as a factor related to extrinsic motivation), whereas organizational identification is a teacher's sense of belonging to an organization and their level of intrinsic motivation. Therefore, this study investigated the effects of teachers' professional identification on work engagement through organizational identification to improve the professionalism, cultivate the sense of belonging of, and promote the long-term professional development of teachers.

Literature Review
1. Professional identification
Professional identification is an individual's cognitive acceptance of the attitudes, values, knowledge, beliefs, and skills shared by members of a profession. In addition, professional identification is a psychological concept that refers to an individual's perception and evaluation of the cognitive, emotional, and value concept of the occupation, which can be applied to his or her work behavior. Professional identification is an individual's perception of the professional role, its attractiveness, and the degree of harmony with other roles (Moore & Hofman, 1998 : 79) under the conditions of continuity and constant change (Beijaard, 1995 : 281).

A teacher's professional identity is the foundation of the teaching profession and is mutable. It involves a complex and dynamic balance between a teacher's professional self-definition and his or her values (Berlak & Berlak, 1983 : 64).

Previous studies have shown that a teacher's professional identification has a substantial effect on career stability, job burnout, and personal professional development (Kremer-Hayon et al., 2002 : 149-162 ; Moore & Hofman, 1998 : 79). In addition, previous studies have demonstrated that professional identity positively influences work engagement in specific professions, namely kindergarten teachers, special post teachers, and college counselors (Jiang, 2019; Shi, 2017; Wang, 2013; Wei, 2015a, 2015b).

2. Organizational identification

The concept of organizational identification is based on social identification theory. In 1958, March and Simon defined organizational identification as the perception of unity between an individual and an organization. The organizational identification of teachers is characterized by teachers' knowledge and sense of the school in which they work and the sense of belonging, loyalty, and pride that arise in connection with the college and university (Ashforth & Mael, 1989 : 20-39).

Organizational identification is frequently associated with positive outcomes in the organization, such as job satisfaction, job performance, emotional commitment, organizational self-esteem, and organizational citizenship behavior (Ma, 2020; Qiu et al., 2019; Tarakci et al., 2018).

Scholars in China have extensively investigated the organizational identification and work engagement of teachers. A previous study found that the identification of teachers with their rural organization can enhance their willingness to stay in the organization (Zhang & Geng, 2018). Furthermore, organizational identification increases the job satisfaction of teachers and motivates them to expend more energy in their work (Li & Wu, 2013; Wu, 2017), which can boost the enthusiasm of teachers in their work (Wu et al., 2016). Organizational identification may have a positive effect on the work engagement of teachers.

3. Teacher work engagement

Most scholars define teacher work engagement from the perspective of "teaching input," which is characterized by the time, energy, and emotions that teachers invested in educational and teaching activities (Liu, 2020a, 2020b). In addition, teacher work engagement includes the time of teaching-related activities (e.g., lesson preparation, lectures, and counseling), teaching concepts, teaching attitudes, various teaching research activities, and the use of various teaching methods (Chen & Wan, 2021; Feng et al., 2015).

Applying the theory of work engagement, this study defined teacher work engagement as the mental state of teachers who love and enjoy their job and demonstrate involvement, active interest, and a desire to contribute to their work.

Previous studies have found that professional identification significantly and positively influences an individual's work engagement. The higher an individual's sense of professional identification is, the higher the level of work engagement can be maintained even under unfavorable working conditions (Britt, 2003). A variety of job characteristics influence job involvement, and these job characteristics pertain to job-related factors and environmental factors (Barksdale & Werner, 2002; Schaufeli, 2004).

4. Relationship between professional identification, organizational identification, and work engagement

Current studies on professional identification and teacher work engagement have mostly demonstrated a positive influence of professional identification on work engagement. According to social identity theory, when individuals identify with a group, they develop a sense of belonging to a group, which can boost their self-esteem (Ashforth & Mael, 1989; Tajfel, 1979). Identification with the group can bring the individual a sense of security and superiority, which can promote self-reinforcement. The more an individual identifies with a group, the more he or she is inclined to observe and obey the behavioral norms of the group and continue to spend their time and energy to furthering the interests of the group. However, according to a social role theory, an individual's social behavior should be influenced and dominated by social role norms.

The stronger a teacher's profession identity is, the more they need and desire to be provided with opportunities and resources for career development by their school; and this may affect the teacher's identification with their school. Teachers with stronger professional identification are less likely to leave the profession (Moore & Hofman, 1998 : 79).

Homans (1958) proposed a theory of social exchange from a rational choice perspective (Luo, 2014). According to social exchange theory, universities and teachers are in an exchange relationship where both parties benefit from each other.

As scholars, professors demand more from their working environment relative to individuals in other professions. Once institutions provide external incentives that meet the teacher's internal needs, the teacher is likely to feel a strong sense of organizational identification. Organizational identification can help teachers increase their sense of belonging and pride in the school, as well as satisfy their needs for self-actualization and social recognition. Therefore, teachers would be more willing to apply themselves to teaching to better the school. By contrast, when teachers cannot identify themselves with an organization, they are less likely to work and engage in emotional exchange with the organization.

Additional studies are needed to examine effects of mediator variables on college teachers' professional identification and their work engagement. On the basis of social identity theory, this study discussed the effects of college teachers' professional identification on work engagement through organizational identification; its findings will be of interest to college administrators and teachers alike.

Research Methods

1. Theoretical model

We constructed a theoretical model (Figure 1) where professional identification affects work engagement through organizational identification in teachers.
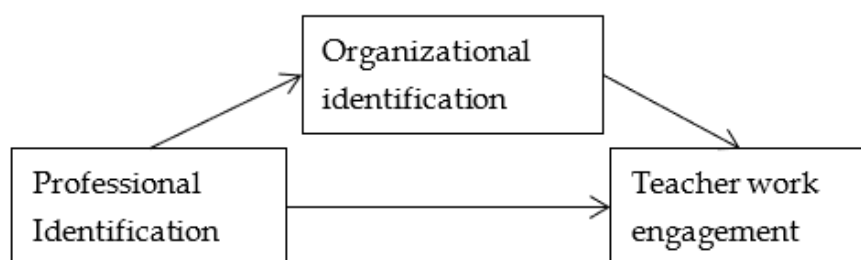

Figure 1: Theoretical model

2. Research hypothesis

Because this study aimed to investigate the direct effect of professional identification on teacher work engagement and explore the mediating effect of organizational identification in professional identification of teachers and teacher work engagement, we proposed the following hypotheses:

H1: Professional identification would significantly and positively affect work engagement in college teachers.

H2: Professional identification would significantly and positively affect organizational identification in college teachers.

H3: Organizational identification would significantly and positively affect work engagement in college teachers.

H4: Organizational identification would mediate the relationship between professional identification and work engagement in college teachers.

3.Instruments

Formulated on the basis of the existing maturity scale, a 44-question questionnaire titled "A questionnaire on the relationship between professional identification, organizational identification, and work engagement among college teachers" was administered to respondents. Specifically, the questionnaire comprised 10 questions on the basic characteristics of respondents, 11 questions based on the professional identification scale, 6 questions based on the organizational identification scale, and 17 questions based on the teacher work engagement scale. All responses were given on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). All questions were retained after the questionnaire was subject to a small-scale test and to reliability and validity tests.

3.1. Professional identification

The professional identification scale for college teachers, revised by Yan et al. (2018) on the basis of that developed and compiled by Wei (2008) and other scholars from China and abroad, was used in this study. The scale has 11 items over 3 dimensions. Professional cognition was assessed by four items (e.g., "As a college teacher, I can be respected by people around me"). Occupational belonging was assessed by three items (e.g., "I am proud of being a college teacher"). Professional behavior was assessed by four items (e.g. "I can complete my work as a teacher seriously"). The Cronbach's α for occupational belonging, professional cognition, and professional behavior were 0.826, 0.777, and 0.880, respectively. An exploratory factor analysis and a confirmatory factor indicated that the model had good fit.

3.2. Organizational identification

This study used the organizational identification questionnaire, modified by Li et al. (2007) on the basis of Mael and Ashforth (1992); it contains six questions over a single dimension (e.g., "I would love to know what others are saying about my college"). In this study, 103 teachers received the questionnaire, and the Cronbach's α for the scale was 0.876. In a confirmatory factor analysis, all fitting indexes were within a reasonable range.

3.3 Work engagement

This study used the Utrecht Work Engagement Scale (UWES), revised by Zhang and Gan (2005) on the basis of that developed by Schaufeli et al. (2004). The questionnaire has 17 questions over 3 dimensions. The first dimension is vigor and has six questions (e.g., "When I get up in the morning, I am happy to go to work at my university"). The second dimension is dedication and has five questions (e.g., "I am very enthusiastic about my work as a teacher"). The third dimension is absorption and has six questions (e.g., "Time flies when I'm teaching"). Vigor also involves an individual's resilience and willingness to apply oneself to one's work. Dedication also involves a sense of meaning and enthusiasm toward one's work. Absorption also involves a sense of engagement toward one's work. Cronbach's α were 0.881, 0.897, and 0.876 for vigor, dedication, and absorption. The results of confirmatory factor analysis showed thate effectiveness of the UWES three-dimensional model is effective. On the whole, The

Chinese version of UWES Utrecht job Engagement Scale satisfied prevailing psychometric standards in the field.

3.4. Participants and procedure

A pretest survey followed by the survey proper were administered over a survey app named *Wenjuanxin*.

The pretest was conducted on August and September 2021. In total, 112 teachers were selected from Changchun J college using random sampling; 112 questionnaires were collected, and 103 questionnaires were valid (effective rate: 91.9%). The results were used to revise the questionnaire for reliability and validity.

According to Qiu (2010) and Zhong and Li (2012), a study must have a sample size of at least 200 although 400 or more would be ideal.

The survey proper was conducted on October and November 2021; teachers from 18 universities in regions, such as Changchun, Changsha, and Chengdu, were recruited through stratified sampling. In total, 512 questionnaires were collected, and 492 questionnaires were valid (effective rate: 96.09%). Among the respondents, 74.6% were women, and they had a bachelor's degree (14.6%), graduate degree (47.8%), or doctoral degree (37.6%).

3.5. Data analyses

SPSS 25.0 and AMOS 21.0 were used for data processing and statistical analysis. The reliability and validity of the questionnaire were tested. AMOS 21.0 was used to construct a structural equation model and calculate the path coefficient, and the degree of fit and path results of the model were analyzed to explore the relationship between the three major variables.

Research Results

1. Reliability and validity analysis of questionnaires

SPSS 25.0 was used to test the reliability and validity of the questionnaire. Cronbach's α was used to test the reliability of the questionnaire, and the reliability of professional identification, teacher organizational identification, and teacher work engagement were 0.877, 0.876, and 0.920, respectively, indicating good convergent validity.

KMO and Bartlett tests were used to test the validity of the questionnaires. The KMO values of professional identification, teacher organizational identification, and teacher work engagement were 0.861, 0.877, and 0.920, respectively. The Bartlet sphericity test also indicated a significance level of $P = 0.000 < 0.001$. Therefore, all three scales had structural validity.

Principal component analysis was used to extract factors with eigenvalues greater than 1 from the professional identification scale. Three common factors were extracted, and the cumulative sum of squares of rotation was 70.281%. All factor loadings (standardized regression coefficients) were strong and varied from 0.722 to 0.863.

Principal component analysis was used to extract factors with eigenvalues greater than 1 from the organizational identification scale. Thus, one common factor was extracted, and the cumulative sum of squares of rotation was 61.913%. All factor loadings (standardized regression coefficients) were strong and varied from 0.778 to 0.801.

Principal component analysis method was used to extract factors with eigenvalue greater than 1 from the teacher work engagement scale. Three common factors were extracted,

and the cumulative sum of squares of rotation was 65.481%. All factor loadings (standardized regression coefficients) were strong and varied from 0.680to 0.846.

The reliability and validity of professional identification scale, organizational identification scale, and teacher work engagement scale are shown in Table 1. This indicates that the extracted factors contain relatively comprehensive information, and no high double factor load was observed. All observed variables were aggregated into each dimension of the scale. The three scales in this study were thus valid and reliable.

Table 1: Reliability and validity of professional identification scale, organizational identifications scale, and teacher work engagement scale

	Observations	Professional Identification Scale	Organizational Identification Scale	Teacher work Engagement Scale
The reliability	Cronbach's A	0.877	0.876	0.920
	The number of KMO sampling appropriateness	0.861	0.877	0.920
The validity	Bartlett test of sphericity Significance	0.000	0.000	0.000
	VE	70.281%	61.913%	65.480%
	Factor Loadings（λ）	0.722-0.863	0.778-0.801	0.680-0.846

4.2. Structural equation model test

AMOS 21.0 software was used to generate structural equation model with path coefficient, and the path effect was analyzed to corroborate H1, H2, and H3.

4.2.1. Analysis of model fit

Structural equation analysis was conducted on the models for professional identification, organizational identification, and work engagement to minimize model errors. The model fitting results are shown in Table 2 and Figure 2.
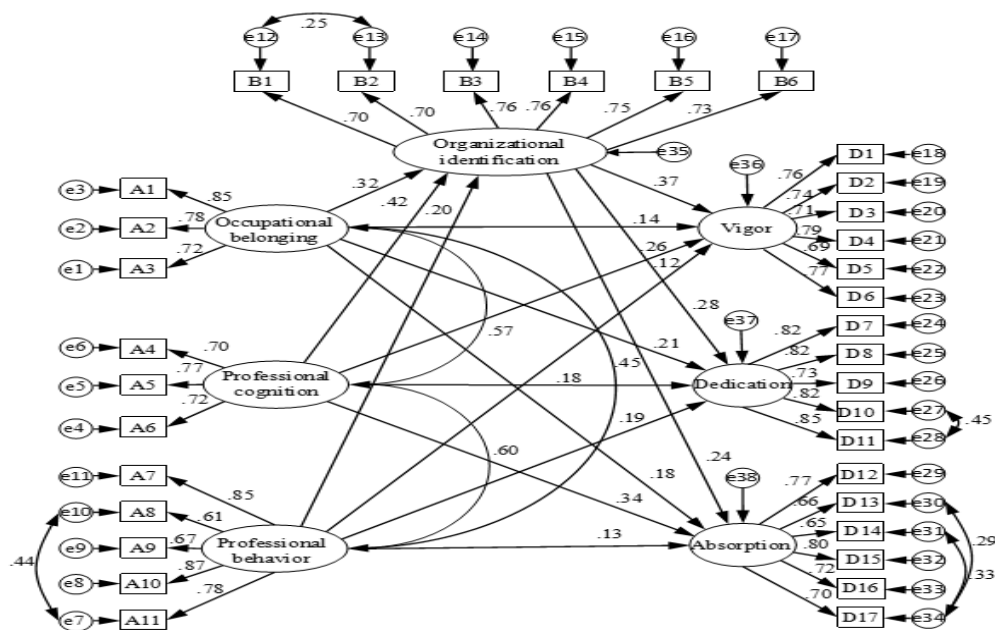
Figure 2: Modified structural equation model

Good fit was indicated by a χ^2 degree of freedom ratio of 2.010 < 3.000. All other fitting indexes indicated good model fit.

Table 2: Goodness-of-fit of the model

Indicators	X2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Statistics	2.010	0.892	0.873	0.902	0.942	0.948	0.045
Reference	<3	>0.8	>0.8	>0.9	>0.9	>0.9	<0.08
Demonstrating compliance	Up to standard						

4.2.2 Model path analysis

      In this study, AMOS 21.0 was used to conduct structural equation model calculation on the collected data, and the operation results were sorted and analyzed. The model standard path coefficients of the research model are shown in Table 3.

Table 3: Standard path coefficients of the model

Path			Estimate	*S.E.*	*C.R.*	*P*
Organizational Identification	<---	Occupational belonging	0.322	0.055	5.83	***
Organizational Identification	<---	Professional behavior	0.196	0.048	3.706	***
Organizational Identification	<---	Professional cognition	0.418	0.064	6.111	***

Absorption	<---	Professional behavior	0.13	0.064	2.413	0.016
Vigor	<---	Organizational Identification	0.365	0.09	4.863	***
Vigor	<---	Professional behavior	0.122	0.057	2.342	0.019
Vigor	<---	Professional cognition	0.264	0.082	3.62	***
Vigor	<---	Occupational belonging	0.136	0.067	2.416	0.016
Dedication,	<---	Organizational Identification	0.279	0.095	3.801	***
Dedication,	<---	Professional behavior	0.191	0.062	3.644	***
Dedication,	<---	Occupational belonging	0.209	0.073	3.687	***
Dedication,	<---	Professional cognition	0.177	0.088	2.465	0.014
Absorption	<---	Organizational Identification	0.24	0.098	3.178	0.001
Absorption	<---	Occupational belonging	0.182	0.075	3.12	0.002
Absorption	<---	Professional cognition	0.344	0.094	4.468	***

Note: ***. P<0.001 was extremely significant (significant level was 0.05)

As shown in Table 4, professional identification had a significant and positive effect on organizational identification and teacher work engagement, organizational identification had a positive effect on teacher work engagement, and all path tests were valid. Among them, the standardized coefficients of occupational belonging, professional behavior, professional cognition of professional identification on organizational identification were 0.322, 0.196, and 0.418, respectively, with $P < 0.001$, indicating that professional identification has a significant positive effect on organizational identification. The influence of occupational behavior tendency on absorption and vigor was weak: the P values of absorption and vigor were 0.016 and 0.019 (0.001 < P < 0.002), respectively. The influence of professional belonging on the vigor and absorption of teacher work was weak because the P values of absorption and vigor were 0.016 and 0.002, respectively. The effect of career cognitive on dedication was weak, and the effect of organizational identification on absorption was weak.

4.2.3. Analysis of mediating effect

To analyze the mediating effects in these significant paths, bootstrapping was implemented in AMOS 21.0 with 5000 repetitions, a 95% confidence interval standard, and deviation correction method. The mediating effect value ranged from 0.047 to 0.117 (Table 4). The confidence interval did not contain 0. Therefore, organizational identification was shown to mediate the effect of teacher work engagement on professional identification, supporting H4.

Table 4: Bootstrap (95%) mediation effect test

The path	Effect of value	*S.E.*	Bootstrap(95%)
Occupational belonging→Organizational Identification→Vigor	0.117	0.053	(0.060,0.187)
Professional cognition→Organizational Identification→Vigor	0.153	0.061	(0.081,0.240)
Professional behavior→Organizational Identification→Vigor	0.071	0.063	(0.024,0.132)
Occupational belonging→Organizational Identification→Dedication	0.090	0.087	(0.037,0.152)
Professional cognition→Organizational Identification→Dedication	0.116	0.035	(0.049,0.201)
Professional behavior →Organizational Identification→Dedication	0.055	0.570	(0.016,0.105)
Occupational belonging→Organizational Identification→Absorption	0.077	0.056	(0.023,0.141)
Professional cognition→Organizational Identification→Absorption	0.100	0.088	(0.034,0.177)
Professional behavior →Organizational Identification→Absorption	0.047	0.079	(0.011,0.094)

Discussion

The findings show that teachers' professional identification has a significant positive effect on teacher work engagement. This finding is consistent with that of a previous study (Zhang et al., 2018 : 678). Specifically, career cognition has the largest positive prediction effect on the vigor dimension of work engagement, with a coefficient of 0.26. Professional sense of belonging has the largest positive relationship with work engagement, with a coefficient of 0.21, whereas the concentration dimension of professional cognition has the largest positive relationship with work engagement, with a coefficient of 0.34. Therefore, the more enthusiastic college teachers are about their jobs, the more professional they become, the more willing they are to continue devoting themselves to their work as teachers, the more willing they are to improve themselves, and the more willing they are to accept challenges in their job.

This study showed that professional identification has a significant positive correlation with organizational identification, and professional identification has a positive effect on organizational identification.

Colleges should increase their investment in teacher work, ensure the sustainable development of teachers, and, most importantly, improve the professional identification of teachers.

The coefficients of professional belonging, career cognitive, and occupational behavior tendency on organizational identification were 0.32, 0.42, and 0.2, respectively (Figure 1). This finding indicates that college teachers have optimistic career goals and that they require additional platforms and opportunities to engage in professional work. They are thus more emotionally dependent on their workplace and have a higher degree of recognition than the average individual in the workforce.

The organizational identification of college teachers has a significant positive effect on work engagement, and the coefficients of the vigor, dedication, and absorption dimensions were 0.37, 0.28, and 0.24, respectively. This finding indicates that when teachers are invested

in the university's philosophy and culture, they would be willing to apply themselves to teaching.

Colleges in China have a system where senior and inexperienced teachers assist each other. Senior teachers should direct inexperienced teachers, and the teaching workload should be optimized for inexperienced teachers to ensure that they can effectively and adequately engage with their students. The implementation of an assistant system requires inexperienced teachers to participate in the management of a class and be familiar with the teaching tasks and students' statuses. Colleges can organize workshops or teaching teams for beginning or middle-level teachers, and they can also enlist the help of well-known educators to inspire instructors to advance as a group.

This study shows that organizational identification of college teachers positively moderates the positive effect of professional identification on work engagement, which supports the proposed theoretical hypothesis. The number of studies on the mediating effects of organizational identification of college teachers has been limited. Organizational identification was used as a mediating variable and fill the gap in the literature. Organizational identification plays a mediating role in the influence of occupational cognition, occupational belonging, and occupational behavioral tendency on the vitality, dedication, and concentration of teacher work engagement, respectively.

Conclusion

In the Context of Long-Term Professional Development, Teacher work engagement is a important factor influencing teachers' professional development and teaching effectiveness, Focusing on the college teacher, this study successfully examined the formation of teacher work engagement by considering the mediating impact of organizational identification. The professional identification of teachers has a significant positive effect on their work engagement. In particular, career cognition has the greatest influence on the vigor dimension of work engagement. Professional sense of belonging has the greatest influence on the teacher's dedication. In addition, career cognition has the greatest influence on the absorption dimension of work engagement. Teachers' professional identification has a significant positive effect on organizational identification. Teachers' organizational identification has a significant positive effect on teacher work engagement. Regarding the mediating role of organizational identification, stimulating teachers' identification with the organization strengthens their sense of belonging and attachment to the college and improves their overall effectiveness in the classroom. To our knowledge, this research was also the first attempt to identify the complex relationships between occupational belonging, professional cognition , professional behavior and vigor, dedication, absorption. It provides the basis for managers to improve teachers' work engagement .

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