

A Study on the Relationship between Instructors' Professional Identity and Instructional Leadership at S Vocational and Technical College in Zhengzhou City, Henan Province, China

Tianping Xu^{1*} and Yanan Yang²

¹ Master of Educational Administration, Stamford International University, Thailand

² Lecturer, Stamford International University, Thailand

*Corresponding author: balance512@qq.com

Abstract: This study investigated the correlation between teachers' professional identity and instructional leadership at S Vocational and Technical College in Zhengzhou City, Henan Province, China through a questionnaire survey. The study sample consisted of 625 teachers from the college. The data analysis methods used included descriptive statistical analysis, independent samples t-test, One-way ANOVA analysis, and Pearson analysis. The results showed that the teachers' professional identity at S Vocational and Technical College in Zhengzhou City, Henan Province, China was generally at a high level. Instructional leadership was generally at a high level. There were significant differences in teachers' professional identity in terms of gender, age, and title. There were significant differences in teachers' instructional leadership in terms of gender, age, title, and educational background. The main findings of this study were that there was a significant positive correlation between teachers' professional identity and instructional leadership. Finally, based on the findings, suggestions for optimizing management systems, improving promotion channels, multi-dimensional collaborative optimization of teachers' professional identity, and enhancing instructional leadership are proposed.

Keywords: S Vocational and Technical College in Zhengzhou City, Henan Province; Professional Identity; Instructional Leadership.

1. Introduction

In the grand era picture of globalization, knowledge economy and modernization of educational governance, the governance model and Leadership theory paradigm of school organizations are undergoing an extremely profound power reconfiguration and center shift. In the 1980s, with the rise of the "Effective Schools Movement" in the West, the early education management community proposed the instructional leadership model. It focused mainly on the role of the principal as a "heroic manager" (Hallinger & Murphy, 1985). The classic model presupposes a top-down logic of administrative authority, which holds that the key to improving school effectiveness lies in how top managers strictly control the curriculum, quantitatively evaluate teacher performance, and maintain rigid teaching order.

With the increasing complexity of modern

school organizational structures and the extreme diversity of educational demands, the single administrative bureaucracy has revealed serious limitations, making it difficult to cope with the rapidly changing classroom challenges and the heterogeneous needs of students. International frontier research in educational management clearly indicated that the focus of instructional leadership is irreversibly shifting from the traditional "administrative-centered" to "Distributed Leadership" and "teacher-centered" (Harris, 2013. Spillane, 2006. This leap in the theoretical paradigm emphasized that teachers should by no means be passive "end executors" of educational administrative instructions or "lecturers" on the assembly line, but rather based on their profound Pedagogical Content Knowledge (PCK) and Phronesis, The "Professional Authority" that has a substantial and

leading impact on curriculum development, peer assistance, and overall school improvement both inside and outside the classroom (York-Barr & Duke, 2004). As MacBeath (2005) profoundly points out: "True educational leadership is no longer the privilege of a few top managers, but a social interaction that permeates the entire community of educational practice, and every teacher should be a well-deserved leader within their territory of practice."

When exploring the underlying driving mechanism of this paradigm shift, "Teacher Professional Identity" is recognized internationally as the core psychological capital and key endogenous engine that inspires and sustains this bottom-up leadership behavior. Beijaard et al. (2004) pointed out in their widely cited classic review that professional identity is not a static social label attached to teachers, but rather teachers in the continuous interaction with the complex institutional environment, social expectations and personal teaching experience, Constantly questioning and reconstructing the dynamic process of meaning construction of "who I am", "what value I have in the professional field" and "what kind of educator I want to be". Further longitudinal empirical research showed that a high level of professional identity can significantly enhance teachers' "Extended Professionalism" when facing top-down external accountability pressures. The Teacher Agency (Day, 2018) showed greater Resilience and change initiative. In other words, instructional leadership is likely to arise naturally in the daily complex teaching practice only when teachers identify with their identity as "educational leaders" deeply and consistently in their hearts.

Especially in the particular field of Technical and Vocational Education and Training (TVET), which has a very strong cross-disciplinary nature, the above theoretical logic presents a more complex and tense picture. The international vocational education community keenly points out that vocational teachers face a unique identity dilemma that is quite different from that of general education teachers - the challenge of integrating the dual identities of "industry technical experts" and "educators" (Fejes & Kopsen, 2014).

Looking at the domestic context in China, the macro policy environment and development scale of vocational education have undergone historic upheavals in the past five years. However, the huge policy dividends and the rapid expansion of the scale of running schools inevitably come with intense "pains of connotative transformation" when applied to the daily operation level of micro vocational colleges. With the in-depth implementation and dynamic elimination assessment of the "Double High Plan" (the plan for building high-level vocational colleges and specialties with Chinese characteristics), the inter-school competition among vocational colleges has shifted from the early extensive scale expansion of "snatching students" and "grabbing land", It has fully shifted to a brutal quality competition for "landmark achievements" (such as national teaching achievement awards, the number of papers published in core journals, high-level horizontal project funding, etc.). This kind of survival pressure in the macro system is passed down layer by layer and eventually weighs heavily on the shoulders of front-line teachers, giving rise to the extremely special "vocational competition" and "performance burden" phenomenon in the current vocational education sector, which is characterized by the following two core pain points:

In the traditional sense, the core mission of vocational college teachers is to "stand firm on the three-foot podium and teach students a skill". But driven by the explicit indicators of the "Double High" initiative, the boundaries of teachers' work have been stretched infinitely. Data showed that the mean weekly class hours of current vocational college professional course teachers are often as high as 12 to 16 or even more. Facing a group with a complex student body (including veterans, laid-off workers, vocational high school students, etc.), a relatively weak foundation and a need to stimulate learning motivation, daily teaching management and tutoring have already consumed a great deal of effort from teachers (Zhuang, 2010). However, the current professional title evaluation and performance assessment are increasingly showing an academic tendency of "emphasizing research over teaching" and "emphasizing text over

practical operation". Many higher vocational colleges have explicitly stipulated that lecturers must lead provincial or ministerial-level research projects or publish multiple academic papers in CSSCI core journals to be promoted to associate professor. For "craftsman" teachers who have been deeply rooted in the front line of practical training for a long time and are good at solving practical engineering problems in enterprises, this misalignment of the evaluation system has led them to run around frantically between "teacher" and "research worker", greatly intensifying role conflict and Emotional Exhaustion.

The "Action Plan for Improving the Quality and Excellence of Vocational Education (2020-2023)" jointly issued by nine departments, including the Ministry of Education (2020) clearly set hard targets: the proportion of "dual-qualified" teachers among professional course teachers in higher vocational colleges must reach more than 50%. This meant that the state expects vocational college teachers to be both "professors" who can impart knowledge on the podium and "senior engineers" who can solve technical problems in the workshop. In practice, however, many vocational college teachers were facing the awkward situation of "difficulty in entering enterprises and mere formality in on-the-job practice" due to the lack of a deep industry-education integration mechanism, insufficient internal motivation of enterprises to participate in education, and barriers such as intellectual property protection. For example, during the annual training sessions for teachers in enterprises during winter and summer vacations, out of concern for production safety, most receiving enterprises only allow teachers to have a "cursory" visit, which eventually turns into a "document game" of stamping and checking in (Li, 2023; He, 2020). This superficial "dual-teacher" construction not only fails to substantially enhance teachers' technical leadership in the industry but also leaves them physically and mentally exhausted while dealing with various assessment materials.

The intense squeeze from the macro ecosystem has led to a widespread sense of career anxiety and a lack of meaning among contemporary Chinese vocational college teachers. They often self-mockingly call themselves "tops

whipped by various KPIs", exhausted by the endless goals of teaching traceability, research reimbursement, social service, and guidance of various skills competitions, and gradually lose their original intention as educational leaders in the micro classroom field.

As the most populous and major agricultural province in China, Henan Province is currently in a crucial transitional period of transitioning from a "demographic dividend" to a "talent dividend". Its higher vocational education shoulders the heavy historical mission of providing a vast number of technical and skilled talents for the national strategy of "The Rise of Central China" and the high-quality development of the Yellow River Basin. According to statistics from the Department of Education of Henan Province, there are nearly 100 higher vocational colleges in the province, and the number of students has consistently ranked among the top in the country. However, the tension between the relatively insufficient per-student investment in education and the large number of vocational education students has made the educational and teaching challenges and performance pressures faced by vocational college teachers in Henan more severe than those in the developed coastal areas in the east, which is highly typical of the inland areas of China.

S Vocational and Technical College in Zhengzhou City, the location of the empirical sample in this study, was a vivid microcosm of this macro picture that was highly valuable for analysis. Located in the Airport Economic Comprehensive Experimental Zone of Zhengzhou City, Henan Province, it was a full-time regular junior college approved by the Ministry of Education of China. After years of leapfrog development, the school now has more than 680 staff members and over 10,000 students, and has formed a distinct educational feature mainly in engineering, intelligent manufacturing and information technology. In terms of physical and chemical indicators, S Vocational and Technical College has made rapid progress in hardware facilities.

Under this glamorous "hard shell", the school is facing a deep-seated crisis of professional identity and the decline of leadership in the construction of its core "soft power" faculty.

retention. Beijaard et al. (2004) found through an empirical study of the teacher group that teachers with a strong professional identity could better cope with the complex and changeable educational environment and demonstrate higher teaching engagement and professional resilience in role conflicts.

In recent years, domestic research has begun to focus deeply on teachers' professional identity and its impact on organizational behavior. Wei et al. (2012) verified the four-dimensional model of teachers' professional identity in the Chinese context through large-scale empirical data (professional values, role values, professional belongingness and professional behavior tendency were found to have the greatest predictive effect on teachers' willingness to continue teaching ($\beta = 0.55$).

Instructional Leadership

International research showed that teachers' instructional leadership plays a key driving role in enhancing overall school effectiveness and students' academic performance. York-Barr & Duke (2004) found through a systematic review of teacher groups that teachers with instructional leadership could effectively cross the boundaries of traditional classrooms and demonstrate a stronger willingness to improve teaching and knowledge-sharing ability in professional learning communities.

Research on the Relationship between Teachers' Professional Identity and Instructional Leadership

In the research, teachers' professional identity and instructional leadership were regarded as a set of core variables with profound intrinsic logical connections. The academic community generally believed that professional identity was the "psychological core" and prerequisite for the emergence and manifestation of instructional leadership. The practice of instructional leadership was the opportunity for the "behavioral externalization" and reconfiguration of professional identity in the professional field.

The exertion of instructional leadership fed back and reinforced the teachers' professional identity. The study by domestic scholars Wei et al. (2012) also confirmed the positive feedback effect

of professional behavior tendency on identity. This sense of achievement gained in complex educational practices could effectively resist burnout and deepen teachers' experience of the value of their roles.

2. Materials and Methods

Based on the actual needs of the study, 648 questionnaires were finally distributed to the entire school. During the actual collection process, after strict sorting and screening of the recovered data, and excluding invalid questionnaires with incomplete responses or obvious irregularities, 625 valid questionnaires were finally obtained, with an effective recovery rate of 96.45%.

This study used the Teachers' Professional Identity Scale developed by Wei (2008), which was specifically designed for Chinese teachers. Structure: 18 items in total, including four dimensions of professional values, role values, professional belongingness, and professional behavior tendency. The Cronbach's α coefficient of the total scale was 0.933, and the Cronbach's α coefficients of the four sub-dimensions were 0.846, 0.844, 0.832, and 0.834, respectively. The data indicated that all dimensions of the scale met the reliability criteria required by statistics and were suitable for measurement in this study. All the fitting indicators of the 4-factor model met the statistical good standard ($\chi^2/df = 2.45$, RMSEA = 0.056, CFI = 0.925, GFI = 0.912).

This study adopted the instructional leadership scale developed by Chen (2005), which consists of 23 items and includes five dimensions: defining instructional goals, achievement orientation, supportive behavior, removing learning obstacles, and participative leadership. The empirical study by the original author showed that the scale had extremely high internal consistency, with a total scale Cronbach's α coefficient of 0.970. The KMO value was 0.96 (much higher than the standard of 0.90), and the Bartlett's sphericity test was significant ($p < .001$), indicating that the data were well-suited for factor analysis. Factor explanatory power: The cumulative variance explanatory rate of the five common factors extracted reached 76.45%.

3. Results

The specific sample sizes of the subjects in different demographic background variables were as follows: In terms of gender, there were 265 male teachers, accounting for 42.4% of the total sample size, and 360 female teachers, accounting for 57.6% of the total sample size. In terms of age, 211 teachers aged 30 years and under accounted for 33.8% of the total sample size, 210 teachers aged 31-40 years old accounted for 33.6%, 138 teachers aged 41-50 years old accounted for 22.0%, and 66 teachers aged 51 years and above accounted for 10.5%. There were 227 junior teachers, accounting for 36.3% of the total, 286 intermediate teachers, accounting for 45.8% of the total, and 112 senior teachers, accounting for 17.9%. In terms of educational backgrounds, 307 teachers have a bachelor's degree or lower, accounting for 49.1% of the total, and 318 teachers have a master's degree or higher, accounting for 50.9% of the total. In terms of teaching subjects, 176 teachers of Liberal Arts, 28.2% of the total sample, 316 teachers of Science and Engineering, accounting for 50.5% of the total sample, and 133 teachers of other subjects, accounting for 21.3% of the total sample. The basic situation statistics of the questionnaire subjects are shown in Table 1:

Table 1: Demographic Backgrounds Analysis for Samples ($N=625$)

Demographic Backgrounds	Group	n	%
Gender	Male	265	42.4
	Female	360	57.6
Age	30 years and under	211	33.8
	31-40 years old	210	33.6
	41-50 years old	138	22.0
	51 years old and above	66	10.6
Professional title	Junior	227	36.3
	Intermediate	286	45.8
	Senior	112	17.9
Educational backgrounds	Bachelor's degree and below	307	49.1
	Master's degree and above	318	50.9
Teaching subject	Liberal Arts and History	176	28.2
	Science and Engineering	316	50.6
	Others	133	21.2
Total		625	100.0

(1) The mean overall level of teachers'

professional identity at S Vocational and Technical College in Zhengzhou City in Henan Province, China was 3.66. Overall, the teachers' professional identity was at a high level.

Table 2: The Current Level of Teachers' Professional Identity at S Vocational and Technical College in Zhengzhou City in Henan Province

Dimensions	M	SD	Interpretation
Professional values	3.83	.683	High
Professional belongingness	3.35	.782	Moderate
Role values	3.78	.677	High
Professional behavior tendency	3.75	.710	High
Overall professional identity	3.66	.545	High

The mean overall level of instructional leadership at S Vocational and Technical College in Zhengzhou City, Henan Province, China was 3.77. Overall, instructional leadership was at a relatively high level at S Vocational and Technical College in Zhengzhou City in Henan province, China.

Table 3: Current Level of Teachers' Instructional Leadership at S Vocational and Technical College in Zhengzhou City in Henan Province

Dimensions	M	SD	Interpretation
Supportive behavior	3.84	.700	High
Achievement orientation	3.78	.659	High
Defining instructional goals	3.75	.784	High
Removing learning obstacles	3.74	.683	High
Participative leadership	3.73	.673	High
Overall instructional leadership	3.77	.492	High

(2) There are significant differences in teachers' professional identity among different gender, age, and teaching subject.

Overall, there was a significant gender difference in teachers' professional identity ($t=-2.423$, $p<0.05$), and the mean of female teachers was significantly higher than that of male teachers. Among the dimensions, professional values ($t=-1.993$, $p<0.05$) and professional belongingness ($t=-2.996$, $p<0.01$) showed significant gender differences.

Table 4: Comparison of Gender Differences in Teachers' Professional Identity at S Vocational and Technical College in Zhengzhou City, Henan Province

Dimensions	Gender	n	M	SD	t
Professional values	Male	265	3.77	.672	-1.993
	Female	360	3.88	.689	
Role values	Male	265	3.79	.720	-0.477
	Female	360	3.81	.698	
Professional belongingness	Male	265	3.25	.709	-2.996
	Female	360	3.42	.702	
Professional behavior tendency	Male	265	3.73	.645	-1.484
	Female	360	3.81	.699	
Overall professional identity	Male	265	3.60	.495	-2.423
	Female	360	3.70	.517	

There are significant differences in teachers' instructional leadership among different gender, age, and teaching subject.

There was a significant gender difference in teachers' instructional leadership ($t=-2.433$, $p<0.05$), and the mean of female teachers was significantly higher than that of male teachers. Among the dimensions, the gender differences in defining instructional goals ($t=-2.399$, $p<0.05$) and removing learning obstacles ($t=-2.665$, $p<0.01$) reached significant levels. There was no significant gender difference in achievement orientation, supportive behavior and participative leadership ($p>0.05$).

Table 5: Comparison of Gender Differences in Teachers' Instructional Leadership at S Vocational and Technical College in Zhengzhou City in Henan Province

Dimensions	Gender	n	M	SD	t
Defining instructional goals	Male	265	3.77	.689	-2.399
	Female	360	3.91	.703	
Achievement orientation	Male	265	3.74	.664	-1.445
	Female	360	3.82	.654	
Supportive behavior	Male	265	3.71	.695	-1.093
	Female	360	3.77	.674	
Removing learning obstacles	Male	265	3.65	.699	-2.665
	Female	360	3.79	.648	
Participative leadership	Male	265	3.73	.793	-0.693
	Female	360	3.77	.778	
Overall instructional leadership	Male	265	3.72	.504	-2.433
	Female	360	3.82	.479	

(3) The overall correlation coefficient $r=.533$ between teachers' professional identity and

instructional leadership reached a significant level ($p<0.01$). Overall, there was a significant positive correlation between teachers' professional identity and instructional leadership at S Vocational and Technical College in Zhengzhou City, Henan Province, China.

Table 6: Correlation Matrix of Teachers' Professional Identity and Instructional Leadership at S Vocational and Technical College in Zhengzhou City, Henan Province

Dimensions	1	2	3	4	5	6
Professional values	.245**	.200**	.233**	.313**	.257**	.351**
Role values	.253**	.284**	.233**	.091*	.329**	.327**
Professional belongingness	.316**	.336**	.324**	.325**	.322**	.457**
Professional behavior tendency	.292**	.264**	.278**	.323**	.248**	.399**
Professional identity	.385**	.379**	.372**	.367**	.393**	.533**

Note: * $p<0.05$, ** $p<0.01$

4. Discussion

(1) This study showed that the overall teachers' professional identity at S Vocational and Technical College in Zhengzhou City in Henan Province, China, was also at a relatively high level. This finding was in line with the theoretical expectations and related survey data of Wei & Song (2012) and Beijaard et al. (2004). This indicated that in the macro social context of the country's continuous improvement of the status of vocational education and the continuous improvement of the remuneration and social prestige of vocational college teachers, the psychological capital of the vocational college teacher group was steadily increasing and the sense of professional honor was gradually being established.

Descriptive statistics from this study showed that instructional leadership at S Vocational and Technical College in Zhengzhou City in Henan Province, China, was generally at a high level. This conclusion was consistent with the research trend of York-Barr & Duke (2004) on the widespread awakening of teacher leadership in quality educational institutions, and also with the empirical survey results of domestic scholar Yin (2016) on the teaching behavior of teachers in higher vocational colleges. This study delved deeply into this and argued that this positive current level was by no means accidental, but

rather the inevitable result of the combined effects of macro national vocational education policy orientation, the school management system reform, and micro improvement of individual teachers' professional competence.

(2) The study results showed that in terms of gender, female teachers had significantly higher overall mean values of professional identity and instructional leadership than male teachers. This conclusion coincides with many studies at home and abroad on female educational leadership and professional psychology (Wang, 2017). It could conduct an in-depth analysis from multiple perspectives, such as Social Role Theory, Ethics of Care, and perceived organizational support.

From the performance of instructional leadership, the high-level professional identity of women naturally overflows into high-level classroom leadership behavior. Noddings' (1984) cared ethics pointed out that females tend to place care and relationship maintenance at the core of moral practice and leadership behavior. When females enter the field of education, which places a strong emphasis on interpersonal interaction, they could naturally translate these internalized gender advantages into overt leadership behavior.

(3) There was a significant positive correlation between teachers' professional identity and instructional leadership at S Vocational and Technical College in Zhengzhou City, Henan Province, China. This significant positive correlation could be perfectly interpreted from the perspectives of the "Psychological Capital Model" and the "Social Identity Theory" (Tajfel, 1978). professional identity was essentially the deep fit of teachers to their professional roles at the cognitive, emotional, and volitional levels, and it was the intrinsic psychological driving force for teachers' career development. When a teacher highly affirms the professional values of education, was clear about the role values he or she should undertake, and was deeply attached to the school organization he or she belongs to, A strong internal drive and abundant psychological capital would prompt them to move beyond the bottom-line requirements of a "passive teacher" and towards the realm of an "active educational leader" in the specific classroom setting.

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Authors' Biography:



The researcher currently studies in MEA Program, Graduate School, Stamford International University, her research interest is in the fields of educational administration, school management and educational leadership.