

# Administrators' Instructional Leadership Factors Influencing Teacher Performance in Public Higher Vocational Colleges in Shandong Province

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## Abstract

This study aimed to examine: (1) the perceived importance of ethical leadership among principals of state vocational colleges in Shandong Province, (2) the level of teachers' knowledge in state vocational colleges in Shandong Province, (3) the impact of principals' instructional leadership on teachers' performance in state vocational colleges in Shandong Province, and (4) the capacity to support teachers' work in fostering instructional leadership in state vocational colleges in Shandong Province. The quantitative sample consisted of 600 staff members and teachers from state vocational colleges in Shandong Province. Statistical analyses included percentage, frequency, mean, standard deviation, and multiple regression analysis. The qualitative sample comprised nine participants, with data analyzed inductively and summarized through content analysis. The findings revealed that the key components of instructional leadership among principals in state vocational colleges in Shandong Province included goal setting, professional development, instructional supervision, organizational management, environmental support, and teacher empowerment. The overall teacher performance level was measured at a mean of 3.569 with a standard deviation of 0.829, indicating a high level of performance. The Confirmatory Factor Analysis (CFA) model assessing the impact of principals' instructional leadership on teachers' performance demonstrated a good model fit, confirming its appropriateness. Furthermore, the study highlighted the feasibility of data collection to facilitate continuous teacher learning, promote the development of an individualized teacher system, foster a positive academic atmosphere across various disciplines, enhance teachers' autonomy, and strengthen their sense of professional significance.

**Keywords:** instructional leadership; administrators; teacher performance; public higher vocational colleges; Shandong Province

## Introduction

Accountability-oriented education reforms implemented worldwide over the past half century have presented new challenges to educators, and school administrators have faced increasing pressure to improve their schools (Paletta et al., 2019). It is agreed that effective managers can promote teacher practice, improve organizational development, and enhance student learning performance (Khan et al., 2020). As an important variable, job performance has become an important indicator for measuring the efficiency of organizational performance. The ability of an organization, including all types of schools, to maintain its operations and achieve its stated goals will depend on the performance of its employees. Therefore, based on the requirements for high-quality teaching in schools, the importance of instructional leadership has received widespread attention.

For many years, scholars have argued that productive teacher performance evaluation is critical (Hallinger et al., 2017). In 2020, the Shandong Provincial Department of Education issued the "Notice on the Annual Assessment Plan for the Quality of Higher Vocational Colleges in Shandong Province 2020" to conduct a comprehensive assessment of vocational colleges in Shandong Province, emphasizing the impact of educational administrators' instructional leadership on teachers' work performance importance of influence (Leithwood et al., 2020). Therefore, instructional leadership plays a significant role in promoting teacher development and improving students' academic performance, and occupies an important position in the learning of teachers and students. Understanding the instructional leadership practices of school administrators is necessary, especially in Chinese school settings.

However, with the continuous development of education in China, scholars have found that the traditional centralized leadership system can no longer meet the overall development of schools. The early leadership management system concentrated on the principal and neglected the initiatives of other teaching participants, resulting in non-principals being unable to take initiatives and teachers being unable to teach actively. In 2010, scholars therefore began to pay attention to "non-principals emphasizing the establishment of a school principal team and believing that teaching leadership

does not only refer to the school principal, but also involves other issues, transforming the centralization of the principal into the empowerment of others.”

Instructional leadership is a practice that focuses on creating conditions for teachers or students to learn (Çoban, 2024). It is of great significance to study the impact of instructional leadership factors under the instructional leadership framework on teachers’ work performance (Tanvir et al, 2023). It focuses on how school managers and teachers act as managers. Effective interactions between leadership behaviors and teaching enable teachers to maintain positive job performance throughout their careers. Therefore, it is necessary to understand instructional leadership factors and interactions and determine how school administrators influence teachers' job performance through instructional leadership functions.

However, research on principals' instructional leadership factors and teacher performance in China is still relatively lacking, and previous research has also shown that research on leadership practices in Asian countries is uneven and relatively backward compared to Western countries. Therefore, despite the different cultural contexts, policymakers and researchers often follow Western perspectives on their application in local contexts but take different approaches. Therefore, while it is important to understand the leadership practices used in Western cultures, it is also important to evaluate the effectiveness of these practices in local contexts (Khan et al., 2020). This study focuses on the impact of administrators' instructional leadership factors on teacher performance in higher vocational colleges in Shandong Province, China. Although the Shandong Province assessment plan emphasizes the importance of administrators’ instructional leadership, it is still unclear which instructional leadership aspects college administrators should work on to promote teacher performance, and school administrators cannot accurately grasp the influencing factors. While China's education reform continues, research on the instructional leadership of Chinese educational managers is still in its infancy. Especially in the Chinese education context, the impact of educational managers' instructional leadership factors on teacher performance has not been effectively studied. Therefore, there is a need to study the factors of administrators’ instructional leadership, especially the impact of these factors on teachers’ work performance. This study provides insights for policymakers, education scholars, and teachers in Shandong Province, China.

## Research Objectives

1. To study the level of administrators' instructional leadership factors in public higher vocational colleges in Shandong province.
2. To study the level of teacher performance in public higher vocational colleges in Shandong Province.
3. To examine the factors influencing administrators' instructional leadership on teacher performance in public higher vocational colleges in Shandong Province.
4. To provide the teacher performance guidelines to promote instructional leadership in public higher vocational colleges in Shandong Province.

## Scope of Research

**Content of the study:** Content of the study: Administrators' Instructional Leadership Factors Influencing Teacher Performance in Public Higher Vocational Colleges in Shandong Province

### Population and Sample:

The population used in the quantitative research was the college administrators and teachers of public higher vocational colleges in Shandong Province, with 1,900 school principals and 3,000 teachers in these colleges.

The quantitative research sample was 600 executives and teachers.

The qualitative research sample consisted of nine executives and teachers.

**Area:** The study focuses on public higher vocational colleges in Shandong Province. Therefore, Other private higher vocational colleges, undergraduate colleges, secondary vocational colleges, and vocational colleges outside Shandong Province are not included in the scope of the study.

**Time:** October 2023 to 2024

## Literature Reviews

### 1. The importance of instructional leadership

Instructional leadership has received widespread attention due to its emphasis on high-quality teaching (Boyce & Bowers, 2018). Unlike other leadership types, instructional leadership focuses on the school's teaching and student learning dimensions. Western literature emphasizes

the importance of principals and administrators fulfilling their instructional leadership responsibilities through teacher teaching evaluation (Kaparou & Bush, 2015). Effective leaders must conduct regular classroom visits, provide feedback, and possess substantial knowledge related to teaching (Pont et al., 2008). This is regarded as an effective channel for principals and administrators as instructional leaders to monitor classrooms and teaching, thereby influencing teachers' practices (Ovando & Casas-Rodriguez, 2005), and also serves as a valuable tool for teacher performance.

In conclusion, as the core of teaching leaders, the principal provides support for the school's teaching and learning, including supervising and evaluating teachers' teaching, properly planning teacher professional development courses (King, 2002), and managing teaching strategies (Anderson, 2008; Hallinger & Murphy, 2013). As teaching and accountability demands increase, it is widely recognized that the responsibility for effective Instructional leadership cannot be exclusive to the principals (Lipscombe et al., 2021), but that the headteacher shares this role with other leaders within the school, including teachers and middle leaders, who work together to shape teaching and learning leadership tasks (Bush, 2020). Subsequent research supported this finding and showed that principals and other school leaders are most successful when they work together to improve instruction (Fullan, 2020; Harris et al., 2020).

## **2. The definition of instructional leadership**

Instructional leadership is an evolving construct inherently determined by the context in which it is exercised (Qian et al., 2017). Therefore, no definition or concept of “instructional leadership.” At the same time, the definition of instructional leadership helps to reveal some of the responsibilities and roles of instructional leadership. Scholars define instructional leadership based on their specific context as follows (see Table 2)

Hallinger et al. (2017) define instructional leadership as the strategies, activities, and actions implemented by school leaders to support, implement, and ensure practical teaching and learning activities related to school instruction.

In conclusion, Ubben et al. (2015) define instructional leadership as a task that includes promoting school curriculum, checking learner progress, emphasizing achievement, providing the right atmosphere, developing teaching strategies and teacher support, etc.

## **3. The theoretical basis of goal setting**

This study is based on the goal-setting theory proposed by Locke and Latham (1991). The basic premise of this theory is that predetermined goals can serve as performance inducers, arguing

that goal setting can improve job performance (Yurtkoru et al., 2017). The basic tenet of this theory is that a person's cognitive intentions govern his or her behavior and are the goals that the individual consciously attempts to achieve (Vigoda-Gadot & Angert, 1996). Goal-setting theory is considered one of the most prevalent and influential theories on motivation and performance.

Research shows that individuals perform better when goals are clear, specific, and challenging (Locke & Latham, 1991; Rainey & Jung, 2015). Additionally, goal clarity can help individuals understand what is expected of others and what behaviors will effectively achieve goals (Davis & Stazyk, 2015). Appropriate feedback motivates employees (Nganyi et al., 2014).

The work of Locke and Latham (1991) introduces four features of goal setting theory that link goals to performance. The first characteristic is that goals should be specific. This is because specific goals let teachers know the goals and help them monitor and evaluate individual progress. Second, goals should be challenging but achievable. Third, teachers should recognize goals. One way to ensure acceptance of school goals is to allow teachers to participate in the goal-setting process. The authors further assert that participation in the goal-setting process enables teachers to own the process and commit to the goals set. Finally, principals should provide feedback on goal achievement, feedback that enables teachers to evaluate their teaching abilities and make necessary changes to improve performance.

Figure 1 presents the proposed conceptual framework for this research, which was developed based on the research objectives, literature review, and formulation of hypotheses.

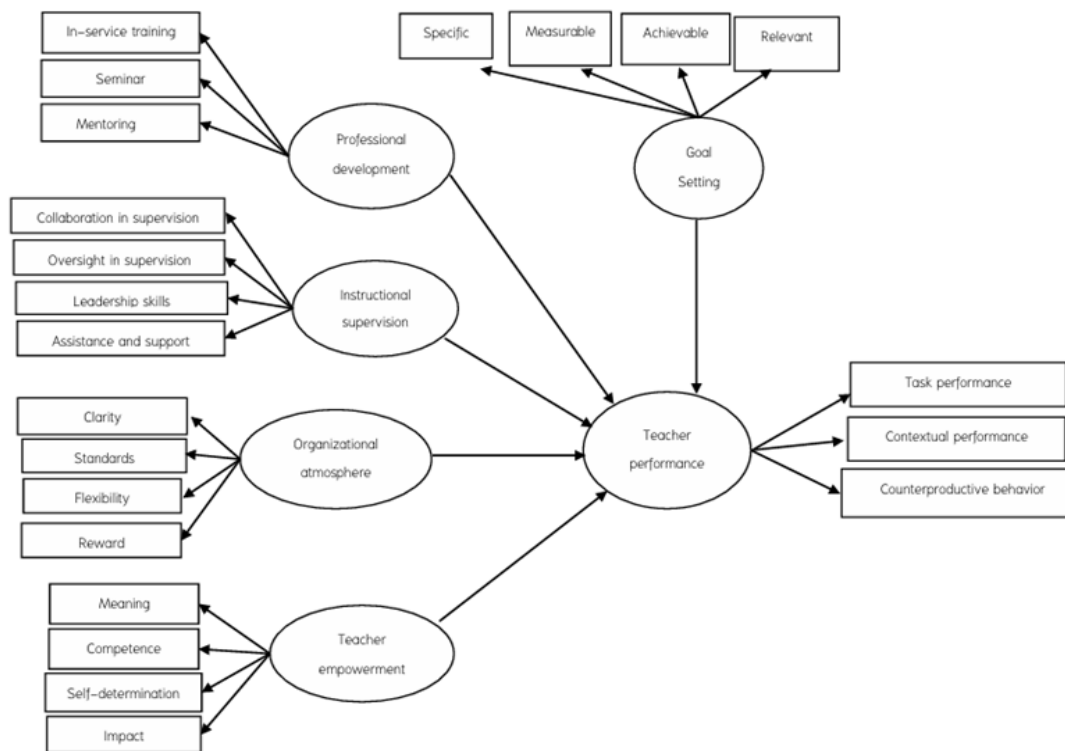


Figure 1 Conceptual Framework

## Research Methodology

The research on administrators' instructional leadership factors that influence teacher performance in public higher vocational colleges in Shandong Province is both quantitative and qualitative.

The population used in the quantitative research was the executives and teachers of state vocational colleges in Shandong Province, with 1,900 executives and 3,000 teachers.

The quantitative research sample consisted of 600 people, including 300 executives and 300 teachers from state vocational colleges in Shandong Province. The researchers used various scales from Krejcie and Morgan (1970) to determine the sample size.

The qualitative research sample consisted of 9 executives and teachers, using purposeful selection.

### Instruments used in the research

The researcher used instruments to collect data because it was a mixed research method. The quantitative research instrument used a questionnaire, and the qualitative research used an interview form. It was divided into two parts as follows:

Part 1: Questionnaire about the personal status of the respondent. This questionnaire was used to ask for basic information about the respondent, including 1) the gender of the respondent, 2) the respondent's age, 3) the highest level of education of the respondent, and 4) the work experience of the respondent.

Part 2: The researcher created a questionnaire about the factors of teaching leadership of administrators that affect teachers' performance, divided into 66 areas.

Part 3: Open-ended interview: Teachers' practice guidelines for promoting teaching leadership in state vocational colleges in Shandong Province

### **Data Analysis**

This research used questionnaires as a quantitative research tool and interviews as a qualitative research tool. The data analysis in the research is as follows:

#### **Quantitative research**

In quantitative research, the researcher analyzes the data using a computer program, using basic statistics to find percentages, frequencies, means, standard deviations, and multiple regression analysis.

#### **Qualitative research**

The researcher analyzed the data by using the data collection of teachers to promote teaching leadership in a state vocational college in Shandong Province. The researcher analyzed the data in detail. The researcher presented the data collection by typing the content and actions that describe the strategic planning. Find information to check and analyze the validity of the key points of the research results. Synthesize, interpret, search from the point of view, and organize the study in order.

## **Research Results**

**Objective 1:** To determine the factors of teaching leadership of state vocational college administrators in Shandong Province, including goal setting, professional development, teaching supervision, organizational climate, and teacher empowerment.



**Table 1** Mean, S.D. interpretation of Variables

Items	Min	Max	Mean	Std. Deviation	Kurtosis	Skewness	Remarks
Goal Setting	1.925	5.000	3.620	.796	-1.334	.037	High
Professional development	1.800	5.000	3.587	.850	-1.233	-.335	High
Instructional supervision	1.733	5.000	3.619	.763	-1.047	-.178	High
Organizational atmosphere	1.700	5.000	3.568	.794	-1.318	.011	High
Teacher empowerment	1.837	5.000	3.585	.788	-1.211	-.080	High

Table 1 Research results found that the average goal setting of these five variables is 3.620 (S.D. = .796). Professional development was 3.587 (S.D=.850), instructional supervision was 3.619 (S.D=.763), organizational atmosphere was 3.568 (S.D=.794), and teacher empowerment was 3.585 (S.D=.788). The average is 3.568–3.620, which is interpreted as being on the high side. The results show that goal setting, professional development, instructional supervision, organizational atmosphere, and teacher empowerment of public Higher Vocational colleges in Shandong Province are high.

**Objective 2:** It was found that the performance level of teachers in state vocational colleges in Shandong Province had an average of 3.569 and a standard deviation of 0.829, which was considered high.

**Table 2:** Mean, S.D. interpretation of Variables

Items	Min	Max	Mean	Std. Deviation	Kurtosis	Skewness	Remarks
Teacher performance	1.533	5.000	3.569	.829	-1.191	.021	High

Table 2 The study's results showed that the performance level of teachers in state vocational colleges in Shandong Province was high, with an average of 3.569 (in the range of 3.41–4.20, which is considered high) and a standard deviation of 0.829.

**Objective 3** The results showed that the factors of teaching leadership of principals affecting teachers' performance in state vocational colleges in Shandong Province of the CFA model showed good fitting results, especially indicating that the overall model has a good fit. The GFI and AGFI values were 0.955 and 0.948, respectively, indicating an excellent fit between the model and the

data. In addition, the RMSEA value was significantly at 0.014, indicating that the model error was small and the fitting result was excellent. The RMR value was 0.047, indicating the model's good predictive ability. The NFI and IFI values were at 0.966 and 0.985, respectively, indicating that the model significantly improved compared to the baseline model. Finally, the TLI value was 0.984, confirming the model's good fit.

Table 3 shows the structural model's model fitting index. Figure 2 shows the structural equation model used in this study.

**Table 3** Model fit indices of Structural Model

Reference Indicator	$\chi^2/df$	GFI	AGFI	RMSEA	RMR	NFI	IFI	TLI
Statistical value	1.111	0.955	0.948	0.014	0.047	0.966	0.985	0.984
Reference value	$< 3$	$> 0.9$	$> 0.9$	$< 0.08$	$< 0.08$	$> 0.9$	$> 0.9$	$> 0.9$
Conclusion	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified

Table 3 Research found that the CFA model test results show a good fitting effect. Specifically, the  $\chi^2/df$  value of 1.111 is well below 3, indicating a good overall fit of the model. The GFI and AGFI values are 0.955 and 0.948, respectively, higher than 0.9, indicating superior matching between the model and the data. In addition, the RMSEA value is 0.014, which is significantly lower than 0.08, indicating that the model error is small and the fitting effect is excellent. The RMR value is 0.047, which is also lower than 0.08, indicating the model has strong prediction ability. The NFI and IFI values of 0.966 and 0.985, respectively, are also higher than 0.9, indicating a significant improvement over the baseline model. Finally, the TLI value is 0.984, confirming that the model fits well.

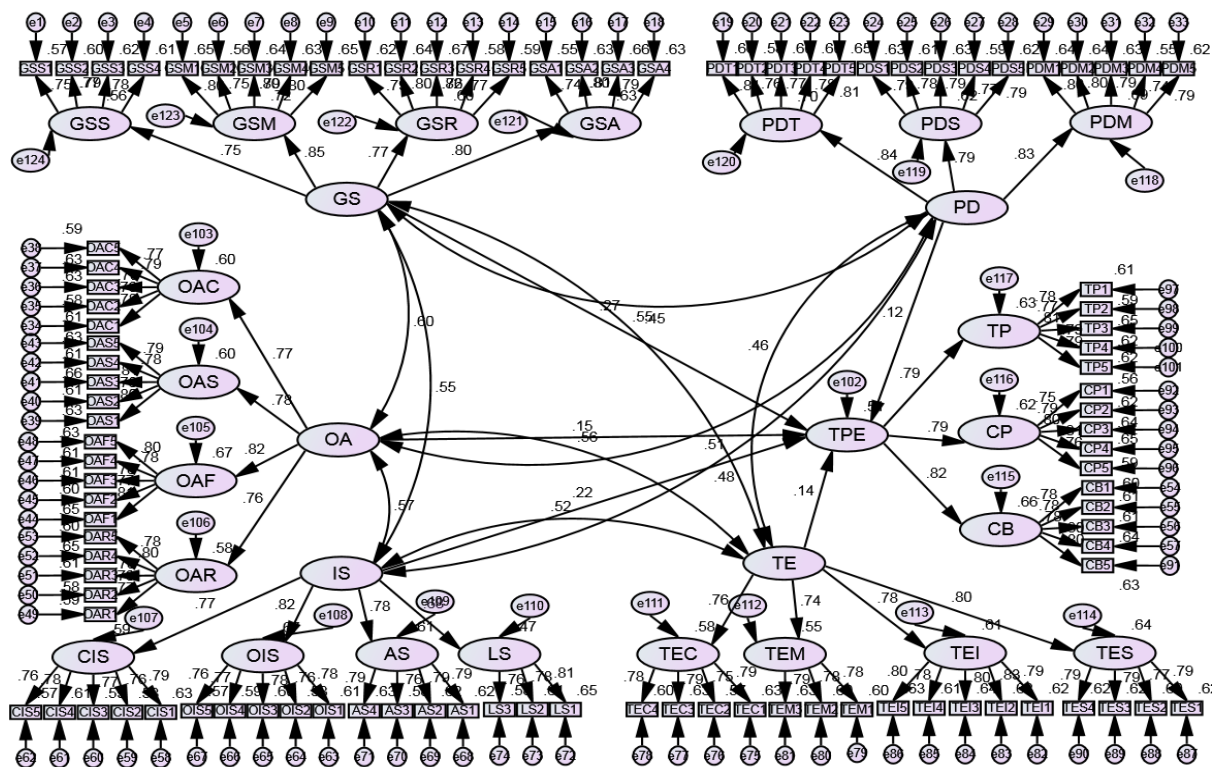


Figure 2 Structural equation model

The research found that the structural model showed that all potential variables had a significant positive relationship, which supported the hypothesis. The results were summarized as follows:

### 1. The influence of goal setting on work performance

The standardized path coefficient of professional development on teacher performance was 0.117, the unstandardized path coefficient was 0.106, and the standard error was 0.048, which was considered significant ( $P < 0.05$ ), indicating that professional development had a significant positive impact on teacher performance.

### 2. The influence of professional development on work performance

The standardized path coefficient of goal setting on teacher performance was 0.268, the unstandardized path coefficient was 0.311, and the standard error was 0.073, which was considered significant ( $P < 0.01$ ), indicating that goal setting had a significant positive impact on teacher performance.

### 3. The influence of teaching supervision on work performance

The coefficient of organizational climate on teacher performance according to the standard approach is 0.149, the coefficient of extra-organizational climate is 0.161, and the standard error is 0.069, which is significant ( $P < 0.05$ ), indicating that organizational climate has a significant positive effect on teacher performance.

### 4. The influence of organizational climate on performance

The coefficient of organizational climate on teacher performance according to the standard approach is 0.218, the coefficient of extra-organizational climate is 0.231, and the standard error is 0.064, which is significant ( $P < 0.01$ ), indicating that teaching supervision has a significant positive effect on teacher performance.

5. The influence of teacher empowerment on performance

The standard path coefficient of teacher empowerment on teacher performance is 0.141, the unstandard path coefficient is 0.142, and the standard error is 0.059, which is significant ( $P < 0.05$ ), indicating that teacher empowerment has a significant positive effect on teacher performance.

**Objective 4:** Provide the guidelines for administrators' instructional leadership to promote teacher performance in public higher vocational colleges in Shandong Province.

Based on semi-structured interviews with nine experts, the research found that instructional leadership factors such as goal setting, professional development, instructional supervision, organizational atmosphere, and teacher empowerment impact teacher performance. It also proposed guidelines for instructional leadership factors that influence teacher performance.

Guidelines for administrators' instructional leadership to promote teacher performance in public higher vocational colleges in Shandong Province. It was found that improving the feasibility of goal setting, encouraging teachers to carry out continuous learning, promoting teachers' personalized professional development, improving the teaching supervision system, and creating an open and inclusive organizational atmosphere are important guidelines. In addition, empowering teachers with decision-making power and enhancing their sense of participation are also important guidelines.

## Discussion

The results of the research objective 1 found that the teaching leadership factors of state vocational college administrators in Shandong Province included goal setting, professional development, teaching supervision, organizational climate, and teacher potential empowerment, which is consistent with the research of Detmeung and Phutiariyawat (2023) who studied the academic leadership factors of schools, teacher quality factors, and important student factors affecting the quality of students in the 4.0 era of schools under the Office of the Secondary Education Service Area, Samut Prakan. In this part of the research, students with educational degrees in Thai schools under the Office of the Secondary Education Service Area, Samut Prakan, initiated the Student Quality in Thai Schools 4.0 project. (2) To study the level of ethical leadership of administrators, teacher quality factors, and various factors of students in the educational area. (3) To study the relationship between academic leadership factors of administrators and teacher quality factors, as well as the relationship between various student factors and student quality in the 4.00 era. (4) To study the educational leadership factors of administrators, components of teacher quality, and various student factors that are important to the quality of students in the 4.00 era. The findings were as follows: It was found that the multi-stage random sampling, statistics, and specific data were outstandingly adequate. Standard tools, the correlation coefficient of the first period, and strategic multiple regression analysis. The valuable data collection method was a 5-level Likert scale with a reliability of 0.94.-The research results found that (1) This approach is the primary approach for learners in the Thailand 4.0 era. (2) The level of students' educational commitment factors remains at (3). The components of teacher quality are positively related to the quality of students (4.0). (4) Nutrition leadership factors of educational institutions, teacher quality factors, and various student factors often predict student quality in schools. 38 Establishment of the Samut Prakan Secondary Educational Service Area Office, according to the need, may be statistically significant at the .05 level.

According to objective 2, the research results found that the teacher performance level is high, the teacher performance is relatively good, and the teacher performance in public higher vocational colleges in Shandong Province has made remarkable progress. Consistent with the research of Boonduang et al. (2021) studied Academic Leadership of the Administrators of Schools Affecting to Performance Motivation of Teachers and Educational Personnel under Vocational

Education Commission Nakhon Sawan The purposes of this research were 1) to study the academic leadership level of administrators and operational motivation of teachers and education personnel under the Vocational College, Nakhon Sawan Province, 2) to study the relationship between academic leadership of administrators and operational motivation of teachers and educational personnel under the Vocational College, Nakhon Sawan Province and 3) to study academic leadership of school administrators affecting the motivation of teachers and educational personnel under the Vocational College, Nakhon Sawan Province. The results of the research were as follows: 1) the academic leadership of the school administrators under Vocational Education, Nakhon Sawan Province, overall, was at a high level and operational motivation of teachers and education personnel, overall had a high average, 2) the academic leadership of the school administrators and the teachers' operational motivation of teachers and educational personnel under Vocational Education, Nakhon Sawan Province with the correlation coefficient between .530 – .684 were statistically significant at level .01, and 3) in the aspect of setting up the mission of the schools, enhancing the academic atmosphere of the schools and teaching and learning management, academic leadership of the school administrators under Vocational Education, Nakhon Sawan Province can be explained as variance or prediction of dependent prediction that were operational motivation of teachers and education personnel under the Vocational College, Nakhon Sawan Province, with a statistically significant level of .01 or 68.90 %

Through a questionnaire survey and quantitative research methods, the research results according to objective 3 found that goal setting, professional development, instructional supervision, organizational atmosphere, and teacher empowerment positively impact teacher performance. Consistent with the research of Kiettikaiwan et al. (2020) study on The purposes of this research were to study and compare factors affecting teacher leadership and teacher leadership as perceived by administrators and teachers under Sakon Nakhon Vocational Education, classified by types of institute, position and work experience; to find out the relationship and the predictive power of factors of leadership affecting teacher leadership; and to establish the guidelines for developing factors affecting leadership of teachers under Sakon Nakhon Vocational Education. The findings were as follows: 1. Factors affecting leadership of teachers under Sakon Nakhon Vocational Education, as a whole, were at a high level. 2. The leadership of teachers under Sakon Nakhon Vocational Education was at a high level overall. 3. The comparison results revealed that factors affecting leadership of teachers under Sakon Nakhon Vocational Education, classified by types of institutes,

and position, were found significantly different at the .01 and .05 levels, respectively. In terms of work experience, there was no difference overall. 4. The comparison results revealed that leadership of teachers under Sakon Nakhon Vocational Education, classified by institute and position types, significantly differed at the .01 level. In terms of work experience, there was no difference overall. 5. Factors and leadership of teachers under Sakon Nakhon Vocational Education had a positive relationship at the .01 statistical significance level. 6. The three factors affecting leadership of teachers under Sakon Nakhon Vocational Education were then analyzed. Two factors, in-depth knowledge and internal motivation, could predict teachers' leadership under Sakon Nakhon Vocational Education at the .01 statistical significance level, with 65.60 percent. In terms of an open environment, there was no predictive influence. 7. The three appropriate guidelines for improving factors to foster the growth of leadership qualities of teachers under Sakon Nakhon Vocational Education were proposed.

According to objective 4, the research results found that the study suggests several guidelines to strengthen administrators' instructional leadership factors to promote teacher performance. Consistent with the research of Onchai et al. (2021), who studied the creative leadership of school administrators according to the views of vocational teachers in Phichit Province, Office of the Vocational Education Commission. This research aimed to study the creative leadership of school administrators and the development of creative leadership of school administrators according to the views of vocational teachers in Phichit Province, Office of the Vocational Education Commission.

## Conclusion

In summary, the impact of instructional leadership factors on teacher performance is multifaceted and profound. Applying the research findings to public vocational colleges in Shandong Province requires managers to approach from multiple angles. Therefore, managers should focus on cultivating instructional leadership and improving teacher performance by enhancing instructional leadership. This will promote the professional growth of teachers and the overall improvement of educational quality in the colleges.



## Suggestions

1. Further study should be conducted on the level of economic development, the personnel structure of schools, and the quality of administrators and teachers. Since the results of this study cannot represent the overall situation of higher vocational colleges in China, there are some limitations in the selection of the study region. Therefore, in order to conduct more comprehensive and in-depth investigation and research, it is recommended to select a more comprehensive survey sample for future research, and to conduct more research on higher vocational colleges in different regions of China, to increase the composition of the sample and help understand the basic situation of higher vocational colleges as a whole.

2. The purpose of this research is school administrators and teachers, so a quantitative research design should be used to more comprehensively understand the influence of administrators' teaching leadership factors on teachers' performance, and students should be included in the research objects for future research, to help school administrators apply more specialized practices.

## New Knowledge

From this research, important knowledge that can be applied to educational development is the factor of administrators' instructional leadership and taking steps to improve teacher performance. Applying this knowledge will help education administrators and teachers improve teacher performance and thus develop the quality of education in higher vocational colleges.

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