

Knowledge management and self-efficacy among Chinese middle school teachers

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Abstract

This study aimed to explore the relationship between Chinese teachers' knowledge management behavior and their self-efficacy and analyze the factors that may affect this relationship. Through a questionnaire survey and in-depth interviews with middle school teachers in Hebei, China, this study collected data on teachers' knowledge management practices, self-efficacy levels, and related background information. Research has found that Chinese teachers generally recognized the importance of knowledge management in teaching practice and actively managed and shared teaching experience and resources through information technology tools such as electronic lesson plans. These behaviors not only help improve teaching effectiveness, but also enhanced teachers' confidence and satisfaction in educational practice. The research results showed that teachers' self-efficacy was positively correlated with their knowledge management ability. Even when faced with challenges and difficulties, teachers who were able to effectively manage and apply their teaching knowledge often exhibited higher self-efficacy, are more likely to adopt proactive coping strategies, and maintained optimistic evaluations and expectations of their teaching abilities. Further analysis revealed that the educational background and teaching experience of individual teachers had a significant impact on the formation of knowledge management behavior and self-efficacy. Teachers with higher educational backgrounds and longer teaching experience tended to have more systematic knowledge management strategies, resulting in stronger self-efficacy. Teachers with higher information technology proficiency can more effectively utilize technological tools for knowledge management, thereby further enhancing their self-efficacy. In summary, this study revealed the close relationship between knowledge management and self-efficacy among Chinese teachers and provided practical recommendations for educational managers and teachers to promote their professional development. In future educational practices, emphasis should be placed on enhancing teachers' information technology training and knowledge management abilities to better support their personal growth and improve the quality of education and teaching.

Keywords: educational background, knowledge management, professional development, teacher self-efficacy

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1. Introduction

Today, with the continuous progress of humanity, people's demand and expectations for education are also increasing. The knowledge management and self-efficacy of Chinese teachers are crucial for the quality of education and teaching outcomes. Teacher knowledge management and self-efficacy are highly regarded research areas in the field of education. Teacher knowledge management refers to how teachers effectively acquire, organize, share, and apply knowledge to improve teaching quality and personal development. Self-efficacy is the confidence and expectation of teachers in their own abilities, which directly affects their performance and job satisfaction in teaching. Driven by educational reform and technological progress, the teaching profession is facing increasing challenges and opportunities. In the era of information explosion, teachers need to constantly update and adapt to new knowledge and skills to meet diverse student needs and changing educational environments. Therefore, how teachers can effectively manage their knowledge assets has become a crucial issue. Teacher knowledge management covers multiple aspects: from practical experience gained in classroom teaching to professional development training and academic research outcomes. Effective knowledge management can not only help teachers improve teaching effectiveness, but also enhance their professional identity and job satisfaction. Through reasonable knowledge sharing and teamwork, teachers can learn from each other and draw lessons from each other in teaching practice, jointly improving the overall quality of education. Teachers' self-efficacy also greatly affects their work attitude and teaching outcomes. Teachers with high self-efficacy tend to actively explore new teaching methods and strategies, have more confidence in facing challenges in education, and are willing to constantly pursue educational innovation and improvement. On the contrary, teachers with low self-efficacy may encounter teaching anxiety and lack of motivation, which can affect their teaching performance and career development.

Studying the relationship between teacher knowledge management and self-efficacy not only helps to understand the performance and growth process of teachers in educational practice but also provides theoretical support and practical guidance for education policy formulation and teacher professional development. By delving into how teachers effectively manage and apply knowledge, as well as how to enhance their self-efficacy, we can promote a comprehensive improvement in the quality of education and drive the education system towards a more equitable and effective direction. The study of teacher knowledge management and self-efficacy is not only related to the development and growth of individual teachers, but also to the innovation and progress of the entire education system. By delving into its internal mechanisms and influencing factors, theoretical support can be provided for constructive education reform and practice, promoting the improvement of teachers' professional level and achieving a win-win situation of education quality and equity. Effective knowledge management empowers teachers by equipping them with relevant resources, strategies, and collaborative opportunities to improve instructional practices. It encompasses not only the acquisition and dissemination of subject matter knowledge but also the cultivation of pedagogical skills and innovative approaches to teaching. When implemented effectively, knowledge management initiatives have the potential to bolster teacher confidence and efficacy in navigating the complexities of the modern classroom. Self-efficacy is also essential. It plays a crucial role in the teaching quality of teachers and the learning achievement of students. If teachers lack confidence in their teaching abilities and methods, it often affects their teaching attitude and effectiveness. In the field of education, teachers' self-efficacy affects their attitude towards teaching, choice of teaching methods, and evaluation of teaching effectiveness. The self-efficacy of teachers has a profound impact on their teaching behavior, teaching quality, and student learning achievement. Therefore, middle school teachers need to cultivate their own self-efficacy, improve their teaching skills and professional level through continuous teaching practice and reflection. Meanwhile, schools and educational management departments can also help teachers establish stronger self-efficacy by providing support and encouragement. Although knowledge management and

self-efficacy are theoretically considered important factors affecting the professional performance of teachers, empirical research on this specific group of Chinese middle school teachers is relatively limited. Aiming to explore the impact of knowledge management on the self-efficacy of Chinese middle school teachers.

The relevant theories and literature were reviewed to explore the concepts of knowledge management and self-efficacy and their application in education. Secondly, through questionnaires and other methods data were collected from Chinese middle school teachers' knowledge management practice and self-efficacy. Finally, based on the results of data analysis, this paper puts forward some strategies and suggestions to improve teachers' knowledge management ability and self-efficacy.

The study aimed to provide valuable practical references for educational managers and researchers. By identifying effective knowledge management methods and strategies, educational leaders can implement targeted interventions to support teachers in enhancing their professional competence and effectiveness in the classroom. By exploring the intersection of knowledge management and self-efficacy among teachers, this study contributed to enriching theoretical frameworks in education. This not only enhanced individual teacher development but also contributed to the broader educational reform efforts aimed at adapting to modern educational challenges and advancements. This study not only contributed to enriching theoretical research in the fields of knowledge management and self-efficacy, but also provided valuable practical references for educational managers and researchers. The aim was to comprehensively improve the professional competence and teaching effectiveness of middle school teachers through scientific knowledge management methods and strategies, thereby promoting the high-quality development of basic education in China. The relationship between teacher knowledge management and self-efficacy was a highly concerned research topic in the field of education. Teacher knowledge management involves how teachers effectively acquire, organize, share, and apply knowledge to improve teaching quality and personal development. Self-efficacy refers to a teacher's confidence and expectations of their own abilities, which directly affects their performance in teaching, their desire for teaching innovation, and their level of dedication to their profession.

Knowledge management ability of teachers directly affects their self-efficacy. A teacher who can effectively manage knowledge is usually better able to cope with challenges and changes in teaching, thereby enhancing self-efficacy. For example, when teachers can timely acquire and apply the latest teaching methods and subject knowledge, they will have more confidence in facing various teaching tasks and can more effectively help students achieve learning goals. Self-efficacy can also promote teachers' knowledge management behavior. Teachers with high self-efficacy are more inclined to actively seek and utilize new teaching resources and information, and they are more motivated to explore and apply cutting-edge educational technologies and teaching strategies. This positive learning attitude and behavioral habits help them establish and expand their knowledge network, thereby improving the effectiveness and level of knowledge management.

Research also shows that teachers' self-efficacy is not only influenced by personal experience and educational background, but also by work environment and career support. A good school atmosphere, effective professional development support, and collaborative sharing among colleagues can significantly enhance teachers' self-efficacy and knowledge management abilities. These factors work together to form a positive cycle: high self-efficacy promotes more effective knowledge management, while good knowledge management in turn enhances teachers' self-efficacy. The take on teacher knowledge management and self-efficacy not only deepens the understanding of teacher professional behavior and development, but also provides theoretical support for improving education quality and promoting teacher professionalization. Future research can further explore the differences and influencing mechanisms between teacher knowledge management and self-efficacy under different educational and cultural backgrounds, as well as how effective policy and practical interventions can promote the improvement of teachers' self-efficacy and knowledge management abilities. These efforts contribute to building a more inclusive and innovative education system, making greater contributions to the comprehensive development of students and the progress of society.

Objectives of the Study - This study aimed to determine knowledge management and self-efficacy among Chinese Middle School teachers to propose a plan of action to promote teacher professional development. Specifically, this study determined the respondents' knowledge management in terms of enhancement, collaboration, and application; assessed the respondents' self-efficacy in terms of instructional strategies, classroom management, and student class effectiveness; tested the relationship between knowledge management and self-efficacy; and proposed a plan of action to promote teacher professional development.

2. Methods

Research Design - This study explored the relationship between knowledge management and self-efficacy among Chinese middle school teachers, aiming to understand how knowledge management practices impact teachers' beliefs in their ability to influence student outcomes. To achieve this, a quantitative research design was employed, allowing for an in-depth exploration of teachers' experiences, perceptions, and practices. The quantitative research design selected for this study is grounded in an interpretive paradigm, which is well-suited for exploring complex, context-dependent phenomena like teacher self-efficacy and knowledge management. This approach facilitates a nuanced understanding of how teachers interact with and perceive knowledge management systems and how these interactions influence their self-efficacy. Quantitative research design in the context of teacher knowledge management involves the systematic collection and analysis of numerical data to explore patterns, relationships, and the effectiveness of knowledge management practices among educators. This approach is particularly useful for measuring variables such as the impact of knowledge sharing on teaching performance, the efficiency of knowledge management systems, or the correlation between teacher collaboration and student outcomes, Leavy (2022). In quantitative research on teacher knowledge management, researchers typically employ methods such as surveys, structured interviews, and statistical analysis to quantify aspects of knowledge management, such as the frequency of knowledge sharing, the use of digital tools, and the impact of professional development programs on teaching efficacy. The data collected through these methods allows for objective analysis, leading to generalizable conclusions about the effectiveness of various knowledge management strategies in educational settings.

Participants of the Study - For the study on teacher knowledge management (TKM) and self-efficacy, the participants were selected from a diverse range of educational institutions, including middle schools institutions in a Hebei area. The participants consisted of 300 teachers who volunteered to take part in the research study. The sampling method used was stratified random sampling. This approach ensured representation across middle educational levels and teaching disciplines (e.g., mathematics, language arts, sciences). Each stratum was randomly sampled to ensure that teachers from various backgrounds and experiences were included in the study. The software used for this calculation was SPSS (Statistical Package for the Social Sciences), which facilitated the statistical analysis and ensured accurate determination of sample size based on the parameters set by the researchers.

Instrument of the Study - The instrument used in the study on teacher knowledge management (TKM) and self-efficacy comprised two main scales: the Teacher Knowledge Management Scale (TKMS) and the Teacher Self-Efficacy Scale (TSES). These scales were adapted and validated for the specific research context to measure the constructs of interest accurately. The TKMS was designed to assess teachers' practices and beliefs related to knowledge acquisition, organization, sharing, and application in their teaching profession. It consisted of items that explore how teachers gather information, utilize resources, collaborate with colleagues, and reflect on their teaching practices to enhance instructional effectiveness. Teacher Self-Efficacy Scale (TSES), The TSES was used to measure teachers' beliefs in their abilities to influence student learning, manage classroom dynamics, and implement effective instructional strategies. It included items that assess confidence levels across various domains of teaching, such as classroom management, instructional strategies, and student engagement. The instrument was designed to comprehensively assess different dimensions of teacher effectiveness or self-efficacy.

The high Cronbach's Alpha values (labeled as "Excellent") indicate strong internal consistency among the

items within each indicator. This suggests that the items within each dimension are highly correlated, supporting the reliability of the instrument. Such instruments are valuable in educational research and practice for evaluating and enhancing teacher performance, guiding professional development initiatives, and informing educational policies aimed at improving teaching quality and student outcomes. The instrument represented by these indicators and their Cronbach Alpha values provides a robust measurement tool for assessing various facets of teacher effectiveness or self-efficacy, contributing to the ongoing efforts to improve educational practices and outcomes. The reliability analysis results affirmed the robustness of the instruments used to measure teacher knowledge management and self-efficacy in the study. These scales provided valid and reliable data to explore the relationship between teachers' knowledge management practices and their self-efficacy beliefs, contributing to a deeper understanding of factors influencing teaching effectiveness and professional development in educational settings.

Data Gathering Procedure - To effectively gather data on knowledge management and self-efficacy among Chinese middle school teachers, a structured data collection procedure must be implemented. The process began with identifying a representative sample of middle school teachers from various regions in China, ensuring a diverse range of educational backgrounds and teaching experiences. Participants of the study were middle school teachers currently employed in China, teachers with at least one year of teaching experience, and teachers who consented to participate in the study. Teachers on extended leave or not actively teaching during the study period, teachers in administrative or non-teaching roles, and those who have not provided informed consent shall be excluded in the study. Data were collected through a quantitative methods, including structured surveys and in-depth interviews. The surveys assessed teachers' knowledge management practices, their perceived self-efficacy, and their attitudes toward professional development. Interviews provided additional insights into how teachers implement knowledge management strategies and their personal experiences with self-efficacy in their teaching practices. Data were analyzed to identify trends, correlations, and areas for improvement, with findings aimed at enhancing support systems and professional development programs for middle school teachers in China. This study collected data through online surveys by contacting the respondents in advance. After confirming that the respondents understood and were aware of the purpose and ethics of the study, the link to the online questionnaire was sent to the respondents through instant messaging tools. The respondents answered the questionnaire through their mobile phones or computers, and after completion, the questionnaire was saved on their mobile phones or computers. The questionnaire was stored on the back-end of Questionnaire Star (the Chinese version of Google Questionnaire) and then discussed until all data were collected and explained. The survey responses were collected and forwarded to the professional statisticians for statistical analysis.

Data Analysis - The Cronbach Alpha coefficient serves as a robust indicator of internal consistency within measurement tools used to assess various dimensions of teacher self-efficacy. A high Alpha coefficient signifies strong correlation and reliability among the indicators. In this study, all indicators demonstrate "excellent" performance, indicating their high consistency and reliability in measuring different aspects of teacher efficacy or self-efficacy. High Consistency. The excellent performance of the Alpha coefficient suggests that the measurement indicators reliably capture teachers' self-efficacy across multiple dimensions. This reliability is pivotal for both research and practical applications, ensuring that data derived from these indicators can be trusted for effective analysis and inference of conclusions. Each indicator represents distinct facets of teachers' self-efficacy, encompassing areas such as professional growth, collaborative abilities, application of teaching strategies, classroom management, and student engagement. This comprehensive evaluation enables a holistic understanding of teachers' performance and self-assessment throughout the teaching process. These indicators not only facilitate the evaluation of individual teachers' self-efficacy but also allow for the assessment of overall teaching quality and effectiveness. Higher levels of self-efficacy typically correlate with enhanced teaching practices and improved student learning outcomes.

Ethical Considerations - Ethical considerations in academic research play a crucial role in ensuring research quality and protecting the rights of participants. Firstly, ensuring that all participants understand the purpose and

process of the study and provide informed consent not only ensured their autonomy, but also increased the transparency and trust of the study. This is crucial in establishing trust between researchers and participants, especially when the study involves potential risks. Secondly, respecting privacy and data confidentiality is one of the core ethical principles. Participants should believe that researchers will handle their information properly and not allow their identities to be exposed or abused. At the same time, treating all participants fairly and ensuring that they are not discriminated against based on factors such as gender, age, race, or socio-economic status will ensure the breadth and representation of the research. In addition, transparency and honesty are particularly important when reporting research results. Falsifying or manipulating data not only undermines the credibility of the academic community, but may also lead to erroneous conclusions or recommendations, further posing potential harm to society. On the other hand, ethical considerations for animals ensure that we do not overlook the values and rights of other organisms in the pursuit of knowledge.

3. Results and discussion

Table 1

Summary Table on Knowledge Management

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Enhancement	2.92	Agree	2.5
2. Collaboration	2.93	Agree	1
3. Application	2.92	Agree	2.5
Composite Mean	2.92	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 1 shows a summary table on knowledge management. The comprehensive average score of the three projects was 2.92, indicating that Chinese middle school teachers have high confidence in their recognition of knowledge management. This was consistent with the core concept of teacher self-efficacy, which provided powerful channels and support for improving the professional development level of teachers. The weighted average score for all three items was above 2.92, indicating that teachers generally believed they have strong abilities in supporting knowledge management in these areas. The highest score in "Applied Knowledge Management" was ranked first (2.93), indicating that teachers believed they were the most capable in applying their professional knowledge.

The indicator "Enhancement" received a weighted mean of 2.92, indicating a consensus among respondents that the organization effectively improved and updated its knowledge resources. This interpretation aligns with the broader understanding in KM literature, where enhancement refers to continuous efforts to refine existing knowledge and practices, integrating new insights and technological advancements (Zhang et al.,2019). Enhancement involves activities such as capturing lessons learned, updating best practices, and fostering a learning culture that supports ongoing improvement. The ranking of 2.5 suggested that while enhancement was viewed positively, there was recognition that further refinements or targeted investments may be needed to optimize this aspect of KM within the organization.

With a weighted mean of 2.93 and a high ranking of 1, Collaboration emerged as a significant strength in the organization's KM efforts. Effective collaboration is crucial as it enhances knowledge diversity, accelerates problem-solving, and promotes a culture of collective intelligence. Similar to Enhancement, Application received a weighted mean of 2.92 and a ranking of 2.5, indicating positive perceptions but also potential areas for improvement. Effective knowledge application requires organizational structures that support experimentation, learning from failures, and scaling successful practices. The composite mean for all indicators was 2.92, reflecting a consistent and favorable perception of KM within the organization. This overall positive sentiment suggested that while there were areas for improvement, the organization was generally effective in managing its knowledge assets.

Table 2
Summary table on Self-efficacy

Indicators	Weighted Mean	Verbal Interpretation	Rank
1.Instructional Strategies	2.92	Agree	2.5
2.Classroom Management	2.93	Agree	1
3.Student Class Effectiveness	2.92	Agree	2.5
Composite Mean	2.92	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 2 lists the summary table of teachers on self-efficiency. The table lists a total of three items, and according to the results, scores from 2.92 to 2.93 all indicate agreement. This means that for all listed projects, the overall evaluation of the teacher was positive. These items were arranged based on weighted averages. Among these three projects, the weighted average of Classroom Management indicators for teachers was the highest ranking first.

The first item represented the assessment of the teacher's ability to stimulate students' interest and motivation in learning. Implement alternative strategies in my classroom, etc. Among the three project rankings, teachers believed that this indicator was important, but not the most important. As for the second item, this indicator represented the evaluation of teachers' classroom Management abilities, including their ability to control disruptive behavior in the classroom. Ranked first, teachers believed that this indicator was the most important and critical factor affecting self-efficacy. The third item represented the teacher's assessment of student class effectiveness ability, including whether the teacher can make boring teaching content interesting and around students' enthusiasm for learning. Can assist families in helping their children achieve success in school. In the ranking, teachers believe that although this indicator is not the most important, Student Class Effectiveness was also a positive influencing factor on teacher self-efficacy.

When teachers focus on teaching strategies, classroom management, and student class effectiveness, Students showed the highest learning efficiency and participation in this model. From the perspective of middle school teachers, they generally believed that teacher self-efficacy had an impact on professional teachers and agreed with all the listed items. Among them, they believed that classroom management was the most important influencing factor, followed by the participation of Instructional strategies and student Class effectiveness. The indicator "Instructional Strategies" received a weighted mean of 2.92, suggesting a general agreement among respondents regarding teachers' confidence in employing effective instructional methods. Teachers who perceive themselves as capable of using varied instructional strategies tend to engage students more effectively, differentiate instruction based on student needs, and foster a supportive learning environment.

With a weighted mean of 2.93 and a high ranking of 1, Classroom Management emerged as a strong indicator of teacher self-efficacy. Teachers with high self-efficacy in classroom management are more likely to implement proactive behavior strategies, establish clear expectations, and build positive relationships with students (Wang et. al., 2019). The strong ranking underscores the importance of supportive school environments and professional development opportunities that enhance teachers' skills in managing diverse student behaviors effectively Chen et. al.,(2019). Strategies such as positive behavior interventions, restorative practices, and classroom community-building activities can further strengthen teachers' efficacy in classroom management.

Similar to Instructional Strategies, Student Class Effectiveness received a weighted mean of 2.92 and a ranking of 2.5, indicating positive perceptions but also room for improvement. Effective professional development programs that focus on assessment literacy, differentiated instruction, and strategies for promoting student engagement can support teachers in enhancing their efficacy beliefs in student class effectiveness. The composite mean for all indicators stands at 2.92, indicating a consistent perception of teacher self-efficacy across instructional strategies, classroom management, and student class effectiveness. This overall positive sentiment suggests that while teachers generally perceive themselves as capable in these areas, there are opportunities for targeted interventions to further strengthen their efficacy beliefs.

Table 3
Relationship Between Knowledge Management and Self-Efficacy

Enhancement	rho-value	p-value	Interpretation
Instructional Strategies	.600**	0.000	Highly Significant
Classroom Management	.607**	0.000	Highly Significant
Student Class Effectiveness	.616**	0.000	Highly Significant
Collaboration			
Instructional Strategies	.570**	0.000	Highly Significant
Classroom Management	.608**	0.000	Highly Significant
Student Class Effectiveness	.604**	0.000	Highly Significant
Application			
Instructional Strategies	.634**	0.000	Highly Significant
Classroom Management	.581**	0.000	Highly Significant
Student Class Effectiveness	.579**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 3 presents the association between Knowledge Management and Self-Efficacy. The computed r-values indicated a strong direct correlation and the resulted p-values were less than the alpha level. This means that there was significant relationship and implies that the better is the knowledge management, the better is the self-efficacy. It can be clearly seen from the table that all r-values, whether it is Instructional Strategies, Classroom Management, or Student Class Effectiveness, showed strong correlation, with p-values of 0.000, far below the significance level of 0.01. This indicates that from the perspective of teachers, there was a clear and highly important relationship between the education of Enhancements, Collaboration, and Applications in knowledge management. Referring to existing literature, academic support had a significant impact on teachers' attitudes, motivations, and outcomes.

The r value of Instructional Strategies was .600, indicating a highly significant correlation between knowledge enhancement and Instructional Strategies and participation. The r value of Classroom Management was .607, indicating a high correlation between the two. The r value of Student Class Effectiveness was .616, the highest among the three, further indicating that knowledge enhancement had a positive impact on students' Class Effectiveness. Regarding the participation of knowledge collaboration, the r value of Instructional Strategies was .570, slightly lower than Classroom Management and Student Class Effectiveness, but still indicating a significant correlation. The r value of Instructional Strategies in Knowledge Application was .634, which was the highest among Knowledge Applications, indicating that participation in teaching strategies was most affected. The r value of Classroom Management was .581, and the r value of Student Class Effectiveness was .579, indicating a significant correlation.

In the context of China, especially for middle school teachers in Hebei region, these data strongly suggest that teachers with knowledge management and self-efficacy should maintain a positive attitude to promote their personal professional development. Overall, from the perspective of teachers, good knowledge management cannot be achieved without their active participation. The better their support, the higher their self-efficacy. This also reminds us that to truly achieve the goals of teacher professional development, it is important to ensure that education platforms, leaders, and policy makers can provide the necessary support and related resources for teachers. Zhang et. al.,(2019) pointed out that in educational research, there is a positive correlation between knowledge management and teacher self-efficacy among middle school teachers. In addition, Li et. al.,(2019) also found a correlation analysis between knowledge management and teacher self-efficacy among middle school teachers.

Table 4

Action plan for enhancing teaching knowledge management and Self-efficacy of Chinese middle school teachers to strengthen teacher professional development

Key Result Areas	Objectives	Enhancement Activities	Success indicator	Persons involved
1. Knowledge management	Realize the acquisition and sharing of educational resources.	Establish a centralized digital platform (e.g., shared drive, intranet) for resource storage and sharing. Conduct workshops on effective documentation and uploading of resources. Establish a website to acquire and integrate knowledge related to various disciplines and apply teaching, in order to enhance the channels for teachers to learn knowledge	90%Adoption rate and usage statistics of the platform. Number of resources uploaded and accessed. User feedback on platform effectiveness. Participation rates in workshops. Quality and quantity of resources uploaded. Improved resource accessibility and usability.	IT Support Team. Knowledge Management Coordinator School Administrators Knowledge Management Coordinator Professional Development Facilitators
1.2Collaboration and Knowledge Sharing	Promote collaboration and knowledge sharing among teachers.	Facilitate regular knowledge sharing sessions or forums. Implement peer mentoring programs for sharing best practices.	90%Attendance and Participation rates in sessions. - Number of ideas or strategies shared. - feedback on session usefulness. - Number of mentorship pairs established. - Feedback from mentees on mentorship effectiveness. - Implementation of shared practices in classrooms.	middle school senior Teachers Professional Knowledge Development Facilitators
1.3Training and Development	Enhance teachers' skills in knowledge management techniques.	Provide training sessions on effective use of digital tools and platforms. Participate in academic exchanges and sharing sessions. Encourage teachers to participate in knowledge management related training courses and learn about the latest knowledge management tools and methods.	80%Feedback on training session effectiveness. - Improvement in teachers' digital literacy skills. - Application of learned skills in resource management.	Teachers Professional Development Facilitators
2. Self-efficacy 2.1Professional Development	Improve teachers' confidence and competence in teaching practices.	Provide targeted workshops on effective teaching strategies and classroom management. Offer sessions on reflective practices and goal-setting for professional growth. Implement a mentorship system, where renowned or experienced teachers learn teaching strategies and experience. Continuously trying new teaching strategies and methods	80%Participation rates in workshops. - feedback on Workshop effectiveness. - Application of learned strategies in classrooms.- Self-reported Improvement in Self-efficacy. - Achievement of personal and professional goals. - feedback on session usefulness.	Professional Development Facilitators Middle school class teacher Professional Development Facilitators
2.2Peer Support and Collaboration	Foster a supportive environment through peer collaboration and mentoring.	Establish peer mentoring programs for sharing experiences and best practices Facilitate peer observation and feedback sessions among colleagues.	80%Number of mentorship pairs established. - Feedback from mentees on mentorship effectiveness. - Implementation of shared practices in classrooms. Participation rates in observation sessions. - Quality of feedback provided and implemented. - Improvement in teaching practices based on feedback.	Middle school Senior Teachers Professional Development Facilitators Middle school class teacher
2.3Educational efficacy	Improving Teacher Professional Satisfaction	Enhance social attention and support for teachers. Establish a reasonable management system and regulations. Improve the professional level and professional competence of teachers themselves.	80%Assess the teacher's level of confidence in their cognitive abilities and professional knowledge in teaching work. Assess the influence of teachers on student learning outcomes and their self-evaluation abilities.	Middle school Teachers

4. Conclusions and recommendations

The respondents agreed that Chinese middle school teachers have confidence in their recognition of knowledge management particularly with Collaboration that emerged as a significant strength in the organization's knowledge management efforts. Overall evaluation of the teacher was positive on the self-efficacy, particularly on classroom management which represented the evaluation of teachers' classroom Management abilities, including their ability to control disruptive behavior in the classroom. There was significant relationship

and implied that the better is the knowledge management, the better the is the self-efficacy. As an output, the researcher proposed an action plan for enhancing teaching knowledge management and Self-efficacy of Chinese middle school teachers to strengthen teacher professional development.

The Administration through the academic director and department heads may provide opportunities where teachers can easily share best practices, lesson plans, and innovative teaching strategies. Encourage cross-disciplinary collaboration to enrich knowledge exchange and acknowledge and celebrate teachers who demonstrate exceptional creativity and effectiveness in their teaching methods. The Human Resource Office may provide teachers with essential professional development and take advantage of workshops, seminars, and courses that address current educational trends, technology integration, and strategies for differentiated instruction for teachers. The School owners may empower teachers to make decisions about curriculum design, instructional methods, and classroom management strategies based on their expertise and student needs. The community may advocate for educational resources, collaborate with community stakeholders to advocate for adequate funding, technology access, and facilities that support effective teaching and learning in schools. Future researchers may bridge theory and practice, collaborate with educators and policymakers to ensure research findings are translated into practical strategies that support effective teaching practices and improve educational outcomes.

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