The Challenges and Strategies for Optimizing School-based Training for Secondary Vocational Education Teachers: A Reflection Based on Transformative Learning Theory

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Abstract: School-based training is the most effective approach to enhance teachers' professional competence. Based on the perspective of Transformative Learning Theory, the following challenges are identified in secondary vocational education teacher training: lack of coordinated planning and systematic design in school-based training, absence of learning contexts that promote active reflection, and formalization of training evaluation. To address these challenges in teacher training from the perspective of Transformative Learning Theory, the following strategies can be implemented: conducting needs assessment and curriculum design simultaneously to establish a solid foundation for training; adopting a problem-oriented approach and creating contexts for rational dialogue; introducing formative assessment throughout the entire process to facilitate the transformation of training outcomes.

1. Introduction

China has always attached great importance to the development of vocational education teachers and has issued numerous policy documents emphasizing the importance of training for vocational education teachers. At the same time, there has been an increasing investment in teacher training to improve the educational quality of secondary vocational schools and promote the high-quality development of vocational education. In 2012, the State Council issued the "Opinions on Strengthening the Construction of the Teacher Workforce," which explicitly called for the improvement of the training system for vocational school teachers, the enrichment of school-based research and training, and the cultivation of a high-quality vocational education teacher workforce.[1] In 2018, the Central Committee of the Communist Party of China and the State Council issued the "Opinions on Deepening the Reform of Teacher Workforce Construction in the New Era," emphasizing the importance of high-quality school-based training for teachers and promoting lifelong learning and professional development for teachers. [2] In 2022, the General Office of the Communist Party of China Central Committee and the General Office of the State Council issued the "Opinions

on Deepening the Reform of Modern Vocational Education System Construction," emphasizing the importance of strengthening the construction of vocational education teacher teams to improve the educational quality of secondary vocational schools.[3] Under the impetus of national policies, there has been increasing theoretical research on school-based training for vocational education teachers. As the most common form of in-service training, school-based training plays a crucial role in enhancing the professional level and capabilities of vocational teachers and promoting the high-quality development of vocational education teacher teams.

However, in practical implementation, there are still many issues with school-based training for secondary vocational school teachers. Many secondary vocational schools do not thoroughly investigate the actual training needs of teachers before implementing school-based training, resulting in a lack of comprehensive training planning and systematic design. This leads to training content lacking specificity and an inability to sustain teachers' enthusiasm for training. As a result, secondary vocational school teachers have a low level of motivation to participate in school-based training and a limited understanding of its importance, resulting in suboptimal training outcomes and an ineffective promotion of teachers' professional development. Finding ways to improve the relevance and practical effectiveness of training has become an urgent problem that needs to be addressed. Therefore, secondary vocational schools have started actively exploring practices of school-based training for teachers.

Currently, there is little research from the perspective of Transformative Learning Theory on school-based training for secondary vocational school teachers. Therefore, this study examines school-based training for secondary vocational school teachers based on Transformative Learning Theory, which is of significant importance in identifying existing problems and proposing improvement strategies. This not only fully reflects the value of Transformative Learning Theory but also enriches the theoretical connotations of school-based training. At the same time, it deepens the theoretical research on teacher's school-based training to a certain extent, promoting further reform and improvement of school-based training for secondary vocational school teachers.

2. Analysis of the Applicability of Transformative Learning Theory to School-based Training for Secondary Vocational School Teachers

Transformative Learning Theory, proposed by American educational psychologist Jack Mezirow in the 1970s, is an adult learning theory. It argues that adult learning is not just about acquiring new knowledge and skills, but more importantly, it involves deep reflection and transformation of learners' own concepts and beliefs. This process often involves critical examination of existing cognitive frameworks, including our ideas, beliefs, biases, and expectations. Once our cognitive framework changes, we develop new ways of behaving and new perspectives, which is the process of transformative learning. The core elements of Transformative Learning Theory include experience, encountering stimulating events, engaging in critical reflection, forming new cognitive frameworks, and applying them to practical action. This theory emphasizes deep, conscious learning and change, rather than superficial, passive acceptance of information. Transformative Learning Theory is widely applied in adult education, vocational training, and other contexts that require deep learning and transformation.

The analysis of the applicability of Transformative Learning Theory to school-based training for secondary vocational school teachers depends on whether the learning characteristics of teachers during training match the key elements of Transformative Learning Theory. In other words, it depends on whether it is possible to analyze teacher training from the perspective of Transformative Learning Theory.

2.1. The goals of school-based training for secondary vocational school teachers align with the objectives of transformative learning.

School-based training for secondary vocational school teachers is an important form of in-service teacher training aimed at improving practical teaching in secondary vocational schools and helping teachers address problems encountered in their teaching practice. This not only contributes to teachers' professional development but also promotes the high-quality and deep development of schools. Secondary vocational school teachers are typical adult learners, and their participation in school-based training aims to promote their own professional development, which is consistent with the goals of adult transformative learning. The process of adult learning is often based on re-understanding and reinterpreting previous experiences. In simple terms, the process of secondary vocational school teachers participating in school-based training involves the interaction and integration of their existing experiences with new knowledge and perspectives, which helps achieve the goals of transformative learning. From this perspective, the goals of school-based training for secondary vocational school teachers align with the objectives of transformative learning.

2.2. The learning characteristics of school-based training for secondary vocational school teachers align with the core elements of transformative learning

In Transformative Learning Theory, experience, critical reflection, and rational dialogue are the three core elements of transformative learning. Whether the learning characteristics of secondary vocational school teachers during school-based training align with the core elements of transformative learning is an important basis for judging the possibility of applying Transformative Learning Theory to analyze teacher training.

First, experience is a crucial foundation for transformative learning. Transformative Learning Theory posits that the experience of adult learners is the basis for learning. For example, secondary vocational school teachers accumulate rich experience and establish their own cognitive frameworks through daily life and teaching practice. When these teachers participate in in-school training, they learn based on their existing experience. This process involves deconstructing their old experiences and then recombining them to reshape new experiences, forming new understandings and perspectives. This process helps them achieve their learning goals.

Second, critical reflection is a key step in transformative learning. Transformative Learning Theory emphasizes that critical reflection is a crucial step for adult learners to achieve transformative learning. It often involves creating a triggering event that confuses learners, prompting them to make adjustments based on their existing experience, further triggering critical reflection on new perspectives, and completing transformative learning. In in-school training, secondary vocational school teachers encounter scenarios where new knowledge, perspectives, or skills conflict with their existing experience, and they spontaneously engage in critical reflection. Through active questioning, they start to reflect on how to integrate new perspectives and old experiences, thereby reshaping new understandings on the basis of their existing experience, achieving the transformation of perspectives.

Third, rational dialogue acts as a catalyst for transformative learning. Transformative Learning Theory emphasizes that when learners engage in rational dialogue with peers in the same learning environment, it is easier to trigger critical reflection and generate new understandings, thus achieving true transformative learning. For school-based training for secondary vocational school teachers, communication and collaboration among teachers are crucial steps. This process of rational dialogue involves teachers sharing and exchanging educational and teaching experiences, as well as conflicting ideas. This not only makes teachers' views on new perspectives and things more inclusive and critical but also facilitates the occurrence of transformative learning in school-based training.

Teachers often exhibit characteristics such as experience, critical reflection, and rational dialogue

in their professional development and self-improvement processes, which align with the core elements of Transformative Learning Theory. Therefore, from a theoretical perspective, we can fully utilize Transformative Learning Theory to study and address issues in teacher training.

3. Challenges in secondary vocational school teacher school-based training from the perspective of Transformative Learning Theory

Although many scholars have conducted research on the problems in secondary vocational school teacher school-based training, and have summarized and analyzed some major issues, such as the lack of advanced training concepts, low training efficiency, lack of standardized training system, and the existence of randomness and arbitrariness in the training process, they have also put forward powerful suggestions on how to improve school-based training for secondary vocational schools. However, through research on relevant literature and survey analysis, this article, from the perspective of Transformative Learning Theory, believes that there are still some challenges in secondary vocational school teacher school-based training at the current stage.

3.1. Lack of comprehensive planning and systematic design

According to Transformative Learning Theory, if secondary vocational schools want to achieve transformative learning in school-based training, they must first conduct comprehensive planning and systematic design for school-based training. This is not only the key to conducting training work but also an important condition for teachers to achieve transformative learning in training. Currently, there is a large degree of randomness in secondary vocational school's school-based training, most of which are organized temporarily based on the school's needs, often lacking research on training needs and long-term planning, which may result in training outcomes not meeting expectations.[4]From a broader perspective, school-based training activities in secondary vocational schools lack overall planning and do not consider it as a long-term systematic project that can enhance teachers' professional development and overall school capacity. Instead, to control costs and maximize benefits, school-based training is often divided into short-term training mainly focused on lectures, resulting in a large number of short-term and scattered training, while long-term and systematic training is relatively scarce, ultimately affecting the effectiveness of school-based training.

3.2. Lack of learning contexts that promote active thinking

With the continuous deepening of Transformative Learning Theory and practice, more and more researchers have realized the importance of creating favorable external learning contexts in promoting transformative learning for adults. A good learning context can promote communication and interaction among learners, and through communication and interaction, learners' thinking and reflection can be facilitated, helping them view problems from different perspectives and angles, thus promoting conceptual transformation and behavioral changes. In secondary vocational schools, teachers have accumulated a wealth of teaching practice experience through long-term teaching work. These experiences themselves are very meaningful training resources. Trainers should create a good communication environment, encourage teachers to share teaching experiences and concepts through equal dialogue, guide teachers to reflect on training and practice, form new ideas, and promote the practical application of training content. [5]However, in reality, many secondary vocational school's school-based training still adopts traditional lecture-based methods, emphasizing knowledge transmission rather than thinking and innovation, neglecting the teachers' voice in training. During the training process, not enough time and space are provided for teachers to discuss and reflect, resulting in a lack of opportunities for active thinking. Moreover, if the training environment fails to

stimulate teachers' enthusiasm and initiative, such as a lack of support for teachers' growth and development, it may also lead to a lack of active thinking on their part.

3.3. Lack of initiative among secondary vocational school teachers in participating in school-based Training

According to the theory of transformative learning, as the main participants in training, secondary vocational school teachers should actively change their roles, fully utilize the opportunity of school-based training, and exert their subjective initiative. They should critically reflect on their teaching methods, reasonably apply their experience, and integrate the training content into practical teaching, thereby achieving transformative learning during the training. However, the lack of initiative among teachers in participating in training is a significant factor affecting the effectiveness of training. Some secondary vocational school teachers do not have a deep understanding of the importance of training, which directly leads to poor training outcomes. Although some teachers attend various training sessions, they only consider it as a task assigned by the school, without realizing the importance of training in enhancing their professional competence. Therefore, they do not view training as an effective means of self-improvement. If teachers do not perceive themselves as the main participants in training activities before attending, they will be unable to fully exert their subjective initiative to learn new knowledge and perspectives during the training process, let alone apply these new knowledge and perspectives to actual teaching. As a result, the effectiveness of training will be greatly reduced, and transformative learning will not be achieved.

3.4. Formalized training evaluation

The key to Transformative Learning Theory is to enable learners to apply new perspectives to practice, which is the ultimate goal of transformative learning. Therefore, the extent to which secondary vocational school teacher school-based training can promote teachers' professional development is the key to measuring the value of training. To determine whether this training has achieved the expected goals and how effective it is, evaluation needs to be conducted in the later stage of training. Evaluation mainly involves examining the organization, implementation process, and results of training, which is an essential part of the training process. Comprehensive evaluation of the implementation process of training can timely understand the learning outcomes of participating teachers and make adjustments to the unreasonable content of training. This helps to promote more scientific and efficient subsequent training, truly improving the quality of training. However, it was found that almost no secondary vocational schools evaluate the learning situation of teachers before and during training. Usually, they evaluate it in written form after the training, such as reporting learning achievements or submitting learning reflections. This evaluation method mainly aims to understand teachers' understanding of training content, while relatively neglecting the evaluation of teachers' professional practical skills. This simplistic evaluation method cannot truly reflect the actual gains of teachers in training and cannot detect how teachers apply new knowledge and perspectives to teaching practice. Furthermore, it cannot measure the application of teachers in updating teaching philosophy, expanding professional knowledge, and improving practical skills. This simplified training evaluation mechanism fails to achieve the objectivity and scientificity of evaluation, which also results in the school-based training work for secondary vocational schools' teachers not achieving the expected outcomes. These factors directly affect the generation of transformative learning in training.

4. Optimization strategies for school-based training for secondary vocational school teachers based on the Transformative Learning Throry

To address the challenges in teacher training using the perspective of Transformative Learning Theory, several aspects can be considered:

4.1. Conducting needs assessment and curriculum design in parallel to establish a solid foundation for training

The first step in enhancing the effectiveness of school-based training for secondary vocational school teachers is to thoroughly understand their training needs. It is crucial to truly comprehend the actual needs of teachers before designing training courses, as this enables them to fully utilize their capacity for autonomous learning. This is beneficial for their professional development and the effectiveness of the training. The needs assessment for training secondary vocational school teachers should include understanding their existing knowledge and skills levels, as well as their professional development needs. Assessing teachers' current skill levels not only serves as a basis for designing training courses but also facilitates the evaluation of learning outcomes after the training. Teachers' professional development needs reflect their seeking of solutions when facing professional challenges or feeling lacking in certain aspects. By evaluating and analyzing these needs, we can determine the content and direction of the training, ensuring its scientific and appropriateness. Additionally, we should encourage experienced teachers with rich teaching experience to participate in curriculum development, allowing them to play a leading role in the training process, integrating new educational concepts with actual teaching, and deepening the understanding and application of the training content by participating teachers.[5]

4.2. Problem-oriented approach to create a rational dialogue context

According to Mezirow's theory of adult transformative learning, the so-called "disorienting dilemma" is an important motivation for learners to change and learn. School-based training for secondary vocational school teachers should attempt to create a problem-oriented and task-driven environment. Such an environment helps establish a rational dialogue context, stimulating teachers' active participation in the training and encouraging them to think critically and actively seek problem-solving methods. In the process of participating in school-based training, secondary vocational school teachers also need to develop a sense of teamwork, value communication and collaboration with colleagues, and cultivate divergent and innovative thinking. In practice, trainers can propose thought-provoking questions, or teachers can directly express their confusion or problems encountered in their actual teaching as a starting point. In an equal and open training environment, through rational dialogue and communication between trainers and teachers, as well as among teachers themselves, a consciously efficient learning atmosphere can be fostered among teachers, enhancing critical reflection, identifying the causes of problems, proposing solutions, and promoting transformative learning in school-based training. At the same time, secondary vocational schools should strive to create a platform that facilitates rational dialogue and communication among teachers. This platform should have characteristics such as an equal and open dialogue environment, diverse and cross-cutting dialogue groups, clear and specific dialogue topics, and a wide range of dialogue channels.

4.3. Introducing formative assessment throughout the entire process to facilitate the transformation of training outcomes

The ultimate goal of transformative learning is for learners to apply newly acquired knowledge to

practical applications. Therefore, how to measure and evaluate teachers' performance in school-based training and how they apply what they have learned in practice are important considerations for secondary vocational schools. Currently, there are "missing" or incomplete evaluation mechanisms for school-based training in secondary vocational schools, which is a significant factor limiting the improvement of training quality. Hence, it is necessary to establish a scientific and standardized evaluation mechanism for school-based training. Firstly, evaluation should focus on promoting teachers' professional development goals. School-based training evaluations should guide and develop talents, so that school-based training can promote teachers' professional development and contribute to the high-quality and sustainable development of secondary vocational schools. Secondly, the evaluation content should be comprehensive and integrated. Currently, the evaluation content system for school-based training for secondary vocational school teachers is incomplete, mainly reflected in the insufficient coverage of evaluation content, which fails to truly reflect the actual effects of school-based training. Therefore, emphasis should be placed on improving the comprehensiveness of evaluation content, covering the entire training activity, and paying attention to the entire process, thus enhancing the effectiveness and quality of school-based training. Finally, evaluation methods should be diverse and appropriate. When selecting evaluation methods, the compatibility between evaluation objectives and evaluation methods should be considered, comprehensively understanding and evaluating the effects of school-based training and how teachers apply the training outcomes. Specific approaches may include interviews, satisfaction surveys, written or online tests, and observation methods to comprehensively understand and evaluate how teachers apply the training outcomes. In summary, secondary vocational schools need to establish a comprehensive and rational evaluation system for school-based training, adopting various methods to assess the entire process of teachers' participation in school-based training, in order to achieve a comprehensive and objective reflection of the effectiveness of school-based training.

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