

INFORMATION LITERACY-DRIVEN UNIVERSITY TEACHER TRAINING MANAGEMENT: PRACTICAL PATHWAYS AND SUPPORT SYSTEM DEVELOPMENT

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ABSTRACT

With the deepening development of the information age, information literacy among university teachers has become one of the core competencies for the modernization of education. Currently, university teachers lack information technology application, data analysis, and teaching resource integration, and urgently need to improve their information literacy through systematic training. Based on an analysis of the connotation of information literacy and the development needs of university teachers, this paper explores existing issues in the management of university teacher training, proposes a practical path for teacher training under the guidance of information literacy, and constructs a multi-dimensional support system encompassing policies, resources, platforms, and evaluation mechanisms, aiming to provide theoretical support and practical guidance for university teacher training.

Keywords: Information Literacy; University Teachers; Training Management

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INTRODUCTION

Against the backdrop of the deepening digital transformation, university teachers are not only knowledge transmitters but also information organizers, resource integrators, and learning guides. The level of teachers' information literacy directly impacts the quality of education and the effectiveness of talent development (Smith, 2021). However, the current information literacy levels of university teachers vary widely, training methods are traditional, and management mechanisms are inadequate (Li & Wang, 2023). There is an urgent need for systematic, hierarchical training support and scientific management models, and a reconstruction of a teacher training management system centered on information literacy is necessary. Therefore, this paper explores the current status of university teacher information literacy and the main challenges facing training management, focusing on an information literacy-oriented approach to teacher training. It also explores how to optimize the practical path of teacher training with information literacy as a guide, and what support systems should be established to ensure the effective implementation of information literacy training for university teachers. These discussions and proposals will help enhance university teachers' information capabilities, promote educational quality, and provide decision-making insights for university human resource development and the modernization of educational governance (Zhang, 2024).

THEORETICAL FOUNDATION AND RESEARCH REVIEW

Information literacy, first coined by the American Library Association (ALA), refers to an individual's ability to identify, access, evaluate, and effectively utilize information. Since the 21st century, the scope of information literacy has continuously expanded to encompass digital technology application skills, media literacy, and data literacy, becoming a core component of a teacher's comprehensive competence.

Information literacy for university teachers encompasses more than just mastery of technical tools; it also encompasses information awareness, digital ethics, data-driven thinking, and the ability to integrate and innovate. Based on frameworks such as UNESCO (2011) and the EU's DigCompEdu (Redecker, 2017), as well as the "Teacher Information Literacy Standards (Trial)" (2022) issued by my country's Ministry of Education, university teachers' information literacy can be divided into the following four dimensions: Information Acquisition and Evaluation Ability: This primarily refers to the ability to use search tools, screen effective resources, and discern information authenticity; Information Integration and Teaching Integration Ability: This includes the ability to effectively apply information technology to instructional design, resource creation, and classroom interaction;

Digital Communication and Collaboration Ability: This includes the ability to use various platforms to engage in teaching and research exchanges with students and colleagues; Digital Ethics and Information Security Awareness: This primarily includes copyright awareness, data security awareness, and digital citizenship codes of conduct. These dimensions constitute the key information literacy competencies that are indispensable for teachers' professional development.

THE CONNOTATION OF TRAINING MANAGEMENT PRACTICE PATHS

Training management is not only a systematic project related to the overall planning, organization, implementation and evaluation of training activities, but also a comprehensive management process that runs through the whole cycle of talent cultivation. The training management practice path refers to a series of standardized, operable and sustainable working methods formed around training objectives, training objects, training contents, training methods, resource allocation, process monitoring and effect evaluation. In the context of teacher professional development, training management practice paths usually include multiple links such as demand investigation,

curriculum design, organization and implementation, interactive experience, post-training guidance and effect feedback. Effective training management should not only focus on the completion of training activities, but also pay attention to the transformation of training knowledge into teachers' teaching ability, research ability and practical innovation ability. Therefore, the training management practice path should have the characteristics of systematization, dynamics, pertinence and sustainability, so as to provide effective support for the professional growth of teachers.

OVERVIEW OF CURRENT RESEARCH STATUS AT HOME AND ABROAD

Scholars at home and abroad have long paid attention to the value of training management in promoting teacher professional development. Foreign research mainly focuses on the design of training systems, the construction of training models and the evaluation of training effects. For example, some studies emphasize that teacher training should be closely combined with actual teaching situations, and promote the deep integration of theory and practice through participatory training, cooperative learning and action research. In terms of training management, foreign scholars usually pay more attention to the whole-process management of training, including needs assessment, curriculum adjustment, resource support and follow-up coaching. Domestic research mainly focuses on the construction of training systems, the optimization of training modes and the innovation of management mechanisms. In recent years, with the continuous promotion of basic education curriculum reform and teacher professional development projects, domestic scholars have carried out a large number of studies on teachers' training needs, training content design, training organization forms and training effect evaluation. However, most of the existing studies still focus on the practical level of training implementation, and there is relatively little systematic research on the management mechanism, operation process and guarantee system of training practice paths. In general, existing studies have laid a certain theoretical foundation for the optimization of training management. But in the actual operation process, how to connect training management with teachers' real needs, how to improve the transformation effect of training results, and how to construct a long-term and stable training management practice path still need further in-depth discussion.

ANALYSIS OF THE CURRENT STATUS OF INFORMATION LITERACY TRAINING AND MANAGEMENT FOR UNIVERSITY TEACHERS

5.1 Current Policy Background and Development Trends in University Teacher Training

In recent years, the state has introduced a series of policies to promote the improvement of university teachers' information literacy capabilities: The Ministry of Education's "14th Five-Year Plan for Educational Informatization" clearly states that by 2025, more than 95% of university teachers should possess strong information-based teaching capabilities; the "Implementation Plan for the Teacher Digital Literacy Improvement Project (Trial)" proposes the establishment of a full-cycle digital competency training system covering "pre-job training, on-the-job training, improvement, and guidance"; and universities in many regions have established "Smart Teaching Support Centers" and "Teacher Development Centers" to promote the integration of training resources and the development of online platforms. Overall, policy trends indicate an upgrade from "basic popularization" to "integration and innovation," shifting from "remedial" training to "empowerment."

5.2 Survey and Analysis of the Current Status of University Teacher Training

Despite increasing policy support, information literacy training for university teachers still faces numerous challenges in practice. Based on training data released by some university teacher

development centers over the past three years and existing research literature (Wang Jianjun & Li Man, 2022; Guo Weiwei & Li Zhaoliang, 2021), the main issues can be summarized as follows:

5.3 Training content is highly homogenized and lacks professional integration

Most training programs remain limited to "software tool explanations" and "platform operation demonstrations," neglecting the deep integration of subject matter and the cultivation of innovative capabilities.

5.4 Training models are primarily indoctrination-based, lacking interaction and practical application

The "intensive lecture" approach remains the mainstream, lacking practical elements such as case studies, peer support, and real-world simulations, making it difficult to promote skill transfer.

5.5 Fragmented training organization and lack of systematic coordination

Training is implemented by multiple departments, resulting in duplicate content and fragmented evaluation, which in turn leads to low teacher participation enthusiasm.

5.6 Teachers lack internal motivation, and the mechanism linking training to professional evaluation is imperfect.

Training results are disconnected from teacher titles and performance, leading some teachers to passively cope with "check-in" learning.

5.7 Digital platforms have limited functionality and insufficient support and tracking capabilities.

Training platforms primarily focus on resource playback and attendance records, lacking intelligent features such as learning trajectory analysis, achievement generation, and personalized recommendations.

MAJOR PROBLEMS IN THE MANAGEMENT OF INFORMATION LITERACY TRAINING FOR UNIVERSITY TEACHERS

Training content is divorced from the core of information literacy. Most training focuses on basic teaching methods and ideological and political education, neglecting the development of the ability to integrate information technology with education.

Training organization is fragmented and haphazard. Lack of systematic design and long-term mechanisms means training activities are often administratively led, lacking personalized teacher needs analysis.

Inadequate assessment and incentive mechanisms. Training outcomes are difficult to quantify, and there is no inherent driving force to motivate teachers to proactively improve their information literacy. 3.4 Insufficient Resource and Platform Support. Online platforms have limited functionality and insufficient information resource sharing, making them unable to meet diverse training needs.

CONCEPTUALIZING A MANAGEMENT MODEL FOR UNIVERSITY TEACHER TRAINING BASED ON INFORMATION LITERACY

7.1 Reconstructing Competency-Oriented Training Objectives

When formulating training objectives, they should be centered around the five competency dimensions of "information awareness, information acquisition, information evaluation, information integration, and information application and creation," promoting a shift from "knowledge transfer" to "competency building" training.

7.2 Building a Modular, Tiered Training System

Training can be tailored to the competencies of teachers at different development stages (e.g., primary, secondary, and higher vocational). For example, modules such as foundational modules (enabling information tool operation), advanced modules (enabling teaching resource integration),

and innovative modules (enabling AI-assisted teaching) can be developed. Building a modular, tiered training system can better promote personalized development.

7.3 Strengthen the integrated "learning-research-application" practice path

Training can foster teachers' independent problem-solving awareness and encourage them to conduct in-depth research around these issues, integrating them into their teaching and research practices. Leveraging activities such as action research, instructional design, and micro-course development, a feedback loop can be established to enhance training effectiveness.

7.4 Diversify training formats

In addition to offline training, online learning platforms, blended training, school-based training, and thematic workshops can be incorporated to enhance the flexibility and effectiveness of training.

PRACTICAL PATH FOR UNIVERSITY TEACHER TRAINING MANAGEMENT UNDER THE GUIDANCE OF INFORMATION LITERACY

A university teacher training management model developed under the guidance of information literacy requires not only theoretical support but also a feasible practical path and a sustainable support system. This article will explore how to ensure the effective implementation and virtuous cycle of this training management model in practice by focusing on four aspects: the design of training organization and implementation paths, the establishment of a multi-stakeholder collaborative mechanism, digital platform support, and a feedback mechanism for training outcomes.

8.1 Multi-Agent Collaboration Mechanism: An Organizational Guarantee for University Training

Teacher information literacy training involves multiple functional units within a university. It is necessary to break down departmental barriers and establish a multi-participation mechanism with "horizontal collaboration and vertical linkage." Specifically, this includes:

School Level: Strategic Guidance and Institutional Coordination. From the school level, first, clearly define information literacy as a key component of the teacher development goal system and incorporate it into the school's faculty development plan. Second, formulate relevant training policies and clarify supporting systems such as resource allocation, incentives, and assessments. Finally, establish dedicated funding to encourage colleges to independently develop training modules.

School Level: Discipline Adaptation and Personalized Design. From the school level, differentiated training content should be designed based on the characteristics of the discipline and the teacher's development stage. Furthermore, key faculty members within the college should be encouraged to serve as training instructors, forming a "teaching community."

Functional Departments and Technical Support Units: Resource Integration and Technical Support. Functional departments and technical departments collaborate to provide support. The Teacher Development Center is responsible for overall training design, organization, implementation, and evaluation feedback; the Information Center provides platform development, technical support, and data management services; and the Academic Affairs Office and the Research Office collaborate to link training outcomes with teaching projects and research achievements, forming a comprehensive evaluation loop.

8.2 Training Organization and Implementation Mechanism: Project-Based and Task-Driven Approaches

To improve training effectiveness, it is necessary to break away from the traditional "indoctrination" model of centralized training and adopt a combined "project-based + task-driven" approach.

Project-Based Training Management. Training can be organized into task-based projects, such as "Application of Smart Teaching Tools" or "Practical Integration of AI Technology and Curriculum." Each project then has clear output requirements, such as courseware optimization, case development, and teaching videos. This allows for flexible project cycles to align with the semester's pace and encourage teachers to "learn by doing" during the teaching process.

Task-Driven Mechanism. Teacher development tasks can be embedded into daily teaching, such as conducting a blended classroom or recording a digital micro-lecture. This can establish a "learning-practice-reflection-redesign" cycle, emphasizing reflection journals, presentation of achievements, and communication and feedback.

Professional Growth Incentive System. Training outcomes can be incorporated into professional title evaluations, performance appraisals, and teaching competition scores. Alternatively, teachers can be encouraged to independently submit projects, creating a two-way "push + pull" mechanism.

8.3 Digital Platform Support Mechanism: Technology Empowerment and Resource Integration Path

Information technology is a key support for the efficient implementation of training. Leveraging smart campus systems, teaching platforms, and teacher development portals, intelligent, visual, and data-driven management can be achieved.

Platform Function Integration. Establish a unified entry platform that integrates "learning resource library - online courses - achievement submission - evaluation and feedback" into an integrated function. A "learning path recommendation" system can also be provided to intelligently match appropriate courses based on teacher needs. Alternatively, a "teacher development electronic portfolio" can be established to automatically record data such as training participation and achievement output.

Data-Driven Management. Platform data can be used to identify faculty development needs and assist in developing personalized training. Training organizers can monitor progress, diagnose issues, and adjust strategies in real time. Finally, the data output can be integrated with departmental year-end teaching assessments and teaching quality analysis systems.

Learning Communities and Community Interaction. The platform can be used to establish specialized teaching communities, such as "Digital Course Development Groups" and "AI Teaching Discussion Circles," to encourage cross-departmental faculty interaction. "Co-learning and Co-research" activities, such as teaching salons, theme months, and experience sharing sessions, can also be held to establish a continuous empowerment mechanism.

BUILDING A SUPPORT SYSTEM FOR UNIVERSITY TEACHER TRAINING UNDER THE GUIDANCE OF INFORMATION LITERACY

9.1 Policy and Institutional Support

Universities should formulate specific policies for faculty information literacy development and allocate dedicated training funds.

9.2 Platform and Resource Guarantee

Build a "Teacher Information Literacy Improvement Platform" that integrates and expands digital teaching resource libraries, training courses, online Q&A sessions, and achievement showcases to achieve resource sharing.

9.3 Professional Team Support

Establish an "Information Literacy Training Support Team" comprised of educational technology experts, information science teachers, key teaching and research personnel, and other relevant personnel to provide content development, curriculum guidance, and personalized consulting services.

9.4 Evaluation and Incentive Mechanisms

Training effectiveness evaluation is a crucial component of the training management cycle. Traditional attendance and satisfaction ratings are no longer effective in reflecting teachers'

information literacy development. A multi-faceted evaluation model should be established that emphasizes both process and productivity. This model should encompass the learning process, achievement demonstration, and capacity building. This model, combined with learning points, development portfolios, and certification systems, can stimulate teacher participation. Multi-dimensional evaluation indicators can be established: process indicators, which include learning activity, task completion rate, and frequency of interactive participation; outcome indicators, such as the quality of course case design, resource output, and teaching practice performance; and feedback indicators, which involve multiple stakeholders, including teacher self-evaluation, student feedback, and peer review.

9.5 Continuous Feedback Mechanism

Based on platform data and evaluation results, the system generates individual training recommendation reports. Teachers can adjust their learning paths accordingly, and training organizers can optimize content arrangements. This creates a spiral improvement mechanism of "evaluation-adjustment-training-re-evaluation."

9.6 Results Transformation Mechanism

Training results can also be used as teaching achievement materials, such as in teaching competitions and applications for high-quality course development. Excellent results can also be uploaded to sharing platforms for resource accumulation and reuse. Training experiences can also be incorporated into school-based courses or teaching materials to serve the development of more teachers.

CONCLUSION

Developing a university teacher training management system guided by information literacy is an important path to promoting the professional development of teachers. Currently, universities need to restructure training concepts, innovate practical approaches, and ensure the continuity, relevance, and effectiveness of training through systematic support. This article, guided by information literacy, constructs a practical approach and support system model for teacher training management based on four dimensions: collaborative mechanism, task-driven approach, technical support, and continuous feedback. This system not only focuses on innovation in training content design and organizational methods, but also emphasizes long-term mechanisms for institutional support and platform support, providing a solid foundation for the implementation and promotion of this training model

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