International Journal of Educational Development
ISSN Print: 3104-4263
ISSN Online: 3104-4271
CD ISSN: 3104-428X
https://doi.org/10.63313/IJED.9043

Artificial Intelligence Empowers the Integration of the Shuikoushan Workers' Movement Spirit into the Teaching of *Basic Principles of Marxism*

Dan Luo
School of Marxism, Hunan Institute of Technology, Hengyang 421002, China

How to cite this paper: Luo, D. (2026). Artificial Intelligence Empowers the Integration of the Shuikoushan Workers' Movement Spirit into the Teaching of Basic Principles of Marxism. *International Journal of Educational Development*, 2(3), 1-15. ISSN Print: 3104-4263; ISSN Online: 3104-4271.
https://doi.org/10.63313/IJED.9043
Published: 2026-03-05

Copyright © 2026 by author(s) and Erytis Publishing Limited.
This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).
http://creativecommons.org/licenses/by/4.0/
CC BY 4.0

Abstract

The spirit of struggle, unity, and dedication embodied in the Shuikoushan Workers' Movement serves as a valuable resource for inheriting revolutionary heritage and fulfilling the fundamental mission of moral education in the Basic Principles of Marxism curriculum. However, the educational effectiveness of this spirit has been constrained by the gaps between the "narrative discourse" in historical materials of the Workers' Movement and the "theoretical discourse" of the curriculum, as well as the generational divides between historical contexts and students' cognitive perspectives. Artificial intelligence (AI), leveraging its technological advantages in natural language processing, virtual simulation, and data mining, offers a novel approach to address these challenges. This paper constructs an AI-enabled teaching pathway for integrating the Shuikoushan Workers' Movement spirit into the Basic Principles of Marxism curriculum from four dimensions: revitalizing historical materials, contextualized teaching, personalized interaction, and teaching effect feedback. While highlighting the potential risks of technological dependency, data security breaches, and loss of historical authenticity, the paper proposes targeted prevention and control strategies, including adhering to the "teacher-led, AI-assisted" principle, strengthening data governance, and upholding historical integrity. These measures are intended to achieve in-depth integration of the Workers' Movement spirit with the curriculum, enhance the teaching effectiveness and quality of revolutionary education, and provide theoretical references and practical insights for the integration of red resources into ideological and political theory courses.

Keywords

Artificial Intelligence; Shuikoushan Workers' Movement Spirit; Basic Principles of Marxism; Red Resources; Teaching Integration

1. Introduction

The Shuikoushan Workers' Movement, a great initiative directly led by the Communist Party of China (CPC), is hailed as "a glorious page in the history of the

Chinese workers' movement"(Long, X. M. (2021)). Emerging during the first upsurge of the Chinese workers' movement, it was personally guided by Comrade Mao Zedong and led by the Party organization, with more than 3,000 miners uniting in struggle and ultimately achieving a comprehensive victory. This movement not only propelled the workers' movement in the Hunan region to a climax but also nurtured the spirit of perseverance in struggle, the spirit of unbreakable solidarity, and the spirit of selfless dedication—precious spiritual wealth that embodies red genes and carries the revolutionary original aspiration（Deng, Q. C. (2021)）.Integrating the Shuikoushan Workers' Movement Spirit into the teaching of Basic Principles of Marxism (hereinafter referred to as the Principles course) is not only an important measure to fulfill the fundamental task of fostering virtue through education and enhance the effectiveness of ideological and political education but also an effective approach to promoting the integration of Marxist theory with Chinese revolutionary practice and guiding students to perceive the power of theoretical truth.

However, as a historical red resource, the Shuikoushan Workers' Movement Spirit has a cognitive gap between its historical background and that of contemporary Generation Z students. The practical context of the workers' movement is difficult to accurately align with the theoretical logic of the Principles course, which creates obstacles to the transformation of the spirit's value into students' theoretical identification and conscious action, and thus its educational effectiveness has not been fully exerted.At present, the rapid development of artificial intelligence (AI) technology has provided a new pathway to address this dilemma. Endowed with advantages such as data analysis and scenario reconstruction, AI technology can construct a full-chain teaching pathway of "activation of historical materials—theoretical decoding—immersive experience—value internalization", promoting the in-depth integration of the Shuikoushan Workers' Movement Spirit into the Principles course, inheriting red genes, and enhancing the educational effectiveness of the Principles course.

2. Artificial Intelligence Empowers the "Historical Materials Activation" of the Spirit of the Workers' Movement in Shuikoushan, Breaking the Barrier between "Historical Events" and "Basic Principles"

As a landmark event in the history of the Chinese workers' movement, the Shuikoushan Workers' Movement has left a large number of precious historical relics. Most of these historical materials are presented in the form of "narrative discourse", focusing on restoring the process of events and the deeds of figures, but lacking a direct connection with the basic principles of Marxism. In contrast, the *Principles* course centers on "theoretical discourse", focusing on explaining the abstract theoretical system and its practical value, and the abstract nature of its theories is likely to create a gap with students' cognition. There are differences in the discourse

systems of the two, and the implicit logical connection is insufficient. This leads to the problems of "disconnection between historical materials and principles" and "separation between narrative and theory" when integrating the Shuikoushan Workers' Movement Spirit into the teaching of the *Principles* course, making it difficult to give play to the theoretical proof and value guidance role of red historical materials. With the technological advantages of natural language processing, data mining, and multimodal presentation, artificial intelligence can realize the digital and systematic transformation of workers' movement historical materials, break down discourse barriers, reveal the internal connection between historical events and basic principles, build a "theoretical bridge" for the in-depth integration of the two, and transform red historical materials from "static display" into a "dynamically empowering" theoretical carrier （Chai, S. C., Fan, G. H., & Wang, J. N. (2024)）.

First, AI empowers the construction of a knowledge graph of workers' movement historical materials, realizing the accurate connection between historical materials and principles. With the help of AI natural language processing technology, teachers of the *Principles* course can comprehensively and systematically sort out the collected archives of the Shuikoushan Workers' Movement Memorial Hall, the manuscripts and letters of workers' movement leaders such as Jiang Xianyun and Xie Huaide, historical documents such as the *Manifesto of the Shuikoushan Workers' Great Strike*, as well as various materials including oral historical materials and historical photos （Dong, X. B., Han, Y., & Liu, J. F. (2025)）. Through the whole-process processing of "keyword extraction—event context sorting—principle association classification—node labeling", a complete associated knowledge graph of "Shuikoushan Workers' Movement Spirit—Basic Principles of Marxism" is constructed.

For example, for the landmark event of "800 Miners Marching to Jinggangshan", artificial intelligence can extract core keywords such as "leadership of the proletarian political party" and "worker-peasant alliance", sort out the complete context of the event, accurately connect with the relevant core theories in the *Principles* course, and present the logical corresponding relationship between the two in the form of a visual graph （ Li, D. D. (2026)）. In the teaching process, teachers can rely on this graph to locate integration nodes. When explaining "the people are the creators of history", they can call up the historical materials on the purpose of the Workers' Club and the deeds of miners' struggle, making abstract theories concrete; when explaining "the relations of production must adapt to the development of productive forces", they can connect the historical materials on feudal exploitation in mines and workers' resistance to prove the theoretical connotation, realizing the resonance between historical narrative and theoretical interpretation.

Second, AI empowers the construction of a multimodal teaching resource library, realizing the accurate adaptation between historical materials and teaching. In traditional teaching, workers' movement historical materials are mostly presented in

text form, which is difficult to attract the attention of Generation Z students and cannot intuitively show their spiritual connotation, resulting in the difficulty in exerting their educational value （ Peng, Y. Q., Rao, Y., & Li, W. Y. (2026)）. With the help of functions such as intelligent capture, classification and integration, and accurate labeling, artificial intelligence can integrate resources such as the digital exhibition of the Shuikoushan Workers' Movement Memorial Hall, documentaries from authoritative media, and revolutionaries' memoirs, and build a multimodal resource system of "text + pictures + videos + audio + 3D scenes".

In addition, according to the chapter logic of the Principles course, the principle fit points and teaching scenarios of each type of resource are labeled for teachers to call up quickly. For example, the historical materials on workers' armed struggle are labeled in the chapter of "the role of class struggle in social development"; the transformation of workers from a "class-in-itself" to a "class-for-itself" is labeled in chapters such as "the dynamic role of consciousness"; the connotation of the workers' movement spirit is labeled in the chapter of "the guiding role of values", realizing the in-depth integration of spiritual value and theoretical knowledge. At the same time, artificial intelligence can generate detailed explanations of principle fit points, helping teachers accurately meet teaching needs, solve the problem of "disconnection between historical materials and teaching", and make red historical materials truly serve the theoretical teaching and value guidance of the Principles course.

3. Artificial Intelligence Supports the "Scenario Teaching" of the Principles Course, Transforming the Spirit of the Shuikoushan Workers ' Movement from "History Books" to "Perceptible Practice"

The core teaching difficulty of the *Principles* course lies in breaking down the barrier between abstract theories and students' cognition, and helping students deeply understand the historical generation logic and practical power of Marxist principles. As a red resource carrying revolutionary practice, the Shuikoushan Workers' Movement Spirit, which embodies the spirits of struggle, solidarity and dedication, is exactly a vivid practical carrier of abstract principles. However, in traditional teaching, the workers' movement spirit is mostly displayed through static forms such as texts and pictures, which makes it difficult for students to truly immerse themselves in it, leading to the superficial transmission of spiritual connotation and insufficient connection between theory and practice. With the core technological advantages of virtual simulation, time-space restoration and data visualization, artificial intelligence can break through the time-space limitations and presentation obstacles of traditional teaching, construct an "immersive, interactive and experiential" situational teaching model, transform the workers' movement spirit from textbook texts into practical scenarios that students can participate in, perceive and experience, achieve the organic unity of "theoretical interpretation—situational

experience—spiritual internalization", and effectively enhance the teaching effectiveness and academic appeal of the *Principles* course （Xie, J. (2025)）.

First, AI empowers the digital reconstruction of historical scenes, enabling immersive comprehension of the workers' movement spirit. Relying on AI-derived technologies such as virtual reality (VR) and augmented reality (AR), combined with Shuikoushan workers' movement historical materials, cultural relics and oral records, it is possible to accurately restore the typical scenes of the 1922 workers' great strike and construct a virtual teaching space that is consistent with historical truth. In teaching, focusing on core knowledge points such as "class struggle and the workers' movement" and "the leading role of the proletarian political party", teachers can guide students to "enter" the mining area through VR equipment, comprehensively observe the complete processes simulated by AI, including miners' underground work, secret gatherings of the Workers' Club, the release of the strike manifesto, and patrols by the workers' inspection teams to protect the factory, so as to intuitively feel the feudal exploitation and oppression suffered by the miners and understand the workers' class's determination to resist.

The virtual system can pop up real-time principle prompts according to the teaching progress, such as marking "this struggle reflects the role of the theory of surplus value in promoting workers' awakening" and "workers' united struggle highlights the historical subject status of the people", realizing the synchronous infiltration of scenes and theories. In addition, the "historical decision-making simulator" constructed by AI allows students to play the roles of workers' movement leaders such as Jiang Xianyun and Liu Dongxuan, make decisions at key nodes of the strike, and the system generates consequences based on historical facts. This guides students to deepen their understanding of the "dialectical relationship between historical laws and subjective initiative" through immersive experience, making the workers' movement spirit a perceptible and reflectable practical experience.

Second, AI empowers the data visualization presentation of the workers' movement spirit, strengthening the accurate connection between theory and practice. The development context, struggle achievements and historical influence of the Shuikoushan Workers' Movement are all supported by specific historical data. In traditional teaching, data presentation is relatively fragmented, making it difficult for students to grasp the theoretical logic behind it. With the functions of data mining and visualization modeling, artificial intelligence can transform historical data such as the scale of miners, the duration of the strike, the implementation of demands, and the degree of exploitation by the mining bureau into intuitive forms such as dynamic timelines, interactive data dashboards, and trend comparison charts, realizing the systematic presentation of data.

For example, when explaining the principle of "the relations of production must be suitable for the state of productive forces", artificial intelligence can integrate historical materials to generate a "comparison chart of the changing trends of

working hours and wages of Shuikoushan miners", clearly mark the specific changes before and after the strike, and link the implementation of the 18 core demands after the victory of the strike. Through data comparison, students can intuitively feel the role of the workers' movement in breaking the feudal exploitative relations of production and promoting the development of productive forces. The interactive dashboard allows students to independently query and filter data; clicking on historical nodes enables them to view the corresponding progress of the workers' movement and the analysis of principle fit points, guiding students to explore the theoretical connotation behind the data. This achieves the in-depth integration of "data—scenes—principles", materializes abstract principles through specific data and historical scenes, deepens students' understanding of the contemporary value of the workers' movement spirit and the practical significance of the principles, and promotes the in-depth connection between the two（Yan, F. J. (2025)）.

4. Artificial Intelligence Drives the "Personalized Interaction" of thePrinciples Course, Achieving the "Precision Drip Irrigation" of the Integration of the Shuikoushan Workers' Movement Spirit

The effectiveness of moral education in the *Principles* course lies in realizing "teaching students in accordance with their aptitude" and breaking the inherent limitation of the "one-size-fits-all" approach in traditional teaching. Contemporary Generation Z students have significant individual differences in theoretical foundation, knowledge reserve, learning interests, and cognitive characteristics（Bao, W. J. (2025)）. Some students have a solid theoretical foundation and are good at in-depth exploration; some students prefer practical experience and have a low acceptance of abstract theories; others have a poor understanding of red historical resources. This makes it difficult for the integration of the Shuikoushan Workers' Movement Spirit into the *Principles* course to meet the learning needs of different students, leading to the problems of "inaccurate integration and unbalanced moral education".

With the core technological advantages of intelligent Q&A, data mining, and personalized recommendation, artificial intelligence can accurately capture students' learning data and personalized needs, build a personalized interactive teaching system of "demand diagnosis—precision push—interactive feedback—optimization and improvement", promote the transformation of the integration of the Shuikoushan Workers' Movement Spirit from "comprehensive coverage" to "precision drip irrigation", achieve the teaching goal of "individualized strategies for each student", effectively enhance the pertinence and effectiveness of the *Principles* course, and highlight the accuracy and scientificity of red resource-based moral education.

First, AI facilitates intelligent Q&A and precise doubt-solving, addressing students' personalized theoretical confusions. Relying on AI technologies such as natural

language processing and big data analysis, an "Intelligent Red Teaching Assistant System for the *Principles* Course" is built（Zhang, S., & Zhou, Q. (2025)）. This system integrates core content including historical materials related to the Shuikoushan Workers' Movement Spirit, principle knowledge points, and academic research results, enabling real-time responses to various questions raised by students regarding the integration of the two, and realizing an integrated service of "instant doubt-solving, precise explanation, and extended learning".

For example, when a student asks, "Which principles of historical materialism are reflected in the transformation of Shuikoushan workers from spontaneous struggle to conscious struggle?", artificial intelligence can combine relevant theories in the *Principles* course, such as "social existence determines social consciousness", "classes and class struggle", and "the dynamic role of consciousness", to provide accurate answers in a clear, point-by-point manner. At the same time, it supplements the experiences of workers' movement leaders such as Geng Biao and Jiang Xianyun, who grew from ordinary miners to revolutionary pioneers, using specific cases to support theoretical viewpoints and making the interpretation of abstract principles more persuasive. In addition, the system can automatically recommend extended reading materials such as *Records of the Shuikoushan Workers' Movement* and *Selected Historical Materials of the Workers' Movement in the Hunan Region*, guiding students to conduct in-depth learning and broaden their horizons.

Furthermore, through continuous analysis of students' question frequency, question types, and feedback on doubt-solving, artificial intelligence can accurately identify students' weak theoretical points, such as "insufficient understanding of the historical significance of the worker-peasant alliance" and "ambiguous cognition of the importance of the leadership of the proletarian political party". It then pushes the relevant data and analysis reports to the teachers, providing data support for teachers to optimize teaching priorities and adjust integration methods, and realizing "teaching based on learning needs and precise remediation of weaknesses".

Second, AI assists in the planning of personalized research and study paths, realizing hierarchical adaptation for the integration of the workers' movement spirit. Artificial intelligence comprehensively collects multi-dimensional information of students, including classroom interaction data, the quality of completed red practical assignments, theoretical test scores, and learning interest preferences, to construct personalized learning profiles. It accurately identifies the learning needs and improvement directions of different students, and tailors personalized research and study paths of "Shuikoushan Workers' Movement Spirit + *Principles* Course" for each student, realizing hierarchical teaching and precise empowerment（Han, M. (2025)）.

For instance, for students with a strong interest in theory and a solid foundation, artificial intelligence can suggest that they conduct in-depth research on the chapters related to the Yuebei Peasants' Union and the Shuikoushan Workers' Movement in *Report on an Investigation of the Peasant Movement in Hunan*, and combine core

knowledge points of the *Principles* course such as "mass line and historical materialism" and "proletarian revolution theory" to write small academic papers or research reflections. This guides students to carry out in-depth theoretical exploration and improve their academic thinking. For practical-oriented students, artificial intelligence can recommend them to participate in the "Five Ones" red practical teaching activity held by the School of Marxism of Changsha Medical University, namely singing a red song, telling a red story of Shuikoushan, drawing a floor plan of the Shuikoushan Workers' Memorial Hall, serving as a red volunteer once, and writing a practical reflection.

After completing the practical activities, the system automatically pushes the corresponding summary of principle knowledge points, organically integrating practical experience with theoretical sublimation, and realizing a closed-loop learning of "practice—theory—re-practice". For students with a weak foundation in red history, artificial intelligence can push basic resources such as easy-to-understand popular science short videos on the workers' movement spirit and simplified historical material interpretations, gradually guiding them to understand the history of the workers' movement and perceive the connotation of the spirit, and then gradually connecting with the theoretical knowledge points of the *Principles* course. This realizes gradual learning and improvement from shallow to deep, ensuring that students at different levels can achieve dual improvement in theoretical literacy and spiritual realm through personalized research and study.

5. Artificial Intelligence Ensures the "Effect Feedback" of the Principles Course and Constructs a "Closed-Loop Improvement" Mechanism for the Integration of the Shuikoushan Workers' Movement Spirit

The in-depth integration of the Shuikoushan Workers' Movement Spirit into the teaching of the *Principles* course is inseparable from a scientific and improved teaching effect evaluation and dynamic improvement mechanism, which is also a key link to enhance the educational effectiveness of red resources and optimize the teaching integration path. In traditional teaching, teaching effect evaluation mostly relies on teachers' subjective judgments and single paper-and-pencil tests, which has problems such as a single evaluation dimension, delayed feedback, and insufficient pertinence. It is difficult to comprehensively and accurately reflect the actual effect of integrating the workers' movement spirit, nor can it provide scientific data support for teaching improvement, leading the integration of the workers' movement spirit into a vicious circle of "emphasizing implementation, neglecting feedback, and weakening improvement".

With the core technological advantages of multi-dimensional data collection, intelligent analysis, and dynamic evaluation, artificial intelligence can break through the limitations of traditional evaluation, construct a full-chain closed-loop

mechanism of "teaching implementation—effect evaluation—student feedback—dynamic improvement", realize accurate judgment, scientific feedback, and continuous optimization of the effect of integrating the workers' movement spirit, promote the iterative improvement of the integration quality between the workers' movement spirit and the teaching of the *Principles* course, and highlight the scientificity and systematicness of red ideological and political teaching.

First, AI empowers multi-dimensional teaching effect evaluation, realizing accurate judgment of the integration effect. Relying on technologies such as big data collection, natural language processing, and sentiment analysis, artificial intelligence constructs a three-dimensional teaching effect evaluation system covering "knowledge mastery, value identification, and ability improvement", comprehensively and three-dimensionally capturing the actual effect of integrating the workers' movement spirit, and overcoming the drawbacks of simplification and subjectivity in traditional evaluation. In the dimension of knowledge mastery, through various forms such as online tests, homework text analysis, and classroom interactive Q&A, artificial intelligence accurately judges students' mastery of the integrated content of the Shuikoushan Workers' Movement Spirit and the knowledge points of the *Principles* course. It focuses on evaluating whether students understand that "the Shuikoushan Workers' Movement is an early vivid practice of integrating the basic principles of Marxism with the Chinese workers' movement", and whether they can accurately connect the historical scenes of the workers' movement with core knowledge points such as historical materialism and the theory of surplus value. At the same time, it accurately identifies the weak links in students' knowledge mastery and forms personalized knowledge gap reports.

In the dimension of value identification, by analyzing text content such as students' classroom speeches, red research and study reflections, and practical insights, artificial intelligence uses sentiment analysis algorithms（Wang, S. X., Yang, H., Feng, C., & Li, X. (2025)）to capture students' emotional tendencies and value expressions, accurately evaluating students' understanding of the core connotations of "struggle, solidarity, and dedication" of the Shuikoushan Workers' Movement Spirit, as well as their recognition of the contemporary value of the workers' movement spirit and the significance of inheriting red genes, avoiding subjective deviations in value identification evaluation. In the dimension of ability improvement, artificial intelligence focuses on evaluating students' ability to use the basic principles of Marxism to analyze and solve practical problems, especially the ability to interpret the history of the Shuikoushan Workers' Movement, analyze the logic of the workers' movement struggle, and explain the contemporary value of the workers' movement spirit using historical materialism. Through intelligent judgment of students' analysis ideas and argumentation logic, it determines the effect of teaching on improving students' ability to integrate theory with practice and dialectical thinking ability, realizing the accurate evaluation of the "trinity of knowledge, value, and ability".

Second, AI empowers dynamic teaching improvement suggestions to promote the continuous optimization of integration paths. Based on multi-dimensional evaluation data, through intelligent analysis and rule mining, artificial intelligence pushes targeted and operable dynamic teaching improvement reports to teachers, realizing the closed-loop connection of "evaluation—feedback—improvement" and promoting the continuous optimization and improvement of the integration path of the workers' movement spirit.

For example, if the evaluation data shows that "students have a shallow understanding and ambiguous cognition of the historical significance of the worker-peasant alliance pioneered by the Shuikoushan Workers' Movement", artificial intelligence can combine historical materials and teaching rules to suggest that teachers supplement specific cases of the Yuebei Peasants' Union as the first worker-peasant alliance organization in China. Through case analysis and historical evidence, it helps students deepen their understanding of the worker-peasant alliance theory. If data monitoring finds that students are highly interested in historical scenes such as "Song Qiaosheng leading workers' armed struggle" and "800 Miners Marching to Jinggangshan", artificial intelligence can suggest that teachers introduce the mature experience of the practical teaching bases of "Great Ideological and Political Course" co-constructed by universities such as Nanhua University and Changsha Medical University with the Shuikoushan Workers' Movement Memorial Hall, and design practical teaching programs such as "Retracing the Workers' Movement Road" and "Immersive Research on the Workers' Movement Spirit", so as to enhance the attractiveness of integration by catering to students' interests.

At the same time, artificial intelligence can conduct comparative analysis on the effect data of different teaching integration methods, such as comparing the effectiveness differences between "virtual reality scenario teaching" （Zhang, Q., Yang, M., Shi, Q., Wang, R. R., & Long, T. T. (2022)） and "traditional case teaching" in the dimensions of knowledge mastery and value identification, and comparing the different roles of "personalized research and study" and "collective teaching" in improving students' abilities. It provides scientific data reference for teachers to select the optimal integration method, optimize teaching links, and adjust teaching priorities, promoting the transformation of the integration between the workers' movement spirit and the teaching of the *Principles* course from "effective" to "high-quality", and continuously improving the effectiveness and academic appeal of red ideological and political teaching.

6. Artificial Intelligence Assists in the Integration of the Shuikoushan Workers' Movement Spirit into the Principles Course: Special Alert to "Technological Dependence" and Attention to Risk Avoidance

Artificial intelligence technology has opened up a new path for the in-depth

integration of the Shuikoushan Workers' Movement Spirit and the *Principles* course, effectively resolving many difficulties in traditional teaching. However, technological empowerment is not without boundaries or risks. In the practice of promoting the integration of the workers' movement spirit into teaching with the help of artificial intelligence, if there is a lack of scientific guidance and standardized management, it is easy to fall into the cognitive trap of "technology supremacy", leading to a series of risks such as "technological dependence", "data security", "weakened value guidance", and "loss of historical authenticity". This will not only affect the quality and effectiveness of teaching integration but also may deviate from the core goal of red ideological and political education and damage the educational value of red resources （Wang, Y. D. (2026)）.

Therefore, to promote the in-depth integration of artificial intelligence with the workers' movement spirit and the teaching of the *Principles* course, we must adhere to the principle of "equal emphasis on technological empowerment and risk avoidance", strengthen risk awareness, and improve the prevention and control mechanism. While giving full play to the advantages of artificial intelligence technology, we should adhere to the original intention of teaching and the bottom line of moral education, ensure the accurate inheritance of the red genes of the workers' movement spirit, and fully demonstrate the truth power of Marxist theory.

First, adhere to the core principle of "teacher-led, AI-assisted" to avoid the risks of "technological dependence" and "weakened value guidance". The essence of AI empowering the teaching of the *Principles* course is "technology serving moral education" rather than "technology replacing moral education". It is necessary to clarify the leading position of teachers in teaching and prevent artificial intelligence from replacing teachers in performing core functions such as value guidance and emotional guidance. As an auxiliary tool, artificial intelligence can efficiently undertake repetitive and technical tasks such as historical material activation, virtual scene generation, learning data processing, and personalized doubt-solving, reducing the burden on teachers' teaching and adding impetus to students' learning.

Teachers, on the other hand, need to focus on their core responsibilities, focusing on in-depth interpretation of Marxist principles, explaining the connotation of the Shuikoushan Workers' Movement Spirit, guiding students to establish correct values, creating emotional resonance, and ensuring that the integration of the workers' movement spirit always adheres to the correct political direction. They should guide students to deeply understand the profound connotation of "since the founding of the Communist Party of China, the Chinese working class has straightened its back", and comprehend the revolutionary original aspiration and belief power contained in the workers' movement spirit. Meanwhile, it is necessary to guide teachers and students to establish a correct view of technology, avoid over-reliance on artificial intelligence to generate teaching content and answer theoretical questions, prevent teachers from becoming "technology operators" and students from becoming "passive

recipients", and ensure that the core position of "moral education" in the teaching process is not deviated or weakened.

Second, strengthen data security management and control, improve teachers' abilities, and avoid the risks of "data leakage" and "non-standard technology application". The core premise of AI empowering teaching lies in the collection and analysis of students' learning data, and students' classroom interaction data, research and study records, theoretical test scores, etc., all belong to the scope of personal privacy（ Zhang, G. Q., & Duan, G. H. (2026)）. Without standardized management and control, it is easy to occur data leakage, abuse and other situations, infringing on students' legitimate rights and interests. Therefore, it is necessary to construct a sound full-process specification for the collection, storage, use and destruction of AI data, clarify the scope and purpose of data collection, use technical means such as encrypted storage and hierarchical permission management to strictly prevent the risk of data leakage, and adhere to the bottom line of data security.

In addition, teachers' ability to apply artificial intelligence directly affects the effectiveness of AI empowering teaching. Some teachers have problems such as being unskilled in operating AI tools and insufficient ability to screen AI-generated content, which may lead to deviations in teaching content and make technology application a mere formality. Therefore, it is necessary to systematically improve teachers' AI application ability through special training, teaching and research exchanges, case discussions and other forms, focus on cultivating teachers' skills in operating AI tools and their ability to screen and optimize AI-generated content, guide teachers to use AI technology scientifically and standardly, and make artificial intelligence truly serve the improvement of teaching quality rather than becoming a teaching burden.

Finally, it is necessary to adhere to the bottom line of historical authenticity and avoid the risk of "loss of authenticity" in the digitalization of red resources. As an important carrier of red genes, the historical authenticity of the Shuikoushan Workers' Movement Spirit is the core foundation of its educational value. When using artificial intelligence technology to restore the historical scenes of the workers' movement and activate red historical materials, if there is a lack of strict adherence to authoritative historical materials, and excessive pursuit of the interest and ornamental value of the scenes leads to improper interpretation, it is very easy to have problems such as distortion of historical details and distortion of spiritual connotation, and even breed historical nihilism, damaging the seriousness and authority of red resources.

Therefore, when using artificial intelligence to restore historical scenes and process red historical materials, it is necessary to take official authoritative historical materials, historical documents and oral historical materials as the only basis, strictly control the authenticity of historical details, and eliminate any interpretation and adaptation that deviates from historical facts. At the same time, professional historical researchers and ideological and political course teachers should be

arranged to review and check the content generated by artificial intelligence, ensuring that the historical context of the Shuikoushan Workers' Movement is clear and the spiritual core is accurate, realizing the organic unity of the digital inheritance of red resources and historical authenticity, and truly giving play to the value guidance role of the workers' movement spirit.

7. Epilogue

The introduction of artificial intelligence technology has opened up a new path for the in-depth integration of the Shuikoushan Workers' Movement Spirit into the teaching of the *Principles* course. With the empowerment of artificial intelligence, the dusty historical materials of the workers' movement have been revitalized, stepping from the depths of history into contemporary classrooms; the abstract Marxist principles have obtained vivid interpretation, demonstrating the power of truth in the great feat of "800 Miners Marching to Jinggangshan"; the traditional red education has achieved a time-space leap, allowing students to resonate emotionally with revolutionary predecessors in immersive experiences. This teaching innovation of "artificial intelligence + ideological and political education" not only effectively resolves the difficulties of "difficult transformation, difficult empathy, and difficult internalization" in integrating red resources into theoretical teaching but also promotes the transformation of the *Principles* course teaching from "one-way indoctrination" to "two-way interaction" and from "theoretical preaching" to "value internalization".

Of course, technology is always a means, and moral education is the ultimate goal. In the process of using artificial intelligence to empower teaching, we must always keep in mind that the coldness of technology needs to be melted by the warmth of teachers, and the accuracy of data needs to be sublimated by the guidance of values （Li, H. P., & Wang, J. (2026)）. The spiritual core of "perseverance, indestructibility, and selflessness" contained in the Shuikoushan Workers' Movement Spirit ultimately needs to be interpreted with sincerity and affection by teachers in the classroom, and perceived by students through the unity of knowledge and action in practice. Only by adhering to the principle of "teacher-led, technology-assisted" and allowing artificial intelligence to serve teaching rather than replace it can we truly realize the intergenerational inheritance of red genes and the vitality of the truth power of Marxism. Looking forward to the future, with the continuous development of artificial intelligence technology and the deepening of the teaching reform of ideological and political courses, we have reason to believe that "artificial intelligence + ideological and political education" will create more opportunities for inheriting red genes and telling Chinese stories, and inject more powerful motivation into cultivating new people of the times who can shoulder the responsibility of national rejuvenation.

Acknowledgements

This work was financially supported by the 2022 Teaching Reform Research Project of Ordinary Undergraduate Colleges and Universities in Hunan Province (HNJG-2022-1182), the 2023 Quality Improvement Project of Ideological and Political Work in Colleges and Universities in Hunan Province (20E13), the 2024 Key Teaching Reform Research Project of Ordinary Undergraduate Colleges and Universities in Hunan Province (202401000832), and the 2024 Key Project of Hengyang Social Science Fund (2024B(I)014).

References

[1] Long, X. M. (2021). A glorious chapter in the history of the Chinese workers' movement: The Shuikoushan workers' movement. *CPC History Studies*, (2), 113–117.

[2] Deng, Q. C. (2021). Hengyang City: Inheriting the spirit of Shuikoushan workers' movement and drawing strength to forge ahead. *Xiang Chao*, (3), 57–59.

[3] Chai, S. C., Fan, G. H., & Wang, J. N. (2024). Research on the activation of archival historical materials from the perspective of archival art. *Theoretical Observation*, (12), 135–138.

[4] Dong, X. B., Han, Y., & Liu, J. F. (2025). A review of research on the history of the Chinese workers' movement since the founding of the People's Republic of China. *Trade Union Theory Research (Journal of Shanghai Trade Union Management College)*, (3), 15–33.

[5] Li, D. D. (2026). Research on the reconstruction of teaching content under the collaboration of large language models and knowledge graphs—Taking the course "Basic Principles of Marxism" as an example. *Heilongjiang Education (Theory and Practice)*, (2), 1–10.

[6] Peng, Y. Q., Rao, Y., & Li, W. Y. (2026). The "intelligent change" and "qualitative change" of ideological and political education empowered by generative artificial intelligence: Value, risks and paths. *Journal of Ethnic Education Research*, 1–11.

[7] Xie, J. (2025). Artificial intelligence and Chinese modernization: Realistic picture and future prospect—A review of the "2025 National Annual Conference on Marxist Principles Research and Academic Seminar on Artificial Intelligence and Chinese Modernization". *Studies on Marxism*, (11), 152–154.

[8] Yan, F. J. (2025). The inherent requirements and effective paths for teaching the "Basic Principles of Marxism" course in depth, thoroughly and vividly. *Studies in Marxist Theory*, *11*(4), 119–127.

[9] Bao, W. J. (2025). An analysis of teaching methods for the "Basic Principles of Marxism" course based on classroom design. *Leading Journal of Ideological & Theoretical Education*, (4), 153–159.

[10] Zhang, S., & Zhou, Q. (2025). Precise communication of red culture in the age of artificial intelligence: Opportunities, models and strategies. *Journal of Hainan University (Humanities and Social Sciences)*, *43*(5), 159–165.

[11] Han, M. (2025). Thoughts on the construction and application of red publishing knowledge graphs empowered by artificial intelligence.*China Publishing Journal*, (11), 39–44.

[12] Wang, S. X., Yang, H., Feng, C., & Li, X. (2025). Research on multimodal sentiment analysis algorithm integrating counterfactual reasoning. *Computer Engineering and Applications*, *61*(15), 199–208.

[13] Zhang, Q., Yang, M., Shi, Q., Wang, R. R., & Long, T. T. (2022). Virtual reality empowering the training of future teachers: Logic, scenarios and reconstruction. *China Distance Education*, (8), 9–17.

[14] Wang, Y. D. (2026). Dialectical examination of artificial intelligence development and

exploration of scientific thinking. *Southeast Academic Research*, 1–11.

[15] Zhang, G. Q., & Duan, G. H. (2026). From "general" to "vertical": The customized application of artificial intelligence ideological and political large models. *Journal of Hohai University (Philosophy and Social Sciences Edition)*, 1–8.

[16] Li, H. P., & Wang, J. (2026). The triple transformation, risk spectrum and governance of artificial intelligence integration into education. *Journal of Ethnic Education Research*, 1–10.