

Original Paper

Research on Policies for Teachers' Digital Ethics Literacy at Home and Abroad: Status and Implications

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Abstract

In the process of educational digital transformation, teachers' digital ethics literacy is a fundamental safeguard for protecting students' rights and promoting educational equity. This study reviews the evolution and key characteristics of policies concerning teachers' digital ethics literacy in the past 10 years at home and abroad. The findings indicate that Chinese policies primarily focus on digital ethics and safety education for students, the redefinition of teachers' role, and the development of a harmonious framework for human-technology governance. In contrast, policies abroad place greater emphasis on teachers as ethical agents and pay more attention to social justice and equity. Based on these findings, this study believes that countries should develop differentiated standards for teachers' digital ethics literacy, improve assessment systems, and strengthen targeted training for teachers.

Keywords

teachers' digital ethics literacy, policy research, teacher development

1. Introduction

Teachers' teaching has been profoundly affected after artificial intelligence entered teaching area. In recent years, the iterative update of new technologies has continued to promote the digital transformation of education. While technology has deeply empowered teachers' teaching activities, it has also given rise to increasingly serious ethical risks. Problems such as data privacy leakage, copyright infringement, and teacher-student relationship alienation have become common in teaching practice (Qi, 2026). Artificial intelligence tools themselves are also biased. For example, Google Translate will strengthen occupational gender stereotypes, and the error rate of face recognition technology in identifying ethnic minorities is significantly high (Akgun & Greenhow, 2021). In this context, teachers' digital ethics literacy is

particularly important, which refers to “a synthesis of ethical consciousness, ethical knowledge, ethical emotions and ethical practice ability based on the application ability of digital technology” (Liang & Huang Fu, 2024: 37). As the first responsible subject of education and teaching activities, teachers not only need to regulate their own ethical behavior and carry out critical evaluation of artificial intelligence tools and their generated content, but also bear the responsibility of guiding students’ digital ethics literacy development. For this reason, countries around the world have successively issued a series of policies to deal with the ethical risks of digital education, aiming to build a safe, fair and credible digital education environment by clarifying teachers’ rights, responsibilities and ethical standards. Most of the existing research have focused on the policy combing of teachers’ digital literacy and artificial intelligence literacy, but few have discussed the relevant policies of teachers’ digital ethics literacy. In view of this, this study sorts out the relevant policy items at home and abroad in the past ten years from 2017 to 2026, summarizes the evolution process and characteristics of current policies at home and abroad. It aims to have a more comprehensive understanding of the internal logic and core values of the policy, so as to provide guidance and reference for the formulation and implementation of teachers’ digital ethics literacy policies in the future.

2. The Development of Domestic Teachers’ Digital Ethics Literacy Policy

2.1 Evolution Process

2.1.1 Regulation Period of Network Behavior (2017-2020)

The policy of the network behaviour regulation period is mainly based on the top-level design at the national level, and the standardization requirements for teachers’ online behaviour lay the preliminary foundation for the digital ethics literacy policy system.

In 2018, the Ministry of Education successively issues the *Ten Guidelines for Professional Conduct of University Teachers in the New Era* and the *Ten Guidelines for Professional Conduct of Primary and Secondary School Teachers in the New Era*. For the first time, teachers’ online speech is included in the scope of teachers’ professional ethics supervision in the form of institutionalization. The document clearly stipulates that teachers ‘shall not publish, forward wrong opinions or fabricate and disseminate false information or bad information through the Internet’, and ‘publish inappropriate remarks through the Internet’ is defined as a violation of professional ethics. This indicates that the above guidelines have substantial accountability effect. Teachers’ online words and deeds are subject to the same degree of ethical constraints as offline words and deeds, and the whole process of teachers’ online information dissemination is included in the regulatory framework. In addition, the two guidelines have made differentiated norms according to the educational characteristics of different stages. The college teachers’ guidelines add the academic ethics clause of ‘opposing academic misconduct, not copying and plagiarizing, tampering and embezzling others’ academic achievements’, and the norms focus on the construction of academic integrity. The guidelines for primary and secondary school teachers emphasize ‘strengthening safety precautions’ and focus on the dimension of student safety protection. The core

function of the two *Ten Guidelines* is to delineate the bottom line of teachers' network ethics through prohibitive norms. In general, the ethical concerns at this stage are limited to online speech norms and academic integrity, which is the foundation period of teachers' digital ethics literacy policy system.

2.1.2 Exploration Period of Ethical Principles (2021-2024)

The policy theme in the exploration period of ethical principles has further deepened from network behavior norms to digital ethical governance. The purpose of this period is to strengthen the teachers' understanding of digital ethics and related standards.

In 2021, the *New Generation AI Ethics and Governance Principles* issued by the Ministry of Science and Technology completes the top-level normative design in the field of artificial intelligence ethics. For the first time, the group of teachers who are the main body of artificial intelligence application is included in the scope of constraints, and the overall requirement of 'improving ethics literacy' is put forward. At the same time, the document clearly defines three specific use norms of 'avoiding misuse and abuse', 'prohibiting illegal and malicious use' and 'improving use ability'. Teachers are required to actively learn the ethical knowledge of artificial intelligence, objectively treat the ethical issues in artificial intelligence applications, and use AI tools in a compliant and reasonable manner. This policy has laid the literacy-oriented tone of Chinese teachers' artificial intelligence ethics policy through advocacy. In 2022, the Ministry of Foreign Affairs issues the *China's Position Paper on Strengthening Ethical Governance of Artificial Intelligence*. Through the position declaration, it is clear that teachers should protect personal privacy and data security, and attach importance to the ethical education of artificial intelligence. In the same year, the Ministry of Education further focuses on teachers' own abilities and responsibilities. The education industry standard of *Digital literacy of teachers* lists 'digital social responsibility' as the first level dimension of teachers' digital literacy for the first time, clearly requiring teachers to regulate the Internet, protect the privacy of personal information, and maintain the security of work data. It marks the first time that teachers' digital ethics has entered the teacher literacy policy system in the form of formal standards. On this basis, the *White Paper on Higher Education in the Era of Artificial Intelligence* in 2024 further points out that teachers should have the ability of moral restraint, evaluation and co-design. At this stage, the main body of responsibility for ethical governance has gradually shifted to teachers, marking the ethical requirements from external norms to ability internalization and role positioning, and promoting the connotation of teachers' digital ethics literacy from the ability level of operational skills to the ethical level of value judgment.

2.1.3 System Governance Period (2025-2026)

The relevant policy documents in the stage of system governance show an explosive growth trend, and the overall system construction is becoming more and more mature and perfect. The national and provincial education administrative departments have successively issued relevant normative documents, gradually realizing the development of specialization and institutionalization on the basis of the previous policy, and further improving the normative system of security and capacity responsibility.

Policies at the national level are mainly divided into two themes. The first theme is security and ethical

governance. In January 2025, the *Outline of the Plan for Building a Strong Educational Country (2024-2035)* first proposes to strengthen data security, artificial intelligence algorithms and ethical security. In April, *Opinions on Accelerating the Digitalization of Education* establishes an ‘artificial intelligence + education’ security system. In May, the Ministry of Education releases the *Wuhan Initiative on Digital Education Cooperation* and the *White Paper on Smart Education in China* at the World Digital Education Conference. The ethical standards, codes of conduct and accountability mechanisms for the application of artificial intelligence in education are improved by the two documents, and it further clarifies the behavioral boundaries of teachers’ use of artificial intelligence. In the same month, *General Requirements for Personal Information Protection of Smart Education Platform* establishes personal information protection principles such as ‘minimum necessary’, ‘classification and grading’ and ‘tort accountability’. In April 2026, the *Artificial Intelligence + Education Action Plan* incorporates artificial intelligence-related content into the teacher qualification examination and certification system, marking that previous advocacy requirements have been upgraded to rigid occupational access standards. In May, *Ethics of Artificial Intelligence in Education: A Reference Framework* formulates the ethical behavior norms of educators covering the whole school section, and puts forward three types of behavior boundaries, prohibition of access, limited use and encouragement of use. The second theme is the responsibility orientation of teachers’ ability. In May 2025, the *Guidelines for the Use of Generative Artificial Intelligence in Primary and Secondary Schools* makes it clear that teachers should assume the supervision and guidance responsibilities of students’ AI applications. In July, the Ministry of Education issues the *Notice on Organizing and Implementing the Action of Digital Empowerment for Teacher Development*, which clearly proposes three core requirements, the development of normative guidelines, the strengthening of data security and the implementation of network behavior supervision. Its goal is to cultivate the noble ethics of teachers. In November, the *Guidelines for Teachers on the Application of Generative Artificial Intelligence (First Edition)* clearly defines six major areas of constraints. In May 2026, the *Report on the Application of Generative AI for Chinese Teachers* points out that there is still room for improvement in teachers’ human-machine collaboration ability and ethical norms, and it is clearly proposed that the role of teachers needs to complete the transformation from ‘tool user’ to ‘value guardian’. At this stage, the top-level layout of the whole chain has been completed in the national level, which encompasses the establishment of value principles, the delineation of ethical bottom lines, and the specification of behavioral norms. It also builds a clear guidance and strategic leadership framework for the development of teachers’ digital ethics literacy in China.

At the provincial level, intensive implementation plans have been issued since 2025. The strategic orientation established at the national level has been refined into differentiated landing rules adapted to the actual development of each province. The *Artificial Intelligence Literacy Framework for Primary and Secondary School Teachers in Guangdong Province (Trial)* refines the dimension of ‘social responsibility’ into three principles, artificial intelligence security, ethical norms, demonstration and guidance. For the first time, it is clear that teachers should become models and guides for students.

Zhejiang Province's Action Plan for Promoting 'Artificial Intelligence + Education' (2025-2029) has established the most systematic ethical classification system at present, and divided AI ethical norms into three sub-dimensions, safety ethics, fairness ethics and benefit ethics. *Zhejiang Province Primary and Secondary School Teachers' Artificial Intelligence Literacy Framework (Trial)* focuses on the protection and growth law of minors. *Zhejiang Province University Teachers' Artificial Intelligence Literacy Framework (Trial)* emphasizes ethical compliance in academic research and teaching, reflecting the policy design consciousness with different academic stages. The *Shandong Province's 'Artificial Intelligence + Education' Implementation Plan* proposes to carry out the 'Anning Qilu' personal information protection special action, which has realized the simultaneous advancement of technology application and security governance. The *Shaanxi Provincial Action Plan for Promoting 'Artificial Intelligence + Education' (2025-2027)* sets out a list of ethical risks and clarifies the ethical responsibilities of teachers to educate students. *Guizhou Province's Action Plan for Promoting Artificial Intelligence Empowerment Education (2026-2030)* is the first to establish an audit mechanism for AI products entering the campus in China. The *Heilongjiang Province's Action Plan for Promoting 'Artificial Intelligence + Education'* directly links artificial intelligence literacy to teacher assessment and professional title evaluation. In addition, Sichuan, Jiangsu, Henan, Fujian and other provinces have made detailed provisions on curriculum construction, ethical norms development and full-chain safety supervision.

2.2 Characteristics of Domestic Policy

At present, the relevant policies related to teachers' digital ethical literacy in China are mostly attached to the policy system of intelligent education, digital literacy and educational technology application. Although the number of relevant policies continues to grow and the coverage of discussions has gradually expanded, there is still no specific policy for teachers' digital ethics literacy in China. Combing the existing policies, the main characteristics can be summarized as follows.

2.2.1 Focusing on Students' Digital Ethics Safety Education

Education should be people-oriented and take the comprehensive development of students as the fundamental task. At the 2018 National Education Conference, General Secretary Xi Jinping clearly points out that we should insist on cultivating morality as the fundamental task of education. Some scholars have also pointed out that the ethics of artificial intelligence education should respect and highlight the development needs of students, and take the well-being and development of students as the core concern (Hu et al., 2022). Teachers are the first person in charge of students' quality education. Students' development and protection of rights and interests should be placed at the core position while teaching. In recent years, the functions of new technical tools such as ChatGPT have become more and more abundant. They have quickly entered the teaching scene, giving birth to new types of ethical issues such as algorithm bias, data privacy and human-machine collaboration. In the digital age, students often master digital tools faster than teachers. Teachers need to have a high level of digital ethics literacy to ensure effective ethical guidance for students. On the basis of regulating teachers' behavior, the existing

policies gradually focus on ensuring students' digital security and promoting students' healthy growth.

2.2.2 Reshaping the Role of Teachers

The role of teachers in the digital age should change from knowledge transmitter to knowledge collaborator, from curriculum executor to curriculum developer, from learning supervisor to learning leader (Yu, 2018). As the core subject of the digital ethical governance system, teachers' ability requirements, responsibility boundaries and role positioning are focused on at the policy level. In 2018, the Ministry of Education launched the construction year of teachers' morality and style. Under the background of 'Internet +', teachers' online speech and behaviour have become the focus of social attention. Therefore, teachers only need to stick to the bottom line in the face of the initial network governance. The *Data Security Law* and the *Personal Information Protection Law* in 2021 provide legal protection for data governance in China. The behaviour of teachers' collecting, storing and using student information is regulated by law. In 2025, the *Outline of the Plan for Building a Strong Educational Country (2024-2035)* writes 'strengthening data security, artificial intelligence algorithms and ethical security' into the national strategic document, and the policy binding force and institutional guarantee will be enhanced. Under the guidance of national policies, the identity of teachers has gradually changed into the responsibility bearer, normative executor and ethical guardian in digital ethical governance.

2.2.3 Building a Harmonious Human-machine Governance Relationship

The complexity of the technical environment promotes the gradual systematization of the policy system, and the dimension of digital ethics has also expanded from a single network security category to a multi-collaborative governance framework. Some scholars summarize the current ethical risks of artificial intelligence education into four categories, technology ontology risk, education data risk, machine algorithm risk and education application risk (Wang et al., 2024). The development of big data continues to amplify the above risks and has a profound impact on education and teaching activities. Ethical system is the most effective measure to crack and eliminate ethical risks. It is necessary to restrain and standardize the human-machine relationship and social behavior in educational practice in a compulsory way (Feng et al., 2020). Therefore, the emergence of various new ethical issues requires that policies can be keenly identified and relevant rules can be supplemented in a timely manner. The teacher's digital ethics literacy policy initially filled the regulatory loopholes in a passive form. Later, it gradually incorporated issues such as data security, privacy protection, algorithmic fairness, intellectual property rights, and human-machine collaboration into the framework one by one. Finally, the current diversified governance pattern is formed.

3. The Development Context of Foreign Teachers' Digital Ethics Literacy Policy

3.1 Evolution Process

3.1.1 Digital Ethical Competence Period (2017-2018)

Around 2017, Internet applications and artificial intelligence technology have been deeply integrated into the educational practice scene. In this context, the United Nations Educational, Scientific and Cultural

Organization (UNESCO) and countries around the world have introduced the digital competency framework for teachers, which systematically describe the digital ethical competence that teachers should possess to guide their behavior.

In January 2017, *Common Digital Competence Framework for Teachers* released by Spain clearly requires teachers to master network etiquette norms, complete digital identity management, comply with copyright rules, protect personal data privacy and maintain physical and mental health. In June, the *Standards for Educators* issued by the International Association for Educational Technology (ISTE) adds requirements to guide students to use digital tools safely, legally and ethically in addition to the above requirements. In November, the *Digital Competence of Educators* (DigCompEdu) released by the European Union builds a more systematic design, embedding digital ethics-related requirements in multiple dimensions such as digital resource management, learner empowerment, and digital competence development. It clarifies that teachers need to effectively protect sensitive digital content, respect privacy and copyright rules, guarantee the accessibility and inclusiveness of learning resources, and cultivate students' awareness and ability to use digital technology responsibly. The *Professional Digital Competence Framework for Teachers* issued by Norway attaches greater importance to digital ethics. It specifically sets up an independent ethical section and puts forward clear requirements for teachers from the three dimensions of knowledge, skills and competence. Teachers need to master laws and regulations related to intellectual property rights and personal data, have the ability to identify digital bullying, practice digital judgment, and at the same time develop comprehensive literacy such as managing personal digital identity, cultivating students' digital judgment, and promoting professional communities to carry out digital ethical reflection. In March 2018, the *ICT Competency Framework for Teachers* issued by the United Nations Educational, Scientific and Cultural Organization (UNESCO) forward-lookingly proposes that the penetration of artificial intelligence in the field of education will lead to ethical risks and data security problems. Artificial intelligence algorithms may reproduce existing social prejudices, so it is necessary for teachers to carry out systematic digital ethics training. The core theme of this stage focuses on the behavioral norms and exemplary responsibilities that teachers should follow as digital citizens. Although there are differences in the framework structure of different policy documents, the direction of concern for teachers' digital ethics is highly convergent.

3.1.2 Ethical System Governance Period (2019-2026)

From 2019 to 2026, the rapid iteration of generative AI has shifted the policy focus from teachers' technical application ability to teachers' AI ethical literacy. Teachers are defined as ethical guardians and human-machine collaborative designers in AI education applications.

The *Artificial Intelligence and Education - Beijing Consensus* in 2019 and the *Artificial Intelligence Ethics Recommendation* in 2021 issued by UNESCO clearly state that teachers cannot be replaced by machines. The application of artificial intelligence should take the core goals of empowering teachers. Besides, the documents require countries to dynamically examine and define the role of teachers, strengthen AI ethics training and protect the humanistic value in the relationship between teachers and

students. In 2023, *Artificial Intelligence and the Future of Teaching and Learning* in the United States points out four ethical requirements for teachers in the AI era. The first is to critically evaluate the bias and immoral content of AI output, the second is to protect data privacy, the third is to exercise a veto over AI recommendations, and the fourth is to prevent algorithmic discrimination. In the same year, the *Guidance for generative AI in education and research* proposed by UNESCO points out that teachers must have the literacy to identify the ethical risks of AI, rather than passively accepting the output of AI. In 2024, UNESCO's *AI competency framework for teachers* systematically lists the multiple responsibilities of teachers in AI ethics, that is giving priority to fairness and inclusion (with special attention to disabled and marginalized students), protecting data privacy, eliminating prejudice, etc.. It also requires teachers to critically evaluate AI tools and design learning scenarios that promote the development of students' thinking. The U.S. *2025 EDUCAUSE Horizon Report (Teaching and Learning Edition)* points out that part of the responsibility of teachers is to teach students how to use AI technology responsibly and ethically. TTF's position document *Promoting and protecting teacher agency in the age of artificial intelligence* requires that AI tools should be designed together with teachers, and the government must clearly commit that teachers are irreplaceable. In 2026, the European Commission's *Guidelines on the ethical use of artificial intelligence and data in teaching and learning for Educators* refers teachers as the ethical guardians of students for the first time. Teachers are required to critically assess the fairness, transparency, privacy and security of AI use and respect human dignity. The *OECD Digital Education Outlook 2026* emphasizes the importance of strengthening teachers' autonomy, and it is necessary to ensure that educational practice remains people-oriented and ethically based. The EU Council's *Draft Council conclusions on teachers in the era of artificial intelligence (AI)* clarifies that teachers need to help learners reflect on the social, environmental and ethical implications of AI tools. And they play a key role in critically assessing AI output and guiding learners to understand its limitations and prejudices. At this stage, relevant policies increasingly highlight the core position of teachers in the ethical governance system, and continue to clarify the specific responsibilities of teachers through the introduction of policies.

3.2 Characteristics of Foreign Policies

3.2.1 Attaching Importance to the Subject Status of Teachers' Ethics

Teachers' sense of existence may be reduced when artificial intelligence is involved in the field of education and teaching. The EU's *Artificial Intelligence Act* in 2024 classifies artificial intelligence applications in the field of education as high-risk categories. The original intention of AI tool development is to reduce the burden on teachers, but excessive use will weaken the emotional connection between teachers and students. In addition, artificial intelligence cannot consider the state of different students in the same way as teachers. The generated content may be harmful, wrong and biased, which will ultimately harm the mental health of students. In this situation, teachers are required to exert their ability to critically evaluate AI and assume the intermediary responsibility between human-computer interaction. In addition to being irreplaceable in the field of education and teaching, teachers also need

to participate in the design and implementation process of artificial intelligence governance framework. At present, the main body of the design and development of artificial intelligence tools is mostly professional and technical personnel. The design process often lacks a professional perspective in the field of education, and teachers are most aware of students' learning and development needs. Policies cannot completely prohibit the use of artificial intelligence tools in educational scenarios, but they cannot adopt a laissez-faire attitude towards their application. Therefore, teachers' participation in the design and governance of artificial intelligence can better guide students to realize the standardized application of artificial intelligence. The focus of policy has shifted from the early focus on external ability standards to the emphasis on teachers' own rights and subject status. This shift can promote the development of teachers' digital ethics literacy.

3.2.2 Paying Attention to Social Ethical Factors

The *General Data Protection Regulations* issued by the EU in 2018 is known as the world's strictest data privacy law. This document upgrades data protection rules from the directive level to the regulatory level and has mandatory legal effect. Ethical concerns at this stage focus on privacy protection and data security. With the development of more and more artificial intelligence tools, problems such as racial prejudice, gender discrimination and cultural stereotypes in the international community have become increasingly apparent. The design process of the tool is susceptible to the position of the development subject, resulting in the bias of the tool itself. In addition, the goal of policy formulation not only focus on ordinary students, but also pays full attention to disabled students and marginal groups. This kind of ethical factors implied in the social level requires teachers to maintain keen awareness and attention. Therefore, teachers' digital ethical concerns cannot only stay at the level of data protection. Some policies have paid attention to such social ethical factors and put forward behavioral requirements for teachers.

4. Research Implications

At present, although there are differences in the evolution and specific characteristics of teachers' digital ethics literacy policies at home and abroad, their core has clarified the irreplaceable key position and important role of teachers in digital ethics education. The future should be improved in the following three aspects:

4.1 Formulating Special Standards for Localized Ethics Literacy

No special policy for teachers' digital ethics literacy have been made at home and abroad. Although some foreign policies have discussed ethics as an independent dimension, most of them are requirements for teachers to apply artificial intelligence tools. Domestic policies mostly embed digital ethical elements in other policy texts. Although related expressions of ethical literacy are involved, the content is still not specific enough. Countries should actively participate in the governance agenda of teachers' digital ethics led by UNESCO, OECD and other international organizations, exchange and learn from each other around the practical experience of countries. On this basis, countries need to formulate and improve the localization policy system in line with national conditions while combining the actual development level

of their education. Simultaneously, the practicability of policies must be guaranteed. In addition, the transmission chain of policy effectiveness should be shortened in the process of policy formulation. The model of *Scottish Guidelines and Guardrails for the use of Artificial Intelligence (AI) in Schools* can be used for reference to make clear constraints on teachers' behavior directly through the list of acceptable and unacceptable behaviors.

4.2 Establishing a Multi-subject Collaborative Evaluation System

The policies issued by various countries are mostly environmental-oriented and supply-oriented policy tools, lacking demand-oriented policy tools. In the existing policy system, there is no mechanism arrangement for students, parents or the public to evaluate, supervise or feedback teachers' digital ethical behavior. Therefore, the performance of teachers' digital ethical behavior is naturally unable to receive feedback and evaluation from students, parents and society. The policy effect can only rely on the government's top-down one-way evaluation, and there is a lack of bottom-up reverse review. Based on the above situation, countries should establish a multi-evaluation system including teacher self-evaluation, student feedback, parent evaluation and peer review, and promote the expansion of teacher self-examination model into a multi-agent collaborative evaluation model. Self-assessment is the basis of teachers' self-diagnosis, and other evaluation can reflect the actual influence of teachers' ethical behavior in terminal groups such as students and parents. The combination of the two can form a closed loop of two-way feedback.

4.3 Strengthening the Special Training of Teachers' Digital Ethics Literacy

In 2025, a survey of 280,000 teachers worldwide by the Organization for Economic Cooperation and Development (OECD) shows that teachers are concerned about the ethical risks posed by the application of artificial intelligence. One-third of teachers have used artificial intelligence in teaching, but 70 % of teachers worry that it will encourage plagiarism and cheating. Some scholars have pointed out that half of foreign universities have mentioned teacher training and support measures in their policies (Lv & Du, 2025). In 2026, the survey data of *Chinese Teacher Generative Artificial Intelligence Application Report* shows that 96 % of teachers are willing to actively learn to use generative artificial intelligence, and 86 % of teachers are deeply worried that students' excessive dependence on AI will reduce their ability to think independently. Teachers' AI literacy shows a positive trend, but the ability of human-machine coordination and ethical norms still needs to be improved. It can be seen that the current teacher group has realized the existence of ethical problems, but there is a general lack of methods to deal with them. Therefore, it is urgent to strengthen the special training of teachers' digital ethics literacy. This study recommends that the design logic of hierarchical classification and integration should be adopted, because there are significant differences in the digital ethical situations faced by teachers in different disciplines, learning stages, schools and countries. At the same time, a coherent training path of pre-service training and post-service training should be constructed. The pre-service stage focuses on the cultivation of ethical awareness and the cognition of basic norms, and the post-service stage focuses on the ethical judgment and coping ability in specific teaching scenarios. Furthermore, the training content

should be specific to operational knowledge, which helps teachers make reasonable judgments when facing practical problems.

5. Conclusion

Digital ethics literacy is the cornerstone of digital benign ethical order (Wang & Li, 2023 : 57). Teachers' digital ethics literacy is the core foundation for the construction of ethical norms system in the field of education and teaching. The policy guidance at the national level plays a clear guiding role in the relevant academic research direction, teachers' teaching behavior standards and students' daily behavior norms. This study reviews the evolution process of policies relevant to teachers' digital ethics literacy at home and abroad in the past ten years, and analyzes the policy characteristics on this basis. Domestic policies have gone through three stages of network behavior norms, exploration of ethical principles and systematic governance. The policies mainly focus on the ethical safety education of students, the role positioning of teachers, and the construction of a harmonious human-machine governance relationship. Foreign policies have gone through two stages of digital ethical capability and ethical system governance. The policies highlight teachers' ethical autonomy and pay special attention to social ethical factors. Although the development paths and characteristics of domestic and foreign policies are different, they all recognize the important value of teachers' digital ethics literacy. It is the inherent requirement of teachers' professional development, which affects the growth of students and the development of society. Therefore, in the future, countries should continue to deepen research and practical exploration from the three aspects of formulating special standards, constructing evaluation system and strengthening teacher training, so as to provide reference for the formulation and optimization of subsequent relevant policies, and further promote the development of teachers.

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