

# The Informationization Development Strategy of Teachers' Professional Morality in the Internet Era

Lin Huai and Chenghu Wang

**Abstract**—With the further development of Internet technology, profound changes have taken place in various fields of society. Benefiting from the convenience brought by Internet technology, forms of education tend to be diversified and new forms like MOOC and micro-class have met the needs of different target groups, thus refining the education market. Moreover, affected by the market demand, the offline mode of education has also changed to the online mode in accordance with the times. In the educational environment, all kinds of policies, systems, and educational behaviors could be regarded as the embodiments of the external driving force of education. As the internal driving force of education, moral accomplishment is still the research object that should not be ignored, which has a profound impact on the quality of sustainable development of education. In the Internet era, as the main subject of educational behaviors, teachers use Internet technology to improve teaching methods and promote teaching quality. The Internet, in turn, could also be called the endogenous dynamic carrier of teachers to realize the dominance of teachers' values. To achieve the moral education of teachers, this paper proposes that the CIPP model could be systematically applied to assess educational effectiveness. As essential parts of CIPP input evaluation, six aspects of teacher moral training measures are put forward in this study from the perspective of the Internet. Furthermore, to achieve the informatization construction of teachers' professional morality combined with the application of technology, higher satisfaction data is expected to be obtained.

**Index Terms**—Teachers' morality, Internet, educational informatization, CIPP.

## I. INTRODUCTION

### A. Background

With the rapid development of the Internet industry, education informationization has become a generally accepted phenomenon in society, and the emergence of MOOC has greatly facilitated the development process of the education industry in the Internet market. In the era of integration of education with the Internet, apart from enjoying the learning convenience brought by it, we should also treat the consequent risks in perspective, one of which is the loss of teachers' moral accomplishment. The mechanism of teachers' moral construction like training and further education is no longer suitable for the current situation, especially in the Internet era, because information updates quickly and its high and low qualities coexist. In the Internet

era, individuals influenced by such information have shown different characteristics, e.g. decadent information could easily make them ignore the people-centered concept, thus causing the expansion of egoism and the erosion of ideals.

Education has entered a new historical stage of "Internet +", hence the ability and quality of teachers need to essentially adapt to the changes of the times and the methods and mechanisms of moral education are naturally to be tested first. Notably, students could freely grasp educational opportunities through MOOC according to their interests or needs for the first time. They could sit at home and get the same education through the Internet as they do at school. Major training institutions have begun to transform traditional offline education into network education and provide a large amount of online tutoring for students. Generally, people are delighted to see the convenience provided by the network and strive to show the achievements of education informationization and eulogize the success of Internet education.

After investigating the existing moral evaluation of teachers, we could find that most existing evaluation systems of qualitative analysis focus on the construction of procedural norms, normative documents, and rule of law [1]. Quantitative evaluation is suitable for the analysis and evaluation of teachers' daily performance and moral value of educational behaviors, but it could not reflect their feelings, ideals, beliefs, and other cultivation conditions [2]. Even if qualitative analysis and quantitative analysis are combined, the elements of Internet informatization only appear as indicators. However, the forming process of some indicators is invisible, especially those based on the formation of Internet elements. In this study, the CIPP model is used to highlight the process analysis and Internet elements are used as input factors to generate more results evaluation factors.

### B. Questions Raised

Seghedin Elena believes that as to the teaching mode, reflective ability embodies the link between technology and morality[2]. To shape teachers' behaviors and provide diversified challenges and requirements, teachers must be prepared to reflect on the ethical significance of education, which is conducive to building commitment to the profession. The premise is to find out the significance of the teaching profession [3], i.e. to promote the sustainable development of education for which endogenous and exogenous impetus is indispensable as the driving force. The exogenous impetus comes from the technological progress brought about by the scientific and technological revolution while the endogenous impetus is from the educational cognition of the educational subjects (e.g. knowledge cognition and moral cognition). As far as the education system in the current Internet

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environment is concerned, teachers have the potential risk of mortality loss. Generally, the moral cognition of teachers who are influenced by Internet technology is uncertain. From a practical perspective, however, Internet technology could promote teachers' moral cognition. This paper will discuss how to effectively prevent the loss of teachers' professional morality in the Internet era and promote the development of teachers' moral informatization using Internet technology.

## II. HISTORICAL EVOLUTION OF TEACHERS' MORALITY CONSTRUCTION

Since 2000, China has entered a period of high-quality economic transformation and the trend of rapid development of education driven by the economy has been apparent. Higher education has obtained a high-speed development mode and the expansion of college enrollment has enabled more students to receive higher education. In this context, the behavior norms of university teachers should attach more importance to morality to promote the sustainable development of education and ensure that the direction of running a school does not deviate from the original intention of education. Since 2005, the Ministry of Education of the PRC has promulgated guiding documents like "Opinions of the Ministry of Education on Further Strengthening and Improving the Construction of Teachers' Morality", "Opinions of the Ministry of Education on Establishing and Perfecting a Long-term Mechanism for the Construction of Teachers' Morality in Colleges and Universities", and "Guiding Opinions of the Ministry of Education on the Treatment of Teachers' Morality Anomie in Colleges and Universities", which has laid a legal foundation for the treatment of teachers' morality anomie and standardized the university teachers' fulfillment of duties. It is of great epochal significance to carrying out the fundamental task of cultivating people by virtue and carrying forward the ethics of university teachers in the new era.

Teachers' professional ethics directly affect the educational environment and social value orientation. The loss of moral accomplishment not only has a direct impact on the physical and mental health of the educated but also forms a negative impression on teachers in society, which will hinder the sustainable development of the mainstream values of education. To safeguard the authority of teachers' professional morality, the Ministry of Education of PRC issued "The Measures for the Treatment of Teachers' Violations of Professional Morality in Primary and Secondary Schools (Revised in 2018)" in November 2018. In 2019, the Ministry of Education and other seven departments jointly issued the "Opinions on Strengthening and Improving the Construction of Teachers' Morality and Style in the New Era", pointing out that "We should constantly stimulate teachers' endogenous motivation while following the laws of education, teachers' career growth and development, and teachers' morality and teaching style construction."

In western countries, the construction of teachers' morality has been developing for a long time. In the United States, the development of teachers' morality began in the 17th century and the "Code of Ethics of the Education Profession" (NEA Criterion for short) was formally promulgated as the most

representative file. In Canada, two moral construction files, i.e. "The Ethical Standards for the Teaching Profession" and "The Standards for Practice of the Teaching Profession", were recommended by UNESCO as typical cases with the former revised in 2006. In Britain, the National Union of Teachers (NUT) issued a manual to its members which specifies what teachers should do and how their violations should be dealt with in 2007.

## III. TEACHERS' MORALITY ACCOMPLISHMENT HAS RICH AND MULTI-LEVEL MEANINGS

First, the cultivation of teachers' ethics contains the implication of economic development. Notably, China's reform and opening-up policy has achieved great success. With the development of the economy, the internal demands in the field of education have been rationally re-interpreted and moral accomplishment has begun to profoundly affect the value of the education market and the quality of resource regulation. The level of moral accomplishment will directly affect the overall value of the education market, which, in turn, affect the dominant position of teachers' morality in the education system. Therefore, teachers' morality has been given the implication of economy. While fully liberating productive forces, the market economy facilitates moral progress to some degree, enriches the composition of the moral system, and broadens the connotations and extended meanings of morality. The development of the market economy will cause the polarization of social morality to a certain extent. On the one hand, the economic quest for profit might break the moral bottom line and then individualism begins to rise, which weakens the student-centered educational concept. On the other hand, economic reform and modernization have actively promoted moral construction and various new ideas have sprung up, which reflects more distinct characteristics of the times. As one of the main actors in education, every teacher needs to think about how to balance the relationship between personal interests and moral accomplishment. The interest attributes of teachers are essentially based on the teaching profession and morality is their most fundamental quality, hence the various interest demands of educational subjects could not exist without moral constraints. The subject status with education attributes of teachers will be consolidated and society will give them interest returns as feedback when they fulfill their moral obligations, which reflects their value returns. This is the dynamic mechanism to stimulate teachers' moral needs, the affirmation of their personality and deeds, and the concrete embodiment of social and economic development and educational equity in teachers' ethics.

Second, as an indispensable element in the formation of culture, teachers' morality accomplishment contains cultural implications. In the educational ecosystem, teachers, who shoulder the responsibility of knowledge dissemination, are at the core of educational behaviors. Observed from the Chinese words "Jiao Yu"(i.e. education), the standard thought of "Jiao" (i.e. teaching) lies in the process of imparting knowledge, which is the direct behavioral requirement and the core of the teaching system. The word "Yu" (i.e. moral shaping) highlights the importance of

educating people as a supplement to "teaching", which means that education needs to transmit philosophy with the significance of life while transmitting knowledge, thus improving the level of moral literacy education and emphasizing the comprehensiveness of education. In the long history of evolution, China gradually formed the value of respecting teachers and valuing education. The development of teachers' morality reflects the progress of social culture while the development and diversification of social culture, in turn, also enrich the cultural connotation of teachers' morality, thereby achieving the organic unity of morality and society at the cultural level.

Third, teachers' morality accomplishment contains political implications. As a noble cause for human beings with public attributes, education is related to the future development of the country. As an essential part of the education system, teachers could be regarded as educators but are given a deeper meaning in the political context — civil servants who serve the strategic development of the country. Teachers have the obligation and responsibility to train talents for the development of the country. From this perspective, teachers need to have moral qualities in line with the interests of national development, the basis of which is good political qualities.

Fourth, teachers' morality accomplishment contains historical implications. The development of teachers' morality should not exist in isolation from history; on the contrary, its connotation has been more historic in the historical evolution. In ancient Chinese poetry, numerous poems depict education or teachers, some of which eulogize the morality quality of teachers. Having entered a new era, the concept of education has changed but morality remains the same. Morality is the foundation of teachers, whose essence lasted for a long time in its long history. Moreover, the history of education could be regarded as an essential manifestation of data feedback to provide a reference for reform and future moral construction as a new node in the history of educational development.

#### IV. MAIN PROBLEMS OF TEACHERS' MORALITY IN THE INTERNET AGE

##### *A. Individual Egoism Makes Teachers Lose Their Moral Accomplishment*

As mentioned above, as the bearing form of education informationization, online education forms like MOOC and micro-courses that have emerged in recent years have enriched the form of education. Large amounts of "Internet teachers" have appeared on the computer screen as a supplement to the traditional education model, but there have also been uncontrollable moral risks. In particular, the requirement of teachers' morality seems to be placed in a secondary position under the management of profitable private educational institutions which provide more abundant financial resources than public ones. Affected by the market orientation, the prevailing egoism mentality has caused more and more teachers of public schools to go to private institutions. The phenomenon of "learning after class" drags

down the level of public education to some extent.

##### *B. Neglecting the People-Centered Concept Accelerates the Loss of Teachers' Morality Accomplishment*

In traditional education, the relationship between teachers and students is maintained based on mutual respect. Teachers tend to act as educational authorities to provide selfless help to students according to moral standards, which is an educational process that emphasizes students as the main subjects, that is, "people" are at the center. In the context of Internet education, many teachers gain profits at private education institutions or even on their own private education platforms and larger platforms might offer more generous remuneration to them. The Internet has become increasingly pervasive in people's daily lives and social interactions and had an impact on the existing social norms and ethics [4]. In the future, the purpose of education will be likely to deviate from its original intention and the failure to put the educated in a correct position in the education system will lead to moral dislocation. This "platform theory" and "money theory" of the "I-he/she" relationship is not conducive to teachers' respect for students and will ultimately lead to a vicious circle of morality loss.

##### *C. Negative Information on the Internet Lowers Teachers' Moral Standards*

Di Cui et al. view the Internet as a technical space with potential ethic and security issues instead of a volatile area for debates [5]. Information on the Internet is updated quickly and the quality of its content varies significantly. The thoughts of teachers who are also social people are at risk of being eroded by decadent information and leading to the loss of moral accomplishment. There is indeed a possibility of weakening the moral standards in the network environment, but Cheolho Yoon found that justice, utilitarianism, and moral judgment could also affect people's intentions and behaviors in the network ethical dilemma [6].

#### V. HOW TO SOLVE THE LOSS OF TEACHERS' MORALITY?

During the process of the reform of teachers' moral education, a scientific and instructive evaluation system is urgently needed. The CIPP educational evaluation model is a decision-oriented model established in 1966, whose founder Daniel Stufflebeam emphasizes that it aims to improve the process rather than to prove the existence of a target. Karatas Hakan et al. stated that CIPP is an effective and reliable curriculum evaluation tool that could be applied to the field of education. Therefore, it is feasible to use CIPP to evaluate teachers' morality [7].

The framework of CIPP includes four aspects, i.e. background evaluation, input evaluation, process evaluation, and result evaluation [8]. Specifically, it is necessary to understand the needs of the evaluator's education, define the quality standards in education and practice, identify the inputs and processes that most effectively meet these needs, and document their ultimate impacts [9]. Compared with the other three aspects of the CIPP model, input evaluation, as a dominant factor in the realization of CIPP, has a secondary feedback function and is an essential research link to obtain

the data of teachers' literacy improvement and module idealization.

*A. Strengthen the Communication between Teachers and Students Based on the Informationized Classroom to Realize the Two-Way Moral Incentive*

In terms of network education, the teaching level of teachers could be intuitively reflected through student performance, attendance, and other indicators and private institutions could also reflect their operational capabilities. However, the moral evaluation through the network has not been implemented in actual teaching. To obtain real-time educational incentives (e.g. teaching quality incentives and moral incentives), daily educational evaluation is indispensable. In the informationized classroom, the key data of indicators could be obtained through simple evaluation mechanisms (e.g. in-class questionnaire surveys) and the comprehensive evaluation of the teacher's teaching and moral education could be obtained through objective data analysis. This process realizes the two-way information flow of "teacher-student" and "teaching/moral-evaluation" and the virtuous circle of "incentive-improvement-incentive".

*B. Do not Pin Hopes on Special Moral Courses but Conduct Daily Moral Communication Based on Information Technology*

In traditional education, the education of teachers tends to be pre-service education which provides centralized training of teachers' behavior norms and teaching skills. Such education has been out of touch with the characteristics of times and could not guarantee the maintaining of moral quality in the decades after one becomes a teacher. Nowadays, hardware devices like cell phones and computers have become indispensable tools for work and life. If the propaganda of morality is informationized, it will help teachers use modern equipment to efficiently learn about professional morality and finally realize the normalization of informationized learning of teachers' morality. The development of such a habit will ultimately benefit teachers and systematically improve their moral quality.

*C. Realize the Organic Unity of Policy Implementation, School Implementation, and Teacher Absorption at the System Level*

In reality, information transmission is often delayed or not in place due to the disconnection at the system level. Information has three levels of the transmission process, i.e. macro, meso, and micro. Although the interpretations of information should be consistent, there are still differences in the behavioral implementations. To ensure the quality of teachers' morality construction, its systematization of information should be emphasized. First, the government should issue a policy statement on morality, which is the formation process of macro information. Second, public schools and other institutions responsible for education need to implement policies and formulate institutional documents in line with reality, which is the formation process of meso information. Third, the process of how teachers effectively obtain information and give feedback about the implementation process through the mechanism reflects the formation of micro information. The unification and

integration of the three levels of information is the key to thoroughly implementing teachers' moral construction, the guarantee of which is the network information technology.

*D. Achieve the Synchronization of Internet Technology Development and Teachers' Moral Construction*

Carlos M. Parra *et al.* suggest that information and communication technologies (ICT) could help to mitigate the harshness of society's extreme morality-related views [10]. Jagna Nieuwa Nieuwałny *et al.* argue that the development of personal AI systems needs to be supplemented by moral reasoning and AI systems need to regard morality as not a constant but a function to correct historical and cultural changes in moral reasoning [11]. After evaluating the ICT policy and assessing its implementation at the school level in terms of effectiveness towards mass education, Ansuman Sar *et al.* recommend suitable measures for improving monitoring and implementation [12].

Technology and law are like the two carriages to drive social progress. After the completion of various reforms in education at the legal and policy levels, the technological revolution is bound to become the backbone of the next stage of educational progress. Meanwhile, the construction of teachers' morality is inseparable from the support of technology. In 2004, Khan Academy posted his educational videos with his cousin's math on Youtube, which initiated the short video education. New forms and concepts of technology-based education like micro-class, MOOC, Flipped Classroom, and Rain Classroom have been gradually accepted by the market and constantly refreshed people's understanding of the way of education. In the field of teachers' morality construction, technology could play a more vital role. Big data technology could realize the scientific analysis and evaluation of the data records during the process of teachers' moral learning and practice. At the management level, the relevant data extracted are processed to form visual data graphics, which could intuitively track the learners' learning trajectory and interest tendency to provide accurate information that meets their expectations. This lays a foundation for the construction of teachers' morality system, the formulation of macro-level policies, and even the formation of a data-based morality file or education system. This moral shaping and hierarchical model similar to the implementation process of the Internet of Things is shown in Fig. 1.

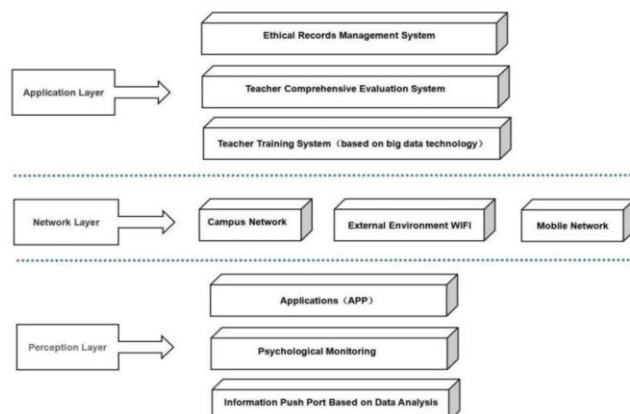


Fig. 1. Moral shaping and hierarchical model based on internet technology.

### E. Establish and Improve the Evaluation System of Teachers' Morality Based on Automated Data Analysis Functions to Promote the Sustainable Development of Teachers' Morality

The connotation and extended meaning of teachers' morality evaluation should be fully expanded. Teachers are usually portrayed as morally noble and selfless. Students and their parents have different degrees of limitations in their attention paid to teachers due to different environments and roles. When they evaluate the quality of teachers' morality, the limitations of environments and roles tend to appear. Their evaluation tends to focus on the moral level shown in the educational system, that is, in the process of educational activities. This one-sided understanding of teachers' morality should be extended to teachers' social life which could reflect "what kind of person is he/she in life" and fully enrich the connotation of teachers' morality. Therefore, the moral unity of educational working and living environment should be actively promoted and the supplementary and guiding role of moral cultivation in daily life for teachers' morality should be highlighted to guarantee that teachers use moral norms to manage themselves in work and life and develop all-round moral habits.

A teacher morality evaluation system based on comprehensive indicators should be developed. As to the scientific evaluation of teachers' morality, a scientific evaluation system that contains indicators that could fully reflect the quality of teachers' morality need to be established. Admittedly, only by building a comprehensive and scientific system could the indicators reflect the correct system of morality and moral behaviors. Automated data analysis has made the development of systems based on Internet technology more scientific. Moral evaluation indicators should exist objectively rather than fluctuate with the subjective evaluations of students or parents. Among different levels of evaluation indicators, there is a space for the basic moral indicators to gradually become those at a higher level, e.g. from no teaching accidents to advocating moral beliefs, between which the sustainable development of education needs to be realized to facilitate the development of teachers' morality.

### F. Improve Teachers' Comprehensive Competency to Promote Their Morality Perception

Teachers' moral accomplishment has multi-level meanings which could be understood from four perspectives, i.e. economy, culture, politics, and history. The basic condition for realizing moral accomplishment is to establish correct outlooks on life, the world, and values, which are all cognitions established only when comprehensive competency reaches a certain level. To make these cognitions better permeate their work and life, teachers need to perceive the world and the original intention of education in the new era by improving their comprehensive competency through different training channels, which could be achieved through the Internet media. Observed from the current wide application of the Internet media, it has become easier and more convenient to carry out economic, cultural, political, and historical education in an entertaining way.

## VI. CONCLUSION

Morality concretely manifests social progress and fully reflects a country's educational level. As the foundation of education, teachers' morality is placed at the top of the educational system. Giving sufficient feedback to teachers' moral accomplishment and making the teachers the models for students' behaviors in class and after class plays an essential role in improving the scientific and cultural quality of the whole nation. As an essential part of the educational environment, teachers' morality interacts with schools, parents, supervisory bodies, and other subjects in the form of morality, which profoundly affects the educational departments and concepts. Only by ensuring the long-term and stable development of the construction of teachers' morality could the quality of education be steadily improved and the new concepts and achievements of education be truly introduced to the society so as to realize the sustainable development of education and society.

## CONFLICT OF INTEREST

The authors declare no conflict of interest

## AUTHOR CONTRIBUTIONS

Lin Huai is the first author of the article and actually write it. Lin Huai is responsible for the academic value of the article, and the main contribution include: topic selection, background research, literature arrangement, questions presentation, response analysis.

Chenghu Wang contributes to literature collection and research for the paper.

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