Intrinsic Technology Ethics:Considerations for the Intelligent Transformation of Teaching Evaluation

Hang Zhigao

Sichuan Normal University, Sichuan Chengdu 610066

Abstract: Based on the connotation and logic of the intelligent transformation of teaching evaluation,this study proposes an internalist technology ethics framework for the intelligent transformation of teaching evaluation from the perspective of internalist technology ethics.That is,the intelligent evaluation subject should pay attention to the moral synergy of technology,the intelligent evaluation technology should pay attention to the design of moral algorithms,and the intelligent evaluation process should follow fair ethical norms,Intelligent evaluation behavior should rely on the ethical order of"human intelligence".Research has found that the ethical risks associated with the intelligent transformation of teaching evaluation from an internalist perspective are mainly reflected in various aspects such as artificial intelligence applications that violate the dignity of educational subjects,intelligent evaluation data mining that violates the boundaries of information ethics,errors in intelligent evaluation algorithms that undermine the quality and fairness of teaching decisions,and the deviation of intelligent teaching evaluation activities from the humanistic ethical track.Therefore,from the perspective of internalism,the technical ethics regulation path for the intelligent transformation of teaching evaluation is proposed:paying attention to the combination of humanistic emotions and technological rationality,and establishing a demand based human-machine relationship criterion;Implement ethical algorithm design and optimization to reasonably ensure the freedom and privacy of education for teachers and students;Focusing on the positive ethics inherent in intelligent technology,enhancing the dynamic monitoring of intelligent evaluation algorithms;Utilize the behavioral influence of intelligent evaluation and build a people-oriented ethical order for evaluation.

Key words: Internalism; artificial intelligence; Teaching evaluation; Intelligent transformation; Technical ethics; Putting people first; Ethical risks; Protocol direction

1 Introduction

With the rapid development of science and technology,artificial intelligence has entered an unprecedented period of rapid development,and its application in the field of education has become a focus of policy in various countries.In October 2020,the Central Committee of the Communist Party of China and the State Council issued the"Overall Plan for Deepening the Reform of Education Evaluation in the New Era",which proposed to"fully utilize information technology,improve the scientificity,profession alism,and objectivity of education evaluation"(Central Committee of the Communist Party of China and the State Council,2020),and encourage and support intelligent innovation in evaluation tools,methods,and methods.The 2021 International Conference on Artificial Intelligence and Education emphasized the need to promote the deep integration of artificial intelligence and education and teaching(Ministry of Education,2021),providing new concepts and ideas for using artificial intelligence to promote the digital transformation of educational evaluation.It can be seen that the intelligent transformation of teaching evaluation has become an important trend in the future education evaluation reform.Although the academic community has conducted many explorations on the intelligent transformation of teaching evaluation from macro thinking,development direction,and micro technical means,there is less attention paid to the ethical dimension of the intelligent transformation of teaching evaluation.From the perspective of technological ethics,the intelligent transformation of teaching evaluation not only contains huge technological dividends,but also a series of technological ethical risks.Therefore,this study attempts to analyze the ethical risks and relief directions of the intelligent transformation of teaching evaluation from the perspective of internalist technological ethics,in order to provide value reference for the ethical risk regulations of teaching evaluation in the context of artificial intelligence.

2 The Connotation and Basic Logic of the Intelligent Transformation of Teaching Evaluation

2.1 The Connotation of Intelligent Transformation in Teaching Evaluation

The concept of artificial intelligence was first proposed at the Dartmouth Conference in the 1950s,referring to the intelligence created by humans,also known as"machine intelligence".In a broad sense,artificial intelligence is the ability of computers to manipulate machines to handle complex tasks;Narrowly speaking,artificial intelligence is a technological science that studies the ability of computers to simulate certain human thinking processes(such as re asoning,generalization,summarization,etc.)and respond in a manner similar to human intelligence.It can be seen from the definition that the AI ontology has the enabling attribute and is externalized

through concept remodeling,technical innovation and application innovation.The externalization form of its enabling teaching evaluation is shown in assisting the intelligent transformation of teaching evaluation through image recognition(vision),speech recognition(hearing),natural language processing(speech),data analysis and other technologies.For example,mining and collecting student learning data,evaluating students in real-time based on the data,and predicting their learning trajectory.

There are certain differences in the research perspectives of the academic community regarding the connotation of the intelligent transformation of teaching evaluation.Firstly,pay attention to the changes in elements in teaching evaluation.Hu Qintai et al.(2021) pointed out that in the era of artificial intelligence,teaching evaluation has undergone changes in aspects such as evaluation subjects,evaluation systems,evaluation results,and teaching decision-making;Wu Libao et al.(2021)constructed a new system for the development of classroom evaluation in the era of artificial intelligence,believing that intelligent technology will promote changes in teaching evaluation in terms of evaluation subjects,content,methods,results,and other aspects.Secondly,focus on the technological advantages that artificial intelligence provides for teaching evaluation.Zhang Sheng et al.(2021)elaborated on a new form of evaluation in the intelligent era-the integration of learning and evaluation,which integrates the learning and diagnostic aspects of overall evaluation;Yuan Lei et al.(2021)believe that game based evaluation can be designed using psychometrics,computer evaluation design,educational data mining,and machine learning to comprehensively measure students'various skills(such as creativity,collaboration,and social emotional skills,as well as their'thinking'abilities in traditional fields such as science and mathematics).

In summary,the connotation of the intelligent transformation of teaching evaluation mainly focuses on the evaluation subject,evaluation content,evaluation process,evaluation function,and other aspects.Firstly,from the perspective of evaluation subjects,intelligent technology can become an auxiliary tool for information collection by evaluation subjects such as teachers and managers.Teachers and managers can propose scientific evaluation viewpoints based on intelligent data mining.Secondly,in terms of evaluation content,unlike traditional experiential evaluation,intelligent teaching evaluation focuses more on evidence scanning and digital portrait engraving based on teaching and learning sites.Once again,in terms of the evaluation process,the intelligent transformation of teaching evaluation has overcome the limitations of traditional evaluation in terms of time and space.It is no longer based on specific time points for teaching evaluation,but involves the entire process analysis before,during,and after class.Finally,in terms of evaluation function,traditional teaching evaluation focuses more on describing the current situation. Intelligent teaching evaluation can not only achieve dynamic presentation of teaching reality,but also effectively predict the future growth trajectory of teachers and students and assist in the implementation of developmental evaluation.

2.2 The Basic Logic of Intelligent Transformation in Teaching Evaluation

Based on the previous discussion,this study attempts to analyze the basic logic of the intelligent transformation of teaching evaluation from several aspects:evaluation subject,evaluation

content,evaluation process,and evaluation function.

1.Assist in the construction of an intelligent information collection system led by teachers.The application of artificial intelligence in teaching information collection helps to achieve intelligent transformation of teaching data mining.Intelligent technology can serve as an assistant for teacher data collection and extraction,assisting in the construction of an intelligent information collection system led by teachers.Specifically,on the one hand,artificial intelligence technology utilizes technologies such as automatic data aggregation,feature analysis,deep learning,and modeling and simulation of teaching behavior features,which can effectively assist teachers in intelligent data screening,collection,and integration,visualizing students'real learning status and portrait,and obtaining students'dynamic learning needs,personality characteristics,and learning progress.On the other hand,teachers should still play a leading role in teaching evaluation,practice a people-oriented education orientation,and lead and configure the overall application direction and limitations of technical tools. Artificial intelligence technology has been used as a technical tool since its development,and regardless of the level of technological development,it cannot surpass its own tool identity.In the process of using intelligent technology for teaching evaluation,teachers should fully avoid ethical risks and negative effects in the application of intelligent technology,and maximize the effectiveness of intelligent technology in empowering teaching evaluation.

2.Promote evidence-based diagnosis and feedback on teaching and learning sites

From the perspective of evaluation effectiveness,teaching evaluation can be seen as a"baton"guiding the development of education and teaching,providing factual basis for the formulation and improvement of teaching decisions,and providing evidence support for the timely adjustment of teachers'teaching behavior and progress.From the perspective of the transformation of the logical relationship between teaching evaluation and teaching data,traditional teaching evaluation has obvious shortcomings in the classification,organization,and extraction of teaching and learning on-site materials,and lacks evidence-based diagnosis and feedback on teaching and learning on-site.In the traditional teaching evaluation system,there is a subjective and experiential orientation in understanding and understanding the evaluation content of teaching quality,teaching fairness,and teaching efficiency.The problem positioning function of teaching evaluation is distorted,and the selection and weight of traditional teaching evaluation indicators may have inconsistent or ambiguous indicator construction due to differences in evaluation subjects. Artificial intelligence based teaching evaluation has to some extent achieved a breakthrough in the field of traditional teaching evaluation,and can effectively promote evidence-based diagnosis and feedback in teaching and learning.On the one hand,through intelligent technologies such as intelligent perception and affective computing,teaching evaluation subjects can accurately capture the face,body and language information of teachers and students in the whole process of classroom teaching,carry out multimodal big data screening and analysis,obtain teaching performance in terms of teacher behavior,student emotion,classroom interaction,etc.,and discover teaching difficulties and problem students(such as students with learning difficulties)based on teaching field data.On the other hand,through intelligent technologies such as natural language processing and machine learning,we can obtain the practical law of

classroom teaching and student development from the behavior of teachers'teaching and students'learning for a period of time,explore the logical relationship between teaching and learning data,and provide theoretical reference for the adjustment of school teaching decisions.

3.Track and depict the entire process of promoting teaching trajectory

The continuous iteration and upgrading of artificial intelligence technology has to some extent given birth to a new paradigm of teaching monitoring.By comprehensively applying intelligent technologies such as biometrics,adaptive decision-making,and machine learning,precise learning process tracking can be achieved. Traditional teaching evaluation has obvious shortcomings in tracking the teaching trajectory of teachers,and teaching evaluation methods such as observer observation and experiential summary are difficult to accurately describe the classroom teaching trajectory.The application of intelligent technologies such as facial recognition,intelligent perception,and image recognition has enabled the effective organization and classification of previously difficult to collect key information data for teachers and students,making it possible to depict and track classroom teaching trajectories across grades and disciplines.Firstly,in the stages of teacher and student preparation,big data search and intelligent analysis technology can be used to locate students'personalized learning needs and learning situations,achieving accurate recognition of pre class subject knowledge preview status.Secondly,in the classroom teaching stage,intelligent technologies such as intelligent perception and emotion capture can be used to capture relevant information such as teacher's teaching language,body language,student interaction frequency,and hand raising frequency,analyze students'classroom engagement,teacher-student classroom interaction,teacher's teaching style,and teaching preferences,and thus clarify the advantages and disadvantages of classroom teaching.Finally,in the after-school learning stage,through intelligent homework correction systems,intelligent after-school tutoring systems,etc.,time and space limitations can be broken through in homework comments,error analysis,and other aspects,achieving intelligent monitoring of students'after-school learning quality.

4.Accurate prediction of the future growth trajectory of teachers and students

The core function of teaching evaluation is not only to diagnose the current teaching situation.

The conclusion also lies in predicting the future direction of teaching and the direction of student development,and should provide effective factual basis for clarifying the growth mechanism of teachers and students through the play of teaching evaluation function.Due to the functional limitations of traditional teaching evaluation tools in data tracking,traditional teaching evaluation often focuses more on the collection of a certain section of teaching data(such as final or mid-term grades given by teachers),neglecting the screening and collection of procedural data(such as students'daily compliance with rules and regulations,class activity participation,competitions and awards,etc.).The emergence of artificial intelligence has made full process data collection more possible,helping to accurately predict the future growth trajectory of teachers and students.Firstly,artificial intelligence can become a counselor for evaluating and improving students'physical and mental health.It can collect various online data based on intelligent technology to predict students'mental health,physical condition,and

behavioral trends.Secondly,artificial intelligence can become a mutual aid partner in precision teaching and research.Based on the collected data from multiple links such as teacher listening,g rinding,preparation,teaching,and evaluation,combined with their language and teaching style,it can tap into the potential for teacher professional development and accurately predict the future direction of teacher professional growth.

3 Internalism:A New Perspective on Technical Ethics in the Intelligent Transformation of Teaching Evaluation

In the era of intelligence,the ethical issues that arise in the process of intelligent transformation of teaching evaluation cannot be ignored.Internalism provides a new ethical perspective for the development of teaching evaluation from the perspective of artificial intelligence,and also provides a new scale for the ethical issues that exist in the transformation of teaching evaluation intelligence.To clarify the problems and development direction of the intelligent transformation of teaching evaluation in the era of artificial intelligence,it is planned to re-examine the evaluation subject,technology,process,and behavior elements in teaching evaluation from an internalist perspective.

3.1 The Necessity of Technical and Ethical Considerations for the Intelligent Transformation of Teaching Evaluation from the Perspective of Internalism

The term"ethics"is recorded in the"Book of Rites and Music",which states:"Those who have a sound are born into the heart of the people;those who have music are also ethical."Zheng Xuan's note:"Lun is like a kind.Reason,division."Here,ethics only refers to the organization of things.Han Jiayi said in his book"New Book:Changes in Time":"Shang Jun violated etiquette and righteousness,abandoning ethics."The ethical concept here refers to the principles of ancient Chinese human ethics and morality.From an academic perspective,ethics is an implicit norm that constrains the development of morality,a hidden exploration of noble morality,and often refers to principles and guidelines that can regulate the relationships between things.There is an inseparable connection between technology and ethics,which is deeply reflected in the fact that the application and development of technology are always inseparable from the norms of ethics and morality.As an artificial product,the operational mechanism of technological algorithms has ethical ambiguity,and technological ethical risks have become an unavoidable issue that people cannot avoid discussing.The"availability"and"concealment"of technology are often intertwined,and the integration of technology and education can have ethical impacts on the internal and external relationships of education.With the marriage of technology and science in modern times,the subject relationship between humans and technology has undergone various changes.The original ethics of humans and humans,as well as humans and nature,have had to incorporate the dimension of technology.A new era oriented internalist ethics of technology is emerging.The"internalist ethics of technology"is different from traditional ethics in that it focuses on the positive ethical consequences of technology,advocates for"embedding"ethical elements in the object,and aims to use technological means to solve ethical problems.In summary,the core difference between internalist technology ethics and externalist technology ethics is that internalism only focuses on what is

valuable for one's own development,while externalism values what is valuable for other reasons.From the perspective of dialectical unity,there is both opposition and unity between technology and ethical development.Externalism emphasizes the destruction of ethical norms by technology,while internalism emphasizes the improvement of ethical issues by technology.In general,the main characteristic that distinguishes"internalism"from"externalism"is that it transforms the relationship between ethics and technology from"opposition"to"cooperation";Transforming the responsibility of ethics from external"supervision"to internal"intervention";Shift the focus from downstream'applications'to upstream'design'.The impact of these changes on technological ethics is fundamental and global,and can even be described as a transformation of the research paradigm.

Specifically,internalist technology ethics is not only a new constraint on technology ethics issues,but also an intermediary theory that promotes the common development of technology and ethics.It regards technology and ethics as interdependent relationships and believes that the greatest significance of technological progress lies in providing new solutions to existing ethical problems,and the resolution of ethical problems will also promote the improvement of people's ethical concepts,Further promote the development of technology.From the theoretical perspective of internalist technological ethics,the development of teaching evaluation in the field of artificial intelligence should focus on exploring the symbiotic relationship between technological advancement and ethical problem-solving.Firstly,in terms of the relationship between humans and artificial intelligence,"internalism"advocates that human initiative should be mediated by artificial intelligence.It does not endorse the claim that humans have completely autonomous initiative,nor does it agree to prioritize technology over humans.It emphasizes the helpful role of technology for humans and advocates for cooperation between humans and technology.Secondly,in the development of ethics itself,"internalism"requires the transformation of ethical responsibilities from external"supervision"to internal"intervention",that is,integrating ethical norms into human practical activities and constraining potential ethical issues from internal requirements.Once again,in terms of considering technology itself,"internalism"no longer focuses on the ethical issues that arise during the application process of technology,but instead focuses on the design and development of algorithms,hoping to solve the ethical issues associated with technology from the source.Finally,from a research perspective,"internalism"focuses not only on the internal operational logic of technology,but also on the relationship between people,technology,and morality nurtured in social contexts,viewing ethics as a regulatory force in the process of technological development.In summary,internalist technological ethics tends to adopt an intrinsic and developmental attitude towards the ethical impact of technological products on society and people,and transforms the solution of external ethical problems that tend to be negative into a positive internal ethical resolution process.

3.2 Intrinsic Technical Ethics Framework for the Intelligent Transformation of Teaching Evaluation

From the perspective of internalist technology ethics,this study believes that the intelligent transformation of teaching evaluation needs to pay attention to the following ethical elements(as shown in Figure 1).Among them,the evaluation subject is the benchmark for conducting teaching evaluation,and attention should be paid to the moral synergy inherent in artificial intelligence;Evaluation technology is the technical support for teaching evaluation,and attention should be paid to moral integration from the perspective of algorithm design;The evaluation process is the main way to carry out teaching evaluation,and should follow ethical norms of fairness;Evaluation behavior is the core means of teaching evaluation and should rely on the construction of a human intellectual ethical order.

1.Intelligent evaluation subjects should pay attention to the moral synergy of technology

Internalism advocates the establishment of cooperative relationships between technology and people.In the process of conducting teaching evaluations,the perception and measurement techniques of artificial intelligence can provide empirical information support for teaching evaluations,but it needs to be clarified that they can only serve as technical tools to assist in teaching evaluations.Therefore,the teacher body should provide appropriate technical leadership for them.Specifically,on the one hand,internalism believes that artificial intelligence itself has a certain degree of"agency"and"morality",and needs to be endowed with corresponding moral significance and moral subject status. Without considering the moral aspects of artificial intelligence,it is impossible to ensure that its educational decisions comply with social ethical standards,do not undermine emotional relationships between individuals,and do not hinder the positive establishment of teacher-student emotional relationships in the education process. On the other hand,artificial intelligence technology itself can serve as the subject of teaching evaluation,but due to its immature"moral consciousness"and"moral behavior",it needs to be regulated by teachers.In the process of artificial intelligence participating in teaching evaluation,no link can be completely detached from human behavior and run.The collection,classification,and screening of data require the participation of school technicians or teachers,and the design of algorithms also requires schools to adjust according to specific situations and needs.Many information in teaching contexts is relatively subtle,and artificial intelligence technology cannot exhaust the behavioral data and communication rules between people.It is urgent to establish harmonious cooperative relationships with teachers and other teaching evaluation subjects.

2.Intelligent evaluation technology should focus on ethical algorithm design

Internalism emphasizes adding"moral"constraints from the source of algorithm design.Teaching evaluation technology based on artificial intelligence needs to pay attention to the design of moral algorithms.If the design of intelligent algorithms does not fully embed moral elements such as educational values,ethical norms,and awareness of educational responsibility,it is difficult for intelligent algorithms to help achieve the value goal of"being good"in teaching evaluation.On the one hand,algorithms or automatic decision-making systems have been applied in many aspects of teaching evaluation such as credit scoring,credit management,and homework grading.If the algorithm design has moral flaws and the intelligent system itself lacks understanding of moral intentions and norms,it can easily lead to the loss of students'educational subjectivity,damage to compliance rights and interests,conflicts of rights and responsibilities,and conflicts of interest in teaching monitoring,evaluation,feedback,and other aspects Ethical issues such

as information bias.On the other hand,artificial intelligence heavily relies on the dynamic interaction between intelligent algorithms and data in the process of empowering teaching evaluation.Intelligent algorithms carry corresponding human concepts and action goals to a certain extent.Although they can be used for trial and error training and model prediction based on large-scale data in the education and teaching process,it is not yet known whether such intelligent algorithms understand and practice"data ethics",Whether intelligent algorithm design can balance the moral demands of stakeholders in teaching evaluation and achieve the development of teaching evaluation behavior towards goodness urgently needs further exploration.

3.The intelligent evaluation process should follow fair ethical norms

Internalism"believes that moral and ethical requirements should be integrated into daily practical activities.Due to the large amount of personal information involved in the teaching evaluation process,ignoring the corresponding fair ethical norms can easily lead to corresponding data labeling and discrimination,which can cause harm to the physical and mental health of the evaluated individuals.Specifically,on the one hand,artificial intelligence labels students with accompanying and implicit teaching information based on mining and feedback(such as emotional changes,abnormal behaviors,academic anxiety,etc.),such as"lagging grades"and"emotional anxiety."However,human intelligence currently does not have the ability to deeply explore the emotional and psychological problems of teachers and students based on data,If teachers do not correct the evaluation results and rely solely on data results to label students'behavior,it is unfair and discriminatory to some extent.On the other hand,the intelligent evaluation process relies on the algorithm analysis and prediction of artificial intelligence,but the inherent operating mechanism of the algorithm is not transparent.In the process of intelligent evaluation,AI uses text mining,speech recognition,image recognition,affective computing and other technologies to timely extract and integrate the whole process information of students' morality,intelligence,physique,beauty,labor and other aspects,and conduct real-time monitoring and map analysis on some micro data(such as students'interpersonal communication level,language expression ability,physical and mental health level,artistic literacy,etc.).The standards for collecting and analyzing these data are not presented intuitively,and the information received by the evaluator and the evaluated person is only entries such as"outgoing and outgoing"and"strong language expression ability". The development of students themselves is a dynamic trend,and placing too much emphasis on such"positive"evaluation terms can easily be controlled by such implicit algorithms and guide people's development direction,thereby violating the fair ethical norms that should be followed in the evaluation process.

4.Intelligent evaluation behavior should rely on the ethical order of"human intelligence"

Unlike the emphasis of"externalism"on reflecting and criticizing the consequences caused by technology,"internalism"emphasizes the interdependence between technology and ethics,advocating for ethical order as a restraining force in the process of technological development.Teaching evaluation not only points to personal development,but also is an artificial thing itself. The behavior of teaching evaluation based on artificial intelligence is also a phenomenon element of technological ethics.It should

not only focus on the results of teaching evaluation,but also be based on the norms of the evaluation subject's teaching evaluation behavior(involving the design of evaluation objectives,selection of evaluation plans,implementation of evaluation activities,and coordination of evaluation interests).If the evaluation behavior loses ethical regulation,it may lead to deviation in the restoration of teaching phenomena,confusion in the development direction of teachers and students Ethical issues such as unclear ownership of teaching information assets.Therefore,teaching evaluation behavior urgently needs to rely on the construction of the"human intelligence"ethical order.On the one hand,as a technological product that embeds human behavioral concepts,artificial intelligence has a certain behavioral orientation.If its behavioral orientation conflicts with the behavioral demands of teaching evaluation participants,it is difficult to achieve the expected goals of teaching evaluation,and it is also easy to infringe on the development rights of teachers and students in the execution of evaluation plans.Therefore,it is extremely necessary to embed ethical principles and awareness in the design and execution of intelligent algorithms.On the other hand,although artificial intelligence is supervised and guided by stakeholders in teaching evaluation,there are many"blind boxes"and"black boxes"in the corresponding application process,such as illegal technology use,data cocoon room,data leakage,privacy security,decision-making bias,etc.Therefore,ethical judgments on teaching evaluation behavior should rely on the accountability and improvement mechanism of teaching evaluation behavior.

4 The Technical and Ethical Risks of the Intelligent Transformation of Teaching Evaluation from the Perspective of Internalism

There are numerous practical difficulties and obstacles in the intelligent transformation of teaching evaluation.Based on the theoretical foundation of internalist technology ethics mentioned earlier,this study attempts to summarize the technical ethics risks of intelligent transformation of teaching evaluation as follows.

4.1 Artificial intelligence applications violate the dignity of educational subjects

Internalism advocates for the establishment of cooperative relationships between humans and technology,believing that technology itself has a certain degree of initiative,but needs to be subject to human control in its application.Intelligent technology effectively improves the efficiency of teaching evaluation by encoding students'learning behavior data to calculate their learning situation.But educational activities themselves are centered around teachers and students,emphasizing the interaction of humanistic emotions.

When the tool efficiency orientation carried by intelligent technology permeates too much into teaching evaluation activities,the emotional factors that originally existed in teaching evaluation may gradually be suspended,thereby damaging the dignity of human subjects in evaluation.On the one hand,artificial intelligence technology can disrupt the teacher-student relationship in teaching evaluation.The important function of school education is to evaluate students'academic performance,moral character,cultivation,values,and other aspects by teachers and other professionals engaged in education.Although artificial intelligence

based monitoring of students'growth status can undertake some evaluation functions,intelligent evaluation reports based on data filtering and processing are difficult to empower students'moral cultivation and other aspects of growth through emotional methods such as emotional stimulation and psychological comfort. On the other hand,technological rationality impacts the unique emotional dignity of humanity.Technology has entered the field with its unique characteristics such as strong computing power and high efficiency,reversing the school's teaching evaluation system.Although intelligent evaluation systems are beneficial for promoting the standardization and scientific development of teaching evaluation,they ignore students'emotional demands(their own state,learning difficulties)and emotional changes,making it difficult to track and diagnose students'emotional needs,emotional expression,cultural perception,and other aspects.Classroom teaching has a complex situational nature,and the same behavior of the same student has different meanings in different teaching contexts of the teacher.If the evaluation principle is solely based on technological rationality,it will not only fail to continue the unique humanistic emotional atmosphere of the school,but also disrupt the school order based on humanistic emotions.

4.2 Intelligent evaluation data mining violates the boundaries of information ethics

Internalism aspires to address the ethical issues associated with technology from the source.If intelligent evaluation violates the boundaries of information ethics in the initial stage of data mining,the significance of subsequent evaluation results becomes insignificant.The process of intelligent transformation of teaching evaluation cannot be separated from a series of data mining links such as data collection,classification and analysis.However,in the age of digital intelligence,data acquisition channels are diverse and the standards are different,and data mining based on web crawler,neural network,text classification and other technologies is not perfect,The privacy information of educational entities such as teachers and students may face risks such as security risks and interest damage during the data mining process.On the one hand,intelligent algorithms need to be built on massive amounts of data to realize their special technical value,but ubiquitous data collection can easily violate the personal privacy of teachers and students and violate the initial data collection standards. Scholars have stated that the massive amount of data collected in teaching evaluations to determine the relationship between learners'behavior,facial expressions,and individual intrinsic emotions has seriously violated the privacy and security of educational subjects.For example,when teachers and students log in and register on the education website or APP,their personal names,ages,and ID numbers are already at risk of disclosure. On the other hand,the lack of data protection laws has led to unclear definitions of data ownership,access rights,and migration rights among social groups,as well as infringement of the rights of information subjects themselves.The monitoring devices and multifunctional intelligent recognition systems that can be seen everywhere in campuses and classrooms,although they can achieve procedural monitoring of student behavior and teacher teaching,lack corresponding ethics and regulations to constrain the use of technology,making it difficult to clarify many ethical issues such as the ownership of educational data assets and accountability for safety accidents.Once there is a leak in the school's data

regulatory system,relevant private information may be illegally stolen and bought and sold by illegal individuals for commercial purposes,thereby damaging the moral boundaries of information and causing information panic among social groups.

4.3 The bias of intelligent evaluation algorithms undermines the quality and fairness of teaching decision-making

Internalism emphasizes the transformation of ethical responsibilities from external"supervision"to internal"intervention",which means corresponding ethical constraints on the algorithms relied on for intelligent teaching evaluation.The functionality of the algorithm is limited by the developer's own technical level and the internal imperfections of the intelligent system.If the quality of educational data on which the intelligent evaluation algorithm relies is difficult to guarantee,it can easily lead to corresponding technical risks(such as"statistical bias"and"algorithm discrimination")in the design and execution of the algorithm,which in turn can undermine the quality and fairness of teaching decision-making.On the one hand,the bias of intelligent evaluation algorithms can affect the quality of teaching decisions.The operation process of intelligent evaluation algorithms includes data input,data encoding,data processing,and data output,but there are unpredictable situations in the data processing process,which cannot guarantee the accuracy of the algorithm's processing results.At the same time,artificial intelligence itself cannot handle some complex situational problems,and it is not uncommon for intelligent algorithms to deviate and undermine the quality and fairness of teaching decision-making.On the other hand,the bias of intelligent evaluation algorithms can undermine the fairness of teaching decisions,specifically manifested in the fact that intelligent algorithms may machine filter partial datasets in an unfair data processing manner.When filtering and processing data,the algorithm model prioritizes data that is easy to process(student grades,activity ratings),discarding some difficult to measure data information(student individual emotional development,consciousness and feelings),resulting in one-sided and biased evaluation results,hindering teachers from accurately analyzing students'growth status.In addition,the fundamental reason for the bias of intelligent evaluation algorithms is the discrimination and bias existing in artificial intelligence systems.In the process of intelligent transformation of teaching evaluation,teaching evaluation will inevitably go hand in hand with artificial intelligence.Without controlling the algorithm system,it is difficult to truly achieve evaluation fairness,let alone educational fairness.

4.4 The intelligent teaching evaluation activity deviates from the humanistic ethics track

The relationship between humans and technology,as well as between humans and nature,is symbiotic and mutually beneficial. The intelligent transformation of teaching evaluation requires the support of artificial intelligence.Although artificial intelligence has provided technological convenience for the intelligent transformation of teaching evaluation,the core of teaching evaluation activities is still the interaction and collaboration between teachers,students,and students.In the process of using artificial intelligence technology to support teaching evaluation activities,it is still necessary to consider the help and risks it brings to the rights and interests of teachers and students.Therefore,from the design to specific execution of evaluation activities,careful

consideration should be given to the ethical conventions between evaluation activities themselves and intelligent technology,in order to avoid intelligent teaching evaluation activities deviating from the humanistic ethical track.Specifically,on the one hand,the intelligent teaching evaluation activity attaches too much importance to scientism,which violates the people-oriented idea in teaching evaluation.Many engineers and developers have not received systematic education on ethical issues,and in many cases,they believe that speed is everything and skip ethical considerations for evaluation.Then,in the process of data mining and use,the value judgments,assumptions and predictions made by educational decision-makers are easily covered by strong scientism. Excessive reliance and trust in technology can to some extent weaken the thinking,judgment,and observation and prediction abilities of educational decision-makers themselves.If teachers evaluate students solely based on data analysis results,it is easy to overlook the subject's own cognition and feelings,which goes against the original intention of educational evaluation.On the other hand,intelligent teaching evaluation activities place too much emphasis on"good or bad"and"right or wrong"judgments,which can easily deviate from the people-oriented ethical track.Artificial intelligence technology can efficiently organize and summarize teaching process data,but not all data can be effectively measured. If too much reliance is placed on programmed and numerical intelligent evaluation of activity characteristics,ignoring individual emotional needs,subtle emotional changes,and psychological fluctuations in aspects such as sudden situations of students in education and teaching,it is easy to disrupt the laws and rhythms of students'physical and mental development,This in turn leads to the disappearance of the educational value of teaching evaluation activities.In addition,intelligent evaluation conducts various judgments in teaching activities based on its evaluation rules.But not all questions in teaching activities have answers. Overemphasizing the analysis results provided by intelligent evaluation can easily lead to a vortex of"data first"and deviate from the humanistic ethical trajectory.

5 The Technical and Ethical Guidelines for the Intelligent Transformation of Teaching Evaluation from the Perspective of Internalism

In summary,if there is a lack of attention and reflection on ethical risks in the process of intelligent transformation of teaching evaluation,the intelligent transformation of teaching evaluation will become illusory.Therefore,in the face of the ethical risks associated with the intelligent transformation of teaching evaluation mentioned above,based on the perspective of internalist technological ethics,this study proposes ethical risk reduction paths for the intelligent transformation of teaching evaluation from the following four aspects.

5.1 Pay attention to the combination of humanistic emotions and technological rationality,and establish a demand based human-machine relationship criterion

As stated by Gerstein,the essence of artificial intelligence education is to closely revolve around the development of human life in the era of intelligence,emphasizing the real and vivid emotional experiences of teachers and students.We should cultivate emotions in"creating skills"and"adults"in"creating emotions",and

use emotional power to nourish the vitality of integrating artificial intelligence technology into teaching evaluation.Faced with the problem of boundary violations caused by the application of artificial intelligence in teaching evaluation,school leaders and teachers should pay attention to the combination of humanistic emotions and technological rationality,establish a demand based human-machine relationship criterion,and maximize the value of intelligent transformation of teaching evaluation.On the one hand,school administrators and teachers should avoid blind technological dependence and establish demand based human-machine relationship guidelines.For school leaders and teachers,they should first understand how to make good use of technology and how technology changes the interaction between teachers and learners,in order to deeply understand the advantages and boundaries of technology application in teaching,and use technology reasonably according to teaching needs.In teaching evaluation,school managers should follow the principle of combining"evidence-based thinking"and"humanistic care". They should not only make reasonable judgments about teaching work based on data evaluation results,but also effectively care for changes in the needs of teachers and students in aspects such as spiritual growth,mental health,emotions,and emotions. On the other hand,managers,teachers,and others should adhere to the core element of"humanistic wit"when using intelligent evaluation systems,and pay attention to the effective combination of humanistic emotions and technological rationality.When conducting teaching evaluations,evaluators can rely on artificial intelligence technology to intelligently perceive and monitor students'learning behavior data.However,since artificial intelligence does not yet have a warm and flexible evaluation feedback function,managers and teachers should start from students'psychological acceptance ability,emotional state,and other aspects based on the results of intelligent evaluation analysis,Provide warm feedback on students'stage academic growth status and develop personalized learning plans.

5.2 Implement ethical algorithm design and optimization to reasonably ensure the freedom and privacy of education for teachers and students

Internalism emphasizes embedding moral elements into algorithms to achieve ethical algorithm design.Algorithms are the foundation for the evaluation and operation of digital and intelligent teaching.Without timely prediction and monitoring,the risks brought are immeasurable.Given this,it is necessary to inject ethical programs into algorithms to ensure the privacy and security of teachers and students in the data mining process.Specifically,firstly,it is necessary to strengthen the safety awareness education of school technology users,so that they can clearly understand their responsibilities,and do a good job of nested educational data management around the student level,classroom level,teacher level,and school level to prevent the leakage of personal privacy data of teachers and students.Information security lectures and information security prevention training courses can be offered to improve the information security literacy of teachers and others.The second is to build a systematic intelligent algorithm confidentiality and accountability mechanism,and set up an education data security guarantee system.The data rights of education data generators and providers should be clearly defined and maintained,and the data personality and property rights of education data generators and

providers should be respected.For information that clearly violates the personal privacy rights of teachers and students,teachers and students should be promptly informed,and encryption systems should be set up for more private information.Education data mining and quality assurance mechanisms should be improved,and efforts should be made to eliminate ethical risks such as education data distortion,excessive mining of personal information,and leakage of teacher and student privacy.The third is to encode ethical norms for data mining algorithms to form moral consciousness.The resolution of ethical issues in artificial intelligence requires practical action and the application of ethical requirements in practice. Schools,technology developers,and others can organize relevant personnel to establish algorithm design optimization teams,convert the ethical standards that intelligent evaluation algorithms need to accept into code,and reasonably implant them into the school's intelligent evaluation system.At the same time,it is necessary to use the technological advantages of intelligent algorithms in dynamic information collection and visual presentation to promptly investigate and warn against unethical intelligent evaluation behaviors,and to carry out certain decision-making interventions and behavioral accountability.

5.3 Focusing on the positive ethics inherent in intelligent technology and enhancing dynamic monitoring of intelligent evaluation algorithms

Intrinsic technology ethics not only emphasizes the significance of ethics itself,but also focuses on the internal deconstructive effect of technology on ethics.In the face of the damage caused by errors in intelligent evaluation algorithms to the quality and fairness of teaching decision-making,it is necessary to focus on the positive ethical significance contained in intelligent technology,strengthen the dynamic monitoring and risk warning of intelligent evaluation algorithms,and maintain the fairness of teaching evaluation.Specifically,one is to build a school-based intelligent algorithm monitoring group.Schools should organize stakeholders such as teaching evaluators and teaching evaluation objects to establish an intelligent algorithm risk monitoring group. Based on the characteristics of artificial intelligence technology and the actual needs of teaching evaluation,the responsibilities and obligations of each group's algorithm monitoring should be clearly divided and standardized,and the risk of intelligent algorithm decision-making deviation in the teaching evaluation process should be graded and early warning should be made.The second is to build a systematic intelligent algorithm correction system and its prevention mechanism.In response to issues such as algorithmic deviations,traps,and defects that arise during the teaching evaluation process,schools should develop algorithmic correction systems with technology developers or third-party educational evaluation institutions to ensure that the process of collecting and analyzing data complies with ethical standards.In the daily evaluation process,the evaluation results can be corrected by combining entity reference data such as the"Student Development Record Form". The third is to build a scientific intelligent algorithm accountability mechanism.The school can cooperate with a third-party educational data classification and evaluation institution to establish a troubleshooting mechanism for abnormal circulation and use of educational data based on natural language processing,adaptive system and other technologies,and eliminate abnormal data in the process of teaching evaluation to avoid educational data.

The abnormal factors in classification have a negative impact on evaluation activities and results,which violates the fairness of educational decision-making.

5.4 Utilize the behavioral influence of intelligent evaluation to build a people-oriented ethical order for evaluation

The study of internalist ethics focuses on human beings and has always placed human development in the ontological sense,making ethics a tool that serves human development and happiness in life. Therefore,it is necessary to guard against lagging the improvement of the main value of teacher and student education behind the update and iteration of artificial intelligence technology,and to leverage the behavioral influence of intelligent evaluation to build a people-oriented evaluation ethical order.One is to pay attention to the impact of intelligent evaluation on the behavior of educational subjects.The advantages of intelligent technology applied in education and teaching should be actively utilized.Technologies such as intelligent perception can be used to accurately collect multidimensional data from learners'growth process,establish digital portraits that can clearly represent the growth status of learners,teachers,and others,and help teachers effectively predict students'learning status and provide targeted learning support. The second is to pay attention to the educational subject value of teachers in the teaching evaluation process.Intelligent machines lack the emotional,ethical and moral elements that humans possess,and are ultimately cold,lifeless,unethical,lacking empathy and humanistic care,which may exacerbate students'psychological stress and problems.In the process of intelligent teaching evaluation,teachers should not overlook the humanistic care work they undertake,such as knowledge system construction,logical consciousness awakening,and moral character cultivation.They should eliminate the ethical risks that intelligent evaluation has in terms of educating people.Thirdly,intelligent technology should be effectively utilized to capture changes in students'expressions and behaviors.Teachers should focus on students'actual feelings and guide them to carefully understand and reflect on the results of intelligent evaluation.Through verbal communication,psychological counseling,and other methods,teachers can further explore the psychological changes and characteristics of students behind the results of intelligent evaluation,always maintaining attention to human self realization,and leveraging the"empowering"effect of artificial intelligence to effectively promote the positive development of students'emotions,attitudes,and values.

6 Conclusion

With the continuous upgrading of intelligent technology,the intelligent transformation of teaching evaluation has its corresponding era value,and also provides new space and opportunities for the development of education and teaching. The application of intelligent technology in teaching evaluation poses certain risks and uncertainties,and the process of intelligent transformation of teaching evaluation should be considered from an ethical perspective.Intrinsic technological ethics put forward new requirements for the regulations and boundaries of artificial intelligence technology applications,not only focusing on ethical issues arising from the source of technology,but also emphasizing the embedding of ethical regulations into the scope of evaluation activities for endogenous constraints,always examining the development issues of technology and ethics from a positive

perspective,promoting ethical awareness through technological progress,and improving technological development through ethics,This perspective has certain practical significance and theoretical breakthroughs in examining the corresponding ethical issues in the process of intelligent transformation of teaching evaluation.Based on this,this study proposes the ethical risk characterization and relief path brought about by the intelligent transformation of teaching evaluation from the perspective of internalism,which is an effective response to the risk reduction of teaching evaluation in the era of artificial intelligence.In the process of applying artificial intelligence to teaching evaluation in the future,it is worth further in-depth research by scholars on how to promote the better educational effect of intelligent technology,solve corresponding ethical problems from the root through technological development,and build an ethical ecosystem where technological ethics and educational environment coexist harmoniously.

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