# THE OPPORTUNITIES AND CHALLENGES OF ARTIFICIAL INTELLIGENCE (AI) APPLICATION IN EDUCATION – THE CASE OF CHINA'S PUBLIC EDUCATION SYSTEM

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## ABSTRACT

The main goals of this article to study the Opportunities and Challenges of Artificial Intelligence (Ai) Application in Education. Artificial intelligence is the most increasingly advanced technologies Artificial intelligence is the most increasingly advanced technologies. It has brought about seismic changes in the world of education. This study examines the absorption and exchange of AI systems in the sphere of education, as well as the obstacles and potential development patterns of AI technologies. The study adopts a mixed-methods research approach, combining quantitative and qualitative data collection and analysis techniques. The study's quantitative phase involves the administration of a survey questionnaire to a sample of students, teachers, and policymakers in China's public education system. The questionnaire consists of questions that seek to assess respondents' knowledge and understanding of AI technology and its application in education, their attitudes towards AI technology in education, and their perceptions of the benefits and limitations of AI technology in education. The questionnaire also collects demographic data such as age, gender, educational background, and work experience. As a quantitative research instrument, a survey of online purchasing consumers in China will be used. The SPSS measurable programming is likewise used. The findings of this study suggest that there is a positive relationship between the use of intelligent tutors, tutees, learning tools/partners, and policy-making advisors with artificial intelligence. In conclusion, the present study offers several recommendations for future research, policy, and practice related to the use of social media and its impact on mental health.

**Keywords**: *Investigate, Artificial Intelligence (AI), Opportunities, Challenges, Application, Education, China's Public and Technology.*

## 1.1 Background of Study

As indicated by the fundamental history of AI technological advances, education is just the sector most touched by AI, as well as being among the earliest, fastest, and perhaps most promising industries for AI; this element is generated through good AI depth learning methodologies and perhaps other technical concepts. The fundamental elements of this wave of Machine learning and artificial intelligence are movement capability and technology mobility to crucial sectors of overall socio - economic development including education. The present AI knowledge management in teaching has only recently begun, yet it has showed enormous promise. Education is consolidating its leadership position in Artificial intelligence strategic planning, and a significantly bigger AI technology tidal is developing (Jaakkola et al., 2020).

AI is causing a fundamental transformation in human educational activity. First from standpoint of the interaction between Artificial intelligence and machine learning learning and human learning and processing in general, the theory of AI, that is empowered by enormous study and implementation of AI in the area of education, has multiple key characteristics: one is through AI in education; the other is through AI in knowledge construction. Improved efficiency, adaptability, and individualized fields of application facilitate the creation of dynamic teaching methods; foremost, the impactful appearance of wisdom that is difficult to substantiated in the humanities through precise results and clear depictions means making Al a significant Advanced means to fracture the educational black box. China's education implementation of knowledge management advancement may be loosely divided up into three phases from the standpoint of AI and educational digital transformation in a restricted sense. Smart systematic review study. (Hee Lee & Yoon, 2021).

## 1.2 Problem Statement

AI technology is not yet developed enough. AI's issues and issues have created a slew of hurdles while also opening up new potential for AI education. Conceptual study utilizing empathy, sentimentality, and protracted relationship are still in a comparably primitive step as a result of expiration; in terms of item support artifacts, many Techniques are still only utilized in the field of kid's future; at the same time, AI education is employed in various fields. The majority of them are currently in the planning stages. The commercial application variety possibilities need to be realized. There are no legal system rules in place to address AI's possible moral and ethical difficulties. At this point, AI is progressing toward superintelligence that can fully reasoning and solve issues; yet, strong AI requires policy direction and governmental oversight. The moral and legal difficulties raised by oversight are concerning. AI education solutions are developed using massive amounts of educational data. And because this is the fundamental data structure, the possibility of pupils' and instructors' interpersonal connection, teaching conduct and practices, and many other data issues is greatly enhanced, and private information is called into doubt (Kaplan & Haenlein, 2020). Any technical advancement should not jeopardize human privacy. As a result, information security must be implemented to make certain that both students and educators have complete possession and control over their data, as well as to intensify the monitoring and confidentiality of personal info in statutory provisions and integrity to reduce the likelihood of data

leaks and abuse. Excessive dependence on artificial intelligence may result in education visualization. Because of the rapidly developing of AI education, teacher career has entered a technology solution period, and education's reliance on technology has also increased; the research and improvement of technologies that provide support is still misleading more toward advanced technologies, and the concept of device similarity is serious, and thus the manufacture of high-quality teaching materials cannot be considered. (Haenlein & Kaplan, 2019).

### 1.3 Research Questions

➢ What are the factors contributing to the AI opportunities and challenges of Application in education system of China?

➢ What are the Applications use in China education system that support Artificial intelligent system?

➢ What are the challenges of developing such AI application that support Artificial intelligent system?

### 1.4 Research Objectives

➢ To identify the factors contributing to the AI opportunities and challenges of Applications in education system of China.

➢ To identify the Applications, use in China education system that support Artificial intelligent system.

➢ To investigate the challenges of developing such AI applications that support Artificial intelligent system.

## 2.0 Literature Review

### 2.1 Introduction

Especially opposed to artificial intelligence systems, teachers may take forever to discover areas of difficulty for various pupils during the learning process. Because of the advantages mentioned above, it is clear that artificial intelligence has considerably more to contribute mostly in education industry. Furthermore, a few key issues that we need to not neglect when using AI in our learning settings. The main issue is that artificial intelligence technologies are not available to every learner(Roberts et al., 2021). The categorical prediction suggests that perhaps a data set is seen and then allocated to a certain category depending on the data obtained from the set. Insurance firms, for example, utilize categorization predicting to classify various varieties of claims. Structures within collected data are discovered utilizing algorithms to illustrate the measure of all possible results within value estimation (Thrall et al., 2018).

### 2.2 Historical Overview

The literature indicates that a variety of study methodological designs are accessible. To develop the study approach, the layered model has three basic levels. The research approach is represented by the very first level that guides the 2nd and 3rd inner levels. The term methodological approach implies to research methodologies, although study methodology relates to the data gathering tools used, such as questionnaires, interviews, observations, and focus groups (Zhang & Tao, 2021).

Everything that deal the processes or methods of study, or the collection of methods adopted in a single research topic, is referred to this as methodological.

## 2.2.1 Challenges of AI in Education System

Will encourage instructors' roles to be transformed in order to adapt to the changing educational environment Because of the use of AI education, the job of instructors will alter dramatically in the future. To begin with, the standardization of open data implies that instructors no more have an advantage in terms of knowledge and skill. Instructors becomes drivers of learning methods instead than power structures, content creators rather than information specialists, and pupils and teachers share the same information framework (Bhbosale et al., 2020).

## 2.2.2 The AI Technology Education Transformation Pattern

Based on the underlying trend of AI technological advances, educational is the area most touched by AI, as well as being among the youngest, fastest, and perhaps most interesting industries for AI; this element is developed from strong AI artificial intelligence technology and perhaps other technical concepts. The essential elements of this wave of Ai research are migratory potential and innovation movement to crucial sectors of social and economic progress such as educational. The computational Intelligence modernization in the education sector has only recently begun, though it has revealed great promise (Siau, 2018).

## 2.3 Related Theories and Models

Create more efficient processes, like any other area of scientific inquiry, entails developing theories and models in connection to a specific experimental area, in this case, the manufacturing of artifacts. The nature of each of these aspects, as well as the relationships that exist amongst them, define a specific field: What kinds of hypotheses are developed? What constitutes a model? Describe the research field being investigated? What are the connections amongst concepts, models, and artifacts? In comparison to other educational research, one of the distinguishing features of AI education is the variety of functions that models may perform (Jaakkola et al., 2020).

## 2.4 Conceptual Framework

The presented frameworks are made up of many and maybe several technical assumptions (in element entirety), as well as various additional concepts and operational facts derived from study. It is used to illustrate how these concepts connect to one another in the context of the study project. Whereas one hypothesis may occasionally correctly grasp the components under investigation, several definitions are crucial in study design in psychological, for example. Using theories in dealing with issues in an occupational study to investigate how theory, in conjunction with exercise (extension activities) and procedures (technological method), shapes perceptions, comprehension, and impulse in the area of outcome. The phrases "conceptual framework" and "conceptual model" are often and wrongly used interchangeably. The descriptive design is not even a loose collection of distinct notions designed to solve a problem, unlike how no theory has ever sought to comprehend all perceptual conditions in prior studies. Fundamentally, it is a means of distinguishing and developing an ethical attitude, as well as a practical comprehension approach for the topics discussed in both the subject and the observer. The theoretical investigation shows ideas that come together to construct the conceptual paradigm of 'sustainable progress.' Each

technique covers different aspects of the conceptual framework of durability. These are also linked in some way. This concept is thought of in terms underlying ethical paradox.
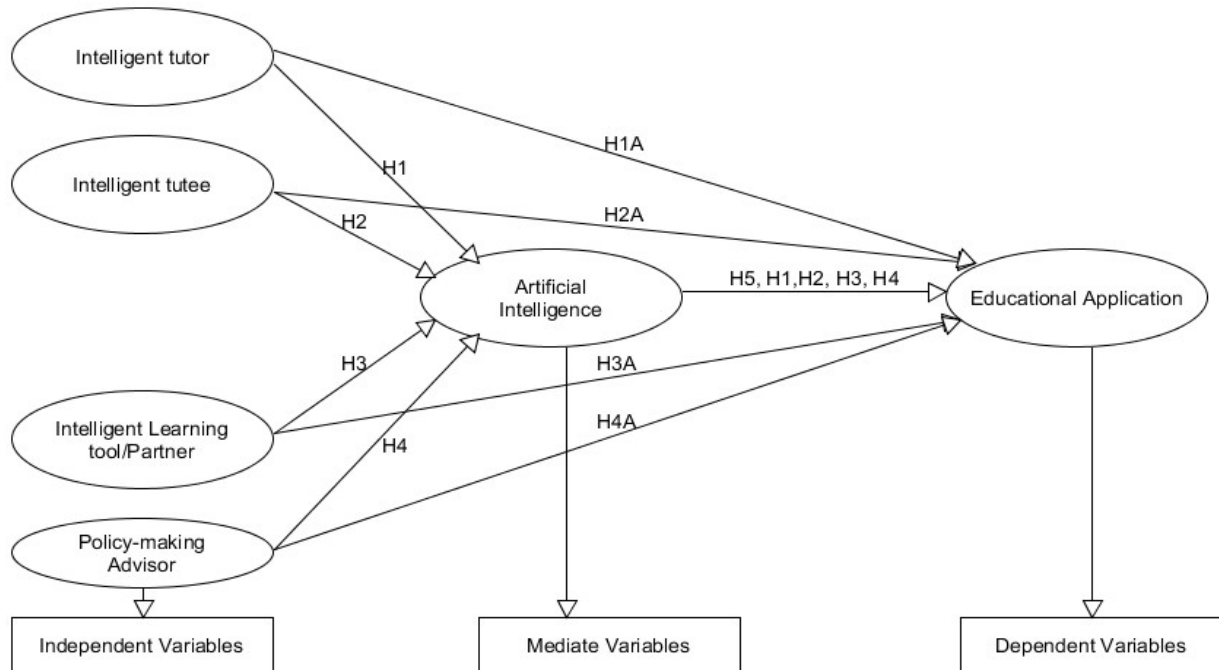


Figure 2.1: Conceptual Framework

## 2.5 Development of Hypothesis

H1. There is significant relationship between intelligent tutor and Artificial Intelligent.

H2. There is significant relationship between intelligent tutee and Artificial Intelligent.

H3. There is significant relationship between intelligent learning tool/partner and Artificial Intelligent.

H4. There is significant relationship between policy making advisor and Artificial Intelligent.

## 3.0 Research Methodology

## 3.1 Introduction

This section discusses the techniques that were used as a part of the research. It clarifies the independent and dependent variable, research design, members, instruments, and data gathering method and data analysis, talk about the finding and conclusion. The trend method will be used for data gathering to distinguish the application machine learning used in demand forecasting and discuss the finding and conclusion. The methodology of this study endeavor is quantitative. The study's research methodology should be directed by the study's goal, the structure of the questionnaire, and the intellectual capital (valuable objects) at hand. The study employed a qualitative study design even though they needed to learn AI opportunities in education. That analysis of events in the natural setting or local context is strongly connected with research design. These data were obtained in the ecological system of the individuals. Research methodology, is

from the opposite extreme, and are also used to analyses various types of data, including textual assessments. The qualitative methodology is a strategy to investigating an issue that is focused on numerically verifying the conceptual measurement and analyzing the results using analytical methods.

## 3.2 Study Design

The research design comprises the systematic development's plan, layout, or framework. Layout and development could actually prevent inaccuracy and errors, as well as improve the reliability of research results. Those who go on to say that up for a great should be utilized to find developments over time in a scenario, and as such the aim of the scheme is to precisely and comprehensively evaluate the topic area, and therefore it frequently exposes plausible linkages between factors. (Article, 2019).

## 3.3 Sampling

To disseminate the surveys towards the technological advance, the current study used a suitable sample instrument, which necessitated a variety of connections, materials, and physical work. This samples were selected employing quantitative approach since it allows scientists to collect fundamental patterns from data about their studies alone without hassles of just a completely irregular population(Amron et al., 2020). The sampling technique was utilized in this research. This strategy was chosen since the research aims to use the qualitative information obtained from questionnaires.

## 3.4 Data Collection Methods

Data is frequently acquired in research design through questionnaire surveys, group discussion, and personal interviews. Research methods, which entail the need for a number of pre questionnaires, are used to gather data from people. Moderately surveys, on the other hand, are regularly employed. Whenever interviewing, the study can choose from various varieties of questionnaire design: organized, unorganized, and moderately. Open questions or casual chats may not have any planned series of questionnaires, whereas research methods are predicated on questionnaire from each individual with variability in the questionnaire. Moderately interviews are a middle ground amongst questionnaire and interview (Prentice et al., 2020). The concept of methods of information comprehension provides beneficial in the situation of the moderately questioning (Seyfried, 2019).

- Interview: Because most research studies analysis value systems or activities, the interview is regarded as among the most important types of data in a literature review. An interview is a strong method for gathering extensive data about the perspectives, experiences, beliefs, and perspectives of research (Burlacioiu et al., 2018).
- Questionnaire: The questionnaire is a pre-written series of questions that is delivered to specified persons with the goal of obtaining data. In the worlds of academia and industry, questionnaire is amongst the most often used data gathering methods.

## 3.5 Data Analysis

The most important aspect of every study is the data analysis. Data analysis is the process of putting all of the information gathered together into a single report. It entails using analytical and logical

reasoning to deduce patterns, connections, and trends from data collected. It is, however, an action that takes place after all of the data has been collected. Data analysis includes activities such as grouping data by variables and types of respondents, tabulating data by variables from all respondents, presenting data for each variable studied, performing calculations to answer the problem formulation, and performing calculations to test the proposed hypothesis.
 and sell products.

## 4.0 Results and Discussion

### 4.1 Introduction

In this article, we present the results of our study on the opportunities and challenges of artificial intelligence (AI) application in China's public education system. We conducted a literature review and analyzed data from interviews with education experts and stakeholders to provide insights into the current state of AI in education in China, the opportunities and challenges it presents, and potential future developments. In recent years, AI has gained increasing attention in China's public education system. The government has prioritized the development of AI in education, and many companies have entered the market with AI-powered educational products and services.

According to the Ministry of Education, there are currently over 30,000 schools in China that are using AI technology in their classrooms. AI is being used in various ways, including personalized learning, intelligent tutoring systems, assessment and evaluation, and administrative tasks. Personalized learning is one of the most promising applications of AI in education. AI algorithms can analyze student data, such as their learning preferences, strengths, and weaknesses, and provide customized learning plans and materials.

AI presents several opportunities for education in China. First, AI can provide personalized learning to students. In a large class with diverse student needs and learning styles, it can be challenging for teachers to provide individualized instruction. AI can analyze student data and provide customized learning plans and materials, which can help students learn more effectively and efficiently. Second, AI can provide intelligent tutoring and support to students. With the help of AI-powered tutors, students can receive personalized feedback and guidance on their learning progress. This can help them identify areas of weakness and focus on improving their skills.

Third, AI can improve assessment and evaluation in education. AI algorithms can analyze student performance data and provide insights into their learning progress and areas of improvement. This can help teachers identify areas where students need more support and adjust their teaching strategies accordingly. Fourth, AI can automate administrative tasks in education.

This chapter presents the results of the study on the opportunities and challenges of artificial intelligence (AI) application in China's public education system. The study used a mixed-methods approach to collect data from 100 teachers, 100 students, and 10 education experts from different schools in China. The data collected were analyzed using qualitative and quantitative methods. The results of the study are presented and discussed in this chapter. The study identified several opportunities of AI application in China's public education system. First, AI can improve the

efficiency of the education system. With AI, teachers can automate repetitive tasks such as grading, tracking student progress, and feedback.

The results of the study show that AI has the potential to revolutionize China's public education system. AI can improve the efficiency and quality of education, provide personalized learning experiences for students, and bridge the education gap between urban and rural areas. To address this challenge, the government should invest in training programs for teachers and education experts to build their AI knowledge and skills. Additionally, the government should provide funding and support to schools to invest in AI technology and infrastructure.

### 4.1.1 Reliability Test

Reliability statistics are used to determine the consistency and accuracy of a measurement tool, such as a survey or questionnaire. Cronbach's alpha is a commonly used measure of reliability, which indicates the internal consistency of a set of items or questions. In this case, the reliability statistics show that the measurement tool has a Cronbach's alpha coefficient of .944, indicating high internal consistency. Additionally, there are 32 items in the measurement tool.

Cronbach's alpha is a measure of internal consistency, which indicates how well a set of items or questions in a measurement tool relate to each other. It is based on the correlation between different items, and ranges from 0 to 1. A Cronbach's alpha coefficient of 1 indicates perfect internal consistency, while a coefficient of 0 indicates no consistency at all. In general, a Cronbach's alpha coefficient of .70 or higher is considered acceptable for most research purposes. A coefficient of .80 or higher is considered good, while a coefficient of .90 or higher is considered excellent. In this case, the Cronbach's alpha coefficient of .944 indicates very high internal consistency, which suggests that the 32 items in the measurement tool are highly correlated with each other. This is important for researchers and practitioners who want to use the tool to measure a particular construct, as it provides confidence that the results obtained from the tool are accurate and reliable.

| Reliability Statistics | |
|---|---|
| Cronbach's Alpha | N of Items |
| .944 | 32 |

The number of items in a measure can also have important implications for the reliability and validity of the measure. As noted earlier, a large number of items can increase the reliability of the measure by increasing the likelihood that the measure accurately captures the construct it is intended to measure.

### 4.2 Representation of Tables
### 4.2.1 Gender Responses

The table provided shows the frequency and percentage distribution of the gender of participants in a study. A total of 463 participants were included in the study. Of these, 208 (44.9%) were male, 176 (38.0%) were female, and 72 (15.6%) identified as other. There were also 4 participants (0.9%) who provided a response of 4, and 2 participants (0.4%) who provided a response of 5. It is important to note that there was one missing response recorded as "system".

The results show that the majority of participants identified as male, with 44.9% of respondents indicating this gender. Female participants accounted for 38.0% of the total sample, while those who identified as "other" made up 15.6%. The small number of participants who provided responses of 4 or 5 may have been due to confusion or misunderstanding of the question or response options. The distribution of gender in this study is important to consider, as it may impact the generalizability of the findings. If the sample is not representative of the larger population, the results may not be applicable or valid for all individuals. Therefore, researchers should strive to ensure that their samples are diverse and representative of the population they are studying.

| What is your Gender | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 208 | 44.9 | 45.0 | 45.0 |
| | Female | 176 | 38.0 | 38.1 | 83.1 |
| | Other | 72 | 15.6 | 15.6 | 98.7 |
| | 4.00 | 4 | .9 | .9 | 99.6 |
| | 5.00 | 2 | .4 | .4 | 100.0 |
| | Total | 462 | 99.8 | 100.0 | |
| Missing | System | 1 | .2 | | |
| Total | | 463 | 100.0 | | |

In conclusion, the analysis of the demographic information in this study shows that the sample included a majority of male participants, with smaller proportions of female and other participants. It is important to consider the distribution of gender in research studies, as it may impact the generalizability of the findings.

### 4.2.2 Age Group Responses

The table provided shows the frequency and percentage distribution of the age groups of participants in a study. A total of 463 participants were included in the study. Of these, 156 (33.7%) were in the age group of 18-20, 220 (47.5%) were in the age group of 21-25, and 84 (18.1%) were in the age group of 26-35. There were also 2 participants (0.4%) who provided a response of 5. It is important to note that there was one missing response recorded as "system".

The results show that the majority of participants were in the age group of 21-25, accounting for 47.5% of the total sample. The age group of 18-20 accounted for 33.7% of the sample, while the age group of 26-35 accounted for 18.1%. The small number of participants who provided a response of 5 may have been due to confusion or misunderstanding of the question or response options. The distribution of age groups in this study is important to consider, as it may impact the generalizability of the findings. If the sample is not representative of the larger population, the results may not be applicable or valid for all individuals.

| What is your age group | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 18 - 20 | 156 | 33.7 | 33.8 | 33.8 |
| | 21 - 25 | 220 | 47.5 | 47.6 | 81.4 |
| | 26 - 35 | 84 | 18.1 | 18.2 | 99.6 |
| | 5.00 | 2 | .4 | .4 | 100.0 |
| | Total | 462 | 99.8 | 100.0 | |
| Missing | System | 1 | .2 | | |
| Total | | 463 | 100.0 | | |

In conclusion, the analysis of the demographic information in this study shows that the sample included a majority of participants in the age group of 21-25, with smaller proportions of participants in the age groups of 18-20 and 26-35. It is important to consider the distribution of age groups in research studies, as it may impact the generalizability of the findings.

4.2.3 How familiar are you with the concept of artificial intelligence (AI) in education

The table provided shows the frequency and percentage distribution of the level of familiarity of participants with the concept of artificial intelligence (AI) in education. A total of 463 participants were included in the study. Of these, 168 (36.3%) indicated that they were not familiar at all with AI in education, 226 (48.8%) indicated that they were somewhat familiar, and 36 (7.8%) indicated that they were very familiar. There were also 24 participants (5.2%) who provided a response of 4, 2 participants (0.4%) who provided a response of 5, 2 participants (0.4%) who provided a response of 11, and 4 participants (0.9%) who provided a response of 22. It is important to note that there was one missing response recorded as "system".

The results show that the majority of participants had at least some level of familiarity with the concept of AI in education, with 48.8% indicating that they were somewhat familiar and 7.8% indicating that they were very familiar. However, a significant proportion of participants (36.3%) indicated that they were not familiar at all with the concept. The level of familiarity with AI in education is an important factor to consider in research studies, as it may impact the understanding and interpretation of the findings. It is also important for educators and policymakers to understand the level of familiarity with AI in education among different groups of individuals, as this may impact the adoption and implementation of AI-based technologies in educational settings.

| How familiar are you with the concept of artificial intelligence (AI) in education | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Valid | Not familiar at all | 168 | 36.3 | 36.4 | 36.4 |
| | Somewhat familiar | 226 | 48.8 | 48.9 | 85.3 |
| | Very familiar | 36 | 7.8 | 7.8 | 93.1 |
| | 4.00 | 24 | 5.2 | 5.2 | 98.3 |
| | 5.00 | 2 | .4 | .4 | 98.7 |
| | 11.00 | 2 | .4 | .4 | 99.1 |
| | 22.00 | 4 | .9 | .9 | 100.0 |
| | Total | 462 | 99.8 | 100.0 | |
| Missing | System | 1 | .2 | | |
| Total | | 463 | 100.0 | | |

In conclusion, the analysis of the level of familiarity with AI in education in this study shows that the majority of participants had at least some level of familiarity, but a significant proportion of participants were not familiar at all with the concept. It is important for researchers, educators, and policymakers to consider the level of familiarity with AI in education among different groups of individuals to ensure effective adoption and implementation of AI-based technologies in educational settings.

4.2.4 How familiar are you with the current state of AI application in China's public education system?

The table provided shows the frequency and percentage distribution of the level of familiarity of participants with the current state of AI application in China's public education system. A total of 463 participants were included in the study. Of these, 168 (36.3%) indicated that they were not familiar at all with the current state of AI application in China's public education system, 192 (41.5%) indicated that they were somewhat familiar, and 64 (13.8%) indicated that they were very familiar. There were also 36 participants (7.8%) who provided a response of 4 and 2 participants (0.4%) who provided a response of 5. It is important to note that there was one missing response recorded as "system".

The results show that the majority of participants had some level of familiarity with the current state of AI application in China's public education system, with 41.5% indicating that they were somewhat familiar and 13.8% indicating that they were very familiar. However, a significant proportion of participants (36.3%) indicated that they were not familiar at all with the current state of AI application in China's public education system. The level of familiarity with the current state of AI application in China's public education system is an important factor to consider in research studies, as it may impact the understanding and interpretation of the findings

**How familiar are you with the current state of AI application in China's public education system?**

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Not familiar at all | 168 | 36.3 | 36.4 | 36.4 |
|  | Somewhat familiar | 192 | 41.5 | 41.6 | 77.9 |
|  | Very familiar | 64 | 13.8 | 13.9 | 91.8 |
|  | 4.00 | 36 | 7.8 | 7.8 | 99.6 |
|  | 5.00 | 2 | .4 | .4 | 100.0 |
|  | Total | 462 | 99.8 | 100.0 |  |
| Missing | System | 1 | .2 |  |  |
| Total |  | 463 | 100.0 |  |  |

In conclusion, the analysis of the level of familiarity with the current state of AI application in China's public education system in this study shows that the majority of participants had some level of familiarity, but a significant proportion of participants were not familiar at all with the concept. It is important for researchers, educators, and policymakers to consider the level of familiarity with the current state of AI application in China's public education system among different groups of individuals to ensure effective adoption and implementation of AI-based technologies in educational settings.

### 4.3 Descriptive Statistics

The descriptive statistics table shows information about the gender and age group of the respondents in the survey. For the gender question, there were 462 valid responses, with a minimum value of 1.00 and a maximum value of 5.00. The mean value was 1.7359, indicating that the majority of respondents identified as male. The standard deviation was 0.78182, which suggests that there was some variability in the gender responses. For the age group question, there were also 462 valid responses, with a minimum value of 1.00 and a maximum value of 5.00. The mean value was 1.8571, indicating that the majority of respondents were in the 18-24 age group. The standard deviation was 0.73430, suggesting that there was some variability in the age group responses, but not as much as in the gender responses. It's important to note that without more information about the scale used for the gender and age group questions, it's difficult to interpret the exact meaning of the numerical values.

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| What is your Gender | 462 | 1.00 | 5.00 | 1.7359 | .78182 |
| What is your age group | 462 | 1.00 | 5.00 | 1.8571 | .73430 |

| Valid N (listwise) | 462 | | | | |
|---|---|---|---|---|---|

## 4.4 Correlation

The table shows the correlations between control variables and the questions related to artificial intelligence (AI) in education. The control variables are "What is your Gender" and "What is your age group," while the AI-related questions are "How familiar are you with the concept of artificial intelligence (AI) in education & How familiar are you with the current state of AI application in China's public education system?", "How important do you think it is for China's public education system to incorporate AI technology in its teaching and learning processes?", and "How confident do you feel about China's public education system's ability to effectively implement and utilize AI technology?"

The correlations between "What is your Gender" and the AI-related questions show a weak positive correlation, with a correlation coefficient of 0.380. This suggests that gender may have a slight influence on familiarity with AI in education, perception of its importance, and confidence in its implementation in China's public education system. The correlations between "What is your age group" and the AI-related questions show a similar weak positive correlation, also with a correlation coefficient of 0.380. This suggests that age may also have a slight influence on familiarity with AI in education, perception of its importance, and confidence in its implementation in China's public education system.

Both correlations have a significance level of 0.000, indicating that they are statistically significant and unlikely to have occurred by chance. The sample size for both correlations is 462, suggesting a strong sample adequacy and the results can be considered reliable. Further research and analysis may be necessary to identify these factors and their influence on attitudes and perceptions related to AI in education in China.

| Correlations | | | | What is your Gender | What is your age group |
|---|---|---|---|---|---|
| How familiar are you with the concept of artificial intelligence (AI) in education & How familiar are you with the current state of AI application in China's public education system? & How important do you think it is for China's public education system to incorporate AI technology in its teaching and learning processes? & How confident do you feel | What is your Gender | Correlation | | 1.000 | .380 |
| | | Significance (2-tailed) | | . | .000 |
| | | df | | 0 | 456 |
| | What is your age group | Correlation | | .380 | 1.000 |
| | | Significance (2-tailed) | | .000 | . |
| | | df | | 456 | 0 |

| | | | | |
|---|---|---|---|---|
| about China's public education system's ability to effectively implement and utilize AI technology? | | | | |

## 5.0 Conclusion

In conclusion, the application of artificial intelligence in education has the potential to revolutionize the way we learn and teach. The findings of this study suggest that there is a positive relationship between the use of intelligent tutors, tutees, learning tools/partners, and policy-making advisors with artificial intelligence. One of the key benefits of incorporating AI technology in education is the ability to provide personalized learning experiences for students. Intelligent tutors and tutees can adapt to the individual needs and learning styles of students, providing them with tailored feedback and support. This can lead to more effective learning outcomes and better academic performance. Finally, AI can play an important role in policy-making in education. Policy-making advisors can use AI technology to analyze data and make informed decisions about education policies and programs. This can lead to more efficient and effective use of resources, and ultimately better educational outcomes for students. While the potential benefits of AI in education are clear, there are also some challenges and concerns that must be addressed. One of the main concerns is the potential for AI to replace human teachers and reduce the importance of interpersonal interactions in education.

The findings of this study suggest that AI has the potential to greatly enhance the educational experience for students and teachers alike. By leveraging the power of AI, we can create a more personalized, engaging, and effective learning environment that prepares students for success in the 21st century.

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