

# *Investigation and Analyses of AI Application among Freshmen*

Weigang Guo<sup>1,a,\*</sup>

<sup>1</sup>*School of Computer Science and Artificial Intelligence, Foshan University, Foshan, Guangdong, China*

<sup>a</sup>wgguo@qq.com

<sup>\*</sup>*Corresponding author*

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**Abstract:** Freshmen face the paradigm shift from passive indoctrination in high school to autonomous learning in university. They have the characteristics of vulnerability in the transition stage, plasticity of behavior habits and the window value of educational intervention. This paper investigates and analyzes the current situation of freshmen in our university in four aspects: AI application field, application frequency, application effects and AI ethics. The analysis results show that the application of AI among freshmen in our university is relatively popular, with high frequency and good effects. In terms of AI ethics, students have good ethical awareness, but they are not familiar with laws and regulations, and need to further strengthen education.

## 1. Introduction

With the rapid development of Artificial Intelligence technology, AI has gradually penetrated into college students' learning and life. How to cultivate students' AI literacy, correctly and reasonably use AI and face the impact of AI has become very important. This issue has also attracted the attention and research of many scholars.

Fang Li used a questionnaire survey to explore the current situation and learning needs of College Students' AI literacy, and found many factors affecting college students' AI literacy [1]. Yu Haiqin conducted a questionnaire survey on college students nationwide, and proposed that colleges and universities should promote AI literacy education as soon as possible, strictly screen or develop genai tools that help students' development, and formulate AI literacy education strategies [2]. Dou Tao, taking college students in Henan Province as the research object, analyzed the cognitive level, use behavior, application scenarios and ethical awareness of Generative Artificial Intelligence (GAI) through a questionnaire survey [3]. Based on the research object of Undergraduates in a university in Hubei Province, Wang Wenqing analyzed the current situation and influencing factors of College Students' AI literacy, and believed that the overall AI literacy of college students was at a medium low level [4]. Tang Qianwen discussed the problems faced by college students' digital literacy and the cultivation goals, and proposed AI literacy cultivation strategies such as innovating the curriculum system, relying on professional training to shape college students' professional

application ability, building a comprehensive learning platform, and carrying out ethical education [5].

Freshmen face the paradigm shift from passive indoctrination in high school to autonomous learning in university. They have the characteristics of vulnerability in the transition stage, plasticity of behavior habits and the window value of educational intervention. It is of special value to understand and analyze their AI application and ethical awareness. At present, there is no literature to investigate the AI literacy of freshmen.

## **2. Basic Information of Questionnaire Survey**

### **2.1. Questionnaire Respondents**

In this paper, the first-year students of Foshan University were selected as the research object, and a questionnaire was conducted after completing the course of "Fundamentals of Artificial Intelligence" in January 2025. A total of 130 students from three schools completed the effective questionnaire, including 60 boys and 70 girls.

### **2.2. Questionnaire Design**

The questionnaire is divided into four parts, a total of 37 questions. The first part is the basic information of students, including gender, school and major. The second part is the application of AI, including application fields and application frequency. The third part is the application effects of AI. The fourth part is the ethical awareness of AI.

## **3. AI Application Analysis**

### **3.1. Application Fields**

The AI application fields of freshmen mainly include learning and daily life.

In terms of learning, the main application areas include the following 9 aspects: 1) Automatically answering questions to help understand complex knowledge points. 2) Finding course materials and literature. 3) Outline ideas for generating assignments and papers. 4) Conducting language translation and grammar check. 5) Assist in code generation. 6) Data analysis. 7) Image generation. 8) Directly generating the contents of assignments and papers (part or all). 9) Video generation. The proportion of students using these nine aspects reached 90.00%, 79.20%, 58.50%, 50.00%, 38.50%, 30.80%, 20.80%, 20.00% and 11.50%, respectively.

In daily life, the main application fields include the following five aspects: 1) Life assistant (such as weather query, schedule reminder, etc.). 2) Entertainment (such as chatting, playing games, life image and video processing, etc.). 3) Others; 4) Social interaction; 5) Shopping recommendations. The proportion of students using these five aspects reached 33.80%, 31.50%, 27.70%, 5.40% and 1.50%, respectively.

From the above data, we can see that AI has been applied in many aspects of learning and daily life of freshmen.

### **3.2. Application Frequency**

In terms of the frequency of using AI related tools or platforms, 51.5% of the students often use them, 41.50% of the students occasionally use them, and only 6.9% of the students rarely use them.

In terms of learning, 12.30% of students use AI in almost all courses. 24.60% of the students use

AI in more than half of the courses. 27.70% of the students use AI in about half of the courses. 31.50% of the students use AI in less than half of the courses. However, 3.8% of the students hardly use AI in any course.

In terms of the time length of each use of AI, 33.10% are within 10 minutes, 40.80% are between 10 and 30 minutes, 19.20% are between 30 and 60 minutes, 4.60% are between 1 and 2 hours, and 2.30% are more than 2 hours.

On the question of whether students rely on AI when doing their homework, 8.50% of them are completely independent, 73.80% are slightly dependent, 13.80% are moderately dependent, and 3.80% are highly dependent.

From the above data, it can be seen that freshmen have a high frequency of AI application, and more than half of the students often use it and have a certain dependence.

#### 4. Analyses of Effects of AI

Freshmen's evaluation of effects of AI is also divided into two aspects: learning and daily life.

In terms of learning, it mainly includes the following four aspects: 1) The quality of learning content generated by AI. 2) Compared with traditional learning methods (such as reading books, asking teachers and classmates, etc.), the use of AI improves the efficiency of learning. 3) Academic performance improvement. 4) The overall improvement of learning efficiency and learning quality. As shown in Figure 1, about 80% of the students think that AI is of great help to their learning, and their grades have been effectively improved. Almost no students think that AI is of no value.

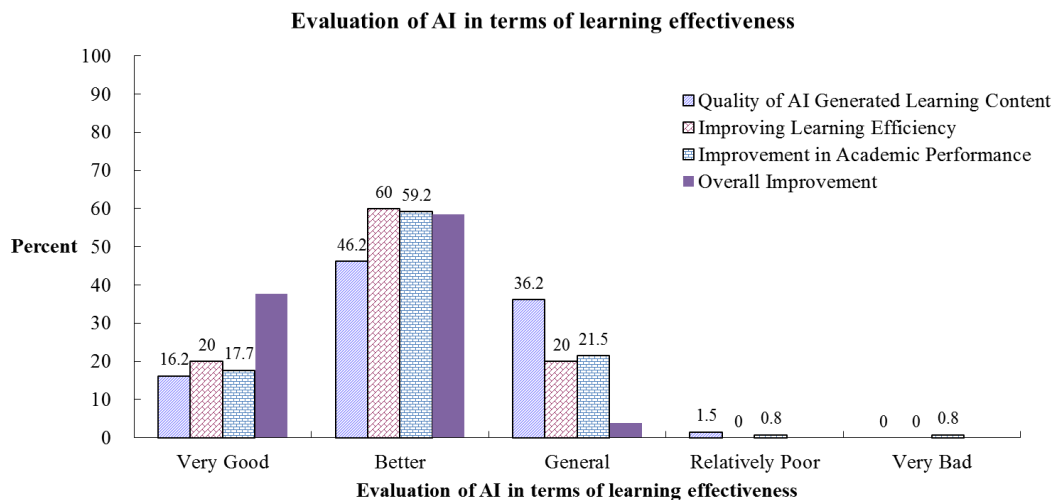


Figure 1: Students' evaluation of the effects of AI on learning

In terms of daily life, AI has also been well evaluated in terms of freshness and interest in entertainment, accuracy and reliability of life help and overall effectiveness, as shown in Figure 2.

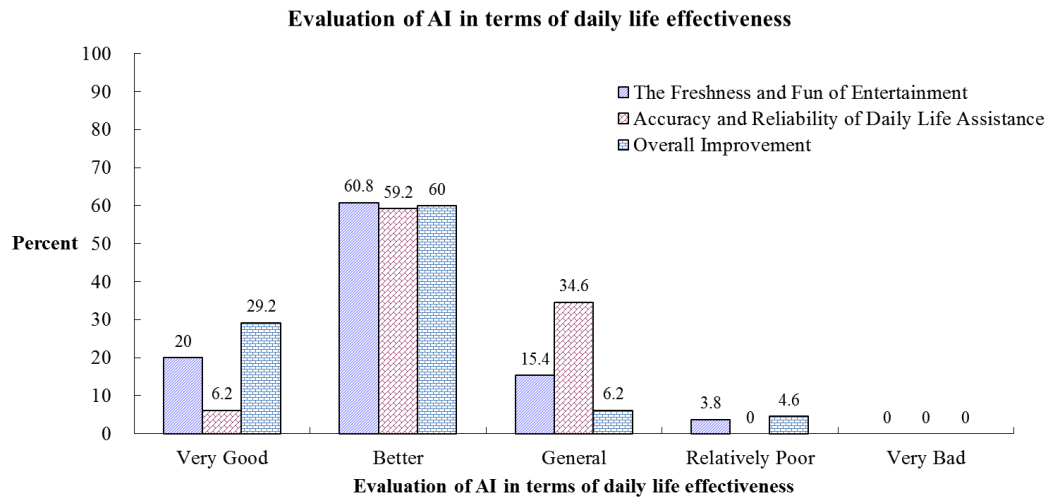


Figure 2: Students' Evaluation on the effects of AI in daily life

## 5. Analysis of AI Ethical Consciousness

### 5.1. Ethics in Learning

In terms of the ethics of AI applied to learning, only 4.6% of the students will directly submit the AI generated homework to the teacher without modification, because they believe that the teacher will not find it generated by AI. At the same time, 4.6% of students never use AI to generate homework content. 20.8% of the students will submit after modification, and will never directly use the results generated by AI. However, about 70% of the other students occasionally submit AI generated homework directly to the teacher, or just make a few modifications. It is puzzling that these students' behavior is based on their belief that the teacher has a high probability of discovering their direct copying behavior, but they will still do so.

Will the abuse of AI affect students' autonomous learning ability, innovation ability and independent thinking ability? More than half of the freshmen's answer is: Yes. Figure 3 shows students' judgments and concerns about the impact of AI abuse on their autonomous learning ability, innovation ability and independent thinking ability. It can be seen that most students still have good ethical awareness and can notice the possible adverse effects of AI abuse.

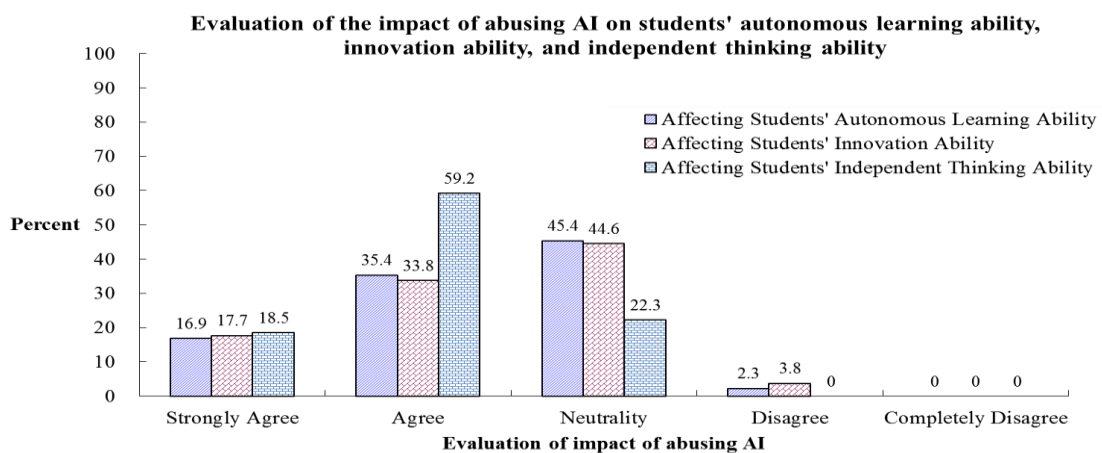


Figure 3: Evaluation of the impact of abusing AI on students' autonomous learning ability, innovation ability, and independent thinking ability

About 75% of the students think that the development of AI has a positive role in promoting the impact of the development of AI on their majors, and that the development and application of AI can also promote their employment.

## 5.2. Ethics in law, morality and safety

About 66% of freshmen have a certain understanding of the ethical issues of AI application. The AI ethical issues that students are most worried about include: privacy disclosure, data bias, information fraud, the definition of the moral responsibility of artificial intelligence, the replacement of human work by machines, and others. These problems were concerned by 87.70%, 67.70%, 60.00%, 59.20%, 42.30% and 13.10% of students respectively.

In the process of using AI, 80.8% of the students will actively pay attention to ethical issues, while 19.2% of the students pay little or no attention at all.

82.3% of the students thought that AI might have an impact on human morality in some cases, while 17.7% of the students thought it was unlikely.

It is worth noting that 65.4% of the students do not know much about AI related laws and regulations, and only 34.6% of the students do. Therefore, it is necessary to strengthen the education of AI related laws and regulations. At the same time, 67.7% of the students believed that the current laws and regulations on AI were not perfect and needed to be further improved.

More than 80% of the students can clearly understand that using AI for network fraud, using AI to generate infringing content (such as plagiarizing others' works), using others' data to train AI model without permission, and using AI to maliciously attack others may violate laws and regulations, and have good legal awareness.

If it is found that someone uses AI to commit illegal acts, more than 75% of the students will immediately report to the relevant departments, and inform the people around them to remind them. It can be seen that these students have a good sense of public morality and social responsibility.

## 6. Conclusions

Through the above analyses, it can be seen that the AI application of freshmen in our university is relatively popular, the frequency of use is high, and the use effects is good. In AI ethics, students have good ethical awareness, but are not familiar with laws and regulations. It is suggested that our university should strengthen the teaching content of AI laws and regulations in the course of "Fundamentals of Artificial Intelligence" and related professional courses. At ordinary times, the university should also invite leaders of information security departments and experts in AI related fields to give lectures in the university to expand students' knowledge.

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