

The Influence of ChatGPT Participation in Teaching on Students' Learning Interest

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Abstract: The traditional education model focuses only on the inculcation of knowledge and ignores the influence of students' interest on learning initiative. And the emergence of artificial intelligence offers hope to change this reality. This study mainly discusses how teachers cooperate and increase students' interest in learning, the way can take advantage of preparing teaching content for teachers. This topic analyzes interviews with four teachers to explore the possibilities of cooperation between teachers with ChatGPT, and the participation of ChatGPT in the classroom. From the survey, it is concluded that the collaboration between ChatGPT and teachers can increase students' interest in learning. Diversified and targeted teaching modes will give students a different experience to improve the efficiency of teachers' preparation and enrich students' knowledge to help increase their interest in learning; In class, ChatGPT assists teachers in generating targeted exercises related to the knowledge points, improving teaching efficiency, triggering students' independent learning ability and improving the proficiency of the knowledge points in recreation and competition, and at the end of the class, helping students to After the lesson, it helps students to review the knowledge points, gives them relevant exercises, and answers their questions to help them develop their personality. Interest is the foundation of everything, and applying ChatGPT in teaching creates more opportunities for students to learn, which is beneficial to their personality development and enhances their desire for knowledge.

Keywords: ChatGPT, high school education, study interests

1. Introduction

The drawbacks of traditional education at the high school level are the neglect of the student's dominant position and the single teaching method and content [1]. At the same time, there is an indifference to the connection between theory and practice, and students' interests in learning is low, especially high school teachers who will pay too much attention to students' knowledge memorization rather than knowledge understanding. ChatGPT is a language model developed by OpenAI. ChatGPT is a language model developed by OpenAI, which is characterized by its ability to understand and generate human-like language responses to various questions and prompts. GPT

stands for “Chat Generative Pre-Trained Transformer”, and the popularity of ChatGPT has attracted a lot of attention from the education sector, and its generative dialog feature has become the dawn of innovation in teaching practice. However, traditional-style high schools face various challenges in daily teaching. By analyzing and comparing the existing literature, this study found that ChatGPT can be integrated into high school classroom learning to involve every student and realize the multi-subject interaction between ChatGPT and the three parties: teacher and student. Teachers, students, and intelligent robots learn from each other and talk to each other to build a more advanced and comprehensive intelligent classroom teaching community [2]. Based on ChatGPT’s powerful language parsing, contextualization, and text generation capabilities, ChatGPT can act as a teaching assistant in the high school classroom, generating interactive games based on classroom content, and generating targeted accompanying quizzes. Data collection, allows teachers to better understand the individual student’s mastery of learning knowledge, and be able to teach in response to the student’s situation, but also through intelligent analytics to help teachers group students in a more targeted way, providing students with precisely directed individuals and groups, and more appropriate learning resources [3][4].

Based on ChatGPT’s powerful text generation and dialog capabilities, it facilitates communication between teachers and students. This study focuses on high schools and examines how high school teachers should properly work with ChatGPT to enhance students’ interest in learning.

Traditional education at the high school ignores the student’s leading role and has a shallow connection between theory and practice. Existing research only focuses on how high school teachers can enhance students’ interest in learning in a single subject without introducing ChatGPT into the classroom. This study connects these two elements. Utilize previous research and interviews with high school teachers to propose ways in which ChatGPT can be used to enhance students’ interest in learning.

With the popularity of Artificial Intelligence, teachers should apply and enter into a collaborative relationship with it. The purpose of the study is how high school teachers should properly work with ChatGPT to enhance students’ interest in learning.

2. Methods

2.1. Research Design

Firstly, as this interview mainly studied the application of ChatGPT at the intermediate level of high school, to ensure the universality of the sample, the interviewees of this interview were chosen to be four teachers from different grades and subjects, who were required to take on different teaching tasks and held different views on ChatGPT. Secondly, nine questions were organized according to the research theme, which were oriented to various aspects such as students’ feelings, teachers’ feelings, and future outlook. This study also used on-site interviews to ask questions to the interviewees face-to-face, record their responses, and judge their focus of attention based on their body movements and facial expressions.

2.2. Research Objects

In order to ensure the universality of the sample, this study selected four teachers of different subjects in different grades, who have different teaching tasks and hold different views on ChatGPT.

2.3. Research Process

Using the interview method, a semi-structured interview outline was designed to cover questions on curriculum design, teaching activities, learning interests, and teacher roles. In-depth interviews were conducted to record teachers' perceptions, experiences, and suggestions about the use of ChatGPT in education. Ensure that the interviews are conducted in a quiet, undisturbed environment and that each teacher is interviewed for about 60 minutes. The interviews were recorded verbatim.

2.4. Data Analysis

Teachers' perceptions were coded and categorized using qualitative analysis methods. Based on the categorization, summarize teachers' positive comments and potential concerns about ChatGPT. Analyze the differences between the two teachers' views and explore the reasons behind them.

3. Results

3.1. Optimizing the Teaching Environment

All teachers agreed that ChatGPT could assist in lesson design and teaching activities. The senior English teacher pointed out the help of ChatGPT in lesson plan preparation, classroom interaction, and after-class assignment design. The method of designing fill-in-the-blank exercises and dialoguing with ChatGPT was specifically mentioned, and she said that the progress and difficulties of students' learning could be understood through the record of students' interactions with ChatGPT in order to adjust the teaching methods in a timely manner. The other two teachers recognized the feasibility and benefits of collaborating with ChatGPT and emphasized its ability to enhance the fun of the classroom. The physics teacher indicated that she could use ChatGPT to assist in preparing teaching materials or answering students' questions in real time in class. For lab classes, chatGPT can provide students with operating guidelines and safety instructions to ensure that the experiments go smoothly. So he believes that chatGPT can be a powerful aid in the classroom, providing timely answers to questions, expanding knowledge, and enriching classroom content to optimize the teaching environment.

3.2. Promoting Teacher-Student Relationship

All teachers agreed that using ChatGPT with students to explore questions and answers together not only promotes an atmosphere of shared learning but also deepens cooperation and trust between teachers and students, thus promoting teacher-student relationships. Some teachers thought that chatGPT could be used as a teaching assistant in the classroom, effectively assisting the interaction and fun between teachers and students according to the classroom situation at that time, deepening the attractiveness of the classroom, and thus promoting a good relationship between teachers and students. Mathematics teachers said that they could better understand students' needs and confusion by observing their interactions with ChatGPT, and exploring questions and answers together, so as to provide them with more targeted guidance and deepen the cooperation and trust between teachers and students. Physics teachers emphasized interacting with students and teaching them how to evaluate information. The English teacher said chatGPT can assist teachers in answering basic or repetitive questions, thus giving teachers more time and energy to focus on students' emotional and personalized needs.

3.3. Helping Students Personalize Learning

All teachers mentioned that the introduction of ChatGPT would allow students to have a more personalized learning experience. English teachers thought it would develop students' motivation and interest in learning. For foreign language learning, ChatGPT can provide students with a multilingual dialogue experience and help them improve their language skills. Math teachers, on the other hand, say that after using ChatGPT, students feel more confident in solving complex problems and are more willing to participate in class discussions. History teachers say they can develop their critical thinking by having students use ChatGPT to look up certain historical events or figures and then compare them with what they read in textbooks. Physics teachers believe that interdisciplinary issues are often involved in physics classes, and that ChatGPT can provide students with links to knowledge from related disciplines. The English teacher mentioned using the output of ChatGPT as a revelation point to encourage students to think deeply.

3.4. Mainly Used as a Support Tool

All the teachers made it clear that given the current teaching and learning situation, ChatGPT is more of an information query and support tool, but it cannot replace the role of the teacher. Although it provides knowledge and answers queries, the teacher's role is not only about transferring knowledge, but also involves emotional support, guiding students, developing their personal qualities and diverse thinking, and many other aspects. Most of the teachers emphasized that ChatGPT should be seen as an aid and not a substitute for the teacher.

4. Discussion

4.1. Bringing New Changes in Teaching

Acting as a guide, guiding students to use ChatGPT correctly and adding and explaining more in-depth background knowledge, so that students can get comprehensive inspiration, targeting students to find their own missing points, timely additions, and explanations so that students can always maintain a passion for learning, and to increase the degree of mastery of knowledge. Stimulate students' interest in learning and desire for knowledge, and make students actively participate in classroom teaching activities in a relaxed and pleasant atmosphere. To stimulate students' interest in learning and desire to learn, so that students can actively participate in classroom teaching activities in a relaxed and pleasant atmosphere, and realize the transfer and application of knowledge. [5]

English teachers suggested that they could collaborate with ChatGPT to design fill-in-the-blank exercises to deepen their memory and improve the fun of the classroom, which not only enliven the classroom atmosphere so that students could learn independently in practical applications, but also explore different perspectives and ways of thinking by discussing a topic together. Physics teachers suggested combining classroom knowledge with its practical use, showing practical application scenarios in the classroom so that students can have a deeper understanding of the knowledge, understand the advantages and disadvantages of the students can ask questions on their own, and real-time Q&A and interaction with ChatGPT can help increase their interest in the subject.

ChatGPT can support curriculum design and teaching activities in English and history as the representatives of the liberal arts in the teaching process need a lot of background knowledge, ChatGPT can help teachers improve the efficiency of the collection of information, and the rational design of post-course exercises, teachers believe that ChatGPT can help them to enrich the content of the classroom and the form of interaction; is conducive to real-time Q&A and enhance the interest of students in learning.

With the continuous upgrading of artificial intelligence, some people have voiced the concern that the profession of teaching will be replaced by artificial intelligence in the future, but most of the teachers are of the opinion that ChatGPT is only an auxiliary tool and does not have the ability to completely replace teachers, because human thinking and emotions cannot be simulated by machines, and some scholars have explored the method of guiding students to deeper learning from the perspective of the teachers, and have found that teachers' enthusiasm. Some scholars have explored ways to guide students to deeper learning from the perspective of teachers, and found that teachers' enthusiasm and support are essential factors. "Support" can maintain students' emotional well-being, and "enthusiasm" can lead to active participation in cognition and behavior, thus achieving better learning results [6].

4.2. Bringing New Changes to Learning

There is no learning without interest, students' interest comes from the nature of seeking knowledge, from practice and activities [7]. After stimulating students' interest in the subject, learning interest can not only directly affect the innovation ability of high school students, but also indirectly affect the innovation ability through the deep learning strategy, some studies show that students' learning interest has a greater impact on academic performance, Dewey in the "Interest and Effort in Education" studied the Dewey in "Interest and Effort in Education" studied the relationship between interest and teaching, emphasized that learning cannot be separated from interest, and believed that the learning result due to interest is not the same as the learning result due to effort. Hurlbut regarded the teaching process as the process of cultivating interest, and there are good and bad interests, and the suppression of bad interests is conducive to the development of good interests. In the 20th century, Bruner, Zhu Zhixian, and others have also done special research on interest.

Students can search for their own interests and needs according to their own needs, which can accurately supplement the knowledge that students have not mastered, targeted practice, their own filtering exercises, the question type can also be selected, you can also go to find their own interest in the part as a complementary understanding of the direction of the development of their own interests, the full development of "student-centered The idea of "student-centeredness" allows students to choose their own learning priorities Artificial intelligence technology can not only provide a more personalized learning experience and learning content but also help learners to better monitor their own learning progress and learning results. The establishment of the dynamic integration model of artificial intelligence technology can be in the process of learner-environment interaction (such as human-computer interaction, teacher-student interaction, student-student interaction) to obtain learner-related learning changes in the process, and at any time to collect, analyze, and master the dynamic generation of the learner in different learning content or learning situations [8], targeted to help learners better access to the learning of the individual resources needed to learn a more profound understanding of learning content, providing learners with a more intelligent and personalized learning experience, thus improving learning efficiency and learning outcomes.

Different from the traditional way of teaching to make students feel fresh, interaction will mobilize students' motivation in class, the expansion of positive emotions constructive theory suggests that interest as a positive emotion, will expand the individual's attention and cognition, the individual is willing to try new methods, develop new problem-solving strategies, and at the same time can help the individual long-lasting construction of intelligence and development of the self [9].

Since ChatGPT is a natural language processing tool driven by artificial intelligence technology, the way the questions are asked will affect the final answer, and there are also problems such as inaccurate and in-depth answers, which require the teacher and the students to have the ability to

recognize whether the answers are correct or not, which requires appropriate guidance from the teacher.

5. Conclusions

This study centers on how collaboration between artificial intelligence and high school classrooms can enhance student interest. Through the interview method, it was found that most teachers believe that ChatGPT is effective in capturing students' attention and enhancing their interest in subject content. During the research process of this study, it was found that high school teachers currently have a high degree of acceptance of ChatGPT, but the low level of popularization prevents it from being fully valuable. Certainly, ChatGPT brings many practical benefits to high school educational environments, especially in the classroom, with its diverse knowledge sources, personalized learning, and stimulation of interest in learning, AI can also assist teachers in instructional design, classroom management, and student assessment. [10] However, it also comes with some potential challenges. How to balance these pros and cons and take full advantage of its benefits as well as possible ways to optimize or expand its use are issues that educators and scholars need to consider in depth. As AI technology continues to advance, this study also looks forward to discovering more ways to motivate and interest students to get the best out of their learning experience in today's educational environments.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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