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The Reform and Development Path of English Subject Teaching Empowered by Emerging Educational Technology

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SUMMARY: *The swift development of artificial intelligence and other novel technologies into education has brought about significant transformations in the teaching of English language. The research will involve AIGC, DeepSeek and VR among others as intelligent tools in the English curriculum and create a new instructional framework. A teaching experiment was carried out with first-year students in a school to determine how it affects the students learning of English. This data suggests that the suggested method played a highly positive role in terms of improving the attainment of learners in English. The difference between the end-of-experiment English grades of the experimental group and the control group was statistically significant ($p < 0.01$) and the total improvement in the experimental group was 5.96%. Meanwhile, the feelings of the students towards the new method were stronger in the pre-class, in-class, and post-class phases, which were rated more than 3, but there were significant variations in performance and English proficiency. These findings indicate that the suggested instructional innovation is not only viable but useful in English classes and may be used to further transform and improve English education.*

KEYWORDS: *artificial intelligence; teaching model; teaching experiment; English teaching reform*

1 Introduction

The growing globalization of Chinese communication and collaboration have led to an increased demand in English-proficient professionals and English education is becoming more and more important in the process of nurturing specialized English talents [1].Nevertheless, even now, the existing English classes have to face such problems as mono-methodology of instruction, antiquated pedagogical concepts, and low student motivation. Consequently, the development and the renewal of English education has become an urgent issue [2, 3]. Meanwhile, further advancements of science and technologies, such as artificial intelligence, big data, immersive technologies, and other new educational technologies, have created very favorable technical environments of the transformation and improvement of teaching English.

Innovating the English education must consequently go further towards a more extensive combination with information technology and a new paradigm of instruction. The teachers are required to effectively utilize intelligent speech recognition, online translation, virtual contexts, and similar technical tools to create a blended instructional model to promote communicative competence[4, 5]. An integrated online-offline method could be used with the

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help of intelligent teaching platforms to link the preparatory work before class, language practice during class, and self-assigned post-class online activities, thus, making language learning more practical and relevant [6, 7].

Secondly, through the construction of the professional English resource library, international trade terms, business correspondence examples, business etiquette norms and other practical content are systematically included. Teachers can use virtual simulation technology to create workplace situations such as business meetings, product demonstrations, customer reception, etc., so that students can practice English communication in real contexts [8, 9]. For different professional directions, special course resources such as tourism English, electromechanical English, medical and nursing English can be developed to meet students' career development needs. In addition, the in-depth application of emerging educational technologies should serve the goal of language proficiency training. Teachers are required to change the traditional language teaching concepts and learn new technology application methods such as intelligent voice teaching, online speaking training, and automatic correction system [10, 11]. At the same time, they should pay attention to collecting students' language use data, utilizing learning analysis tools to diagnose the weak links and adjust the teaching strategies [12].

Literature [13] discusses the issue of how the new educational technologies can be used to promote innovation in university English teaching. It suggests that such methods may help to address the issues of time and space constraints and develop a new instructional scenario, as well as be useful in alleviating the contemporary need to provide immersive teaching and achieve the goals of educational reform. Literature [14] provides efficient methods of introducing innovative technologies to English teaching. Using a combination of communicative pedagogy and Internet-based approaches, it highlights the critical importance of teaching games, business simulations, and information technology in building real-life communication models in a global setting, and also highlights their practical usefulness in developing intercultural communicative competence and information literacy among students. Literature [15] explores how technologies like big data can cause change in college English education, examines the transformative nature of highly integrated digital technology in teaching practices, and remarks that this integration will encourage instructional innovation and enhance the growth of the students comprehensively. Literature [16] explores the application of artificial intelligence in mobile-assisted language learning, examines its positive effect on individualized English instruction, learning involvement, and effectiveness of teaching, and states that despite the fact that the technology is still challenged by some obstacles, it has wide potential to enhance instructional quality and satisfy a variety of needs. Literature [17] discusses the way in which the internet+ technology facilitates the change of English teaching, enhances the optimization of instructional methods with the help of big-data analytics, and observes that mobile internet has the ability to alleviate the weaknesses of traditional teaching concerning resources, interaction, and temporal-spatial constraints. It also emphasizes the rational use of technology, proper selection of software, the consideration of psychological features of students, the achievement of economic classrooms, and the creation of innovative ideas. Literature [18] explains both the revolutionary role of emerging educational technologies in English language education and the manner in which interactive platforms and digital materials can facilitate pedagogical innovation by ensuring individualized and collaborative learning environments that are responsive to varied demands. The development of an interactive English teaching model using cloud computing and artificial intelligence is addressed in Literature [19] which will analyze the features of smart classrooms and enhance the teaching process by incorporating the theories of constructivism, cooperation and mastery learning. It also states that through textbooks and other features they

facilitate ongoing assessment, which in turn contributes towards improving the learning experience and instruction results. Literature [20] examines the impact of AI-based education on the effectiveness of teaching. Through five hypothesis testing and considering teacher technology cognition as a mediating variable, it finds that AI has a strongly positive effect on teaching support, practice, examination, and evaluation, and teacher technology cognition has a partially mediating role, which offers strategic support to the scientific application of AI education.

In addition, literature [21] explores the supportive role of modern educational technology in the construction of hybrid teaching mode of college English, and through analyzing how the network and mobile terminals break through the limitations of the classroom, it points out that the technology can promote students' active learning and the construction of knowledge network, and emphasizes that its integration into teaching is the key direction of the future reform. Literature [22] analyzes the current situation of machine learning, virtual reality and other emerging technologies in foreign language education through a systematic review, points out that the current technologies are mostly focused on vocabulary teaching and teachers lack hands-on training, and emphasizes the development path of integrating the technologies effectively, supporting traditional teaching and clarifying the value of skill cultivation through targeted training and experimental research. The current literature [23] addresses the manner in which information technology can transform the university English education. Through the application of big data and network-based technologies to enhance the instructional interaction, it explains how they contribute to the development of autonomous learning and innovative capabilities among students as well as it indicates that there was a significant improvement in teaching quality following the reform and hence opened a new and working path of further development of the English discipline. Literature [24] explores the adoption of new technologies in the teaching of English in colleges and claims that interactive learning, distance learning, micro-learning and similar methods can significantly enhance the basic skills of reading, listening, and speaking. It also underscores the significance of their roles in the stimulation of education innovation as well as the attainment of high-quality education. Literature [25] reports on the effect of innovative technologies used in the English language teaching during 2000-2018 using quantitative content analysis. The study examines the correlation between the digital characteristics of modern students and the usage of technology and also the positive impact and the developmental potential of ICT in enhancing the effectiveness of English learning. Literature [26] deals with the technological burden that AI generative tools exert on English teachers. According to interview findings, this burden is linked to the fast pace of technological advancement, unsatisfactory training, and lack of experience, and suggests reaction strategies, such as focused professional development, and gradual introduction. Such actions can be used to help implement technological pedagogical content knowledge models and provide suggestions to future research on the convergence of artificial intelligence and teacher welfare. Literature [27] presents a systematic overview of the trends in the development of immersive learning technologies in the field of English teaching during 2010-2019. It explores the use of virtual reality and augmented reality in various language-skill aspects, and its strengths, weaknesses, and possible areas and directions of future designs and research are summarized to provide valuable insights into the combination of technology and education.

The advancement of science and technology had always been an important factor of the development of innovation in English education. The current research creates a novel instructional pathway based on the newest educational technologies by integrating AIGC, DeepSeek, VR, and other similar technologies into the design of lessons, teaching resources, learning environments, pedagogical approaches and assessment at the stages prior to, during

and after the class. To determine whether it would be effective or not, the researchers chose a group of first-year high school students of one school and divided them into two groups: experimental and control groups. The study will assess the effect of the suggested technique on student performance in English by comparing the pre- and post-intervention scores on English achievement of the two groups. Also, the questionnaire responses were gathered in the experimental group to determine how happy the students are with the conditions in each of the three stages of the instruction, which could expose their attitude to the new model. This study contributes to clear understanding of how technology-based approach influences English teaching and gives empirical ground to additional reform in teaching English as a subject.

2 Pedagogical reforms and development paths

2.1 Status of English language teaching

Currently, English language teaching can be described as having poor participation in students and low levels of recognition of autonomous learning, leading to lack of motivation in studying English and failure to achieve the desired learning objectives. In the view of the learner, one of the main reasons why there are few people who are enthusiastic about learning English is that most learners have a limited perspective of English and fail to fully appreciate the practical value of the subject. Besides, they have no much motivation on professional knowledge and tend to be distracted in English classes since their ability to learn independently has not been developed.

In terms of teaching, there are still instructors that use the one way instillation of knowledge, which is limiting the thinking of the students, inhibiting their development potential, and fails to give them proper attention in developing autonomy in learning. Simultaneously, the materials of the English course can be not quite relevant at times, and it creates comprehension challenges to some students. The existing English instruction also has flaws, such as the lack of an effective internal evaluation system, and defects in the external assessment system. Consequently, the real effectiveness of the English learning and the respective evaluation criteria cannot be easily determined and teachers are not provided with sufficient incentives.

2.2 Pathways to pedagogical innovation

The emergence of new educational technologies facilitates positive circumstances in which to reinforce the self-directed learning of students, increase the number of instructional resources offered to English classrooms, and develop a more multimodal teaching paradigm. Based on this, these technologies may be used to enable the change in the approach to English teaching and allow developing a new direction in the pedagogical innovation in the English course. Figure 1 shows the technology-enabled paradigm of English teaching.

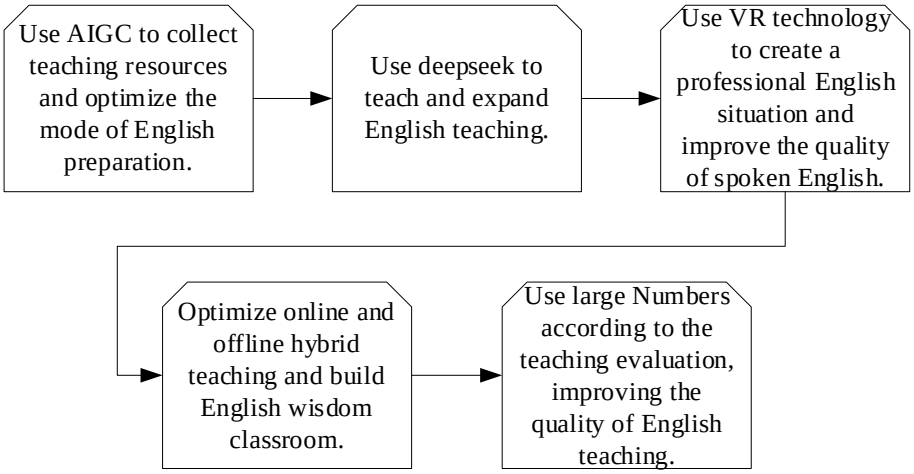

Figure 1: The English teaching model of emerging education technology

2.2.1 Optimize the mode of English lesson preparation

English teachers can utilize AIGC technology for lesson planning, retrieve teaching key points and other related resources in the AIGC platform, and automatically generate teaching PPTs, teaching cases, and teaching micro-teaching to further improve the efficiency and quality of lesson planning.

First of all, teachers should analyze the teaching content comprehensively, refine the teaching key points of the unit, retrieve keywords in the AIGC platform, automatically retrieve related vocabulary, phrases, grammar, short essays, and other resources, and then automatically transform the retrieved English teaching resources into microclasses and practice questions to highlight the teaching key points of the modules, such as vocabulary, listening, grammar, reading, and writing, etc., and share the teaching content automatically generated by the AIGC to the students to facilitate their pre-study based on the short videos and practice questions and improve the quality of pre-study before class. Next, the AIGC software can be used to analyze the content of the teaching materials and use it to automatically generate post-course practice questions. Next, students can make use of microclasses and PPTs to do independent pre-study before class, refine the relevant information in the textbook, or use AI to retrieve relevant information to improve the quality of pre-study before class.

2.2.2 Expanding English teaching content

DeepSeek can be used by English teachers to get material on vocational English, add value to instructional materials, and demonstrate the connection between work experience and English education, thus boosting student interest in English learning, promoting interdisciplinary teaching and eventually improving English competence. With the help of the DeepSeek platform, instructors have an access to English literature that is associated with the fields of study of students, are able to create micro-courses and example essays, and integrate such digital assets with the textbook information, allowing students to acquire a better insight into the field of vocational English and improve their practical English application skills.

2.2.3 Creating English learning situations

In daily teaching, English teachers can use VR technology to create immersive speaking teaching situations, simulate English application scenarios, and guide students to practice

English speaking in a realistic language environment, so as to improve their English speaking skills. In the virtual scene, students can receive language prompts through AR devices, have conversations with virtual characters, test their English pronunciation, accumulate more English oral communication skills, and overcome the obstacle of “dumb” English learning. In addition, teachers can design different virtual scenarios and themes according to students' majors and teaching contents, so that students can independently choose their own speaking training themes online and have conversations with virtual characters to meet their personalized learning needs.

2.2.4 Optimizing blended learning

The integrated online-offline instructional strategy must be continually improved by the teachers to make it more responsive to the personalized learning needs of the learners and reflect the advantages of blended instruction entirely. First of all, the Rain Classroom App could be used to create mixed-format teaching through preparation of micro-lessons and delivery of preparatory tasks in accordance with particular lesson topics to help the students have an independent preview prior to their classes. Moreover, instructors can also use the Rain Classroom App to give online quizzes, smart marks, and data-driven feedback to complement offline classroom teaching. Emphasis during the face-to-face meetings should be on clarifying the misconceptions of the students and directing them to re-view the appropriate information, thus improving the overall quality of intelligent English instruction.

2.2.5 Conducting pedagogical evaluations

The English teachers may transfer information regarding the online teaching activities, online assessments, English tasks, student satisfaction surveys, etc., and then apply big data to sort out and analyze such materials in order to determine the level of competency of the students in the most important areas of knowledge, evaluate the impact of online learning and self-study of the students, refine the process-oriented assessment system, discover the issues in English instruction on time, and provide scientific changes to teaching materials and methods of teaching, which will help to make the effectiveness of English education even higher.

3 Study design

3.1 Research questions

(1) In what manner can the application of English teaching models that are based on emerging educational technologies impact students’ English academic performance?

(2) Students' satisfaction with the emerging educational technology-enabled English teaching model.

3.2 Subjects of the study

Two parallel classes of high school (45 students per each class) were chosen to represent 90 first-year students of one school in the present research. The ratio of males and females in both classes was similar. Prior to the experiment, the two classes were taught by the same English teacher, had the same textbook, and followed a roughly similar teaching schedule. The experimental group was one of the classes that was given the emerging educational technology-supported English teaching model during the intervention, and the other was the control group that followed the traditional teaching method. The teaching materials and the

progress made on instruction during the experiment did not change throughout the experiment.

3.3 Research tools

The test paper was initially used in the current research to determine the impact of the suggested strategy of teaching English on the students in terms of their academic performance. Besides, it was also conducted a survey to explore the level of learners satisfaction with new instructional model after its implementation.

(1) Test Papers

Two pairs of standardized entrance examination papers were chosen as the pre-intervention and post-intervention tests because the test tools should be highly reliable and valid. The two papers had equal number of items, they were equally challenging and were age appropriate to the students cognitive development. Pretest was done one week before conducting the experiment in order to determine the current level of English achievement in each class and ensure that the results were similar. When the experimental teaching phase was over, a post-test was administered to both classes to ascertain how the English achievement of the students had changed after a learning stage.

(2) Questionnaire

In terms of the specific content of the satisfaction questionnaire, this study broadly categorizes the English classroom empowered by emerging educational technology into “before class”, “during class” and “after class” according to the proposed English teaching model. Students' overall satisfaction with the three phases was measured, and the indicators of the satisfaction survey scale were divided as shown in Table 1.

Among them, variables S1~S6 are used to measure ELLs' satisfaction with the online interactive activities before class, the characteristics of the teacher's lectures in the video, the cooperative learning tasks before class, the design of the instructional video, the use of the learning platform, and the quality of the supplemental learning materials, while S7 reflects the students' satisfaction with the whole pre-class phase. Variables S8~S14, on the other hand, reflect students' satisfaction with the teacher's classroom help and feedback, the design of classroom teaching sessions, the layout of the classroom environment, the teacher's lecturing style and method, the interactive atmosphere of the classroom, the use of electronic devices, and the help and support of their peers, respectively, and S15 reflects students' satisfaction with the mid-class phase as a whole. Variables S16 to S19 were designed to understand students' satisfaction with the arrangement of activities in the after-class phase, i.e., the supportive role of the learning platform in the after-class phase, the teacher's assignment of tasks, learning tracking and feedback, and peer help and support, while S20 was used to find out the students' satisfaction with the after-class phase as a whole.

The questionnaire yielded a KMO of 0.758, which is above 0.7, and the approximate significance level of Bartlett Test of Sphericity was 0.000, which is less than 0.05. This finding does allow rejecting the null hypothesis and implies that the tool has an acceptable validity. Furthermore, the whole validity of the questionnaire was tested using SPSS 22. The results showed that Cronbach alpha of the scale was 0.862, which is greater than 0.8, indicating high internal consistency and confirming the fact that the questionnaire has good reliability.

Table 1: Satisfaction survey scale measurement index division

Stage division	Variable	Coding
Pre-class satisfaction	Online interaction	S1
	Teaching mode	S2
	Study assignment	S3
	Learning video design	S4
	Pre-class platform characteristics	S5
	Supplementary learning information	S6
	Pre-class overall evaluation	S7
Class satisfaction	Teacher help	S8
	Classroom link	S9
	Environmental layout	S10
	Teaching method	S11
	Interactive atmosphere	S12
	Electronic equipment	S13
	Peer support	S14
	Overall evaluation	S15
After-class satisfaction	Platform support	S16
	Consolidation task	S17
	Tracking feedback	S18
	Peer communication	S19
	After-class overall evaluation	S20

3.4 Research process

The organization of a semester-long teaching practice was conducted according to the needs of the research and the whole process has been planned into three stages including the period before the teaching intervention, the implementation stage, and the stage after the intervention.

(1) Before the teaching intervention. The pre-test was administered one week earlier than the start of the formal experiment, to all the students in both groups- the experimental group and the control group.

(2) In the course of the intervention. The teachers used the English teaching model that has been facilitated by the recent educational technologies during the intervention period.

(3) After the intervention. Both groups took a post-test at the same time that had been planned, and a satisfaction questionnaire was handed out to the pupils of the experimental group. Overall, there were 45 valid questionnaires which gave a valid response rate of 100 percent.

4 Results and discussion

4.1 Analysis of English performance

4.1.1 Pre-test results

The pre-test test was done simultaneously in the experimental and control groups prior to the intervention to establish if the two classes had an equal level of English proficiency. Table 2 presents the descriptive statistics and independent-samples t-test findings on the pre-test. The pre-test scores of the experimental and control classes were 70.49 and 70.71 respectively on

average. The difference between the two means was just 0.22 implying that the total difference between the two classes in terms of their pre-test performance was insignificant.

Results of the homogeneity of variance test yielded a P value of 0.544, showing that the variances of the total pre-test scores in the two classes could be treated as equal. In addition, the t-test for mean equivalence produced a P value of 0.453, which exceeded 0.05, indicating that no statistically significant difference existed between the two groups. Moreover, the 95% confidence interval for the mean difference included 0, further confirming that the pre-test results of the experimental and control classes were essentially equivalent. Taken together, these findings show that the two classes were at a similar level in English achievement before the intervention, which provided an appropriate basis for carrying out the subsequent teaching experiment.

Table 2: Pretest results and independent sample t test

Class		Case number		Mean		SD		SE	
Experimental class		45		70.49		4.99		0.89	
Control class		45		70.71		4.54		0.73	
	Levin variance equivalence test		Average equivalent t test						
	F	Sig	t	df	Sig. (Double tail)	MD	SED	95% confidence interval	
								Lower limit	Upper limit
Assumed equal variance	0.138	0.544	0.348	88	0.453	0.22	1.18	-2.44	2.48
Unassuming equal variance			0.348	87.59	0.453	0.22	1.18	-2.44	2.48

4.1.2 Post-test results

The post-test was taken both in the experimental group and the control group after the teaching intervention to determine changes in English achievement after a time of learning had passed. Descriptive statistics and independent samples t-test findings on the post-test are displayed in Table 3. It can be seen in the table that the average post-test results of the experimental and control groups were 75.54, and 71.29, respectively. The difference between two means became 4.25, which means that there is a significant distinction in the overall post-test performance, and the experimental group scored significantly higher than the control group by 5.96%. Regarding standard deviation, the control group demonstrated a higher spread in post-test scores compared to the experimental group. When studied over time, at the conclusion of the teaching intervention, the average score of the experimental group increased (by 70.49 prior to the experiment, and 75.54 after the experiment), by 7.16%.

The variance homogeneity test gave out a P value of 0.286, implying that the total post-test score variances of the two groups may be considered to be similar. At the same time, the mean differences t-test returned a P value of 0.002 that was less than 0.05, meaning that there is a statistical difference between the two groups. Also, the 95% confidence interval of the mean difference was not 0, which is additional evidence that the gap in post-test scores between the experimental and control groups is significant. These results indicate that following a certain course of study, English performance varied greatly among the two groups, and the experimental group demonstrated much higher performance compared to the control group.

Table 3: Posttest results and independent sample t test

Class		Case number		Mean		SD		SE	
Experimental class		45		75.54		5.53		1.02	
Control class		45		71.29		6.48		1.25	
	Levin variance equivalence test		Average equivalent t test						
	F	Sig	t	df	Sig. (Double tail)	MD	SED	95% confidence interval	
								Lower limit	Upper limit
Assumed equal variance	0.746	0.286	2.84	88	0.002	4.25	1.43	2.56	6.84
Unassuming equal variance			2.84	87	0.002	4.25	1.43	2.56	6.84

4.2 Satisfaction analysis

4.2.1 Overall satisfaction

The research has utilized SPSS descriptive analysis to analyze the average values and variances of students satisfaction in the three steps of the instructional process, which include pre-class, in-class, and post-class. Figure 2 shows the descriptive data on the variables related to satisfaction. In both of these three-stage mean scores were higher than the average level of 3, and the variances were fairly low, meaning that there was little variation between the scores. The overall mean at every stage also did not drop below average. These observations imply that the majority of students could report that they were very satisfied with the English teaching model that is being backed by new educational technologies during the entire course. In the three stages, the in-class phase got the highest overall mean of 3.52, while pre-class had 3.37, and post-class had the lowest overall mean of 3.35. This trend suggests that even though the level of student satisfaction was positive in general, post-class session was the weakest link in the chain and it might have become one of the least highlighted aspects of the teaching process.

Examining the individual indicators more carefully, the items with relatively higher mean scores were Teacher Help (S8), Classroom Session (S9), and Teaching Method (S10), which had an average score of 3.71, 3.68, and 3.67 respectively. These findings to a certain degree are indicative of the fact that students highly approve of the instructional performance of their teachers in the EFL model classroom. Conversely, the ones with much lower means were mostly connected to peer interaction, such as Peer Support (S14) and Peer Mutual Aid (S19) that scored 3.18 and 3.21, respectively. Also, the general assessment marks on the pre-class, in-class, and post-class phases, S7, S15, and S20, were 3.38, 3.58, and 3.32 respectively. All these three items taken together signify that the students as a whole were happy with the new educational technology-assisted English classroom, and the overall level of assessment was above average.

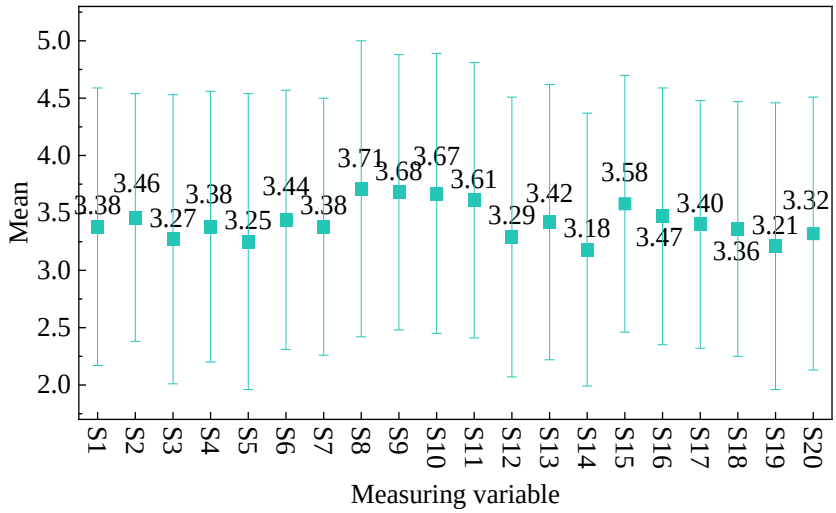

Figure 2: Descriptive statistics of student satisfaction variables

4.2.2 Correlation analysis

In order to investigate further if the student satisfaction in the pre-class, in-class and post-class periods were related, a correlation analysis was conducted using SPSS. The Pearson correlation results of the satisfaction variables, as shown in Figure 3, are starred to indicate significance at 0.01 level (two-tailed). The results indicate that there is a positive association between the three stages, and the correlation coefficient values exceed 0.78 and P = 0.000 < 0.01, which means that the correlations are moderately strong. It indicates that the pre-class, in-class, and post-class elements of the new educational technology-assisted English teaching model operate as a unit, and the satisfaction of students in one of the three stages is bound to have a considerable effect on their satisfaction in the remaining two stages.

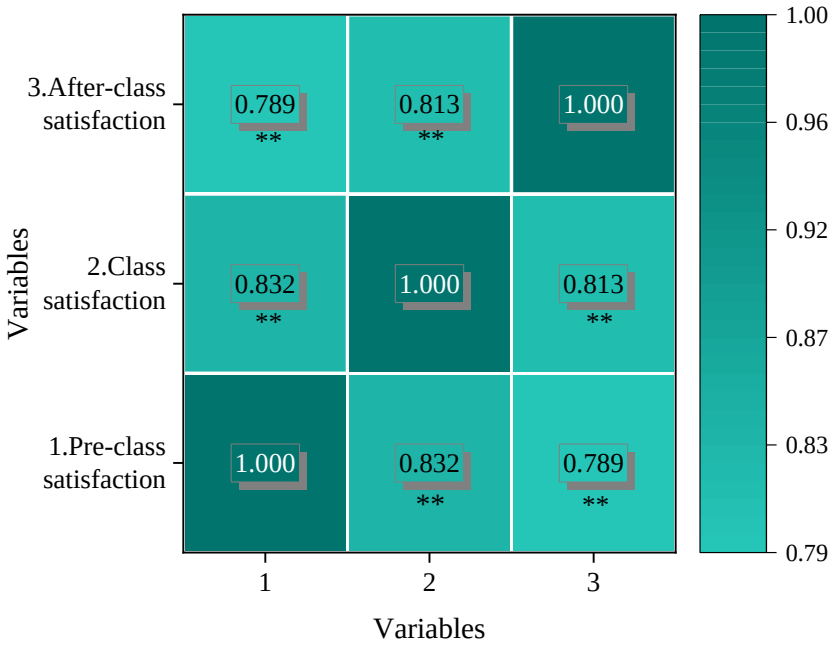

Figure 3: Spearman correlation analysis of student satisfaction variables

4.2.3 Analysis of differences

This study was explored using Kruskal-Wallis H-test from the K independent samples test in non-parametric estimation method. Differential analysis of students' satisfaction in terms of gender is shown in Table 4. The observed asymptotic significance p-values are all 0.000<0.05 and the latent variable rank means show that female students are higher than male students. The rank mean of satisfaction of female students is above 25 and that of male students is around 20, the overall level of satisfaction of female students is higher than that of male students.

Table 4: Student satisfaction difference in student gender

Potential variable	Index	Male	Female
1.Pre-class satisfaction	Rank mean	19.546	26.795
	Incremental significance	0.005	
2.Class satisfaction	Rank mean	20.495	26.642
	Incremental significance	0.004	
3.After-class satisfaction	Rank mean	20.899	25.667
	Incremental significance	0.001	

An analysis of variations in student satisfaction between English proficiency groups is given in Table 5. Student satisfaction at every stage of instruction differed statistically among students with varying levels of English, and the asymptotic sign was P = 0.000 < 0.05. The finding implies that the classroom satisfaction in three stages was significantly different based on the level of proficiency. Further examination of the mean ranks also indicates that individuals who had intermediate English language proficiency had the greatest level of satisfaction with the pre-class, in-class and post-class stages of the EFL model, which had mean ranks of 26.681, 25.771 and 21.404 respectively. Conversely, learners who were less proficient in English scored the lowest in terms of satisfaction levels, which had rank means of 18.439, 18.637, and 18.426 respectively.

Table 5: Student satisfaction difference in student's English level

Potential variable	Index	Low	Medium	High
1.Pre-class satisfaction	Rank mean	18.439	26.681	20.531
	Incremental significance	0.003		
2.Class satisfaction	Rank mean	18.637	25.771	20.995
	Incremental significance	0.002		
3.After-class satisfaction	Rank mean	18.426	21.404	20.618
	Incremental significance	0.004		

5 Conclusion

The reform-oriented development path of English teaching to overcome the influence of new technologies on traditional education, including the use of artificial intelligence, is explored in this research and the innovative pedagogical model of the subject is offered. The model combines AIGC, DeepSeek, VR, and other intelligent technologies, and creates the AI-assisted platform to teach English in the three aspects of pre-class preparation, in-class teaching, and post-class extension. One experiment was conducted during a first-year class in a single school. The post-test findings proved that the class that implemented the model

developed in the present study was significantly different compared to the control class (1 percent). The English results of the students in the experimental class were compared with the results prior to the experiment and it was found that the results had increased by 7.16 and were also 5.96 higher than the results of the control group. Such results indicate that the proposed innovative instructional pathway in this study is likely to be effective in enhancing students English performance. Satisfaction-wise, the mean scores of the pre-class, in-class, and post-class stages were both greater than 3, and the highest score was recorded in the in-class stage (3.52). In particular, the role of the teacher, classroom activities, and teaching methods in this model were highly appreciated by the students with satisfaction scores being over 3.65. Also, the three stages exhibited the presence of positive and statistically significant correlation in terms of satisfaction and there were statistically significant differences in the classroom satisfaction of students based on gender and levels of English proficiency.

Currently, application of artificial intelligence to English education has shown great potential and is able to make up the deficiencies in traditional methods of teaching. This should be used by schools to reinforce the software and hardware infrastructure related to AI, students need to react to the existing educational tendencies by actively working towards developing autonomous learning skills, and teachers should change their professional functions as well as enhance their professional performance on the use of AI-enabled technologies. Through this, the benefits of artificial intelligence and digital technology could be maximized to assist the reform and development of English subject teaching in the new era.

About the Author

Qi Huang was born in Yongzhou, Hunan, P.R. China, in 1976. She obtained a Master's degree from Guangxi Normal University in China. She is currently working at the School of Tourism Industry Management. Hunan Vocational College of Commerce. Her main research direction is Business English Teaching and Education Management.

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