A Study of Civil Aviation Vocational Oral English Teaching on Iflytek FIF Oral Training System

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ABSTRACT

Iflytek FIF oral training system, based on AI speech technology, is currently one of the most advanced intelligent education platform in China. Civil aviation vocational oral English course in Guangzhou Civil Aviation College applies this system as "language consultant", "language partner" and "language assessment expert" of the course. Based on the questionnaire conducted among students, the system has been accepted positively. The application of the system has improved the efficiency of teacher's teaching and students' language acquisition and significantly promoted the digital and intelligent level of the classroom teaching. From the perspective of the industry characteristics of the course, the FIF oral training system can further improve the digital and intelligent level of the system from the expansion of professional teaching resources corpus, the further improvement of curriculum system, the innovation of professional English language assessment system, etc.

Keywords: AI empowerment, Civil Aviation Vocational Spoken English, Iflytek, FIF oral training system.

1. INTRODUCTION

In recent years, China has put forward a series of polices and strategies regarding the digitization of education. On October 25, 2022, the report to the 20th National Congress of the Communist Party of China included the phrase "Promote the Digitization of Education" in the report of the Party congress, proposing to "Promote the digitization of education and build a learning society and a learning-oriented country for lifelong learning of all people", for the first time [1]. On February 27, 2023, in the Overall Layout Plan for the Construction of Digital China issued by the Central Committee of the Communist Party of China and the State Council, an initiative to build an inclusive and convenient digital society was emphasized. It pointed out that efforts should be made to promote the inclusiveness of digital public services, earnestly implement the strategic actions of national education digitization, and build a sound national smart education platform to promote the healthy development of digitization [2]. The government work report in 2024 also proposed to vigorously develop digital education [3].

As one of the four major AI platforms strongly supported by the state, Iflytek has an internationally sophisticated level in related technologies such as AI speech recognition and is an important leading enterprise in the field of AI speech recognition technology domestically. The FIF Oral Training System is an important part of the smart education platform built by Iflytek using its advanced AI speech technology. In September 2021, School of Public General Education of Guangzhou Civil Aviation College introduced the FIF Oral Training System of the Iflytek Smart Education Platform. Through this empowerment of AI, the digitization and intelligence level of the teaching of relevant oral English courses have been improved.

2. THE QUESTIONNAIRE SURVEY ON THE APPLICATION OF THE FIF ORAL ENGLISH TRAINING SYSTEM

School of Public General Education of Guangzhou Civil Aviation College offers an Oral English course for sophomores in the professional groups of service-oriented positions, such as School of Flight Attendants and School of Civil Aviation

Operation and Management. The course uses "Aviation Service Spoken English" published by Foreign Language Teaching and Research Press to carry out the teaching of vocational oral English courses. In order to better understand the learners' responses to the system, the English Teaching Department conducted a questionnaire survey among some students of Grade 2022 taking this course. The content of the questionnaire covered various aspects, including the convenience of the system, its functions, effectiveness, and the willingness to participate. Finally, 535 valid questionnaires were collected. The following "Table 1" is a summary of the data from this questionnaire survey.

Table 1. Questionnaire on the application of FIF

Question	Completely Agree	Basically Agree	Basically Disagree	Completely Disagree
1. I think it is very convenient to practice oral English anytime and anywhere using a mobile phone.	307	189	14	25
2. I think it is very good that the teacher uses the oral English training system in classroom teaching.	314	175	29	17
3. Besides completing the oral English tasks assigned by the teacher, I have also carried out self- learning.	251	212	46	26
4. The system interface is clear, the options are obvious at a glance, and it is easy to operate.	307	180	23	25
5. The pronunciation generated by the system's AI is very clear and standard.	286	199	25	25
6. The system provides various forms of exercises and rich content.	287	197	27	24
7. Through the identification of different colors, the system can clearly show me the weak points of my pronunciation.	293	187	30	25
8. I think using the system's AI assessment is more convenient and objective than the teacher's classroom assessment.	250	197	56	32
9. I think it is very convenient that the system can immediately provide a performance report after the AI practice.	290	190	32	23
10. Through the special training of the FIF oral English training system, I can practice my oral English very well.	279	205	27	24
11. By checking my ranking on the system's leaderboard, it can motivate me to practice oral English.	280	198	30	27
12. I think practicing oral English with the AI on the mobile phone is more relaxing and more efficient than practicing with other people.	269	196	38	32
13. If the FIF oral English training system holds relevant oral English competitions, I am willing to use the system to participate in the competition.	261	199	42	33
14. I think that through using the FIF oral English training system, my overall oral English ability has been improved.	275	201	34	25

First and foremost, students have given relatively positive affirmation of the implementation of the system, including the convenience of using mobile phones and its application in the classroom. More than half (307, 57.38%) of the students "completely agree" that they can practice oral English anytime and anywhere using a mobile phone. When combined with the 189 students who "basically agree", the proportion of those who recognize its convenience is as high as 92.71%, indicating that the system meets the learning needs of students in terms of usage scenarios. 314 students (58.69%) chose "completely agree" that the teacher uses the oral English training system in class, and the number of those who chose "basically agree" is 175 (32.71%).

The total percentage is as high as 91.4%, which also shows that the system has been widely recognized in terms of its application in classroom teaching.

Secondly, students also have a relatively good recognition of the design and functions of the system itself, but there is still room for improvement. In terms of interface operation, 307 students "completely agree" that the system interface is clear and easy to operate, and 180 "basically agree". The sum of the two exceeds 90%, indicating that the system performs well in terms of the ease of use of the interface design. Regarding the AI pronunciation, 286 students "completely agree" that the AI pronunciation of the system is clear and standard, and 199 "basically agree". However, nearly 10% of the students hold a negative attitude, which shows that although the AI pronunciation is recognized by the majority, there is still space for improvement. In terms of the forms and content of exercises, 287 students "completely agree" that the exercise forms are diverse and the content is rich, and 197 "basically agree". But about 10% of the students are not satisfied, which also indicates that the exercise forms and content can be further optimized. Concerning the identification of weak points in pronunciation, 293 students "completely agree" that the system can clearly present the weak points in pronunciation through colour identification, and 187 "basically agree". But nearly 10% of the students do not agree, suggesting that the system may need to improve the accuracy or intuitiveness of this function. In terms of the advantages of AI assessment, only 250 students "completely agree" that the AI assessment is more convenient and objective than the teacher's in-class assessment. The number of those who "basically disagree" and "completely disagree" is 87, reaching 16.45%, indicating that in terms of assessment, compared with the teacher's in-class assessment, the system needs to strengthen the scientific nature and recognition of the AI assessment. Regarding the timeliness of the performance report, 290 students "completely agree" that it is very convenient that the system can immediately provide a performance report after the AI practice, and 190 "basically agree". Nevertheless there are 55 students think it is not convenient.

Thirdly, it is the students' evaluation concerning the training effectiveness and motivational role of the system. 279 students "completely agree" that the special training can effectively practice oral English, and 205 "basically agree", while there are 51 students totally who do not recognize it,

indicating that the special training of the system is effective for the majority of students, but has less satisfactory results for some students. Therefore, it is necessary to optimize the training content and methods. 280 students "completely agree" that the leaderboard can motivate oral English practice, and 198 "basically agree". 57 students think that it has no motivational effect. Thus, it is possible to further explore the motivational potential of the leaderboard to enhance students' enthusiasm. 269 students "completely agree" that practicing oral English with AI on the mobile phone is more relaxing and efficient than practicing with others. The number of those who "basically disagree" and "completely disagree" is 70, which shows that the system has certain advantages in terms of practice efficiency, but some students still prefer the traditional way.

Next, it is about the students' willingness to participate in the operation of competitions related to the system. In the survey, if an oral English competition were to be held, 261 students "completely agree" that they are willing to use the system to participate in the competition, and 199 "basically agree". Yet 77 students explicitly expressed their unwillingness, indicating that the system needs to strengthen its organization and attractiveness in competition activities to enhance students' participation.

Eventually, it is the overall evaluation of the system's role in improving oral English training. 275 students "completely agree" that their overall oral English ability has been improved after using the system, and 201 "basically agree". However, more than 11% of the students did not feel any improvement. Further measures and strategies should be worked out and enforces so as to cater to the students' acquisition needs and accordingly enhance its actual effect in improving students' oral English proficiency.

3. THE TEACHING OF CIVIL AVIATION OCCUPATIONAL ORAL ENGLISH BASED ON THE IFLYTEK FIF ORAL TRAINING SYSTEM

Before the introduction of the FIF system, the classroom teaching mode of this course adopted the traditional "teacher-student" teaching mode. Through the teacher's teaching guidance and the use of relevant teaching materials, the students' language output level was expected to be improved.

The traditional "teacher-student" teaching mode has many drawbacks. For example, due to the limited energy and time of teachers in classroom teaching, it is difficult to provide students with sufficient personalized and refined guidance. At the same time, as individuals, teachers have a certain degree of subjectivity, and there may be deviations in the assessment of students' individual language acquisition.

When exploring the role of large language models in English teaching, Xu Jiajin and Zhao Chong proposed that large language models play the roles of a "language consultant", a "language partner", and a "language assessment expert" in the application of English teaching [4]. The AI platform of Iflytek also plays these three roles in the process of empowering the Oral English Course for Civil Aviation Service.

3.1 The FIF Oral English Training System as a "Language Consultant"

The role of the FIF Oral English Training System of Iflytek as a "language consultant" is mainly reflected in the classroom teaching of the Civil Aviation Vocational Oral English course. The teaching mode of the Civil Aviation Vocational Oral English course generally involves teachers teaching language materials such as vocabulary and sentence patterns, inputting relevant vocational English knowledge to students, and then asking students to conduct simulations in relevant scenarios for practice to achieve corresponding language output.

Through the empowerment of AI digitization, by using the FIF Oral English Training System of Iflytek and applying AI speech intelligent technology based on big data calculation, teachers transform the traditional "teacher-student" oral English training mode in classroom teaching into the "AI-student" mode, and construct the FIF Oral English Training System as a "language consultant" for students' language output.

Before class, teachers pre-enter the language materials such as words, sentences or dialogues in the teaching materials for practice into the system, and use the AI speech synthesis in it to form corresponding teaching resources. Through these teaching resources, the FIF Oral English System has the construction basis of being a "language consultant" for course teaching. In classroom teaching practice, students make corresponding language inputs through the corresponding mobile

phone APP. Then, based on AI language technology, the system analyses and judges the students' speech inputs, accurately marks the mispronunciations in their individual oral language inputs, and provides effective personalized and refined consultant support for students' speech inputs. Through this consultant support, students' "intentional attention" is improved.

Whereas, the classroom training mode can also be set as a mode of multiple practices, allowing students to carry out repetitive oral English training with the consultant support of the AI speech platform, improving the accuracy rate and proficiency of language output. The AI empowerment of the FIF Oral English Training System not only meets the personalized needs of students, but also solves the problem that teachers are unable to attend to all students' practices in classroom teaching, advancing the "teacher-student" mode of classroom teaching to the "teacher-AI-student" mode.

Meanwhile, the background of the FIF Oral English Training System will store the language fragments input by students in real time, and through big data analysis, form real-time analysis reports for all levels of students' language inputs. Through the speech fragments and analysis reports in the background, teachers can also specifically grasp the degree of students' mastery of language inputs in classroom teaching and the specific situation of their individual language outputs. Thus, the "teacher-AI-student" mode is further evolved into the classroom teaching mode of "teacher-AI-student-AI-teacher", realizing the sustainable and organic operation of the three-dimensional "teacher-AI-student" classroom teaching mode.

3.2 The FIF Oral English Training System as a "Language Partner"

Language acquisition requires a large amount of practice, especially for oral language acquisition. The time for traditional classroom teaching is limited. As language learners whose mother tongue is not English, students often lack a "language partner" who can achieve correct language input and output in their autonomous learning after class. As individuals, teachers are also unable to provide personalized "language partner" support for all students one-on-one after class.

The application of the FIF Oral English Training System can, to a certain extent, provide students with an effective "language partner". The

advanced AI speech technology can not only ensure the correctness of the language used by the "language partner" that students face in their autonomous learning after class, but also this "language partner" can provide effective support for students' autonomous learning after class according to their individual differences.

In addition to using the resources of the Civil Aviation Vocational Oral English course structured by teachers in the FIF Oral English Training System, students can also use other open resources of the system for autonomous learning after class. By providing students with correct language materials as an AI "language partner", the FIF Oral English Training System can ensure the efficiency of students' autonomous learning after class. "Digital teaching can create a relatively relaxed learning environment" [5]. Taking the FIF Oral English System as a "language partner" for students' autonomous learning after class can also effectively relieve the anxiety and other emotions that some students may have when facing a real interpersonal communication environment. The FIF Oral English Training System will also track and record the students' autonomous learning situation after class. Based on AI big data analysis, it will conduct a systematic analysis of students' autonomous learning after class and generate detailed analysis reports on students' learning conditions, which are also conducive to teachers' understanding of students' autonomous learning situation after class, and thus provides effective data for the next step of classroom teaching.

Of course, in addition to the autonomous learning of course content after class, the FIF System can also become a "language partner" for students to participate in various competition activities after class. Teachers can input the texts of students' participation in competition activities into the system. By using the AI speech technology of the system, students can use the AI "language partner" role of the FIF System to carry out competition training independently. Through the role of the AI "language partner" of the system, the three-dimensional "teacher-AI-student" mode is further expanded to the scope of autonomous learning after class, competition activities, etc., and a comprehensive "teacher-AI-student" language teaching ecosystem is constructed.

3.3 The FIF Oral English Training System as a "Language Assessment Expert"

In the context of educational digitization, "the learning behaviours of learners are recorded in a digitalized way, becoming a reliable basis for judging the learning effectiveness of learners, avoiding problems such as strong subjectivity in the results of previous process evaluations, insufficient data support, and the consumption of a large amount of manpower in the recording process" [6]. In the traditional course evaluation of Civil Aviation Vocational Oral English course, teachers are faced with the above various problems.

Teachers often need to spend a lot of time and energy to conduct various tests on students' language outputs and make detailed records of students' course learning to conduct formative evaluations of students' course learning. At the same time, subjective factors such as individual preferences and the inability to timely track students' learning situations after class will inevitably affect teachers' objective formative evaluations of students' course learning. This simple "teacher-student" course evaluation mode often causes some students to misunderstand that teachers have a "one-sided opinion" in the evaluation of oral English courses.

Introducing the FIF Oral English Training System as a "language assessment expert" into the course evaluation, teachers can apply the system to conduct language output tests on students in the Civil Aviation Vocational Oral English classroom simultaneously, and resort to big data calculation to comprehensively evaluate students' oral English in terms of fluency, integrity, accuracy rate, etc. On the one hand, testing all students at the same time can improve the efficiency of language testing and evaluation. On the other hand, the test evaluations generated by AI assessment are relatively more objective and scientific, and are more acceptable to students.

"Intelligent analysis of students' learning conditions is an important part at the teaching and learning level" [7]. In addition to language testing, the system will also form specific course evaluation analysis reports according to students' situations in classroom teaching processes and autonomous learning after class, etc., providing effective evidence for teachers to conduct formative evaluations of the course, and contributing to the realization of an objective and scientific mixed

evaluation mode of the three-dimensional "teacher-AI-student".

4. SHORTCOMINGS OF THE APPLICATION OF IFLYTEK'S FIF ORAL ENGLISH TRAINING SYSTEM IN THE TEACHING OF CIVIL AVIATION VOCATIONAL ORAL ENGLISH COURSES

Based on Iflytek's FIF Oral English Training System and empowered by AI, the Civil Aviation Vocational Oral English course has established a three-dimensional teaching mode of "student-teacher-AI", which has enhanced the scientific and intelligent nature of course teaching, met students' personalized needs for language acquisition, and greatly improved the efficiency and effectiveness of teachers' classroom teaching and students' oral English acquisition. However, in addition to the parts that the system itself needs to be strengthened as mentioned in the data analysis of the questionnaire survey, from the aspects of language materials, intelligent grading, evaluation criteria, etc., Iflytek's FIF Oral English System still has aspects that need to be considered.

4.1 Lack of a Vocational Context Background, Being Unable to Provide Students with a Real and Immersive Learning Experience for Their Vocational Oral English Learning

As vocational oral English teaching, the Civil Aviation Vocational Oral English course has industry-specific characteristics. The training objective of the course is to cultivate international civil aviation service professionals with oral skills for specific positions. It is aimed at various professional position groups in civil aviation services, including ground service modules such as ticket sales, check-in, security inspection, and air service modules such as flight attendants. Currently, in Iflytek's FIF Oral English Training System, there are still no relevant language material resources for civil aviation vocational oral English. In the current teaching application of the Civil Aviation Vocational Oral English course, it can only rely on course teachers to manually input the teaching language materials related to civil aviation vocational oral English into the training system. Due to the differences in individual teaching strategies and other aspects among teachers, the language materials of the civil aviation vocational oral English course in the current system are relatively chaotic. At the same time, as an oral English training system, currently, the system can only use AI to conduct pure AI speech recognition of the language materials input by teachers, lacking the dynamic investigation of language training in specific professional scene contexts.

4.2 Lack of Intelligent Recognition Functions for Grading the Language Difficulty of the Input Language Materials

Although based on advanced AI speech recognition technology, the language materials in the FIF Oral English Training System cannot be intelligently graded by AI according to the set language difficulty levels. In the application of the Civil Aviation Vocational Oral English course teaching, since the difficulty setting of the teaching language materials to be input needs to be operated by the course teachers themselves, the teachers select and define the difficulty level of the language materials according to their own judgment, and manually select and determine the rating of the language materials input into the system. Relying on individual teachers to judge the difficulty is relatively subjective and lacks objectivity. At the same time, due to the cognitive differences among individual teachers, the difficulty levels of the language materials input into the system are uneven, and there is a lack of a unified digital judgment standard. The obvious lack of AI intelligent grading recognition makes the language material resource library input by course teachers appear disorganized. If other teachers who teach this course later want to select the language materials from it, use AI to empower teaching, and let students carry out classroom drills or autonomous learning activities, there will be a lack of corresponding references. They can only re-evaluate the resources in the language material library or choose other language materials to input into the resource library by themselves, which also makes the application of the language material resources in the course resource library lack sustainability.

4.3 Lack of Industrialized Language Ability Assessment System

Although the language ability assessment system of the FIF Oral English Training System refers to many domestic and foreign English proficiency scales, in the assessment of civil

aviation vocational English, there are various English language ability assessment systems for different professional position groups. For example, the English proficiency test for flight attendants of China Southern Airlines. This English proficiency test for flight attendants comprehensively considers English language ability and daily scenarios of air services, especially the test of oral skills, and establishes a professional language evaluation standard. Through the test, the English proficiency of flight attendants is divided into three levels, and flight attendants need to reach the relevant level of English ability for taking up their posts and promotion. In addition to China Southern Airlines, other civil aviation enterprises and organizations in China have also established corresponding language application ability assessment standard systems according to their own needs. However, the language ability assessments required by these enterprises and institutions are not covered in the language ability assessment system of Iflytek's FIF Oral English Training System.

5. SUGGESTIONS FOR THE TEACHING OF CIVIL AVIATION VOCATIONAL SPOKEN ENGLISH COURSES BASED ON THE IFLYTEK FIF ORAL TRAINING SYSTEM

5.1 Further Expanding the Industry Resource Corpus Within the System and Importing Real Professional Scenario Corpora into the AI Teaching Corpus

"With the development of artificial intelligence technology and the expansion of English teaching databases, artificial intelligence can significantly assist English teachers in teaching and learners in learning" [8]. Expanding the teaching resource database is one of the prerequisites for AI technology to effectively empower teaching. As a course with industry characteristics, for civil aviation vocational oral English to achieve AI empowerment and the intelligent construction of the course teaching model, the FIF oral training system, which serves as the foundation for AI teaching, needs to have sufficient digital corpora related to civil aviation position services for support. Therefore, expanding the relevant corpora in the oral training system is the key to the construction of the AI-empowered course teaching model. In addition to creating relevant course learning

corpora by inputting them by course teachers, the corpora in the corpus should also introduce real scenarios to create corpus resources with the characteristics of real language contexts, and this part of the resources needs to be collected by delving into relevant job positions. At the same time, due to the rapid development of AI intelligence in civil aviation services, its content also needs to be updated in a timely manner every year, keeping up with the times, so as to achieve a sustainable application of the rich training modes in the Iflytek system. Through practical trainings such as oral filling in the blanks, sentence repetition, situational dubbing, and role-playing, students' scene-based communication skills could be effectively strengthened and meet the needs of the requirement for professional talents in civil aviation service.

5.2 Further Improving the Civil Aviation Professional Spoken English Course System Within the System and Completing the Comprehensive Construction from a Modular to a Pyramid-shaped Structure

Currently, since the application of the FIF oral training system for AI-empowered teaching in civil aviation professional spoken English courses is still in the stage of independent exploration and application by individual course teachers, teaching corpora and other resources on the platform still need to be independently selected and uploaded by the teachers in charge. There is a lack of a complete and unified overall planning for the courses. Therefore, it is necessary to further improve the course system. In the FIF oral training system, we should attempt to establish a unified civil aviation vocational oral English course system, modularize the construction of relevant corpora for various positions in the civil aviation service industry to meet the language skill requirements of different positions for talent cultivation. At the same time, due to the obvious individual differences among students, the construction of the entire course corpus module should take the difficulty of the language, syntax, grammar, etc. into considerations. According to different difficulty levels, it is essential to establish a pyramid-shaped course structure from simple to complex, construct a spiral-up learning model from words, phrases, sentence patterns, dialogues to passages, and create a comprehensive civil aviation professional spoken English course system.

5.3 Designing a Language Proficiency Assessment System That Integrates Industry Characteristics

Vocational education is "to cultivate high-quality technical and skilled talents, enabling the educated to possess the professional ethics, scientific culture, professional knowledge, technical skills, and other comprehensive professional qualities and action abilities required for engaging in a certain occupation or achieving career development" [9]. In order for civil aviation vocational oral English course to better serve the civil aviation industry and cultivate qualified professional technicians, it is necessary to refer to the relevant standards within the industry. As oral English is an essential skill for personnel in civil aviation service positions, each company and enterprise within the industry also has its own standards for oral English. Currently, the standards of the language proficiency assessment system for vocational English in civil aviation are not uniform. Several domestic airlines have corresponding English language proficiency assessment systems for different positions. After students majoring in relevant majors are hired by airlines, they usually have to undergo training and testing according to the different language proficiency assessment systems of each airline. In order to better serve the cultivation of industry talents, the language proficiency assessment system of civil aviation vocational oral English course should, based on the evaluation system of the FIF oral training system, consider integrating the English language proficiency assessment systems of airlines. Through relevant technologies such as cloud computing and with the empowerment of AI, it is necessary to integrate the different assessment standards of each airline, conduct more refined scientific scoring of the oral language abilities such as semantics, pronunciation, fluency, and integrity of position personnel, construct an industry-wide common civil aviation professional spoken English language proficiency assessment system, and apply this language proficiency assessment system to the construction and specific practice of the AI-empowered teaching model of civil aviation vocational oral English courses.

6. CONCLUSION

AI-empowered education is a new trend in the current reform of higher vocational education. Using the Iflytek's FIF oral training system for teaching and reforming the teaching model of civil

aviation vocational oral English courses conforms to the current trend of educational reform. From the perspective of AI empowerment, in order for the teaching of civil aviation vocational oral English courses to serve the civil aviation industry and cultivate more professional talents with oral English skills for civil aviation, it is necessary to combine industry characteristics, strengthen digital reform, cooperate with relevant professionals within the industry, including industry experts and front-line position employees, actively expand course corpus resources, further improve the course system, and design a language evaluation system that meets the needs of industry talents. As teachers of civil aviation vocational oral English courses, in the process of empowering courses through AI, we need to change our ways of thinking, have the courage to make innovative breakthroughs in courses, keep up with the application of various advanced AI speech technologies in a timely manner, achieve the transformation of AI empowerment for the courses, and strive to cultivate more and more high-quality professional service technicians with oral English skills for the civil aviation industry of the state.

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