Research on Foreign Language Learning in Colleges and Universities in the Digital Age

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Abstract

With the development of science and technology human society has entered into the digital era, the application of digital technology has had a profound impact on foreign language learning in colleges and universities. Digital technology can provide students with richer learning resources, more flexible learning methods and more effective learning tools, thus stimulating students' interest and enthusiasm in learning and improving students' learning efficiency. The era of digitalization also provides a lot of data of practical significance for foreign language teaching in colleges and universities, and provides more teaching resources and tools for teachers. With China's demand for high-level foreign language talents expanding year by year, it is especially important to focus on the digital foreign language learning situation in colleges and universities.

Keywords

Digitization; foreign language; Learner profiling; Professional foreign language classroom.

1. Introduction

An in-depth investigation of the current situation of foreign language digital education from the perspective of students can objectively assess the current digitalization process of foreign language learning in colleges and universities as well as the extent to which the digital teaching methods are in line with the needs of students. On this basis, we can put forward a scientific and reasonable foreign language learning reform program, and then improve the quality of foreign language learning in colleges and universities in the new era. In addition, through digital technology to build a foreign language classroom that meets the needs of students' own professional development, we can enhance students' language ability in their professional fields, realize the perfect combination of foreign language proficiency and professional competence, and cultivate more composite and high-quality foreign language innovation talents with international vision, national sentiment, and serve the national development strategy, so as to promote the further deepening of China's open-door policy.[1]

2. Basic Overview of Foreign Language Learning in Colleges and Universities in The Age of Digitalization--Taking Wuyi University as An Example

In the context of the digital era, digital technology provides college students with a variety of online foreign language learning resources, such as online dictionaries, course explanations, grammar exercises, listening exercises and speaking exercises. Students can choose according to their own needs and preferences, reflecting a high degree of flexibility and autonomy. In order to gain a deeper understanding of the current situation and needs of university students in foreign language learning in the digital era, we designed a set of questionnaires on this topic

especially for the students of Wuyi University, and conducted a detailed statistical analysis. Among the 81 respondents, 96% of them filled out the questionnaire, which shows that students are actively involved and highly concerned about this topic. Through the results of the questionnaire, we were able to get a clear picture of students' tendencies, trends and needs in foreign language learning. By going into the classroom, we further understood the important role played by digital tools in foreign language learning in colleges and universities, and gained a more in-depth understanding of the basic overview of foreign language learning in colleges and universities in the digital era.

2.1. Analysis Of College Students' Willingness To Choose Digital Platforms For Online Foreign Language Learning And The Reasons For It
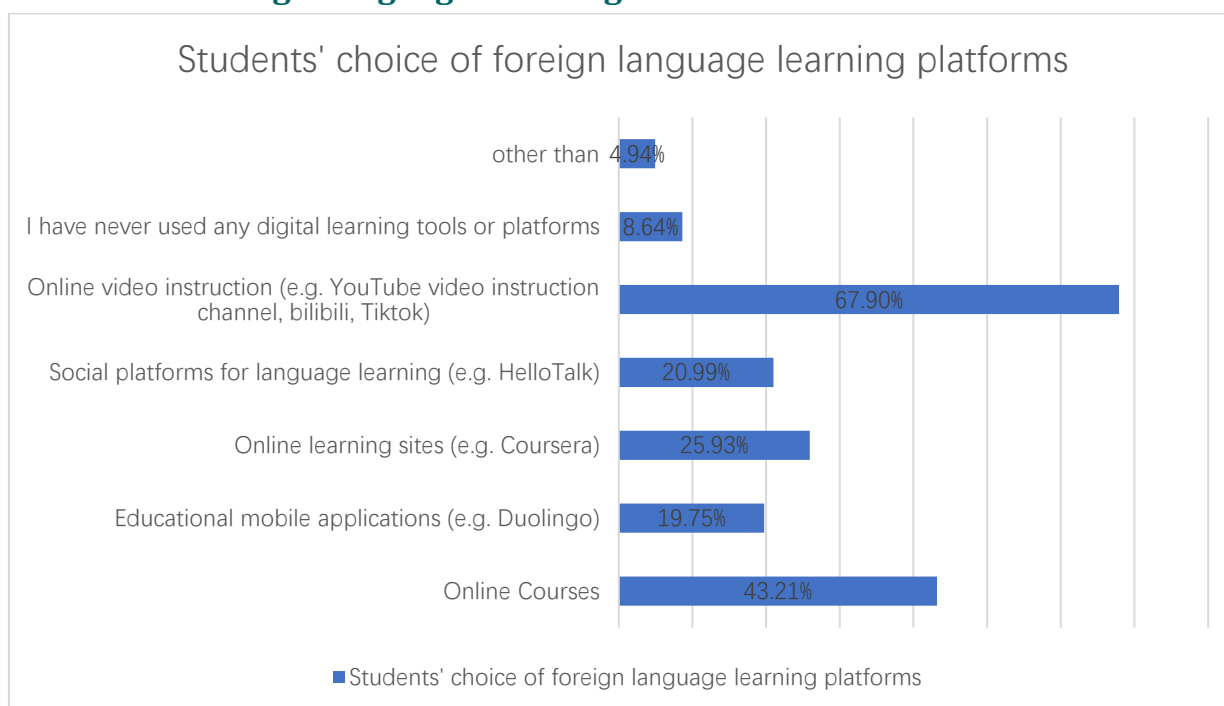

Figure 1. Selection of digital platforms for foreign language learning by university students in the digital era

According to the above survey results, we learned that as many as 67.9% of students tend to choose online video teaching (e.g., YouTube, BiliBili, Shake, etc.) when learning foreign languages. These software are widely popular, free to use, easy to operate, and are mainly positioned as entertainment video broadcasting platforms rather than professional learning platforms, but they have become the first choice of students in college learning. This is mainly attributed to the following points: first, students believe that the combination of entertainment software and learning software can improve the efficiency of access to learning resources, which in turn improves the efficiency of learning; second, most of the learning resources on these software are free; furthermore, the learning resources are rich, and students can quickly spread and share them; lastly, the number of users of this kind of software is large, so that students can make learning friends through these platforms and share their learning Lastly, these programs have a large number of users, so students can make friends and share their learning experience through these platforms.

In addition, professional learning websites such as MOOC and Coursera are also popular among students. 43.21% and 25.93% of students chose these two channels for foreign language learning respectively. This is mainly due to the fact that these courses are released by teachers from famous universities, the courses are of a higher level and more systematic, and the

learning resources are of better quality [2]. However, only 8.64% of the students indicated that they never use digital learning tools and platforms, which shows that utilizing learning platforms for foreign language learning is already a big trend among students.

2.2. Analysis Of The Main Purposes Of College Students' Utilization Of Online Foreign Language Learning Digital Platforms
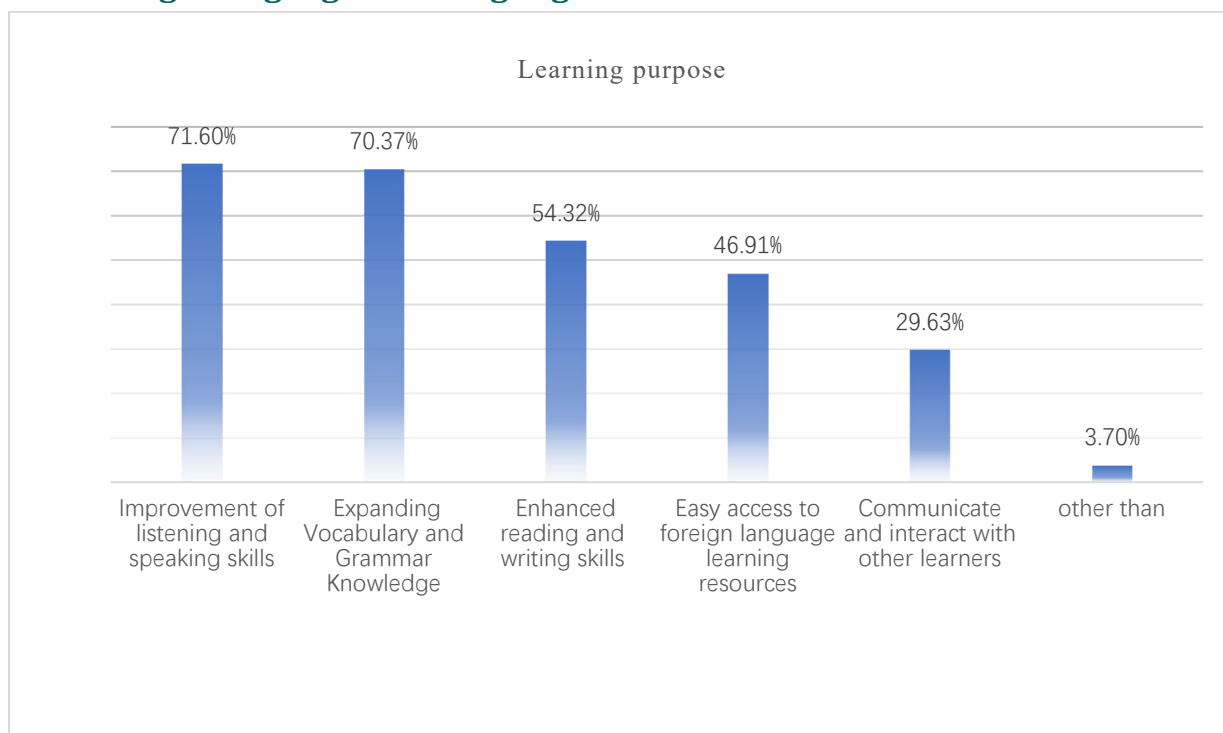

Figure 2. Main purposes of tertiary students using online digital platforms for foreign language learning

Based on the above charts, it can be understood that 71.6% of students utilize digital learning tools to enhance their listening and speaking skills, while 70.37% do so to expand their vocabulary and grammar knowledge. In addition, 54.32% of students used digital learning tools to enhance their reading and writing skills. 46.91% of students found these digital platforms resourceful, easy and flexible to use. In addition, 29.63% of students focused on communicating and interacting with other learners through digital platforms.

It can be seen that the students' demand for using digital platforms to improve their foreign language learning ability is comprehensive, with improving listening and speaking skills being the aspect that students are most concerned about[3]. This may be related to the fact that students are usually unable to be in the native language environment of a foreign language, and the digital learning platform has the characteristics of cross-space and cross-time, which can meet the needs of students' listening and speaking in learning foreign languages. At the same time, students' reading and writing skills are also aspects that cannot be ignored when learning a foreign language. Utilizing the digital platform's convenience, comprehensiveness and fast information hunting speed can well make up for the shortcomings of students' previous traditional learning methods of paper-based and flipping through materials.

To sum up, students' demand for using digital platforms to improve their foreign language learning ability is comprehensive, of which improving listening and speaking ability is the most concerned aspect. The digital learning platform can well meet the students' needs and make up for the shortcomings of traditional learning methods.

2.3.   Frequency And Evaluation of University Students' Use of Online Digital Platforms for Learning Foreign Languages
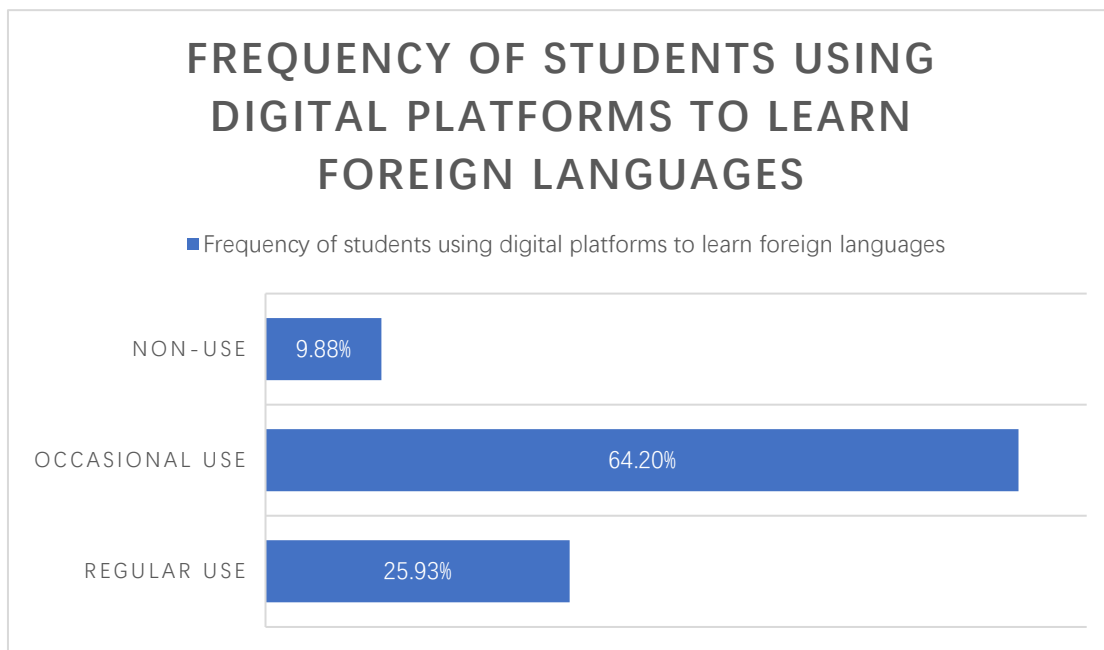

Figure 3. Frequency of use of digital learning platforms by college students
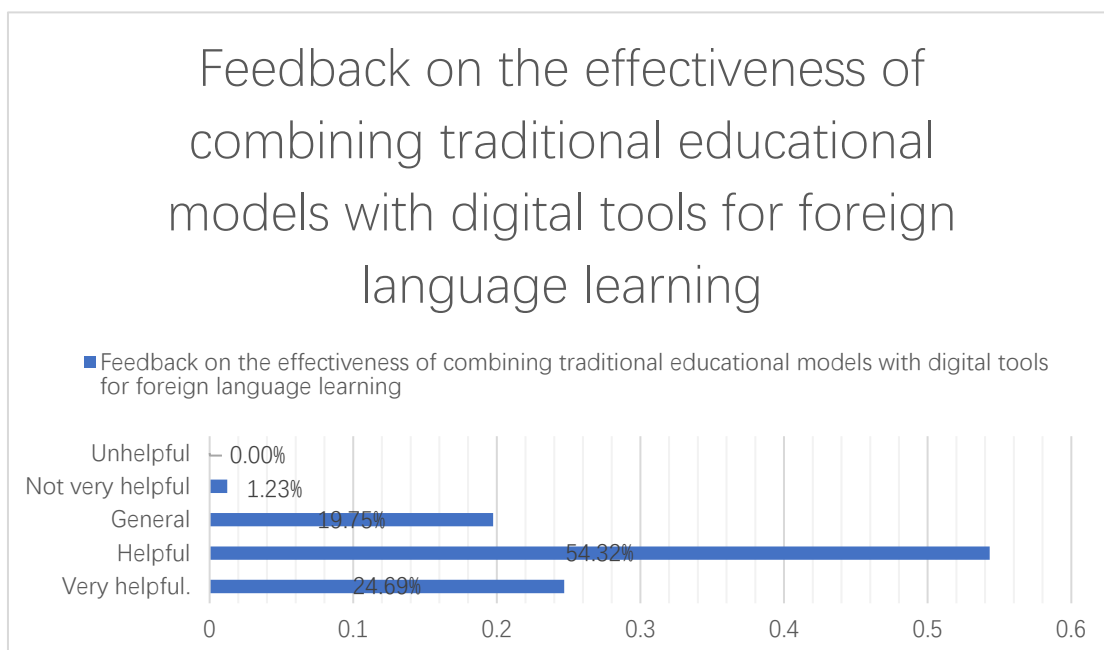

Figure 4. Students' evaluation of the effectiveness of digital learning platforms

According to Chart 4, it was found that 24.69% of the students thought that using digital learning platforms to learn foreign languages was very helpful, 54.32% thought that it was helpful, 19.75% thought that it was moderately effective, and only 1.23% thought that it was not helpful. Meanwhile, according to Chart 3, it is concluded that 25.93% of students often use digital learning platforms, 64.2% use them occasionally, and only 9.88% do not use them. Combining these two sets of data, we can conclude that there is a positive correlation between the frequency of students' use of digital learning platforms and their learning effects. Therefore,

insisting on the frequent use of digital learning platforms has a positive effect on improving foreign language learning effects[4].

2.4. The Use of Digital Technology in The Foreign Language Learning Classroom in Universities and Colleges

Digital online platforms are widely used in foreign language teaching in colleges and universities, including MOOC, WE Learn, Study Pass, Rain Classroom and other platforms. These platforms provide a number of practical functions, such as check-in, material placement, homework assignment, pop-up communication and so on. The use of these digital learning tools helps to bring students and teachers closer together, transforming the traditional multi-person generalized classroom into an online close and open classroom. Teachers use these digital technologies to transform classroom knowledge into videos, diagrams, audio and other forms, making the knowledge more three-dimensional and clearer, thus stimulating students' interest in learning and increasing classroom participation. At the same time, digital technology can also save classroom content for students to review anytime and anywhere after class. This feature extends the timeliness of the traditional classroom and breaks through the spatial limitation of the traditional classroom.

3. Pain Points of Foreign Language Learning in Colleges and Universities in The Digital Era

3.1. Analyzing The Difficulties of Foreign Language Learning in The Digital Age From The Students' Perspective
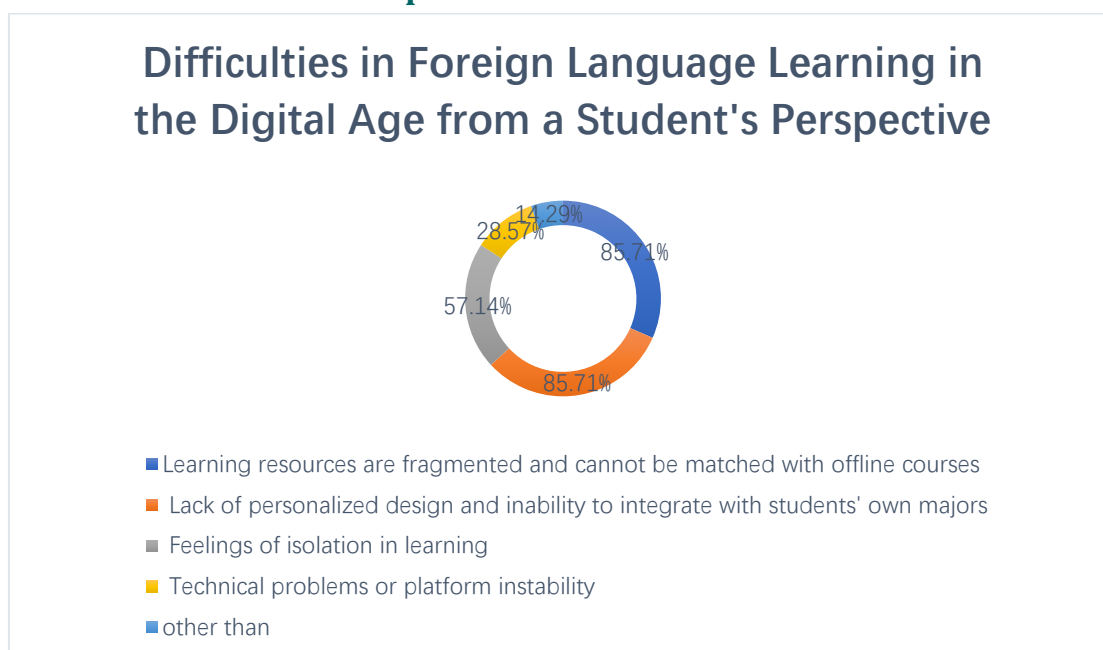

Figure 5. Difficulties encountered in foreign language learning as perceived by students at present

As can be seen from Chart 5, 85.71% of students face the problems of learning resources being messy and unorganized, as well as being cut off from offline classes in the process of learning foreign languages. Similarly, 85.71% of the students believe that in the digital age, there is still a lack of personalized design in foreign language learning, which cannot be combined with students' own majors. At the same time, each student is an independent learner, so the process of learning a foreign language online may have the problem that the learning effect is not obvious due to the low self-control of individuals. The shift from traditional multi-person

classroom learning to online individual learning may result in isolation, making learning single and closed, and the lack of communication with fellow learners may not be conducive to students' foreign language progress.

3.2. Analysis Of The Difficulties Of Foreign Language Teaching In The Digital Age From The Teachers' Point Of View

Digital technology has empowered the classroom to break through spatial constraints, significantly increasing students' autonomy in foreign language learning. However, this transformative trend has simultaneously alienated students from their teachers. To some extent, the digital classroom will reduce the opportunity of face-to-face communication between students and teachers, which will lead to the teachers' reduced mastery of students' learning situation and their inability to accurately adjust the teaching content to meet the students' individual needs, which may ultimately lead to a disconnect between classroom teaching content and students' actual needs[5]. On the other hand, some teachers are unable to use digital technology in the classroom due to the limitation of their own skills, which may lead to the waste of teaching time. Nevertheless, we still need to realize that the digital transformation of college classrooms is an inevitable trend in the context of the digital era. As a result, the frequency of students using cell phones in the classroom has increased dramatically. This undoubtedly induces students to use their cell phones to focus on content unrelated to the classroom, thus increasing the likelihood that students will be distracted in the classroom.

4. Feasible Suggestions Based on The Current Difficulties in Learning Foreign Languages in Higher Education

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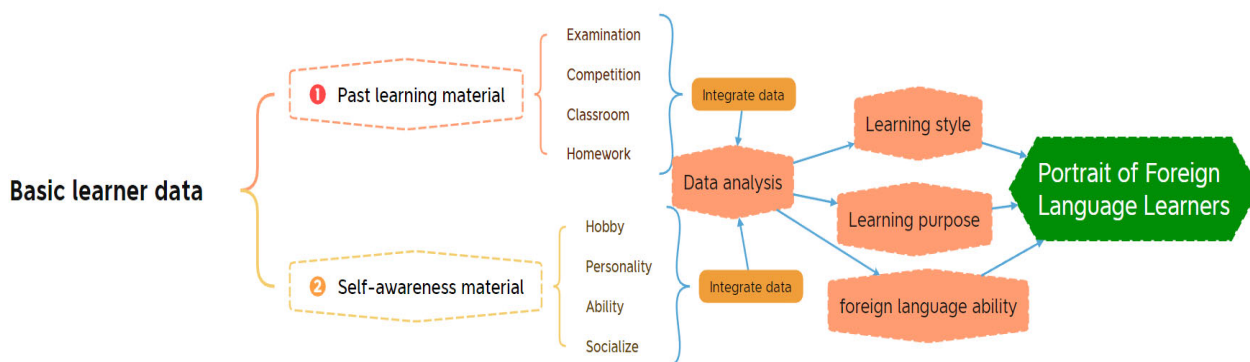

Figure 6. Learner Portrait Pattern Diagram

In foreign language learning in colleges and universities, learners are the core subjects. Through data mining of learners and drawing a portrait of foreign language learners, it can strongly promote the foreign language teaching in colleges and universities to be more orderly, targeted and efficient. Through data mining technology, learners' past learning data and self-cognitive data can be analyzed to derive their learning styles, learning purposes and foreign language levels [6]. By categorizing various types of learners and designing targeted lesson plans accordingly, foreign language teaching in colleges and universities can be made more reasonable and precise.

In addition, colleges and universities can also monitor the data changes of learner profiles, so as to obtain the dynamic change data of learners' foreign language learning. This helps teachers to understand the latest learning situation of each learner, reflect on the effectiveness of classroom teaching, and pinpoint students with learning difficulties for targeted counseling. At the same time, the learner profile also helps students to find learning partners that match their interests, and fully understand their own learning status so as to make corresponding adjustments. Therefore, it can be seen that in the digital era, the use of data mining and data categorization for data analysis is of great significance for promoting foreign language learning in colleges and universities.

4.2.　Key Issues To Be Addressed In Building Learner Profiles
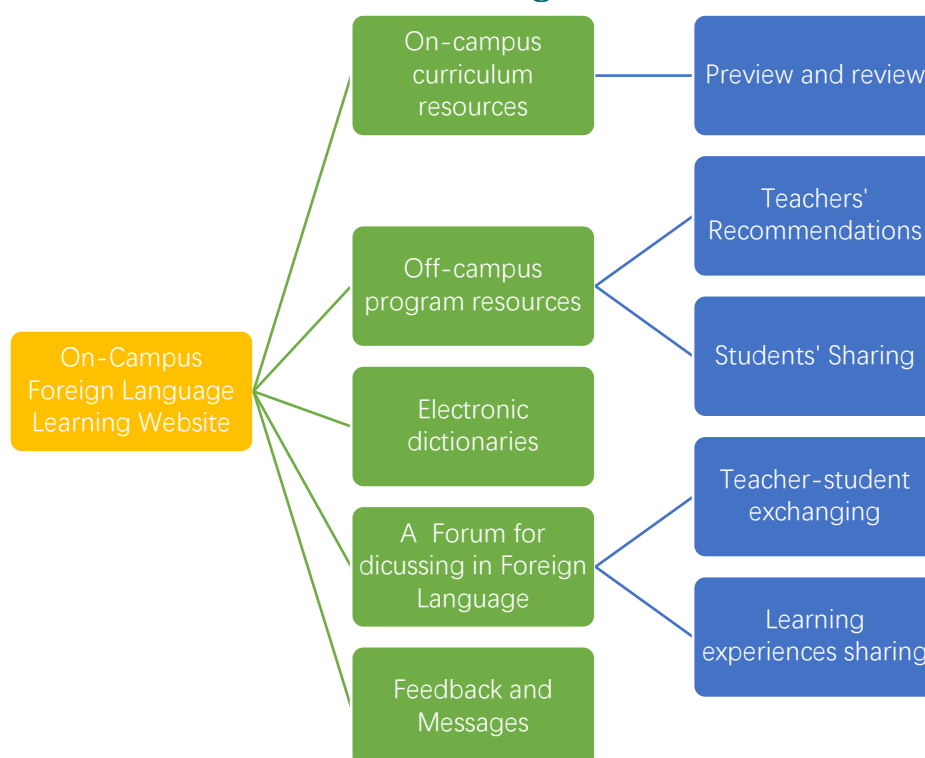

Figure 7. Conceptualization of the construction of a foreign language learning website on campus

To build a learner profile, universities need to build a special website for students' foreign language learning, and collect data related to students' foreign language learning with the help of this website to support the generation of learner profiles [7]. The construction of the website can be divided into five modules: on-campus course resources module, off-campus course resources module, dictionary query module, foreign language forum module, and opinion and feedback module.

In the on-campus course module, teachers can upload resources related to their own courses for students' pre-study before class and review after class. This aims to increase students' understanding of the course content and improve the efficiency of offline classes. In the off-campus course resources module, teachers can upload foreign language learning resources that they think are suitable for their students, and students can also share learning materials that they think are useful. This can help students sift through the mixed learning materials on the Internet and save their time in searching for foreign language learning materials.

The construction of the above two modules can solve the pain point of foreign language learning in the data-driven era where online course resources are fragmented and cannot be combined with offline classes. By building a module for word search and a module for foreign language

forums, we can use data mining and data analysis to understand the students' learning frequency and the keywords they use in discussing issues, so as to obtain more accurate basic data of learners, and make the learner portrait more three-dimensional and precise.

In addition, a feedback and message module is needed to collect students' opinions and suggestions on the website, so as to make improvements and promote the updating and development of the website. In the process of collecting and analyzing data, it is important to always respect students' right to privacy and ensure that only data that they voluntarily disclose is captured.

4.3. Conceptualization of The Construction of A "Foreign Language + Professional" Classroom (Based on The Example of Wuyi University)

In the age of data, foreign language learning has been developed faster, but we can't ignore the problem that foreign language learning is detached from our own specialty. The combination of foreign language learning and our own specialties will greatly enhance our ability to communicate with foreigners in our specialized fields. Therefore, through digital technology to build a foreign language classroom that meets the development requirements of students' own professional learning, to improve students' foreign language proficiency in their own professional fields, to further combine students' foreign language proficiency with their professional abilities, and to continuously deliver high-level composite talents for the further deepening of China's open-door policy.

4.3.1. Problems Prevalent in Current Foreign Language Teaching

There are three common problems in today's foreign language teaching, the first is the difficulty of professional foreign language teaching materials, the lack of step-by-step process, and the textbook articles are independent of each other, lack of relevance, for students, learning is more difficult.[8] Secondly, the teacher's teaching methods are single, boring single classroom plus a large number of remote professional vocabulary, unable to mobilize students' interest in learning. In addition, professional foreign language teaching focuses too much on translation training, and lacks the ability to listen and speak which can be really applied to the foreign language communication related to the specialty. Aiming at the above problems, it is of practical significance to design a special classroom of "foreign language + specialization".

4.3.2. Foreign Language (English) + Specialization (Communication Engineering)" Classroom Teaching Design

From the actual situation of Wuyi University, the "Foreign Language + Specialization" classroom can be refined into the "English + Communication Engineering" classroom as an example. The teaching objectives of this classroom are to equip students with the ability to communicate in foreign languages related to their specialties, to enhance their ability to consult foreign language literature related to their specialties, and to improve their competitiveness in their specialties.

In the early stage of classroom construction, we should combine the data of learner profiling to categorize learners with different levels of foreign language learning and different purposes of foreign language learning, so as to design a targeted and distinctive professional foreign language classroom, which will greatly increase the practical significance of the classroom.

In the middle of the class, the learning content construction should be based on the vocabulary of communication engineering and the sentence expressions required for communication in the professional field, and the difficulty of vocabulary and sentences should be gradually progressed, and then the corresponding professional communication dialogues should be written, and the teachers can choose interesting dialogues to motivate the students.

The assessment design of the late classroom should be in the form of exams to test students' vocabulary and sentence learning, as well as through the design of English conversation scripts

related to the communication engineering profession, in the form of recorded video, so that students act as interpreters and take conversation exams, so that students can experience the expression of foreign language situations related to their own professions.

In terms of teaching evaluation, firstly, digital tools are used to derive students' classroom learning data to analyze students' learning effect, secondly, teachers' evaluation channels as well as students' feedback channels are opened, and finally, teachers should form an end-of-class report and discuss it in group meetings.

The teaching design adheres to the student-oriented, the teacher acts as a "helper" role, not only to mobilize students' own enthusiasm but also to make students' own foreign language learning combined with their professions, so that the foreign language has really become a powerful tool to improve the competitiveness of the students, and to help students cope with today's increasingly severe employment problems[9].

5 Conclusion

Students are not only learners of foreign languages, but also thinkers who actively use foreign languages. At present, in the digital era, students still have many pain points and difficulties in learning foreign languages. With the continuous development of science and technology, foreign language learning will face more new challenges, but also bring more opportunities to foreign language learners. Therefore, in the era of digital development, students should follow the trend of the times and make reasonable use of digital learning tools. At the same time, we should also realize that although digital learning tools or platforms have brought great convenience to college students in learning foreign languages, they are not yet in a position to completely replace the lectures of professional foreign language teachers at this stage. Therefore, foreign language learners should not rely too much on digital learning tools or platforms and neglect real classroom4 learning, we should actively find the balance between real classroom teaching and digital learning tools, adjust and optimize the development path of foreign language learning. In the digital era, the integration of digital learning tools into the foreign language classroom has become an inevitable trend, and it is believed that the only way to realize the optimal solution for foreign language teaching is to learn and study foreign languages through the rational use of digital tools and to improve oneself with the help of digital learning tools.

Acknowledgments

References

[1] Jie Gao. Cultivation of Innovation Ability of Foreign Language Talents in the Era of Big Data [J]. Innovation and Entrepreneurship Theory Research and Practice,Vol.1 (2018) No.22, p. 76-77.

[2] Xiucai Fang. Research on foreign language use and learning behavior in the era of big data: Current situation and future research concept[J]. Shandong Foreign Language Teaching,Vol. 37 (2016) No.05,p. 45-51.

[3] Dai Jian Ke, Linmo Cheng, Yubin Lin. Analysis of Current English Learning Needs of Non-English Major Undergraduates and the Status Quo of College English Teaching--Taking Fuzhou College of Foreign Languages and Foreign Trade as an Example[J]. Modern English. (2022) No. 11, p.119-122.

[4] Xiuchuan Shi. Foreign language teaching reform in the era of big data[J]. Examination Weekly, (2017) No.54, p. 62.

[5] Jianlin Chen. Catechism and Foreign Language Teaching Research in the Era of Big Data--Challenges and Opportunities [J]. Foreign language e-learning, (2015) No. 01, p. 3-8+16

[6] Chunfu Liu ,Yanyan Xu. Exploring the construction of foreign language ecological teaching system in colleges and universities under the environment of artificial intelligence[J]. Heilongjiang Education (Theory and Practice), (2022)No.06,p.50-52.

[7] Xiaoqing Zhou, Xiaodong Wang, Xian Liu, Qiong Li, Jianli Jiao. From "Technology-Oriented" to "Learning-Oriented"-New Trends in the International Development of Information Technology-Supported Learning and Teaching Transformation [J]. Journal of Distance Education, Vol. 32(2014) No.03,p.13-22.

[8] Yongguang,Liu   Jing Zhu. A few thoughts on professional foreign language teaching[J]. Journal of Hebei University of Science and Technology (Social Science Edition),Vol.10(2010)No.02,p.176-177.

[9] Qinghuan Shi, Xiaolei Wang, Hongxia Wang. Research on Key Issues in "Online+Offline" Blended Teaching of College Foreign Languages[J]. Overseas English, (2022) No. 17,p. 143-144.