



Design and Application of Computer Network Platform in the Teaching of Shipping Courses

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Abstract. Along with the development of computer technology, many new methods have been applied in the education. Talent training is the main goal of higher education, and professional knowledge learning is an important basis for completing the goal of talent training, which is directly related to the quality of education and the level of talent skills. Establishing a scientific and reasonable learning mechanism for professional knowledge is an effective way to improve the quality of talent training. In this paper, a WeChat public platform for shipping majors is established to assist the classroom teaching of shipping majors by pushing pictures, texts and videos. The data of users, completion rate of message reading and reading times were collected and investigated. It can be seen that the WeChat public platform can meet the basic needs of the teaching of shipping majors and help stimulate interest in learning. The timely grasp of students' learning status and laws will help to improve the teaching quality and level of higher education majors. The combination of shipping professional courses and the WeChat public platform helps cultivate high-quality and high-level talents.

Keywords: Computer network platform · shipping · professional courses · personnel training · education quality

1 Introduction

If the birth of micro-blog is a sign of the beginning of the micro-era, then the rapid rise of WeChat on the social network platform is undoubtedly the key to promoting the prosperity of the micro-era. Various micro-cultures represented by micro-blog and WeChat have infiltrated into all aspects of social life. Therefore, our era is also known as the “micro-era” [1–3]. Mobile learning has the characteristics of high efficiency, interactivity, real-time and ubiquity. To a certain extent, it solves the problems that are not conducive to traditional learning, such as the mobility of people's geographical space, busy work and fast pace of life [4, 5].

Yu Liu—Computer technology and teaching method.

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X. Yuan et al. (Eds.): ICEKIM 2023, AHCS 13, pp. 1433–1441, 2023.

https://doi.org/10.2991/978-94-6463-172-2_154

The WeChat and its public platforms have become one of the important means to assist higher education along with the rapid development of the mobile Internet technology and the widespread popularization of computers and smartphones [6]. On the one hand, it can enrich the content of professional knowledge, which is easy to obtain the wide and deep professional knowledge [7, 8]. On the other hand, it will provide more teaching methods for teachers, which is helpful to enhance students' learning interest. In addition, it is also helpful to track the status of students' learning and enhance the exchange of teachers and students [9, 10].

The shipping major is mainly to cultivate professional students, such as aviation and navigation students. Usually, the ship structure and freight, hull structure and charts, electronic sea charts and information systems are the main professional courses. Due to the large difference in shipping professional courses and the students' living environment, students usually have low interest and poor theoretical connection when they study professional knowledge. Therefore, it is a challenge that the teachers combine the advantages of WeChat public platform with the shipping professional course.

Based on the professional knowledge of the shipping knowledge, this article collects the cases related to the big ships and famous people, which is closely integrated with professional knowledge to build a professional WeChat public platform for shipping. The cases will be pushed to students in order to stimulate students' interest in learning and highlight points of important knowledge, which is helpful to master students' learning status and problems. It is also helpful to improve and optimize classroom teaching quality of shipping professional curriculum.

2 Development Methods of Computer Network Platform

The WeChat public platform mainly includes service account, subscription account, and enterprise account. Among them, the subscription account is a platform for enterprises, organizations or individuals. The messages can be sent every day to build a good way to communicate with readers, which is more suitable as an assisted teaching. In order to make full use of the WeChat public platform, this paper uses the shipping professional course as the object, and the building process of WeChat public platform process is shown as in Fig. 1. The platform is based on the courses of cruise introduction, navigation and ship management, and other shipping professional courses can be added at any time. First, the content of each course is determined according to the student training plan and lecture outline. Second, the famous people and big ships are searched according to the content. The knowledge points are matched with the famous people and big ships, which are edited with words or movie. This WeChat platform has been built up with 27 cases.

The "Shipping Culture Communication" subscription account was applied to provide a teaching auxiliary platform for shipping teaching as shown in Fig. 2. The platform includes not only the key knowledge of this major, but also some famous people and big ships related to shipping field. It can also expand students' professional vision and ensure the teaching of the key professional knowledge.

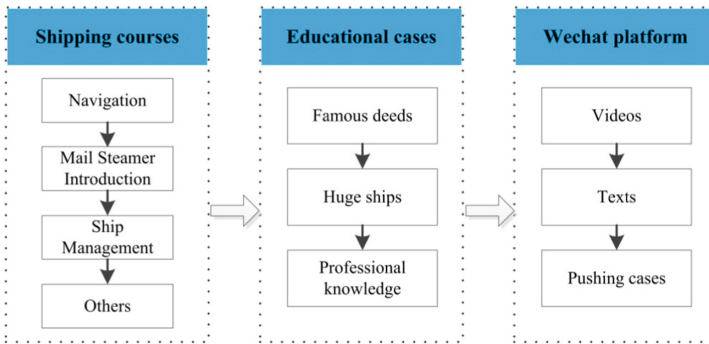


Fig. 1. Flow chart of WeChat Platform building



Fig. 2. Subscription account of shipping cultural communication

3 Internate Resources to Design WeChat Public Platform

3.1 Stimulate Learning Interest with the Deeds of the Famous People

At the beginning of the teaching, students do not understand the knowledge points of professional courses. At this stage, it mainly stimulates students' learning interest. Therefore, some cases related to the deeds of the famous people are pushed to students based on the WeChat public platform, such as Zheng He's voyages, Wang Dayuan's voyages and Zhu Yingfu's four ships. Table 1 includes the content and evaluation of the teaching about the deeds of the famous people. Through the deeds of the famous people, students can feel the charm of the major, especially the deeds of the navigator Wang Doyuan, who is the famous people in the same province. This can help students feel the huge achievements and merites in shipping field. At the same time, the huge achievement and famous people in modern can be known by students, such as Zhu Yingfu's deeds. This helps to cultivate students' professional identity and professional goals. In classroom teaching, teachers can evaluate the implementation effect of the process according to the students' classroom rising rate, problem feedback, and the number of reading times of the WeChat public platform.

Table 1. Content and evaluation of the teaching about the deeds of the famous people

Courses	Content	Target	Evaluation
Navigation	Zheng He's voyages, Wang Dayuan's voyages, Zhu Yingfu's deeds	Simulate learning interest, expand professional vision	Classroom performance, reading times
Ship Management			
Mail Steamer Introduction			

Table 2. Content and evaluation of the teaching about the big ships and professional knowledge

Courses	Content	Target	Evaluation
Navigation	Nanchang Ship, Tiankun Ship, Liaoning aircraftcarrier	Professional knowledge learning	Classroom performance, reading times, sending times
Ship Management			
Mail Steamer Introduction			

3.2 Big Ships and Professional Knowledge

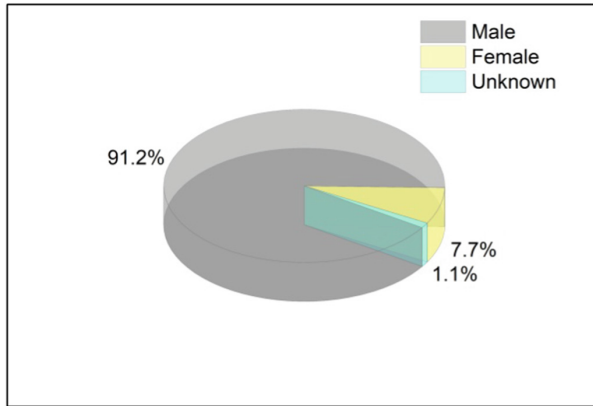
The professional knowledge of shipping has a wide range of disciplines and many difficult points. It also has a small degree of correlation with students' daily life. Therefore, the learning effect is usually poor. When the curriculum is in the middle period, students have studied a certain amount of professional knowledge, but teachers will face a problem that the related professional knowledge is difficultly connected in series and combined with the actual condition. Table 2 includes the content and evaluation of the teaching about the big ships and professional knowledge. The students' desire for professional knowledge is simulated by the big ships, such as Liaoning aircraftcarrier, Tiankun ship and the Dragon ship. So students can actively think about the scenes applied by professional knowledge. At the same time, a certain amount of professional knowledge is added to the pushed message, and combined with big ships as the classical cases. This teaching method can solve the boring characteristics of professional knowledge, and enable students to directly master the professional knowledge better, and deepen the understanding of professional knowledge and future application.

3.3 Key Points of Professional Knowledge

In the later stage of the course teaching, a lot of professional knowledge has been taught, and students need to review and summarize the professional knowledge. Therefore, the key points of each course are collected and pushed to students, as shown in Table 3. Students can review the professional knowledge through the WeChat public platform. This method meets the students' needs for the course learning in the later stage. At the same time, it is not limited by time and place. Students can learn the professional knowledge anytime and anywhere.

Table 3. Content and evaluation of the teaching in the later stage

Courses	Content	Target	Evaluation
Navigation	Ship structure, diesel engine structure, anchor structure	Key points of professional knowledge	Reading times
Ship Management			
Mail Steamer Introduction			

**Fig. 3.** Users analysis

4 Teaching Practice

Using the WeChat public platform, the classical cases of the WeChat public platform are pushed to students based on three courses, such as navigation, ship management, and cruise ships.

4.1 User Analysis

This WeChat public platform is aimed at shipping students. It is focused by 72 users, of which 91.2% are males and 7.7% are females as shown in Fig. 3, which has an obvious engineering characteristic.

4.2 Completion Rate of Message Reading

This WeChat public platform pushes 12 messages, and the completion rate of the message reading is statistically analyzed as shown in Fig. 4. Among them, there are 10 times message reading, whose completion rate is more than 60%. And there are 5 times message reading, whose completion rate is more than 100%. It can be seen that students are more willing to fully read professional knowledge, famous people, big ships and other related

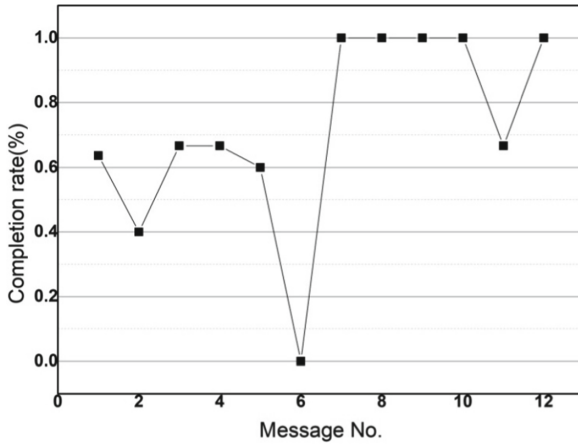


Fig. 4. Completion rate of message reading

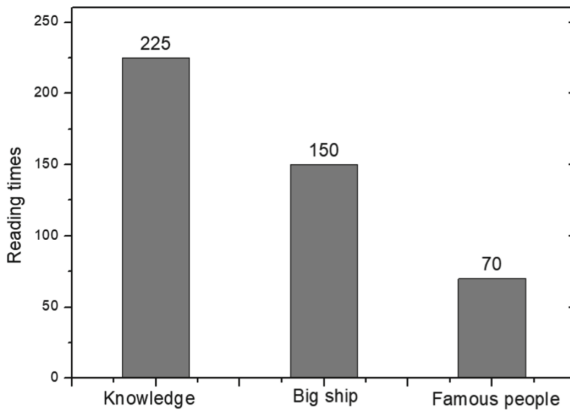


Fig. 5. Reading times of different content

content. This platform has a good function to stimulate students' interest in reading professional-related knowledge.

4.3 Reading Times

In Fig. 5, the reading times of professional knowledge, big ships and famous people were 225, 150 and 70 times, respectively. This indicates that students are more interested in the way of learning knowledge pushed by WeChat public platform, which was helpful to understand classroom knowledge and assist teacher's teaching.

4.4 Learning Time Periods

According to the total number of message readings, different time periods are used for statistics. The statistical results are shown in Fig. 6. It can be seen that the number of

readers is less in the 0–7:00 time period. This is the student's rest time, but there are still a small number of students reading the learning content. The number of readers showed a gradual upward trend at 8:00–10:00, and peaked at 10:00. At this time, it was the morning break. Students used the break time for short-term learning or preview. It also shows that the WeChat public platform can make better use of students' fragmented time and make course learning more convenient and faster. Similarly, it began to increase gradually at 15:00 and reached the peak of reading at 18:00. It is worth noting that the number of readers in the evening is significantly higher than that in the daytime, indicating that students have more autonomous time to read the push information in the evening, which has obvious reading time regularity. Therefore, according to the characteristics of the number of students reading, the push time can be set at about 15:00, in order to get better mobile learning effect.

This Wechat public platform has a good teaching effect. In terms of teachers, students' interest in learning has been stimulated during the process of teaching through the classical cases. The students' rising rate has increased significantly. It can be concluded that the original passive acceptance of knowledge has been gradually transformed into active learning, and the quality of classroom teaching has been improved. In terms of student learning, through the typical cases, students can understand the famous people deeds in the field in the early stage of learning, and has a good example of learning. Therefore, this teaching method can not only improve the quality of teaching, but also cultivate multi-dimensional talents.

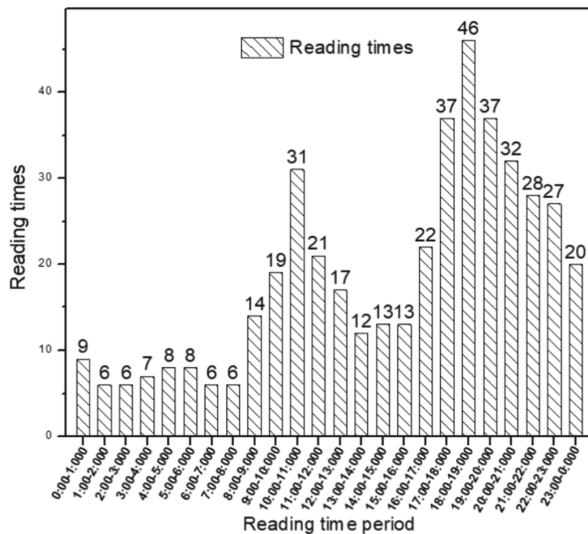


Fig. 6. Reading time periods of different content

5 Conclusion

By establishing the “shipping culture communication” WeChat public platform, the professional knowledge, famous people and big ships are collected and pushed to students in shipping filed. Students can view messages anytime and anywhere, which helps students to master the key points of the professional knowledge in the field. It is feasible to conduct teaching reforms on college courses through the WeChat public platform. It not only enriches the content of traditional classroom teaching and enhances students’ learning interest of professional knowledge, but also has strong operability and practicality. In subsequent teaching practice, the classical cases will be enriched in the other professional courses. It is helpful to cultivate active thinking ability and improve the comprehensive quality of students.

Acknowledgment. “We would like to acknowledge financial support from Jiangxi Provincial High School Teaching Reform Research Projects (JXJG-21-94-3) and Jiangxi Kejun Industrial Co., Ltd. Project (KJ-GQKJ-220114008).”

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