APPLICATION OF WECHAT PLATFORM IN SINO-FOREIGN COOPERATIVE UNDERGRADUATE EDUCATION COURSES

Jiguang Guo and Zhiqiang Luan
International College Beijing
China Agricultural University, Beijing, 100083, P.R. China

ABSTRACT

The research is to use the factor analysis method and statistical classification, finding out the problems existing in the current WeChat public account. The functions should be promoted in order to provide more professional services. For instance, the result illustrates that students of Sino-foreign cooperative education are more interested in personal development and job recruitment information, so WeChat should add and optimize internship or job recommendation function. In addition, making a step-by-step refinement of the research object and content, and finally give reasonable suggestions for the application of WeChat platform in the professional courses of Sino-foreign cooperative undergraduate students through data analysis.

KEYWORDS

WeChat Platform Application, Higher Education Research, Sino-Foreign Cooperative Education, Professional Courses

1. INTRODUCTION

With the development of WeChat function, increasingly people apply it to work or study. In China, WeChat is one of the most popular instant messaging applications. It has five main education advantages: versatility, personalization, accessibility, interactivity, and affordability (Shi, Luo & He, 2017). Nowadays, many universities in China have their own WeChat platform which is always used in daily teaching and learning practice by a lot of teachers and students. For example, teachers are able to send classroom assignments and tests to students through the school WeChat platform. Similarly, students can also use it for practicing course exercises and group discussions, and even submit assignments directly through the platform. Moreover, they might be able to learn online courses and review knowledge whenever they want, which are so convenient for studying. For teachers, they can save much time in printing assignments and judgment. The system even can identify right or wrong answers automatically.

In general, the WeChat platform provides great convenience for both teacher and student learning. This paper narrows the scope of research from the general school WeChat public platform research to focus on the application of WeChat platform in undergraduate professional courses. In addition, with the popularity of Sino-foreign cooperative education projects in recent years, the research population has been further reduced to students of Sino-foreign cooperative education projects.

2. LITERATURE REVIEW

2.1 New Media Era Micro-Learning

Dr. Desmond Kie, an international distance education technology expert from Ireland, pointed out that M-Learning will be the main way of continuing education in the future. In the process of mobile learning, the “micro” characteristics of learning resources, learning time, learning medium and other elements are obvious.

Therefore, Austrian study and research expert Lindner proposed the concept of micro-learning, which is expressed as a kind of pointing in the new media ecosystem. A new form of learning based on micro-content and micro-media. Mobile learning can be seen as the main form of micro-learning in the new media age (Zhang & Wu, 2013).

2.2 China Mobile Internet Development Trend

Owing to the steady development of China's economy and technology, the development trend of China's mobile Internet shows constant progress and structural optimization. It can be seen from the Mobile Internet Blue Book "China Mobile Internet Development Report (2018)", Mobile Internet user growth has slowed down. Moreover, user structure has been improved, and data traffic has doubled, which built the world's largest mobile Internet application market (Yu & Tang, 2019).

2.3 Refer to China Statistical Report on Internet Development

As the degree of online education mobility deepens, WeChat becomes an important tool for mobile learning. The rapid spread of smart devices and other developments. For example, the Internet has created more opportunities for education. Lightweight, fragmented, and structured knowledge is more suitable for mobile learning scenarios. According to the China Statistical Report on Internet Development (2019), as of December 2018, users who contacted online education through mobile phones accounted for 96.5% of the total online education users. There is an increase of 19.9 percentage points from the end of 2017. Due to the advantages of WeChat in terms of traffic acquisition, community operation, user scale and stickiness, more and more educational products are beginning to use WeChat to explore new service models. They attract users to learn online through WeChat group, public number, small program and other tools, which continue to share to reduce the cost of acquiring new users and increase user stickiness (China Internet Network Information Center, 2019).

3. RESEARCH METHODS

3.1 Quantitative Research and Data Analysis

The researchers use the questionnaire to conduct quantitative analysis of college students. The purpose is to gain a deeper understanding of the specific events that current college students are concerned about, which mainly because the college students' wishes and feedback are of great significance to this research. Next, using factor analysis to illustrate the correlation between the various elements. Finally, getting the most needed results for college students.

3.2 Online Questionnaire

Data is collected by issuing online questionnaires among college students. Before starting the survey, 50 questionnaires were sent to the study to ensure the reliability and validity of the questionnaire questions. After further adjusting and optimizing the questionnaire questions, 362 questionnaires were finally collected. The data reliability and validity of the study are high and can be used for further analysis (Table 1, Table 2, Table 3).

3.3 Modelling

Factor analysis, using a few factors to describe the relationship between many indicators and factors. The way is to classify several closely related variables into the same class. Each type of variable becomes a factor, reflecting the original data with a few factors. Using this research technique, we can easily identify the main factors that influence consumer purchases, consumption, and satisfaction, as well as their impact. Starting from the related dependencies within the research variables, some variables with intricate relationships are attributed to a multivariate statistical analysis method with a few comprehensive factors (Kim & Mueller, 1978).

4. QUANTITATIVE RESEARCH

Cronbach's Alpha (0.758) > 0.7, so questionnaire reliability is better (Table 1).

Table 1. Reliability statistics

Cronbach's Alpha	Number of items
.758	20

The questionnaire was distributed 362, and all the data of 362 questionnaires were finally used (Table 2).

Table 2. Case processing summary

	Heading level	N	%
Case	First level heading	362	100.0
	Second level heading	0	.0
	Third level heading	362	100.0

a. Deleted in this program based on a list of all variables.

To ensure more accurate results, the researchers extracted the questionnaire data. The final KMO is 0.854 > 0.5, indicating that there is a correlation between the variables and meets the requirements. Also sig. < 0.05, so this data can be factored (Table 3).

Table 3. KMO and Bartlett's inspection

Sampling enough Kaiser-Meyer-Olkin metrics.		.854
Bartlett's sphericity test	Approximate chi square	2323.962
	df	190
	Sig.	.000

5. DATA ANALYSIS

Figure 1. Scree plot

Taking the point with a larger slope is the main factor of this factor. It is mainly combined with the cumulative contribution rate to obtain several factors as the main factors, which is to achieve the dimensionality reduction (Figure 1).

Table 4. Common factor variance

Questions	initial	extract
Q1 Your profession?	1.000	.483
Q2 What is your current type of schooling?	1.000	.319
Q3 Your current grade	1.000	.605
Q4 Which of the following do you think is most important to you (based on the WeChat platform)?	1.000	.452
Q5 What do you think is the most important thing you need to improve in your studies?	1.000	.464
Q6 Which of the following functions do you think the current WeChat public account should add? (emergency)	1.000	.559
Q7 College continues to maintain the original network platform is not improved, are you willing to use the college public number all the time?	1.000	.574
Q8 For the following options, what is the most satisfactory one for the current use of this option?	1.000	.355
Q9 Which type of WeChat apple program do you use the most to help your academic life?	1.000	.417
Q10 Do you think that the application rate of WeChat applets for education and teaching is high at this stage?	1.000	.523
Q11 If you add a small program about education and teaching, what is your opinion?	1.000	.505
Q12 If your school has its own WeChat applet, you can check the results, report the class, accept the notice, recharge, etc. Your attitude towards this is.	1.000	.588
Q13 What type of program do you most want to add to the WeChat applet:	1.000	.532
Q14 Select a score for the "Logistics Service" module	1.000	.789
Q15 Select a score for the "Teaching Service" module	1.000	.772
Q16 Select a score for the "Medical Health" module	1.000	.823
Q17 Select the score for the "Principal Mailbox" module	1.000	.807
Q18 Select the score for the "Online Payment" module	1.000	.680
Q19 Select the score for the "Campus Card Service" module	1.000	.707
Q20 Select a score for the "Student Financial Inquiry" module	1.000	.687

Table 5. Total variance of interpretation

Ingredients	Initial eigenvalue			Extract square sum loading		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	4.914	24.570	24.570	4.914	24.570	24.570
2	1.870	9.351	33.921	1.870	9.351	33.921
3	1.364	6.822	40.743	1.364	6.822	40.743
4	1.211	6.056	46.800	1.211	6.056	46.800
5	1.199	5.996	52.796	1.199	5.996	52.796
6	1.083	5.417	58.213	1.083	5.417	58.213
7	.973	4.864	63.077			
8	.912	4.562	67.639			
9	.892	4.460	72.099			
10	.863	4.317	76.416			
11	.822	4.111	80.527			
12	.805	4.023	84.550			
13	.732	3.658	88.208			
14	.602	3.008	91.216			
15	.552	2.759	93.975			
16	.373	1.867	95.842			
17	.269	1.344	97.185			
18	.224	1.119	98.305			
19	.178	.888	99.193			
20	.161	.807	100.000			

Extraction method: principal component analysis.

The researchers focus on the fifth and sixth questions, which have a good correlation (Table 4, Table 5). At the same time, these two questions are valuable for the researchers' research. The data from the above table is combined with the questionnaire to classify the statistics. Sorting out the questionnaires of Sino-foreign cooperative education students (The question is valid for the number of times: 177). The results are as follows: Type of screening: Sino-Foreign Undergraduate Cooperative Education students + Q5 What do you think is the most important thing you need to improve in your studies? + Q6 Which of the following functions do you think the current WeChat public account should add? (emergency)

Table 6. Q1 Your profession?

Options	Subtotal	Proportion
Philosophy, literature, history	29	16.38%
Economics, management	110	62.15%
Law, military science	11	6.21%
Education, medicine, agronomy	7	3.95%
Science, engineering	11	6.21%
Art, sports	9	5.08%
This question is valid for the number of times	177	

Table 7. Q2 What is your current type of schooling?

Options	Subtotal	Proportion
Traditional domestic university undergraduate education	0	0%
Sino-foreign cooperative education, international school undergraduate education	177	100%
Foreign undergraduate education	0	0%
This question is valid for the number of times	177	

Table 8. Q5 What do you think is the most important thing you need to improve in your studies?

Options	Subtotal	Proportion
Post-test summary, reflection	38	21.47%
Organize notes	40	22.6%
Foreign language level	48	27.12%
Personal development direction and future career planning	51	28.81%
This question is valid for the number of times	177	

Table 9. Q6 Which of the following functions do you think the current WeChat public account should add?

Option	Subtotal	Proportion
Professional course webcast recording course	42	23.73%
Exam registration	42	23.73%
Appointment classroom, course guidance	39	22.03%
Internship or job recommendation	54	30.51%
This question is valid for the number of times	177	

Students major in Economics, management and Philosophy, literature, history accounts for a large proportion, especially Economics, management (Table 6) and their schooling types (Table 7). Personal development direction and future career planning accounts for the largest proportion of Q5 (Table 8). Internship or work unit recommendation take up the largest percentage of Q6 (Table 9).

6. CONCLUSION

With the rise of Sino-foreign cooperative undergraduate education in recent years, the number of the student is gradually increasing. The research is meaningful to the WeChat platform optimization of Sino-foreign cooperative education and also helpful for understanding students' needs of different educational forms. Based on the above data, the researchers find that the WeChat public platform should promote the following points in the professional courses of Sino-foreign cooperative undergraduate students: (1) Focus on improvement of

Personal development direction and future career planning accounts, and combined with professional courses knowledge. (2) Add and optimize Internship or job recommendation function. (3) The improvement of the above suggested functions should focus on the students who study Economics, management, Philosophy, literature and history professional courses.

Due to WeChat instant communication and resource sharing, it broke the time and space limitations and changed the teaching mode of traditional classrooms to make communication more convenient (Zeng et al., 2016). So researchers believe that with the gradual improvement of WeChat function, it will further enhance its quality in education. In addition, it will be more conducive to different types of students to get the information they want through the WeChat platform.

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