

A Study on the Satisfaction of Students in Open University——A Case Study of Guangxi Open University

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Abstract. The level of student satisfaction determines the quality of open university education and teaching. In the form of a questionnaire survey, a student satisfaction survey was conducted on 1140 students from Guangxi Open University. By comparing the satisfaction levels of different age groups in five aspects: learning support services, educational and teaching services, school brand promotion, examination and graduation services, and information support services, the effectiveness and shortcomings of the current student services in open universities were identified. Countermeasures and suggestions were proposed, including targeted guidance for different age groups in open education, establishment of network platform resource maintenance mechanisms, and strengthening the implementation of teaching practices in specific majors.

Keywords: Student Satisfaction, Gifferent Age Groups, Guangxi Open University, Distance Education.

1 Introduction

Student satisfaction is an important reference indicator for the quality of school education. The nature of distance higher education and the goal of running open universities well are explicitly stated in the "National Medium- and Long-Term Education Reform and Development Plan (2010-2020)". [1] In the new era, China's higher education will enter a stage of popularization, and how to achieve the goal of "implementing the strategy of revitalizing the country through science and education, and strengthening the talent support for modernization construction" in open education is a topic of concern for all sectors of society. This study investigates the satisfaction of different age groups of students in open universities and proposes countermeasures and suggestions, which is a necessary path to improve the quality of distance education in China.

2 Literature review

The research on student satisfaction originated from customer satisfaction in the 1960s [2]. In recent years, many scholars have applied it to the field of higher education and developed

various student satisfaction scales and models, indicating the maturity of this field. For example, Demirek Nesip discussed the satisfaction level, communication situation, and difficulties encountered by college students with distance education.[3] During the epidemic, research attention in this field has increased. What qualities should be possessed by Wen Shaobin and Qin Yuanyuan in order to ensure the satisfaction of higher education students with distance education during the pandemic?[4] Currently, there are few research results on open university students. From the perspective of development history, the research on student satisfaction in distance education in China started relatively late. In 2003, Sun Baozhi conducted a comprehensive survey on student satisfaction in the School of Medical Network Education at Peking University.[5] Since then, domestic scholars have begun to carry out multi-dimensional surveys and research around the distance education student satisfaction, and take the Case study method as the main research method. There are few articles that study different age groups separately.

At present, the field of distance education student satisfaction has been recognized by scholars and has been studied using different cases and dimensions, such as: From the perspective of student learning satisfaction, Gan Tian and Shaliwar Ali Mu et al. studied the learning support services based on the integrated learning platform of Xinjiang Open University and their impact on student learning outcomes from the dimensions of curriculum design, platform operation, learning behavior, teacher-student interaction, and learning effectiveness evaluation. [6] Hu Yong and Zhao Fengmei studied and analyzed the impact of learning support service quality on the satisfaction and sense of belonging of online learning students in open universities.[7]

Lee ChouYuan et al. Research on College Student Satisfaction of the Intelligent Tree Massive Open Online Course Platform Based on Parameter Optimization Intelligent Algorithm. [8] Yilmaz Erdi Okan analyzed the satisfaction comparison of students using different learning management systems in distance education.[9] Pande Jeetendra and his colleagues used Uttarakhand Open University as an example to investigate students' satisfaction with online courses.[10] Therefore, existing research confirms the appropriateness of applying student satisfaction to open universities, and conducting a student satisfaction survey with a single open university sample is scientific.

3 Methodology

Taking Guangxi Open University as an example and combining with its own reality, this study designs a student satisfaction index system covering five aspects: learning support services, educational and teaching services, school brand promotion, examination and graduation services, and information support services. As is shown in Table 1. The current status of student satisfaction among different age groups at Guangxi Open University is investigated, and corresponding strategies are proposed to improve the quality of education and teaching in open universities.

In this study, all the students in Grade 2018-2020 in Guangxi Open University were given questionnaires. A total of 1140 questionnaires were collected, of which 22 were invalid and 1118 were valid. The main reason for deleting questionnaires was consistent answers before and after, showing regularity. For example, all the answers to the same question, repeated answer, answer the total time is too short, and so on.

This questionnaire includes two parts: Student Information and student satisfaction. Besides the basic information of the students, all the satisfaction questions were in the form of Likert's five-level scale. All questions are single-choice, the options are 1-very unsatisfactory, 2-unsatisfactory, 3-average, 4-satisfactory, 5-very satisfactory. Factors were analyzed for pairwise relationships using SPSS, including chi-square Tests and Pirsson correlation analysis.

The students' majors include management, education, engineering, science, agriculture, law, and other disciplines. The proportion of students enrolled in the spring semester of 2018 is 6.6%, the proportion of students enrolled in the fall semester of 2018 is 12.9%, the proportion of students enrolled in the spring semester of 2019 is 19.6%, the proportion of students enrolled in the fall semester of 2019 is 28.1%, and the proportion of students enrolled in the spring semester of 2020 is 32.5%. The age groups of students are as follows: 6.1% are below 20 years old, 35.0% are aged 21-30, 43.3% are aged 31-40, 14.6% are aged 41-50, and 0.7% are above 51 years old. The source of students is mainly concentrated in Guangdong, Guangxi, Heilongjiang, Henan, Jiangxi, Zhejiang, Chongqing, and other regions, among which Guangxi has the largest number of students.

In terms of reliability testing, this study used Cronbach's coefficient and CITC index proposed by Cronbach in 1951 to measure reliability. When the CITC index is less than 0.5, the measurement item is usually deleted. The Cronbach's coefficient of internal consistency of the scale in this study is 0.996, indicating ideal reliability and effective analysis of relevant issues.

In terms of validity testing, before conducting factor analysis, the correlation matrix should be tested using the KMO measure to determine whether factor analysis can be performed. The communality values of all research items are higher than 0.4, indicating that the information of the research items can be effectively extracted. In addition, the KMO value is 0.898, which is greater than 0.6, indicating the validity of the data. Furthermore, the variance explained by one factor is 94.453%, and the cumulative variance explained after rotation is 94.453% (>50%). This means that the information of the research items can be effectively extracted.

Table1. Measurement index.

Level 1 indicators	Measurement index
	enrollment services during the admission stage Q1
	the work of class teachers in the learning centers (learning reminders, guidance, check, etc.) Q2
	the information dissemination work in the learning centers (timely and accurate information, course content, etc.) Q3
Learning support services	the teaching and learning environment provided by the learning centers (classroom environment, internet devices, specialized training rooms, etc.) Q4
	the daily teaching management in the learning centers (teaching arrangement, post-class assignments, post-class tutoring, etc.) Q5
	the aspect of the chosen major (consistency with personal needs, course content, etc.) Q6
	the knowledge of learning achievements during the learning process (timeliness, accuracy, etc.)Q7

	the learning resources of online courses in the chosen major (richness, timeliness, professionalism, etc.)Q8
educational and teaching services	the curriculum design of the chosen major (practicality, practical needs, etc.)Q9 the learning resources of online courses in general education courses such as ideological and political education, English, etc. (richness, timeliness, professionalism, etc.)Q10
	the teaching methods, course duration, richness of courseware, etc. in the chosen major courses Q11
school brand promotion	the computer-based learning platform (easy operation of the entry interface, menu query, convenient functions, etc.) Q12 the use of the learning platform app (interface, menu, convenient functions, etc.)Q13 the frequently used ports for learning (PC, app)Q14
examination and graduation services	the question types of online assignment assessments and exams (multiple-choice, true-false questions, subjective questions, etc.)Q15 the content of online assignment assessments and exams (size of assignments, difficulty, etc.)Q16
information support services	school's brand promotionQ17

4 Data analysis and discussion

This study conducted a group difference analysis based on software analysis of the overall satisfaction and satisfaction in five dimensions of students at Guangxi Open University.

According to the survey and statistical analysis, the overall average satisfaction is 78.92%. Among the five modules surveyed, the highest satisfaction is in learning support services (82.13%), followed by educational and teaching services (81.54%). The lowest satisfaction is in school brand promotion (71.48%), examination and graduation services (78.57%), and information support services (80.86%).

4.1 Learning support services

As is shown in Figure 1. In terms of learning support services, the average satisfaction of students at Guangxi Open University is 82.13%. The highest satisfaction is in the enrollment services during the admission stage Q1(83.22%), followed by the work of class teachers in the learning centers (learning reminders, guidance, check, etc.) Q2(83.14%), and the information dissemination work in the learning centers (timely and accurate information, course content, etc.) Q3(83.05%). The low satisfaction mainly lies in the teaching and learning environment provided by the learning centers (classroom environment, internet devices, specialized training rooms, etc.) Q4(80.18%), and the daily teaching management in the learning centers (teaching arrangement, post-class assignments, post-class tutoring, etc.)Q5 (80.80%). It can be seen that the satisfaction of students at Guangxi Open University towards learning support services is

relatively high, but there is a "service expectation gap" between pre-admission and post-admission, which needs further improvement.

In terms of group differences, the satisfaction of students under 30 years old is significantly higher than that of students above 30 years old. This is related to the fact that open education relies on online teaching, and young people are more familiar with online teaching equipment.

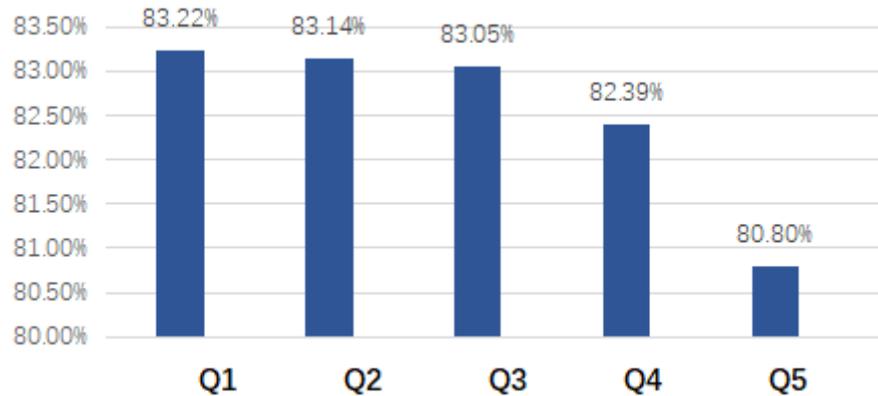


Figure 1. Satisfaction of Guangxi Open University Students with Learning Support Services.

4.2 Educational and Teaching Services

The average satisfaction of students at Guangxi Open University with educational and teaching services is 81.54%. As is shown in Figure 2. The highest satisfaction is in the aspect of the chosen major (consistency with personal needs, course content, etc.) Q6(82.89%), followed by the knowledge of learning achievements during the learning process (timeliness, accuracy, etc.) Q7(82.57%), and the learning resources of online courses in the chosen major (richness, timeliness, professionalism, etc.) Q8(81.77%). The low satisfaction is mainly reflected in the learning resources of online courses in general education courses such as ideological and political education, English, etc. (richness, timeliness, professionalism, etc.) Q9(80.62%), the curriculum design of the chosen major (practicality, practical needs, etc.) Q10(80.69%), and the teaching methods, course duration, richness of courseware, etc. in the chosen major courses Q11 (81.08%). It can be seen that the satisfaction of students at Guangxi Open University with educational and teaching services is relatively high, but due to the high demand for practical knowledge in distance education, there is a need to further enrich the content of professional courses.

In terms of group differences, the satisfaction of students under 30 years old is not significantly different from that of students above 30 years old, indicating that the educational and teaching services of Guangxi Open University are recognized by students of all age groups.

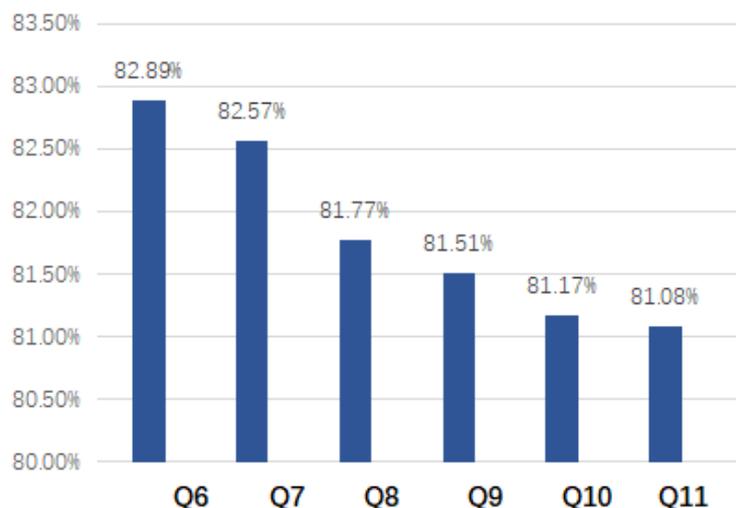


Figure 2. Satisfaction of Guangxi Open University Students with Educational and Teaching Services.

4.3 Information Support Services

The average satisfaction of students at Guangxi Open University with information support services is 80.86%. The highest satisfaction is in the computer-based learning platform (easy operation of the entry interface, menu query, convenient functions, etc.) Q12 (81.42%). The low satisfaction is mainly reflected in the use of the learning platform app (interface, menu, convenient functions, etc.) Q13(80.57%), and the frequently used ports for learning (PC, app) Q14(80.59%). It can be seen that the satisfaction of students at Guangxi Open University with information support services is relatively high, but there is still a lack of proficiency in using the learning platform.

In terms of group differences, the satisfaction of students under 30 years old is higher than that of students above 30 years old. This is mainly due to the technological limitations of smart user terminals such as mobile phones and tablets. Younger students are more accepting of new technologies and find them easier to use.

4.4 Examination and Graduation Services

The average satisfaction of students at Guangxi Open University with examination and graduation services is 78.57%. The highest satisfaction is in the question types of online assignment assessments and exams (multiple-choice, true-false questions, subjective questions, etc.) Q15(79.26%). The low satisfaction is mainly reflected in the content of online assignment assessments and exams (size of assignments, difficulty, etc.) Q16(77.89%). It can be seen that the satisfaction of students at Guangxi Open University with examination and graduation services is lower than other categories. This is because the motivation for learning among distance education students varies, and the "wide admission and strict graduation" talent cultivation model imposes certain requirements and pressures on students.

In terms of group differences, the satisfaction of students under 30 years old is not significantly different from that of students above 30 years old, indicating that students at Guangxi Open University face consistent academic pressure in the evaluation process (assignments) and outcome evaluation process (final exams).

4.5 School Brand Promotion

The average satisfaction level of Guangxi Open University students with regard to the school's brand promotion is 71.48% (Q17), as reflected in their understanding of Guangxi Open University and Open University. Among them, the age group below 20 has the lowest level of understanding, while the age group above 40 has a higher understanding, and the age group between 20 and 40 has the highest level of understanding. This indicates that the predecessor of Open University, the Radio and Television University, has a high level of brand recognition and has gained recognition from middle-aged group. However, the brand recognition of Open University after transformation still has room for improvement among the younger group.

4.6 Students' Awareness of School Services

In order to further understand students' awareness of various services provided by Guangxi Open University, a survey was conducted on students' entrance examinations, learning platforms, graduation services, and school promotion. As is shown in Table 2.

The participation rate of students in entrance examinations was 76.65%, higher than previous studies. On one hand, with the popularization of higher education in China, the population of educated individuals has increased, and student literacy has significantly improved. On the other hand, the popularity and convenience of adult college entrance examinations have increased the chances of students participating.

The popularity of the school's learning platform is good, with 98.84% of students being aware of it, and 90.07% of students knowing about the learning platform's app. This indicates that Guangxi Open University's student educational services are in place, and the learning platform is an important carrier of open education. Guangxi Open University provides clear guidance to students on its use during the admission education process. In addition, 88.92% of students are following the school's official website and WeChat public account, which still needs further promotion. In the era of new media, open education students...

In terms of course content, 83.99% of learning centers have arranged practical training courses for students. This is because most open education students are working individuals and not full-time students, so the talent development methods cannot be the same as those for full-time students. Therefore, Guangxi Open University adjusts the course content according to the developmental needs of the students' abilities.

In terms of student development, attention is given to the comprehensive development of students. Among them, 73.70% of students are aware of student competitions, which can promote the practical transformation of students' knowledge and optimize the talent development model. 27.73% of students have applied for school awards (outstanding graduates, scholarships, etc.), indicating that the proportion of outstanding students exceeds one-fifth.

In terms of student employment and graduation, 71.47% of students already have a designated thesis advisor. The open education model emphasizes the graduation process, and the remaining students without a thesis advisor have not yet reached the graduation stage.

Table 2. Students' Awareness of School Services at Guangxi Open University.

Question	Number of "Yes" Responses	Percentage of "Yes" Responses
Have you participated in the entrance examination before enrollment?	857	76.65%
Are you aware of the learning platform?	1105	98.84%
Has your learning center arranged practical training courses?	939	83.99%
Are you aware of student competitions?	824	73.70%
Have you applied for school awards (outstanding graduates, scholarships, etc.)?	310	27.73%
Are you aware of the learning platform's app?	1007	90.07%
Do you have a designated thesis advisor?	799	71.47%
Do you follow the school's official website, WeChat public account?	993	88.82%

5 Conclusions

5.1 Classification guidance and personalized services for different age groups

According to the survey data, the age group between 20 and 40 is the main source of students at Guangxi Open University, but there are also student groups below 20 and above 40. In the new era, the age structure of higher education in China has changed. On the one hand, with the promotion of the popularization of higher education, the education level of most young students has increased, and in the future, graduates of higher vocational colleges will become new audience for open education. On the other hand, the concept of lifelong education has gradually integrated into social development, and the number of elderly students is increasing, which is also an important source of students for open education. Therefore, open education needs to provide classification guidance for different age groups. This includes focusing on the knowledge and ability development of young students, helping them to develop comprehensively; enhancing the skill training for elderly students to adapt to social changes and new stages of life; and continuing to meet the practical needs of middle-aged students, improving talent cultivation models and information services to better build a lifelong learning society.

5.2 Establishing a network platform resource maintenance mechanism for precise improvement

Most of the teaching activities of open education are conducted on online teaching platforms, so the school needs to improve its network platform construction capabilities. On the one hand, the

school should establish a regular maintenance mechanism for network platform teaching resources to ensure the correctness of question answers, as there are cases of delayed maintenance and many incorrect answers to questions raised by students. On the other hand, the school can consider using the maintenance of network platform teaching resources as a key performance evaluation indicator for relevant departments, which can be used for annual assessment. At the same time, as the level of students entering Open University varies, some students face difficulties in assignments. The school should pay attention to these students and encourage teachers and teaching assistants to increase the time for answering questions or find innovative ways to address the difficulties in assignments.

5.3 Strengthening the development of practical teaching in different disciplines to diversify the education ecosystem

The differences in disciplines result in a diversified talent cultivation model. Open University has already formed a diversified education ecosystem with multiple disciplines such as science, engineering, agriculture, medicine, literature, history, and philosophy. This has led to diverse demands for professional knowledge from students. For example, students in science and engineering majors hope for more teaching activities, so the school can consider increasing such activities to enhance the interest and practicality of teaching. Students in social science majors express that there are too many practical courses and suggest replacing some with theoretical courses. The school should solve the problem of the difficulty of practical courses for students based on the unique characteristics of distance education, by adopting scientific and reasonable teaching models. Ultimately, the goal is to achieve diversification and personalization in the talent cultivation model of Open University.

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