

Investigation and Thinking on the Information Construction of South China University of Technology

Fang Fang and XingE Luo*

Network Engineering and Research Center, South China University of Technology, Guangzhou, China, 510641

Email: ffang@scut.edu.cn; Xluo@scut.edu.cn

Abstract. In order to better understand and improve the information construction of our university, further strengthen the network security and informationization work, and improve the quality of service, the network center conducted investigation on information construction and satisfaction of the university. Based on the statistics of the survey results and other related data support, we try to investigate and research the status quo of information construction in the university, explore the application of information technology in the whole university teaching, research, management and campus life, and analyse its practical application effects. Finally, it will provide reference and direction for the future work of the network center.

1. Introduction

Universities use information technology to change the information transfer process between departments, and promote the transformation of organizational models, management structures and operational methods, so as to achieve the goal of optimizing management processes, improving work efficiency and promoting teaching and research. Exploring the new application methods and modes of information technology in teaching, scientific research, management and campus life, and analysing the actual use effects, it is not only important for solving the practical problems of campus informationization, but also important for promoting the construction of "Double First-rate" university. [1]

In recent years, the network center has been committed to information construction, dealing with informationization issues in a consultative manner, and listening to ideas from teachers and students. In order to strengthen the guidance of planning, we conducted full research and communication, and learned from the experience of other universities, paying attention to user experience and improving satisfaction.

On the one hand, we want to know what problems have been improved through previous efforts, and what problems still exist at present, and provide support for the next stage of information construction. On the other hand, we hope to improve the participation of teachers and students through the investigation, create a good application environment, promote effective application in teaching and daily life, and strive to realize the transformation of information construction from management to service.

2. Form of the Investigation

Our research forms include questionnaires and interviews, using statistical analysis software to analyse the collected data, interpreting the data results, summarizing conclusions and making recommendations.



The questionnaires are aimed at teachers and students. The interviews targeted approximately 80% of the departments in the university, including management departments and colleges. We conducted face-to-face discussions to ensure that the survey truly reflects the needs. Many colleges have collected opinions and suggestions from teachers and students. The leaders personally participated in the interview and discussed issues of mutual concern.

3. Content of Investigation

3.1. Questionnaires

3.1.1. Application system usage

This part is the frequency and satisfaction of teachers and students on the use of information technology applications. The systems involved are: homepage, electronic map, portal system, unified authentication account, scientific research management system, student management system, personnel system, teaching administration system, financial system, mail system, Office Automation system, virtual private network, enrol system and departure system, WeChat Enterprise account, etc.

3.1.2. Attention to information construction events

This part is the awareness of teachers and students about the main events of university information construction in the past two years. These events include: opening E-card WeChat recharge function; software and information service purchase approval platform, school new version information portal, welcome new, school leaving, unified messaging platform and other systems start running; Cloud platform service; expansion of mailbox space; student dormitory wireless network installation project; opening IPv6 network to access foreign academic resources; expanding campus network export broadband, etc.

3.2. Interview

3.2.1. The Construction of the application system

Learn about the teacher's opinions, suggestions and needs for the current application system.

3.2.2. Service situation

Learn about the opinions, suggestions and needs of teachers on the information service.

3.2.3. Guarantee system

Learn about teachers' opinions, suggestions and needs on information system management and network security.

3.2.4. Other related issues

Public databases, data integration and sharing, wired, wireless network quality, etc.

3.3. Statistical Analysis

We received a total of 1159 valid questionnaires from students and 364 valid questionnaires from teachers. The user categories of teachers are shown in the Table 1.

Table 1. Type of users participating in the survey

	Type	Number	Proportion(%)
Teachers	Teaching and research staff	216	59.3%
	Administrative staff	100	27.5%
	Engineering staff	44	12.1%
	Support staff	4	1.1%
Students	Bachelor	697	60.1%
	Master/Doctor	462	39.9%

The three information systems with the highest frequency of student use in 2017 are the unified authentication account system, homepage and educational system. The overall usage frequency is shown in Table 2. (1 point = "not used", 2 points = "occasional use", 3 points = "use once a few weeks", 4 points = "use once a week", 5 points = "use multiple times a week", 6 points = "Use once a day", 7 points = "Used multiple times per day", the higher the mean value, the higher the frequency of use) [2]

Table 2. The usage frequency of the information systems

	System	Usage frequency
1	Unified Authentication Account	4.18
2	Homepage	3.72
3	Teaching Administration System	3.61
4	Portal System	3.58
5	Student Management System	3.47
6	WeChat Enterprise Account	3.01
7	Mail system	2.49
8	Virtual Private Network	2.27
9	Financial System	2.1
10	Electronic Map	1.44

This statistic shows that the frequency of application system use by teachers and students has improved overall, the overall satisfaction of the application system has increased, and the awareness of information construction events has yet to be improved. The overall awareness of teachers and students on information construction events still needs to be improved. The enroll system and departure system were well received by the teachers. [2]

Teachers and students are satisfied with the overall network center service, including the satisfaction of hotline telephone service personnel, fault handling personnel, service hall staff, telephone service processing, E-card processing procedures, and fault handling speed. [2]

4. Thinking and Countermeasures

In April 2018, the Ministry of Education issued the "Education Informatization 2.0 Action Plan", proposing to achieve the development goal of "three full, two high and one big" by 2022. That is, the teaching application covers all teachers, and the learning application covers all school-age students. Digital campus construction covers all schools; improve the application level of information technology, improve the information literacy of teachers and students; build an "Internet + education" platform. Promote the transformation from education-specific resources to educational resources, from improving teachers' and students' information technology application capabilities to comprehensively improving their information literacy, from fusion applications to innovation development, striving to build a new model of talent training under the "Internet +" condition developing a new model of Internet-based education services and exploring new models of education governance in the information age. [3]

Serving the "Double First-rate" construction is the core task of informatization. Informatization needs to be deeply integrated with teaching and management. Informatization work is not only a single service guarantee or supplementary work, but also a deep integration and innovation integration with various business fields of the university to promote its business transformation. The problem of informatization involves the management and service concept of universities, institutional issues and human problems.

We need to consider what kind of infrastructure and information services can be provided to university from a university perspective, and understand the university development strategy and phased requirements. "Application-driven, People-oriented." The process of informatization is not only technology, but also the embodiment of management and service concepts. [4]

4.1. Multi-participation

Informatization work aims to improve the comprehensive management ability of university. It is necessary to attract more teachers and students to participate in it. Only in this way can informationization play a role in supporting university reform and development and providing better services for teachers and students. At the same time, we need to gradually expand the participants of education informatization. In addition to university teachers and students, we also need to learn to cooperate with other partners to introduce participants in the Internet.

4.2. Improve the Information Literacy of Teachers and Students

Improving the application of information technology is a technical measure. It is more fundamental to improve the information literacy of teachers and students. It is to ensure that teachers and students not only use the information technology they need, but more importantly, they have the thinking and actions of the information society.

Informatization literacy is reflected both in the knowledge level and in the spiritual level. We need to improve information literacy as a long-term job and integrate into the daily life of the university. It is necessary not only to educate students to correctly understand the cultural, ethical and social issues related to information technology, but also to lay the necessary foundation for adapting to the learning, work and life of the information society; it is also necessary to increase the training of teachers' information literacy and establish an assessment system to enable teachers adapt to the requirements of the information society for education.

4.3. Infrastructure

The high-speed campus network with strong stability is still the most basic appeal of teachers and students. Wireless coverage needs to be improved. Find ways to reduce the failure rate of the office network due to internal problems in the building.

4.4. Mobile Information Service

Teachers and students are very interested in new media and mobile, it is necessary to improve the mobile Internet application rate. Apply the "WeChat Enterprise account" mobile application as an entry point and innovate the management service model. The information portal is built on mobile application support, and is fully compatible with mainstream terminals such as mobile phones, tablets, and personal computers. The mobile terminal can obtain information content, service functions, and comfortable browsing experience consistent with the PC.

4.5. Data Sharing

Based on the public database platform, many information systems covering the fields of teaching affairs, scientific research, management, and services continue to expand and update, and comprehensively serve the various undertakings of university reform and development. Data sharing is an informational event that teachers and students are most concerned about. The data sharing service platform should be enabled as soon as possible to gradually solve the problem of repeated filling.

4.6. Information Security

The spirit of the "National Network Security and Informatization Work Conference" held in April 2018: improve the leadership system, strengthen overall planning, focus on key tasks, encourage multi-participation, focus on training publicity, and implement safety responsibilities. Building a safe and orderly educational information environment, resisting the intrusion of bad information, and ensuring network and data security are the concerns of teachers. We need to implement a full lifecycle security management of the website, including: website registration and filing, website security access check, website operation security monitoring and so on. We will provide information security training and provide regular training for different types of people, hoping to be included in the assessment content of each department.

4.7. Expand Publicity

Give full play to the role of information officers and network administrators of various departments. When new business, new systems, and convenience measures are activated, information officers and network administrators can push messages within their respective departments. We need to integrate existing channels for access to information services, identify which channels can actually obtain effective information, and then use effective communication methods to enhance publicity and promotion, and optimize the promotion of campus information services.

5. Summary

From 2000 to 2017, our university's informatization has gone through three stages: infrastructure construction, application promotion and service promotion. Education informatization has shifted from the application of information technology itself to how to use information technology to promote university teaching, research and management changes. At the deeper level, it affects the core issues of the overall transformation and development of the university.

In the process of "Double First-rate" construction, the university is indispensable for information construction. We need to change our philosophy, participate in the whole process, multi-participation, find the direction to solve the problem, and better meet the teachers and students' good yearning for the smart campus.

6. References

- [1] Zhao guodong, Wang tingting, Yan yan, Li zhigang, Journal of Distance Education, Analysis of Campus Information Application and Development Status, 2011(6),pp31-38.
- [2] Hu bing, Mao yanhua, Yao qiong, Li zhen, He dejun, Survey report on the use and satisfaction of the campus network of South China University of Technology in 2017, 2017.12 pp2-4,pp7-10, pp54,pp64.
- [3] "Education Informatization 2.0 Action Plan", 2018.4.
- [4] Shen fuke, Informatization is light on "information" and focuses on "informatization", China Education Network, 2018.4.