Research and Practice of Motivating Method in Graduate Education Resource Sharing Platform

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Abstract. For sharing knowledge between graduate students, this study explored the current situation of graduate knowledge sharing, and developed a graduate course resource sharing platform system on the basis of in-depth investigation of graduate students in 10 different colleges and universities in China by means of questionnaire survey, literature collection and classmate exchange. An appropriate method for the graduate student's incentive measures are put forward, to improve the knowledge sharing organization environment, enrich the resources of the Graduate Education Resource Sharing Platform. The platform can realize the resource sharing between the management staff, teachers, students, build a feasible path of the student knowledge sharing, strengthen the shared knowledge and break the self-interest of shared mental state.

Introduction

The knowledge management process includes knowledge acquisition, knowledge storage, knowledge sharing, knowledge use, knowledge identification and knowledge creation [1]. As one of the basic links, knowledge sharing aims to share the knowledge acquired by individuals with other members of the organization through various forms of communication and communication to realize knowledge appreciation and knowledge innovation [2].

Knowledge sharing can bring possibilities for innovation in many aspects such as knowledge innovation, concept innovation, and product innovation. The principle is that knowledge sharing accelerates the flow of knowledge, so that professional knowledge is no longer attached to an individual or group, but becomes an active resource for appreciation, which makes knowledge innovation more likely. This study explores the possible factors that promote the knowledge sharing of graduate students by exploring the factors that lead to the generation of postgraduate knowledge sharing problems [3]. It hopes to provide some reference significance for other scholars to explore the knowledge sharing of students.

Knowledge Sharing Research

On the basis of reviewing the literature, this research carried out the preliminary research work, and summarized the questionnaire for the graduate knowledge sharing survey. From the aspects of cognition, behavioral game, spatial scope and platform selection, the status quo of survey is shared, and the factors affecting the status quo are investigated from the main factors, organizational environment and knowledge characteristics. Graduate Questionnaire is shown in table 1.

According to the analysis results of the project, it is found that A3 and A8 are equal to the total score of less than 0.4, so 35 questions are left after deleting the above questions. Factor analysis of the forecast questionnaire to determine which research results are retained and which results should be deleted to ensure the validity and scientificity of the questionnaire.
Table 1. Graduate resource sharing questionnaire structure.

| Sharing status       | Cognitive level       | Research project                  | Question setting |
|----------------------|-----------------------|-----------------------------------|------------------|
| Behavioral game      | Conceptual awareness  | A1-A5                             |
| Spatial extent       | Knowledge dissemination| A6-A15                           |
| Platform selection   | Multiple selection    | C1                                |
| Influencing factor   | Subject factor        | Psychological expectation          | B18-B21          |
|                      |                       | Subject trust                      | B10-B13          |
|                      |                       | Sharing ability                    | B4-B9            |
|                      |                       | Organizational environment         | B14-B17          |
|                      |                       | Organizational incentive           | B22-B25          |
|                      | Knowledge characteristics| Knowledge characteristics       | B1-B3            |

Since the questionnaire test results use the 5-value scoring method, the Cogolnecbach coefficient is used as the reliability test index. The index judgment principle is: greater than 0.7 and less than 0.8 is acceptable, and the reliability test results are shown in Table 2.

Table 2. A value reliability analysis.

| Cognitive level       | Knowledge dissemination | Knowledge absorption | overall |
|-----------------------|-------------------------|----------------------|---------|
| Cronbach coefficient  | 0.716                   | 0.816                | 0.732   | 0.857   |

It can be seen from Table 2 that the Cronbach coefficient of the total score of the A value table is 0.857, and the Cronbach coefficient of each dimension is between 0.716 and 0.816, which is an acceptable level. The test results show that the A scale has good internal consistency and can be used as a stable and reliable testing tool.

Construction of Resource Sharing Platform

Research on Sharing Platform

In the statistics of the survey questionnaire, it is found that the resource sharing methods used by graduate students are: face-to-face communication [4]; exchange discussion platform; network platform; telephone communication. The statistics of the resource sharing platform depend on Table 3.

Table 3. Dependence of graduate resource sharing platform.

| Resource sharing method         | The most common way | More effective way |
|---------------------------------|---------------------|--------------------|
|                                 | Number of people    | Proportion %       | Number of people | Proportion % |
| Face-to-face communication      | 311                 | 88.4               | 282              | 80.1         |
| Public discussion               | 175                 | 49.7               | 254              | 72.2         |
| network platform                | 182                 | 51.7               | 143              | 40.6         |
| Phone Communication             | 101                 | 28.7               | 44               | 12.5         |
| other                           | 3                   | 0.9                | 0                | 0            |
As can be seen from Table 3, among the above-mentioned survey objects, graduate students often use face-to-face communication methods, accounting for 88% of the total number. In contrast, graduate students who use the network, communication and other platforms account for only half of the graduate students' effective knowledge. The communication method and the common knowledge exchange method are asymmetric, reflecting the dependence tendency of the graduate resource sharing platform.

**Design of Sharing Platform**

For the graduate resource sharing platform, the scope of construction should first be expanded. It should be spread across the various disciplines of each college. From a depth perspective, it should include different forms of teaching resources in different disciplines, such as lesson plans, pictures, videos, etc.\(^5\) Not only to realize real-time interaction and communication between different subjects, under the basic principle of grasping reliability and security, the resource sharing platform should be unified with the national teaching resource standards, using dynamic web pages to implement script language development, and connecting internal and external platforms \(^6\).

The system functional architecture is shown in Figure 1:

![Figure 1. The functional architecture of sharing platform system.](image)

**Development of Graduate Resource Sharing Platform**

The graduate resource sharing platform includes a comprehensive administrator, a teacher and a student. Different function menus will be displayed after logging in to the system with different account passwords. The main interface is shown in Figure 2:

![Figure 2. The main interface of sharing platform.](image)
After logging in to the system, the first menu on the left menu is the short message function, which provides the interaction information between the administrator user, the teacher user and the student user in the system.

The system provides the uploading and downloading functions of teaching materials and lesson plans, this function is shown as figure 3.

![Figure 3. Upload and download function.](image)

After clicking the course introduction, the basic information of the course can be displayed. The online classroom provides a preview of all the courseware for the students to select the course, as shown in Figure 4:

![Figure 4. Online classroom system.](image)

The teacher can enter the test questions online according to each course, and the student can conduct self-test of the questions. In response to their own shortcomings, we will adjust the study plan in a timely manner, and carry out education reform for the purpose of harvesting knowledge in each semester is shown in figure 5:

![Figure 5. Online self-test system.](image)

**Postgraduate Motivation Practice**

At present, our school plans to carry out the first postgraduate excellent course teacher award in 2019, and provide financial support for outstanding teachers who are enthusiastic in postgraduate teaching. At the same time, the graduate school gives the excellent teachers a tilt in resource allocation and is mobilizing teachers’ classes. Enthusiasm and enthusiasm for teaching reform to improve the quality of graduate students.
In the course of each semester, platform management provides accounts for teachers and students. The teacher's authority is relatively high. The semester's practical teaching content can be published regularly, the completion time of the practice project is specified, the experimental completion of all students is checked, and the experimental results are released. Students can view the practice project guidance issued by the teacher, complete the practice project within the specified time, submit the experimental report, and view the results.

Conclusion

The curriculum quality supervision evaluation and incentive system should include a complete and efficient management system, involving schools and colleges, which requires the participation of teachers, students and teaching management personnel. At present, the management regulations for postgraduate courses in many universities are not perfect. Compared with the undergraduate curriculum, many postgraduate courses are arbitrarily arbitrary, and there is no supervision and incentive for the teaching effect. Therefore, it is more important to supervise and motivate the admission screening, course opening, daily management, and teacher management of the course.

Through the resource sharing platform, graduate students can realize resource sharing and enhance the ability of active learning. Improve and improve the use of teachers and students in the school to achieve better practice in resource sharing and incentives.

References

[1] Sarka P, Heisig P, Caldwell N H M, et al. Future research on information technology in knowledge management [J]. Knowledge and Process Management, 2019(3).

[2] Zhou Shoujun. Reform of Graduate Teaching: Facing Uncertain Knowledge [J]. Academic degrees & graduate education, 2010, (6):53-57.

[3] Zhou Xiaofang, XiaoHua. The Research of Colleges' and Universities' Resources Sharing in the Sustainable Development of Graduate Students Enrollment [J]. Education science, 2004, 20(6):18-20. (In Chinese)

[4] Charband Y, Navimipour N J. Knowledge sharing mechanisms in the education [J]. Kybernetes, 2018, 47(7):1456-1490.

[5] Charband Y, Navimipour N J. Erratum to: Online knowledge sharing mechanisms: A systematic review of the state of the art literature and recommendations for future research [J]. Information Systems Frontiers, 2019, 21(4):957-957.

[6] Fan Dan. Research and Practice on the Construction of Postgraduate Teaching Resources Platform [J]. Science & Technology Vision, 2019, (14):10-15. (In Chinese)