

Exploration and Practice on the Construction of Institutional Repository

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ABSTRACT

This paper expounds the significance of the construction of the academic achievement database of university institutions, the main academic information contained, as well as the key points and difficulties in the construction process. Taking the construction of the academic achievement database of Beijing Institute of Fashion Technology as an example, this paper summarizes the experience, thereby providing reference examples for the establishment and improvement of institutional academic achievement database in the future.

Keywords: Institutional repository, Academic achievements, Academic libraries.

1. INTRODUCTION

Library and information work has a scientific, convenient, and secure management carrier with the accelerated development of information technology. As the universities and research organizations with the greatest academic achievements, they have widely promoted the construction of their academic success repository and expect to manage academic achievements more effectively with the help of information technology.

2. OVERVIEW OF THE CONSTRUCTION OF INSTITUTIONAL REPOSITORY

2.1. The Essence of Constructing an Institutional Repository

The information usually utilized to characterize the management of institutional academic achievement is: the type of achievement, the attribution of achievement, the level of achievement, the influence of achievement, etc., see Table 1. The above information is applied as a basis because it is a uniform measurement standard and is well accepted by the academic community. At the same time, information technology as a carrier to conduct academic achievement is the essence of constructing an institutional repository.

2.2. The Importance of Constructing an Institutional Repository

Normally, the construction of an institutional repository can accomplish two main functions.

One of them is the display and exchange of academic achievements. Based on this function, the repository is usually under the principle that scholars voluntarily. According to the principle of voluntary submission by scholars, it independently defines the range and extent of display and thus completes the goal of resource sharing. This type of repository is an open platform where scholars determine whether to upload and present their academic outcomes or not. The builder of the repository confirms the results under the criteria for constructing the repository but does not manage comparative analysis and evaluation.

Second, the comparison, analysis, and evaluation of academic achievement. For a long time, scientific research achievements that are simple to quantify have developed moderately steady evaluation indicators in the academic community. Based on the defined indexes, the information technology-based academic repository is easier to complete the statistics, comparison, analysis, and evaluation of numerous consequences. As a result, the evaluation function for separate objects such as institutions, disciplines, departments, and scholars are derived from constituting the institutional repository. In order to accomplish the second function easily, the

logical structure of the construction of the repository has proposed higher requirements.

Table 1. Ordinarily used characterization information for academic achievement management in institutions

Characterized information	Specific content
Type of achievement	Journal papers, conference papers, dissertations, books and writings, newspapers, patents, research reports, scientific research projects, awards, artworks, audio and video, software copyrights, etc.
Attribution of achievement	By unit: the unit and external units; By departments: the secondary faculties, party, and government functions and teaching and support units under the unit; By personnel: teachers' achievements, students' achievements, and collective achievements; By discipline or specialty (the catalog of disciplines and specialties issued by the Ministry of Education); By order of authorship: first author, corresponding author.
Level of achievement	Textbook research projects, research reports and book publications are normally distinguished by application level or award level; Thesis achievements are normally identified by newspaper level or inclusion level; The type of approved patents usually indicates patent achievements; Artworks are distinguished by publication newspaper level or participation level, etc.
Influence of achievement	Common evaluation indexes for papers' influence are: number of publications, number of citations, high citations, average citations per article, national funds, core journals, etc.; Institutional or disciplinary influence usually applies the evaluation outcomes of authoritative departments; The patent achievement thoroughly analyzes the condition of achievement transformation; Other achievements will refer to the influence

2.3. Key aspects of Constructing an Institutional Repository

Relatively speaking, the construction of a repository for presentation and communication only is fairly simple. Hence, this study pays attention to constructing an institutional repository with an evaluation function. Since there are regularly acquired evaluation standards and corresponding index systems for academic evaluation, the construction of such a repository requires reaching the evaluation mentioned above requirements. For this reason, it is important to concentrate on some key aspects.

The first is the classification and attribution of achievements. This work is the basis for smooth post-evaluation, and a rational classification can facilitate the evaluation criteria for every variety of achievement and then determine the respective weights. At the same time, the accurate attribution of achievement lays the foundation for the later academic evaluation for various objects.

The second is achievement review, which is normally to check and prove the key information of the published outcomes. Its principles are under international or national rules and maybe slightly modified according to actual situation of the unit.

The third is the statistics of academic achievement. Regularly, the indicators or results prevailing in international, national or authoritative institutions shall prevail, such as SCI, SSCI, EI, CPCI and other retrieval and inclusion, CSSCI and Peking University core retrieval and inclusion, discipline evaluation results of the Ministry of Education, QS World University Ranking, ARWU Academic Ranking of World Universities, etc.

The fourth is the comparative analysis of academic achievement. The academic achievement is calculated according to diverse reference standards and classified for comparative analysis. Or assign corresponding weights to multiple kinds of achievement and rank them in aggregate.

3. THE SYSTEMIC THINKING OF CONSTRUCTING INSTITUTIONAL REPOSITORY

3.1. The Relationship between the Construction of Repository and Achievement Management

3.1.1. The Classification Principle of Academic Achievements Should Be in Line with Management Logic

In the process of academic management, distinct varieties of achievement belong to separate weights. In the evaluation system, apart from classifying the types of results according to Table 1, it is also important to study the classification of achievement attribution. For instance, there needs to be a distinction between faculty achievement and student achievement: active staff and retired staff; the faculty affiliation of the achievement of transferred out personnel and the scholar affiliation of the achievement of transferred in personnel are different, etc. All need to properly analyze the scholars whose achievements are attributed under the academic management logic.

3.1.2. The Audit Principle of Academic Achievement Should Reach the Management Requirements

In general, in universities or scientific research institutes, the Science and Technology Department and the Personnel Department individually or collaboratively generate relevant policies to review and recognize academic achievements. Accordingly, the review link before the presentation of the results of the institutional repository should also correspond to the corresponding management requirements. For example, the list of faculty members is based on the one implemented by the Personnel Office; the list of students is under the one given by the Student Affairs Office or the Academic Affairs Office; the recognition of research achievement is under the one presented by the Science and Technology Office, etc.

3.1.3. The Statistical Dimension of Academic Achievement Should Satisfy the Management Requirements

In academic management, when there are different types of achievement and scholars, the attribution of achievement will be different, and it will also have a specific impact on the later academic evaluation. Therefore, in constructing the repository, suitable characterization components for reasonable results statistics are the basis for comparative scientific analysis of achievement.

3.1.4. The Consequences of Comparative Analysis of Academic Achievement Are Useful to Management Policymaking

Scientific and precise comparative analysis of academic achievement supports universities or research institutes to identify their academic strengths and weaknesses and their academic development direction to generate management policies that can positively animate academic development.

3.2. Multi-departmental Cooperation in Constructing the Repository

Considering that the construction of the repository comprises a wide range of areas and has a tremendous impact, it is essential to have multi-dimensional coordination. Therefore, the author assumes that it needs to be considered at least at three levels.

First is internal and external synergy. Most of the achievement bases are challenging to build with the institution's strength. In order to obtain and characterize achievement perfectly, cooperation with data resource platforms such as CNKI, CQVIP, and Wanfang Data, which are created with the goal of knowledge

integration, dissemination, and development, is very powerful.

The second is inter-departmental collaboration. Usually, universities will use the library intelligence center (library) as the leading unit to construct an institutional repository. In the meantime, it is also inseparable from the cooperation of the information center, science and technology department, personnel department, academic affairs department, student department, and other departments. As a consequence, interdepartmental synergy within the institution is also very significant.

The third is the collaboration within the library. As stated previously, the construction and management of the repository is a complex system project. Hence, the leading department requires doing well in internal and external coordination and communication, as well as the decomposition and unification of the management process, technical support and optimization of the platform construction, and other aspects of work to guarantee the orderly promotion of the construction work.

3.3. The Construction of the Repository Needs Cooperation of Teachers and Students

With the developing awareness of intellectual property rights, the creators of knowledge achievements focus more and more on preserving them. On the one hand, it is required to establish a link for scholars (teachers, students, and signatories) to verify and prove their achievements to assure that the intellectual property rights of the achievements are precisely and reasonably assigned and authorized for display. On the other hand, it also inspires scholars to publish exchange and present their research outcomes in a timely and accurate manner to support the sharing of knowledge resources.

4. PRACTICE OF CONSTRUCTING INSTITUTIONAL REPOSITORY OF BEIJING INSTITUTE OF FASHION TECHNOLOGY

After about two years of construction, the institutional repository of the Beijing Institute of Fashion Technology has been successfully accomplished the function of displaying and exchanging results. Subsequently, it has been recognized by the school leaders, departments, teachers, and students, as shown in Figure 1. In the process of construction, there are the following four main experiences and lessons acquired.



Figure 1 Beijing Institute of Fashion Technology Institutional Repository

4.1. Advance the Management of Artistic Achievements

The school's art class characteristics further improve the management of artworks, audio, video, pictures, etc, as shown in Figure 2. Furthermore, it counted academic achievement and art works individually in the results statistics, making the idea of results presentation more reasonable. Incorporating the construction of the school's characteristic resources into the management of the repository highlights the artistic achievements as well as the school's schooling characteristics and improves the school's advantageous disciplines and specialties to serve society better.



Figure 2 Type Presentation of results

4.2. Refine the Management of Students' Achievements

With the constant advancement of talent cultivation quality, the varieties and quantities of students' achievements such as dissertations, journal papers, patents, audio, and video are growing, describing the construction level of multiple disciplines and majors of the school to a certain degree extent. To precisely assess institutions, departments, disciplines, majors, and scholars, it must analyze and manage the achievements under their types scientifically, as manifested in Figure 3.



Figure 3 Add option of student achievement

4.3. Attribution of Achievement Respects Its History

The post-appointment enhances personnel mobility, and when the author's unit changes, strive to respect the history. The historical achievements of those outside the university are marked with "outside," as shown in Figure 4. The achievement of staff transferred from the university is counted as the achievement of the university. The achievement of inter-departmental mobility within the university is detailed to the "attributed department" as much as possible. Moreover, the achievement of multi-authored should be distributed to "attributed to scholars"

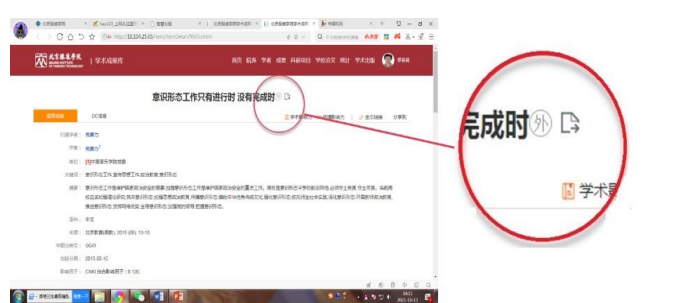


Figure 4 Scholarly works published by scholars at our institution under names other than our institution's are clearly identified

4.4. Data Connection between Systems Is the Key

Considering the logical structure of the school's institutional repository is commissioned to formulate on CNKI, it is easy to interface with the data from CNKI. Consequently, part of the data from the Science and Technology Department is implemented by the Science and Technology Department to the data center, and the data center feeds back to the repository. The representation of this part of data is quite different from that of the CNKI or the repository, and some data have duplication with CNKI's data. Therefore, it is very important to do suitable data cleaning before this part of data enters the repository, which immediately strikes the

trustworthiness of the data in the institutional repository. Correspondingly, in order to facilitate the traceability of the problem, the data from the CNKI and the data from the Science and Technology Division are identified by “knowledge” and “science,” as manifested in Figure 5.



Figure 5 Sources of academic results are clearly identified

5. CONCLUSION

The construction of institutional repository is the ways and methods to strengthen the exchange of academic results and to standardize academic management by means of information technology, and also is an important reference index for optimizing organizational management efficiency to evaluate the performance of departments, scholars and disciplines. It is the basis of the construction of institutional repository to set up the classification of achievement reasonably, display the information of achievement accurately and accomplishes the attribution of achievement scientifically according to the practical and prevailing academic management standard.

Above all, with the tireless efforts in the early stage, the institutional repository of Beijing Institute of

Fashion Technology has excellently accomplished the function of demonstrating and communicating the repository. We will continue to investigate and practice the construction of the institutional evaluation-based repository in the future.

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