

Information Reconstructing for Editing Statistical Yearbook of Teacher Education

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Abstract:- In this study, a systematic approach was applied to reconstruct data of exited information systems for educating statistical yearbook. For years, there was a call for statistical information of teacher education in Taiwan. According to the administrating purposes of different tasks, there are different information-systems existed. The controlling of those systems seldom belongs to the same authority. The authority control of joining information became a tremendous work of this study. A database joined flow was designed and introduced. The target audiences of the statistical yearbook were 1) educational administrators, 2) educational researchers, 3) current teachers, 4) candidate teachers and 5) students in teacher pre-service programs. A panel discussion method was applied during reconstructing procedure and also used to evaluate the result. The challenges of reconstructing information were discussed.

Key-Words: - Information Reconstructing, Statistical Yearbook, Teacher Education

1 Introduction

For gaining new information, there is always a need to join data from those original databases[1-6]. In this information age, information collecting procedure via internet is not a problem. It already had been used in different areas[4, 7-9]. Web based technology with XML format data exchange become the major applications. Mobile ability is another thinking of all[10]. Personalized information is another major concern[11-13]. The functions of a certain information system are also the functions of certain institutions or bureaucratic system.. They only serve specific purposes of their own tasks for the first consideration. The purpose of this study was to find a way to re-construct data from different systems for editing statistical yearbook of teacher education in Taiwan.

1.1 Educational System

From the legal basis point of view, the educational system in Taiwan is ensured and spurred by the 13th Chapter of the Constitution, section 5. It states that all citizens should have equal access to education, and that the poor should be given greater financial assistance. Public and private educational undertaking that was established according to these laws all give assurance of these principles and offer scholarships to students with outstanding results. Clause 164 of the constitution further states and lists the minimum

amount of expenses that each level of government must allot for education.[14-16]

In 1997, the Amended Clauses of the Constitution was released. This stated clearly that expenses for education, science, culture and especially national education should be prioritized. In 1999, the Basic Education Law was promulgated. It stipulated that the citizens are the subjects to the right of education. The goal of education was the cultivation of people that possessed good character, democratic thinking, concepts of law and order, cultural achievement, healthy and with the abilities of judgment and creation[17].

The current education system in Taiwan is comprised of the following components:

1. Basic education
2. Intermediate education
3. Advanced education
4. Returning education

Basic education includes kindergartens, national primary and national middle schools. Intermediate education includes vocational schools and senior high schools. Advanced education includes junior colleges, universities and graduate schools. Returning education refers to schools for continuing education and supplementary schools. In addition to the above, complete special education is provided by all level of schools for students with physical and mental disabilities.

The present education structure supports 22 years of formal study. Completion times are flexible, depending upon the needs of the students. Normally, the entire process requires 2 years of preschool education, 6 years of primary school, 3 years of junior high, 3 years of senior high school, 4-7 years of college or university, 1-4 years of a graduate school program, and 2-7 years of a doctoral degree program[15].

1.2 Teacher Preparation System

In Taiwan, the teacher training programs are available at the higher education level and the duration of studies is four years. Those programs fall into the following two categories[15]:

- (1) Programs for training teachers of the secondary schools and institutions; and
- (2) Programs for training teachers of elementary schools and kindergartens.

The former are primarily offered by normal universities while the latter are chiefly offered by teachers colleges. In addition, universities with the department or college of education or offering teacher education programs are eligible for teacher training education.

The term "teacher" in this study is defined as kindergarten to senior secondary school teachers only.

Teachers training education in Taiwan traditionally falls into two categories: The first type is normal college, preparing teachers for primary schools and kindergarten.

The second type is normal university, preparing teachers for middle schools. Both types of institutes accept senior high school graduates for 4-year training courses. In addition to this, some other universities also offer teacher training program to prepare teachers of primary and middle schools.

In recent years, there have been rapid expansion across the various levels of education in Taiwan and caused the need of continuing improvement of teacher training. The Teacher Education Law, revised and released in 1994, allowed all public and private universities to take part in the training of teachers. In addition, some normal colleges have already begun the training of teachers for middle schools, and normal universities have begun the training of teachers for primary schools[15].

Tuition and fees of teacher training education programs for teachers in senior high and the lower level schools are basically paid by trainees themselves. However, full or partial financial assistance are available for some students. Full program of teacher

training include common courses, disciplinary courses, education specialization courses, and a half-year of teaching practicum. Those who meet the program requirements obtain a certificate. They must then also pass the teacher qualification exam held by the Ministry of Education for final teacher qualification.

According to the new teacher training act, to become a qualified teacher, individual must meet the following conditions before being eligible to take the licensing tests and practice internships. Teacher of Common Subjects are listed as follows:

- (a) Graduating from a teachers college or a normal university;
- (b) Graduating from department of education in regular universities;
- (c) Graduating from regular universities and completing required credits in educational programs

Among private schools welfare benefits for teachers may be different depending on the system made by the board of directors of the school. For teachers of public schools, welfare benefits are basically identical, some undertaken by special organizations and the others handled by agencies which concurrently take care of welfare benefits for civil service employees.

A brief introduction for the welfare benefit system for public schools is as follows:

- (1) Welfare Commission for Primary and Secondary School Teachers and Staff:

The commission, established in 1959, is composed of members including local educational administration personnel, representatives of primary and secondary school principals, representatives of the parents-teachers associations (PTA), and community leaders enthusiastic about education. Under the system, teachers are entitled to such benefits as public housing, use of teachers hostels, low-interest housing loans subsidy for publishing creative works, abroad study tour, retirement payment, and education allowances for dependents. The sources of funds include contributions of the PTA, subsidies by special education foundations, and donations of individuals and public/private enterprises.[15]

- (2) Statute Governing the Retirement of School Teachers and Staff:

Originally promulgated in 1944, such statute was amended in 1995 and came into force in February 1996. Three essentials of this statute are specified as follows:

- (A) The statute applies to (a) full-time teachers of public schools, and (b) school staff members other than teachers who have been employed prior to the implementation of the Statute Governing the

Employment of Educational personnel. On the other hand, the Law of Retirement Affairs of Civil Servants and the Law of Indemnity of Civil Servants is applicable to those staff members employed later than that date;

(B) In terms of the retirement payment, educational personnel to whom such statute applies may choose to be paid in one of the following three ways: (a) lump sum payment, (b) monthly payment and (c) a certain amount of proportional lump sum payment plus proportional monthly payment, depending on their specific needs;

(C) Retirement and indemnity payments are paid by the Retirement and Indemnity Fund which both the government and all the educational personnel concerning shall take contributions.

(3) Implementation of the Civil Servants Insurance System:

The system covers all civil service employees, public school teachers, and administrative staff. The premium is 4.5-9.0 percent of the basic pay, of which 65 percent is contributed by the employing agency or by the school.

(4) Mutual Assistance Welfare Program for Central Civil Service Employees:

Participants in the system are limited only to civil service employees and public school teachers and administrative staff. The central and local governments are operating their own separate systems. Under the system, mutual assistance payment is made for such occasions as marriage, retirement, separation, layoff, funeral, and damages caused by serious disasters.

For Private Schools, the information is listed in followings

(1) To improve the welfare of teachers and staffs in private schools, the Insurance Statute for Private School Faculty promulgated in 1980. The premium is 4.5-9.0% of the basic pay, of which 65 percent is contributed by the employing agency or by the school.

(2) Article 58 of the Private School Law stipulates that the board of directors of a private school shall set the rules and regulations to raise funds for financing teachers and staffs retirement, severance and condolence pays. After approval of the rules and regulations by the competent education authorities, 2% of total tuition fees shall be allocated for the above-mentioned uses, and together with funds amounting to 1% of tuition fees from the school and its board of trustees, shall be reserved in the National Private School Staffs Retirement and Condolence Fund. That fund shall be administered by the Ministry

of Education.

1.3 Educational Administration

From central to local, there are two levels of our education administrative system: the Ministry of Education (MOE) in the central government; and the Bureaus of Education in the municipal governments and in the county (or city) governments. The functions and duties of these educational authorities are described below:

1. The Ministry of Education (MOE)

(1) The MOE is in charge of nation-wide affairs in connection with academic, cultural, and educational administration.

(2) The MOE provides direction and supervision to the highest local administrative executives for the fulfillment of their responsibilities.

(3) If the orders or disciplines made by the highest local administrative executive were found to be abusive or violating the law, the MOE may suspend or nullify these orders and disciplinary decisions after the approval of the Executive Yuan.

2. The Bureaus of Education Within their respective jurisdictions are:

(1) in charge of school education;

(2) in charge of social education;

(3) supervising ventures operated by educational and academic institutions;

(4) planning and managing libraries, museums, public stadiums, and gymnasiums;

(5) in charge of other educational administrative affairs.

2 System Design

The system design was based upon those integrated data from different information systems. For the public school teachers, the information system was constructed by the Central Personnel Administration, CPA. For the private school teachers, the information system was constructed by the National Private School Staffs Retirement and Condolence Fund, NPSSRCF. For teachers' certification data, there are four systems belong to three different departments. Those are Central Region Affairs, CRA, Bureau of Education of Taipei, BET, and Bureau of Education of Kaohsiung, BEK. The CRA

maintains two systems to keep teacher certification records. One is for the current certification service and the other is for the previous certification service. Both BET and BEK maintain one system for previous certification service.

Table 1 The life-cycle of each database by status of initiating, modifying, and ending

	Initiate	Modification	End
Personnel Administrating System of CPA	new public teacher	Transfer	Leave or Retirement
Personnel Administrating System of NPSSRCF	New private teacher	Transfer	Leave or Retirement
Current Certificate Administrating System of CRA	Whenever certified	Name change, lost document, or qualify the new teaching subject	NA
Previous Certificate Administrating System of CRA	Graduate from Normal university or teachers' college	Name change, lost document, or qualify the new teaching subject	NA
Teacher Certificate Administrating System of BET	Lost document, or qualify the new teaching subject	NA	NA
Teacher Certificate Administrating System of BEK	Lost document, or qualify the new teaching subject	NA	NA

Table 2 The descriptions of data flow of each database

	Initiate	Mediate	Target
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	from		
Personnel Administrating System of CPA	Teacher	School personnel	Central Personnel
Personnel Administrating System of NPSSRCF	Teacher	School personnel	NPSSRCF
Current Certificate Administrating System of CRA	Pre-service teacher	University or National Academy for Educational Research Preparatory Office	Central Region Affairs
Previous Certificate Administrating System of CRA	Teacher with record of CRA	NA	Central Region Affairs
Teacher Certificate Administrating System of BET	Teacher of Taipei City	NA	BET
Teacher Certificate Administrating System of BEK	Teacher of Kaohsiung City	NA	BEK

2.1 Data Life-cycle Analysis

Those information systems contain data of different life-cycle. They were analyzed in Table 1.

2.2 Data Flow

The data flow of existing databases was analyzed in table 2.

2.3 Authority Control

To join databases of different institutions is facing challenges of terminology un-unified, data-structure un-matched, and file type difference. For the terminology part, the names of courses and subjects area were altering chronically. A dictionary of terminology unified was listed before data processing.

The data structure altering procedure was designed for reconstructing information. Length adjusting and data type transferring were applied to accomplish this purpose. Different files of databases were transfer through ODBC path.

3 Research Procedures

A panel discussion research method was applied to this study. The research procedure is listed as followings.

- Data collection
- Panel Discussion
- Authority control plan
- Information Re-construct
- Adjust Based upon Panel Evaluation

4 Layout of the Re-constructing

For the yearbook, the data re-constructing was designed and illustrated in Figure 1.

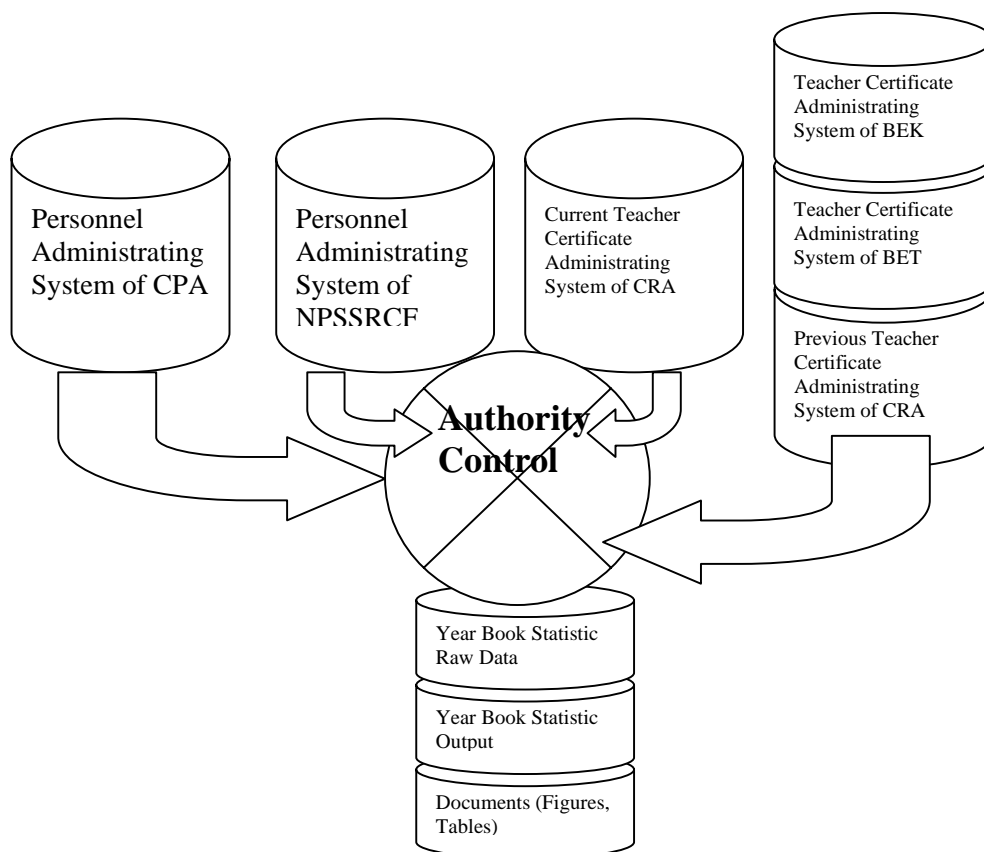


Figure 1 The structure of data re-constructing

5. Conclusion

The aim of this study is showing that reconstructing database process can be managed based upon the new information request. Panel discussion method could provide guidance of authority control and evaluation. The

results of this study could provide some experience of connecting old databases for new information needs. It could be extremely useful for administrators to establish numerical control procedure without dumping old information system..

In our study, a system was layout and implemented in real situations. Database for editing year book was constructed based upon existing databases belongs to different authorities. It also demonstrated authority control policy could be created based upon panel discussions. As the results shown, this designed work is an economic and useful solution for large and distributed institutions which have to work together.

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