

ENGLISH PREPARATORY PROGRAM INFORMATION SYSTEM

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Abstract

This paper focuses on the information system of a fictional English Preparatory Program and aims to define main problems and what is needed to solve those problems. It also examines the lack of communication between the English Preparatory Program Information System and Student Affairs Department Information System, and describes an ideal information system for English Preparatory Program by diagrams and tries to solve related problems.

Keywords: Preparatory Program, Information Systems, Analyze, Design

1. INTRODUCTION

In a very broad sense, the term *information system* is frequently used to refer to the interaction between people, algorithmic processes, data and technology. In this sense, the term is used to refer not only to the information and communication technology (ICT) an organization uses, but also to the way in which people interact with this technology in support of business processes [1]. Over the past years, it has become clear that the world has changed forever. We are now in the Information Age – the second Industrial Revolution [2]. Many schools on almost every part of the world constantly collect data about their students and classes whereas a few use it to improve their curriculum or their quality of education. But today, it is increasingly accepted that understanding and using this data is important to improve the quality of schools [3]. In general, data is collected for management purposes and it contains students' classes and marks since their first year in school. In many cases, this data is sent directly to a

superior department which is responsible of finance [4]. Some rather rare cases in which the data is used to evaluate the success of program may be observed [5]. It is not possible to evaluate the success of any program without examining the collected data. Problems can not be defined and solved, successful approaches can not be determined. Therefore, schools can not achieve their goals [3]. Collected data is seldom used to detect and solve problems. Schools develop their curriculum intuitively and they do not need much analyze. Few choose the path of using the collected data to develop a long term and sustainable plan and improve learning [6]. One needs a good IS and Data Model for this purpose. A data model is a way finding tool for both business and IT professionals, which uses a set of symbols and text to precisely explain a subset of real information to improve communication within the organization and thereby lead to a more flexible and stable application environment [7].

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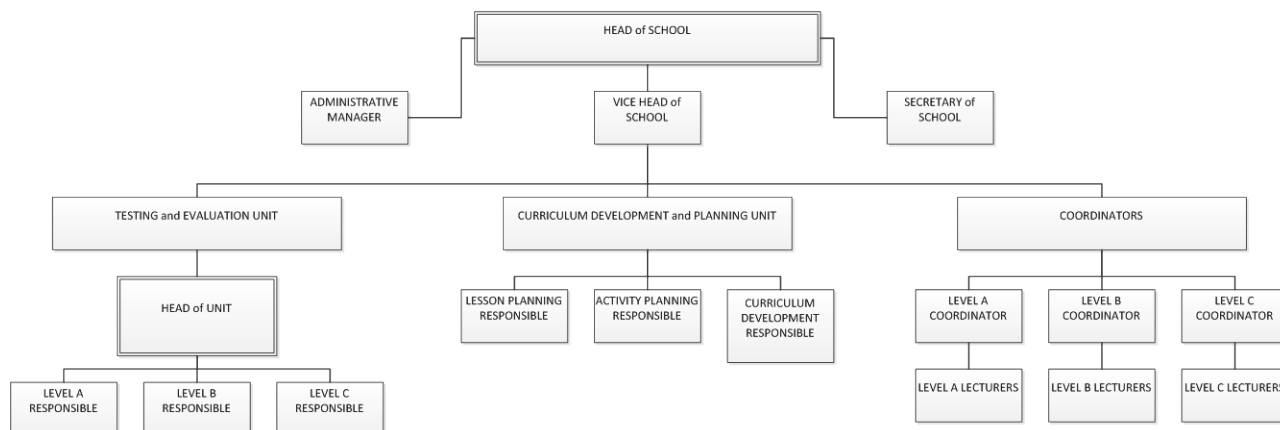


Figure 1. Preparatory Program Management Hierarchy

2. MAIN STRUCTURE OF PREPARATORY PROGRAM

Head of the School of Foreign Languages is also the head of the Preparatory Program. Vice head, Head's Secretary and Administrative Manager are directly connected to the Head. Vice Head is followed by 3 parallel units and these 3 units are directly connected to the head, under the supervision vice head. These units are: Testing and Evaluation Unit, Curriculum Development and Planning Unit, and Coordinative Unit. Testing and Evaluation Unit consists of a unit head and 3 lecturers each of which are responsible for one of the 3 different levels. This unit is responsible for the development of Tests and all evaluation work. They are also responsible for collecting, keeping and interpreting the marks of students in Tests and in classes. They share this data with the Head by graphic charts.

Curriculum Development and Planning Unit consists of 3 lecturers working coordinately. Each lecturer is responsible for one duty. Lesson Planner is also responsible for the planning of exams. Activity Planner is responsible for planning curricular and extra curricular activities. Curriculum developer is responsible for forming commissions of lecturers. These commissions then, select books for classes, develop curriculum, and create syllabus for the following academic year. All these operations are realized under the supervision of the coordinators.

The Coordinative Unit consists of 3 coordinators each of which are responsible for one of the 3 levels. They coordinate lecturers of each level with the Administrative Floor including the Head, Vice Head, Testing and Evaluation Unit, and Curriculum Development and Planning Unit. They

are also responsible for inter-level coordination.

An academic year consists of 4 Tracks. Each Track is 8 weeks. There is a 15 days long break between the 3rd and the 4th Tracks. There are not any breaks between the other Tracks. Unsuccessful students have to take a 5th Track.

Planning Unit keeps the basic data of registered students' list and attendance lists. Evaluative data and student marks are kept by Testing and Evaluation Unit. Attendance data is kept by the coordinators. All data is united on an on-line system at the end of each Track. This on-line system is also used to publish this data. Students access this data using the user names and passwords given in the beginning of each academic year.

3. DATA COLLECTED IN THE INFORMATION SYSTEM

End of Track Mark of a student is a combination of the End of Track Test Result and in-class projects and home works along with quizzes. End of Track Mark is kept and published on an on-line system.

Students who can not achieve the required marks to pass the class have to 5. Track, thus they receive the right to attend the End of the Year Test.

Data of attendance is kept on this on-line system. Students who fail because of attendance issues are not allowed to take the End of the Year Test.

Whereas all data is kept on paper by different units, at the end of each Track, it is input to

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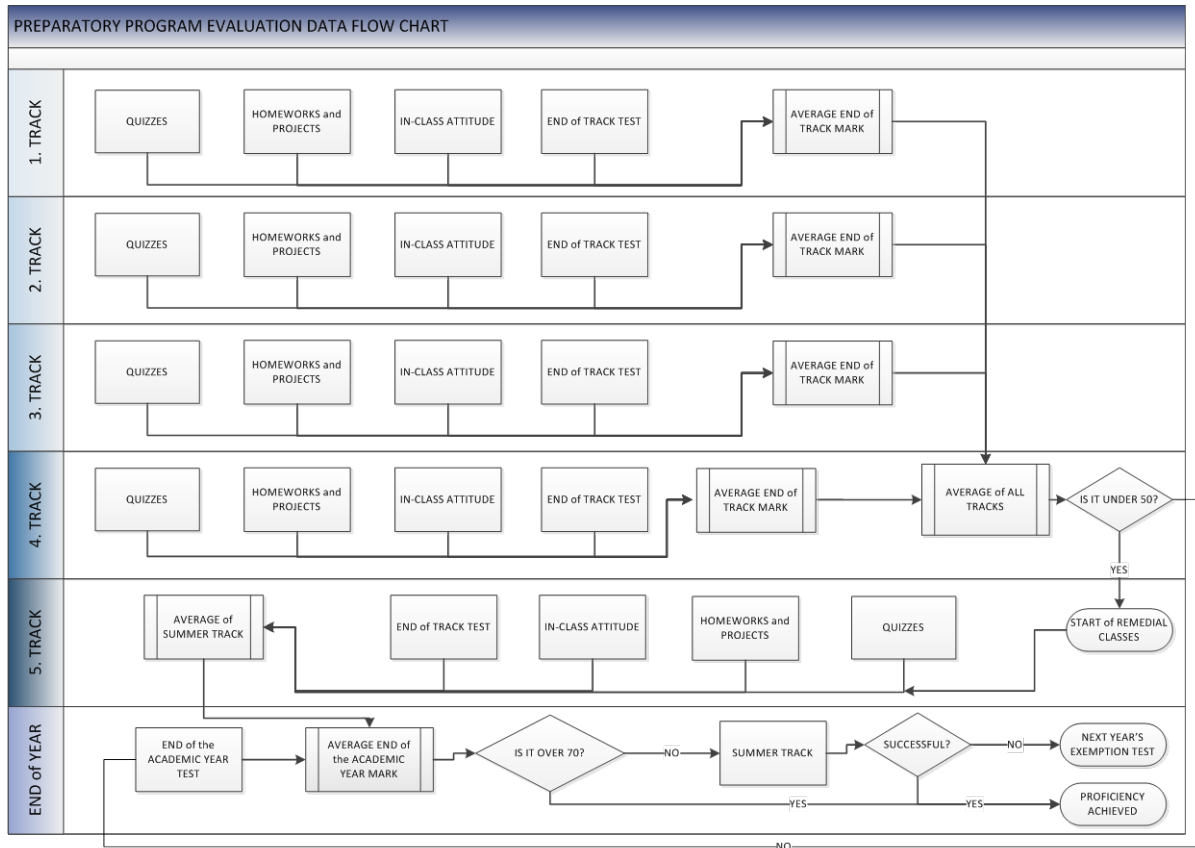


Figure 2. Preparatory Program Information System Data Flow Chart

the on-line system by the Advisor lecturers each of who are responsible for one of the classrooms. In any situation of inconsistency the data on paper is the main reference.

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Whereas all data is kept on paper by different units, at the end of each Track, it is input to the on-line system by the Advisor lecturers each of who are responsible for one of the classrooms. In any situation of inconsistency the data on paper is the main reference.

Main database table is created based on the data declared by students on registration. Student number, given by the register desk, is the "UID" of the database.

4. PROBLEMS

Lack of coordination between the Student Affairs Information System and the Preparatory Program Information System is a result of missing direct connections between these two and this causes serious problems at the end of the year. It is almost impossible to trace the students that has unregistered or has registered but never attended any single class. There is a virtual fall in the graph of success as a result of the students who are not registered any more in the Student Affairs database but still seem registered in the Preparatory Program's database. Students need to register again for the Preparatory Program Information System after registering at the Student Affairs. Otherwise, it is impossible to get their data from the Students Affairs database, thus they are not listed on the attendance lists and classroom lists. Students, who are not registered as a result of misinformation and inattention, face serious problems by the end of the year as their attendance has not been checked regularly. It is also impossible to get in touch with the problematic students and their families as their contact information in the Students Affairs database is inaccessible by the Preparatory Program.

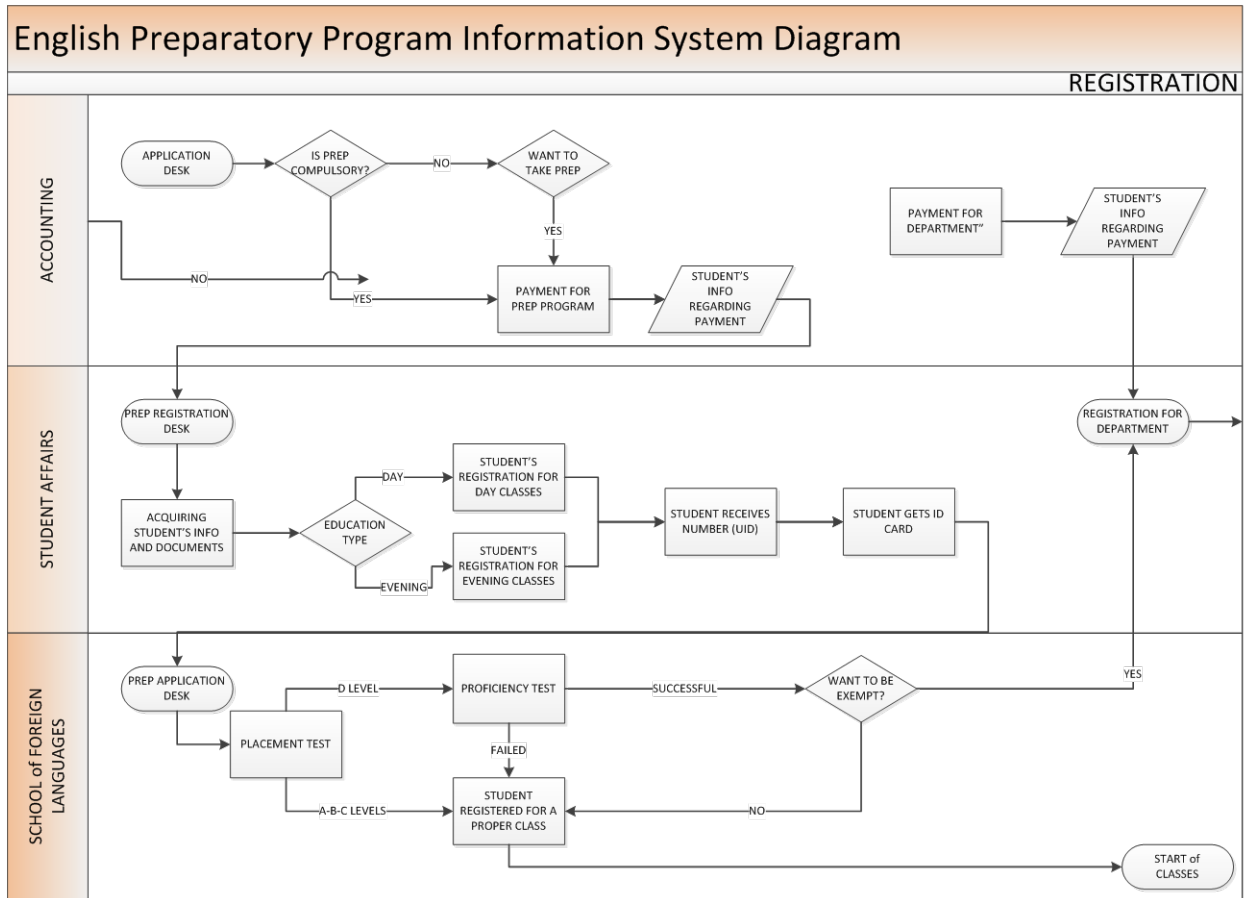


Figure 3. Problem Solving Data Flow Chart

5. SUGGESTED SOLUTIONS

An on-line connection to the Student Affairs Information System will enable Preparatory Program Information System to receive the data of the registered students immediately. By the time student registers, a common table of database will be created, containing all the required information of the student. This will remove all restrictions on the keeping and accessing data. Any unit will be able to get in touch with the student or the family in a case of problem. Lack of attendance, sudden fall of marks, unregistering or classroom changes will be easier to follow and manage. All the problems, mentioned on this paper, will be solved by a system that enables the flow of information between the systems seen on Figure 3.

6. CONCLUSION

A fictional Problematic Information System has been analyzed and suggested solutions have been presented on this paper. "Processing garbage does not turn it into information" [8]. The quality of the collected data is not solely enough to create a long term, sustainable Information System. The flow, processing and evaluation of this data is equally important. Quality Management is an important subject in the educational institutes and main reference point of this subject is the data collected and processed in these Information Systems. Collection of data is the first step in its creation process.

REFERENCES

[1] **Kroenke, D M.** (2008). Experiencing MIS. Prentice-Hall, Upper Saddle River, NJ

[2] **Fitzgerald, J., and Dennis, A.** (2008), Business Data Communications and Networking, 10* Edition, John Wiley & Sons, Inc.

[3] **Killion, J., & Bellamy, T. G.** (2000). On the job: Data analysts focus school improvement efforts. Journal of Staff Development, 21(1).

[4] **Meade, B., & Gershberg, A.** (2008). Making education reform work for the poor: Accountability and decentralization in Latin America. Journal of Education Policy, 22(3), 299–322.

[5] **Herman, J., & Gribbons, B.** (2001). Lessons learned in using data to support school inquiry and continuous improvement: Final report to the Stuart foundation. Los Angeles:University of California.

[6] **Bernhardt, V. L.** (2004). Data analysis for continuous school improvement (2nd ed.). Larchmont, NY.

[7] **Hoberman, S.** (2009). Data Modeling Made Simple 2nd Edition. Technics Publications

[8] **Wako, T. N.** (2003). Education management systems (EMIS). An overview. Harare, Zimbabwe: NESIS/UNESCO.

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