

Research on ERP Teaching Model Reform for Application-oriented Talents Education

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Abstract

Enterprise Resource Planning is one of the core courses of management. According to the educational characteristics of application-oriented talents training, this paper discussed the issues of ERP teaching for application-oriented talents training at present and proposed a number of ideas and strategies in the aspects of modifying the teaching content, improving the teaching ability and carrying out case teaching.

Keywords: Enterprise resource planning, Application-oriented talents, Teaching reform

1. Introduction

Enterprise Resource Planning (ERP) is an important tool for various enterprises and organizations supporting and managing business and making decision. The technology foundation of ERP is based on information techniques. The theory base includes application management theory, system theory, mathematic, computer science and information science. ERP is the information system which combines with advanced management thoughts, methods and instruments. Only if modern management theories and methods integrate into ERP, it can play an important role in management and help enterprises make decisions.

ERP is regarded as a powerful weapon to grab the competition advantages and reach the strategic goals by many

companies and organizations. ERP is a compulsory subject for the major of management science and engineering, business administration and economics in most universities. It is a very practical curriculum which relates firmly to basic knowledge and specialty knowledge. It requests students to put the theory knowledge into the practice.

As the rapid development of information technology, ERP has not only developed in the field of concept, content and system construction method, but also made a great impact on the firms and organizations' operation patterns. In this case, to application-oriental talent education, it is necessary to have a good understand of ERP's meaning, content and construction strategy.

Recently, with the fast increase of the requirement of application-oriental talents, it calls for modulating the ERP curriculum content and teaching method according to the teaching target of application-oriental talents education. ERP teaching should pay much more attention to improving the company's management and supporting the strategy development. In this case, it is necessary to reform ERP curriculum on conventional teaching content and method, which means with the characteristics of practical application to reform the teaching content and implement the teaching reform.

Recent years, many academic documents about ERP curriculum reform had been published. However, few papers are about ERP curriculum reform especially for application-oriented talents education. The author of this paper has been the management consultant for more than 50 companies in 10 years and has been teaching ERP to MBA for a long time. This paper gives some teaching reform ideas, hoping that it could help the research on the reform of ERP teaching for application-oriented talents education in Chinese universities.

2. Analysis of the Problems in ERP Teaching

In order to reform ERP teaching model, the problems in the teaching must be found out and be analyzed. Due to kinds of reasons, the existence problems in teaching in some colleges are followed by:

2.1 Lack of Connection between ERP and other Relative Courses

ERP is a highly applied, integrated and interdisciplinary subject. It covers management science, information science, system science, behavior science, computer science and communication science. It will make students feel difficult to learn this course if they don't study the preceding courses. And students may lose their interests in this curriculum.

2.2 Emphasizing Understanding and Mastering Basic Principles and Methods too much, and Ignoring the Application

In the present teaching, teachers emphasize grasping the basic theories and methods too much, spend too much time to teach basic theories and methods and adopt too much demonstrate teaching. Thus, it makes students feel the course dull and empty. So the students don't know how to put those theories and methods into solving practical problems.

2.3 Lack of Combining Cases with Software

During the practical teaching process, it could not be visualized because of lacking of combining cases with software. Due to less experiments and practice, theories could not be applied to the practice. The students also feel that this course is empty so that they are no interested in this curriculum.

2.4 Some Teachers' Velocity of Updating Knowledge is Slow and Their Practical Experience is in Short

With the rapid development of enterprises, the information technique is also developing speedily and some new techniques have emerged. In the speedy development process, some new problems and requirements also have appeared. Thus, our teachers must keep study and update knowledge continuously. Moreover, our teachers must possess some practical experience so that the course could be taught easily to understand, for ERP is a quite practical subject.

Those problems that ERP teaching is confronted call for reforming teaching model, bringing new teaching mode and adapting demand of development of times. It is very crucial for cultivating application talents to reform the curriculum.

3. Ideas and Tactics of Improvement Teaching Content

3.1 Set Teaching Target Properly

This subject aims at application students and directs students to be entirely familiar with the basic concepts, functions and characteristics of ERP; to understand the development process of ERP; to grasp its phase characteristics; to master the basic principles and complementary methods of the main module like production planning establishment, sale and forecast management, manufacturing management, financial management, quality

management, purchase and logistic management in ERP; to understand the management strategy that customer service, inventory turnover and high efficiency of plant operations achieve coordinated; to be familiar with establishment and application of enterprise management information system; to grasp the requirement analysis, quality, cost and schedule control, and business process reform; to be familiar with relative software through experiment.

The development of information techniques has changed the companies' operation circumstances and methods all the time. A modern manager of an enterprise can't master information skills professionally, nor do he or she needs to. However, he or she needs to know the abilities and characters of information techniques or information systems macroscopically, as well as information techniques that how to support the improvement of companies management and accomplishment of implement strategies. Based on such general cultivation target, it can be confirmed that the concrete teaching target of ERP curriculum is that: to make students master the related basic principles of ERP, to have a clear awareness of information and a great ability of information application; to make students have a sufficient understanding of the supportive role of information system and information techniques in the information society to the strategies; to make students be familiar with function principles and methods of ERP; to make them get to control the construction of ERP and implement methods, to know how to apply, manage, evaluate and preserve the ERP; to lead them to pay a careful attention to the development of new information techniques and find out the business values.

3.2 Modify Teaching Content Scientifically

In order to reach the teaching target of ERP curriculum, the teaching content should be modified and designed scientifically and properly. ERP curriculum covers a wide rang of deep knowledge and changes quickly which combines economics, management, information science, system science, behavior science, computers science and network communication techniques all together, so it is a great academic practical and comprehensive curriculum. Before the ERP curriculum, the preceding curriculums which are relative to ERP should be taught and the students should have learnt the knowledge of relative curriculums. Thus, students could possess the base and receptivity. For instance, the preceding curriculums like computer basic, operation research management and database should be taught. For the application-oriental students, their knowledge of economic and management is ample but they are weak in the field of information techniques. Meanwhile, their knowledge structure and cultivation direction leans to management, therefore it should avoid regarding ERP curriculum as computer subject, but a kind of management subject. It should put stress on the information techniques solving management problems and improving management ability on the basic of understanding of database, various software and hardware platforms.

The core content and synopsis of this curriculum should include: the brief introduction of the software of SAP, Oracle, Yon you and gold disc; enterprise resource and basic data; the brief introduction of the function of PP module in SAP; main production planning; the brief introduction of the function of MM module in SAP; the capability of materiel requirement planning; requirement planning; purchase planning and control; production planning and management; main function of ERP system; the brief introduction of the function of SD module in SAP and distribution in ERP; the brief introduction of the function of FI/CO module in SAP and financial management; the technique of model selection of ERP system; the research of the failed reasons and successful factors in ERP system implementation; the methodology of ERP implementation; implementing team management technique; ERP system training technique; business process reengineering; resource categories and coding technique; the ERP system implementation and the analysis of application cases.

4. Ideas and Tactics of Case Study

When teaching the ERP theories, it should pay attention to cultivating of information awareness, information ability and information character to help student form abilities of applying the curriculum knowledge in practice. In order to reach this target, case study should substitute for teaching purely principles. Teachers should guide students take advantages of ERP knowledge to analyze and solve practical management problems by connecting principles and practice through case study, to improve the management efficiency, decision making level and profits of business and to make the students have a direct understanding of totally new concept and working ways brought by information times.

Case study plays an important role in application subjects, as well as ERP. Actually, many firms have already used various information systems to manage business and some of author's students have experiences of application system or even practical construction. The students could have a direct understanding of ERP by some familiar cases such as ERP system's construction and operation in certain industry. The proper cases adapt for theory teaching content should be selected firstly. When teaching the concrete theory knowledge, cases study should be used through the whole teaching process, and cases step forward as theories do, to direct the students to solve problems in depth

positively and logically. As soon as the whole teaching content is completed, cases will combine the theories and practice together which leave a deep impression upon students. Lively and informative case, not only can increase the students' perceptual, improve learning motivation, and students can draw inferences about other cases from one instance by imitating the case.

In the process of theory teaching, especially for the application-oriental students' characteristics, it is essential to elaborate the new characteristics and behavior patterns of management theories and thoughts in the times of information. It should emphasize the case study with analysis as the leading factor. By discussing and analyzing practical cases, students will concern about the development of informatization and their study initiative will be stimulated.

Now domestic textbooks are lack of proper cases, which requires teachers to collect, catalog and accumulate cases as much as possible, so that cases base for both teaching and students reading and referencing can be established then. Besides, in order to improve the students' creativity and share their experience, students can also search, catalog and analyze cases by themselves and make speeches in the class. What's more, their prepared cases can be put in the cases base for the next grade students.

Cases come from enterprises practical cases, however, those should not be gotten rid of theory systems in the textbooks. Otherwise, students may not understand the fundamentals of the problem. Thus, firstly, to explain briefly the main theory knowledge related to the cases. Secondly, to instruct students to apply theory with case so that theory knowledge and practical cases will be combined together.

Teachers can direct students to discuss cases according to the teaching content after each unit, to analyze the questions brought up before, and new questions will arise at the same time, then to lead students discuss and express themselves. Acting different roles in different cases is a good and vivid way. Even to make each small group debate fiercely on purpose, that can arouse students' interests and recognition of ERP.

What concerns about is not the so-called correct answer to the cases after analysis. Probably there is simply no correct answer to one case or the answer is not unique. The result of cases analysis perhaps is a intermediate product with some questions that are left without solutions. In this case, "Process more, result less" should be the method to adopt.

5. Ideas and Tactics of Practical Teaching

Except for the great integration, another characteristic of ERP is strong practical application. The practice part of ERP subject is so significant that could be helpful for study to understand the curriculum. By practice, students could apply their learned knowledge from the class to improve their abilities to analyze and solve problems.

For the application-oriental students, the ERP experiment should be distinguished from the science experiment and do not to make ERP practice teaching become information system developing class. According to the teaching targets, to direct students to understand the processes of management business under the modern information technique circumstances, and how to operate and apply the management information system when doing the practical works. It will be good for students to improve their adaptable ability, operating ability and creative ability a lot. For the teaching content of this part, we think it should contain experiencing experiment and simulation analysis experiment.

5.1 Experiencing Experiment

The target of the experiment in this part is to instruct students to get a perceptual recognition of ERP, to learn the basic structure and functions of ERP and to master the skill of applying ERP to deal with business.

In this experiment, one group is made up of several students; each member simulates a kind of terminal user and operates on ERP according each one's roles. After finishing their flow missions according to the business process set by the system, students could learn how to operate and manage the business by ERP and also learn how ERP could connect information techniques with company management. This experiment asks students to submit an experiment report which consists of two parts: one is the explanation of the basic structure, basic function and business process covered by the system with management knowledge. The other is the analysis and judgment of the experiment system from two aspects: management and technique. All these will encourage students to find questions and come up with modified solutions.

5.2 Simulation Analysis Experiment

This experiment is like this: according to the process of ERP customizing development, based on the one simulated company to conduct system analysis and design to make students correctly understand missions in related phases of ERP. Considering the fundament of application-oriented students, the difficulty degree of the experiment should be

controlled and the system analysis should come before the design. Under this thought, the teachers direct students to do experiment. This experiment report mainly consists of analysis and design on the process of management business. Another is process analysis and design of management data. This examines how students apply information techniques to deal with companies' management requirements, how information techniques is combined with companies' strategy, tactic and executive level, the students' ability of management requirement survey and the ability of information system modeling.

6. Ideas and Tactics of Teaching Ability Improvement

The teaching of application courses should not be restricted in the conventional teaching pattern. In the opinion of cultivating management talents, it is important to explore new teaching mode, arouse students' interests and cultivate their abilities of analyzing and solving problems. For the teaching method, try to pay attention to changing injecting mode into enlightenment, discussion and research mode.

6.1 Enrich Teaching Mode

ERP curriculum contains both many abstract theories and colorful application background. Passive study is hard to assimilate the knowledge. Class discussion and ask-and-answer analysis in the class is a very efficient method, and this is popular among the students. Meanwhile, teachers will find out teaching problems during the class discussion, what's more, modify the teaching plans in time for each member in the class.

ERP is a fruit which combines information techniques and management thoughts. Not only the introduction of the basic concept of information techniques and the dynamic exhibition of process of customizing development should be noticed, the introduction of functions and application tactics of mature business management software should also be paid attention on. And drawing a great many of easy-understanding diagrams should not be ignored, like organization structure diagrams, function structure diagrams and business process diagrams. With the help of modern teaching methods and equipment, taking advantages of information techniques to make vivid multi-media courseware can take students out of abstraction and tediousness and help to improve their ability by using multi-media instruments in the work.

Scene teaching is an additional form of case teaching, which explains, experiences and simulates the cases. For example, invite the information directors or information management consultants of a company to make speeches or play their lecture shows; make courseware by multi-media techniques; make videos of scene cases for curriculum. Besides, author always make DVs of the processes of students' cases analysis and play the videos to them or even other students. Without any doubt, this vivid reappearance of scene arouses students' interests and minds.

6.2 Improve the Teaching Level

Teachers are required higher degrees for the application talents, especially the practical experience. To improve the teaching quality of ERP curriculum, not only should update the teaching content, but also modify the teaching methods, and the most important thing is constructing a more powerful group of excellent teachers.

As ERP is a comprehensive, interdisciplinary, marginal and practical subject, in addition to the rapid development of information techniques, to act as the teacher of this subject, not only should prepare knowledge of software engineering, computer and management, but also should have the good ability of computer application. At the same time, the experience of developing ERP or application experience of CRM is also important. Teachers need to learn the developing direction of this subject and changing trend of techniques, take part in more practical activities of this fields, optimize the structure of knowledge rapidly and add new knowledge into teaching content in timely.

7. Conclusion

The request of ERP becomes higher and higher because of the rapid development of social economy. With the fast development of new techniques and the improvement of management level, the present development velocity of ERP has lagged obviously. In order to satisfy the social requirement, it demands us to construct and reform the ERP system and cultivate application-oriented talents rapidly. ERP concerns many contents, it is necessary to deal with the relation between theory teaching and practical teaching so as to improve students' abilities, comprehensive qualities and teaching qualities. Meanwhile, teachers need to learn the developing direction of this subject and extend the field of this subject to prevent the knowledge becoming outdated, and to engage the relative works and research to accumulate practical experience and to perfect the ERP teaching.

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