

# Case and Task-driven Information Processing Technology Curriculum Reform and Exploration

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**Abstract:** Case-driven and task-driven teaching methods have attracted the attention of educators in improving students practical ability, and have been introduced into the teaching practice of various courses. The teaching reform of information processing technology course in Qujing Normal University combines the above two teaching methods with the actual situation, and takes case as the learning method. The basic means for students to master knowledge points and basic teaching contents, and the task as a platform for mastering teaching contents, testing teaching effects and students abilities, have achieved good teaching results. Such teaching can not only train students to learn and master basic information processing knowledge, but also help students to improve comprehensive information processing. Use ability.

## 1. Introduction

In the long-term teaching process, many educators have put forward many teaching methods for the basic course of computer processing. Fan Xuyang [1] has put forward the basic means of mastering knowledge points and teaching contents by tasks, taking project-driven as an important way to construct teaching contents and links, and taking competition as a test teaching. An important platform for learning effect and students abilities; Song Jinyu [2] applied case teaching ideas to the construction of the basic course content of information system technology; the course of information processing technology has the characteristics of combining basic theory with basic skills. The main content of this course is the basic knowledge of computer and information processing, aiming at cultivating learning. Students are proficient in using computers to process information effectively and safely. They are junior information processing technicians who can pass the qualification (level) examination of computer technology and software specialty. They have the practical working ability and professional level of assistant engineers.

The course of information processing technology has the following characteristics: many knowledge points, involving the basic concepts of information technology, basic knowledge of information security, relevant laws and regulations, computer processing basis, etc; strong practicality; great differences among students levels, therefore, the positioning, implementation of teaching content and the choice of teaching methods need to be deepened. Since 2017, we have carried out teaching reform on the course of information processing technology. We have organically combined case teaching and task-driven teaching, and explored in theory and practice.

## 2. Overview of Case and Task-driven Teaching Method

For a highly practical course, the focus of the reform should be on how to mobilize students enthusiasm, turn learning into active and passive, and how to improve students' ability to solve practical problems. Case teaching and task-driven teaching have the advantages of mobilizing students enthusiasm and initiative. The two teaching methods are independent of each other, but also phase-wise. They complement each other and form a new student-centered teaching model.

## **2.1 Case Teaching Method.**

Case teaching method[3] is a method of organizing students ability to study, research and exercise according to the needs of teaching objectives and contents under the guidance of teachers; guiding students to discuss and practice similar situations through the application of a specific teaching situational knowledge point; this method is good. The point is: to create a good and relaxed teaching practice scenario, to show the real typical problems to students, let them put themselves in a position to think, to analyze, to discuss, to practice, to stimulate students interest in learning, to cultivate creativity and the ability to analyze and solve problems has a very good help.

The basic characteristics of case teaching are clear purpose, strong comprehensiveness and outstanding practice.

## **2.2 Task-driven Teaching Method.**

Task-driven teaching method is a kind of teaching method and strategy that uses task to drive students learning. This method is student-centered and emphasizes students' initiative. Teachers only play the role of organization and guidance, mobilize students subjective initiative through the completion of tasks, while students deepen their understanding of knowledge according to the solution of current problems. Emphasis is placed on understanding knowledge and mastering problem-solving skills.

## **3. Relationship between the Two Teaching Methods.**

Case and task-driven teaching methods have been widely used in practical ability training courses. In the process of teaching, teachers usually choose to conduct case teaching first, and then test the effect of case teaching by Task-Driven method. The two methods are closely linked, and case teaching focuses on decomposing knowledge points. For each independent part, through the teacher's explanation of each knowledge point and integration of knowledge point into the case to complete the teaching purpose, task-driven is to let students complete the knowledge learned in the case in the way of test questions. In a sense, task-driven can be seen as the collection and integration of many cases. Therefore, the combination of case-based teaching and task-driven teaching method can solve the problem of comprehensive application of knowledge points in solving practical problems. Therefore, in the practice of teaching reform, it is necessary to combine case-based teaching with task-driven teaching method in order to achieve teaching objectives.

## **4. Practical Application of Two Teaching Methods in Teaching Reform**

### **4.1 Course Characteristics.**

The course of information processing technology is both theoretical and practical. The theoretical part requires the basic knowledge of information processing, computer system, word processing, spreadsheet, presentation, database, computer network and information security. Practice requires that we can use the basic knowledge we have learned to solve the practical application problems. Therefore, the teaching of the course presents the characteristics of many knowledge points and strong practicality. In addition, our students come from all over the world and have different knowledge of computers. Therefore, the orientation of teaching content and the choice of teaching methods will be very important.

### **4.2 Application of Two Teaching Methods.**

Give full play to the positive role of case-based and task-driven teaching methods in improving students learning initiative and practical ability, not only requires teachers to work hard on the division of knowledge points and the selection of cases, but also requires a change in teaching concepts so that students can solve practical problems through learning. Therefore, teachers should use the two methods scientifically according to the characteristics of the actual curriculum and the actual situation.

In the course of teaching reform, we divide the course content into eight modules, covering the course content of information processing technology, including the theoretical part and the practical part. Specifically, the theoretical part includes two modules, and the practical part includes six parts. Each practical part has many small modules. As follows:

(1) The theoretical part mainly includes the basic knowledge of information processing and information security. This part mainly extracts the basic knowledge of information processing and information security involved in the case by the way of case, and then leads to relevant concepts and understandings. The driving force of the task is mainly through learning, and then to do the real problems over the years. The application of practical knowledge.

(2) The practice part is mainly about the basic operation and processing of the daily computer. This part includes six parts, mainly about the practice teaching. The specific table 1 shows the method of case + task-driven.

Table 1 Case-driven and Task-driven Approach

Teaching Content,	Teaching Objectives	Case	Task Driven
Basic knowledge of computer system	Grasp the basic operation and file management of computer	(1) Viewing and setting of basic computer parameters (2) Basic Processing of Documents	(1) Please set up the system as required. (2) Document management
word processing	Master the basic operation, format setting, table processing, page setting, graphical operation, mail merging of word software	(1) Opening, closing, saving, selecting, moving and copying of documents (2) Text modification (3) Insertion, deletion, modification and functions of tables (4) Page setting and drawing of simple graphics	(1) Word1, a calendar theme from 2015 to 2019 (2) Word2, a calendar theme from 2015 to 2019
Spreadsheet processing	Grasp the basic operation of Excel software, format setting, function and formula, chart analysis, data screening, classification summary, data perspective table	(1) Format setting (2) Functions and Formulas (3) Chart analysis (4) Data screening, classification summary and PivotTable	Excel Section of Calendar Topics from 2015 to 2019
Manuscript Processing	Grasp the basic operation of the presentation, the format and beautification of the slide	(1) Format setting (2) slide beautification	Presentations on the True Topics of the Past Years from 2015 to 2019
Database Processing	Master database creation, data table, view, record editing, index, backup file, query, etc.	(1) Creation of database, table and relationship (2) Query	Access, a calendar theme from 2015 to 2019
Internet Communication	Master the method of setting up network connection, the use of browser and the sending and receiving of mail	(1) Network Connection Settings (2) Browser Use and Mail Receiving and Sending	(1) Construction and Connection Settings of LAN (2) Find a designated website and obtain relevant information as required to send and receive e-mails.

Through the above sub-module, case and task-driven teaching method, on the one hand, the knowledge is sorted out clearly, on the other hand, case-based teaching method applies knowledge points to specific practical situations, visually intuitive, task-driven method to test the ability of knowledge application, which can promote students to gradually improve their practical ability and

achieve learning. Learning objectives, and through the certification examination to obtain a sense of achievement in learning, to maintain the enthusiasm and initiative of learning.

## **5. Conclusions**

In this paper, case-based teaching idea and task-driven teaching method are introduced into classroom teaching. As an effective means to enhance students practical ability and mobilize their learning initiative, case-based teaching method and task-driven teaching method have their own advantages. In the course of information processing technology, the combination of these two teaching methods can achieve better teaching effect. As a result, through practice, designing teaching cases scientifically and reasonably, and combining with appropriate task-driven, guiding students to participate in the examination of this kind of course can not only mobilize students enthusiasm and initiative, but also lay a certain foundation for our teaching evaluation. How can we combine case-based teaching with task-driven teaching closely? Together, improving student-centered and improving students practical ability are the higher goals of our next reform.

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