



# Research on the Construction of Teaching Case Database Based on Task-Driven Teaching

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**Abstract.** The play of the teaching role of teaching cases is inseparable from the construction of a case database. Different teaching contents, teaching methods and teaching methods require different teaching cases. It is necessary to build a teaching case database according to the characteristics of course teaching. Aiming at the task-driven teaching method, this paper mainly analyzes the role of teaching cases in task-driven teaching and the needs of teaching case bases, clarifies the method and process of teaching case construction in task-driven teaching, and thinks about the construction of case bases based on task-driven teaching. It provides a new idea for the construction of teaching case database.

**Keywords:** task-driven · teaching case · case database construction

## 1 Introduction

Teaching cases are real, typical and problematic events, which are not only different from the preconceived teaching ideas such as lesson plans and teaching design, but also different from the discussion-based expression of the thesis. A case is a reflection of the process of events that have occurred, with both discussion and explanation, and the theory is explained through the explanation of a specific case [1]. A typical case can reflect a certain idea or a certain aspect of the idea of the new curriculum from different angles [2, 3]. Obviously, even if it is the same course, with different teaching modes, teaching methods, and teaching methods, the references to teaching cases will be different, and there will be no one-size-fits-all teaching cases. Therefore, how to build a teaching case database according to the teaching mode and method is a key issue for curriculum builders who implement case teaching.

Task-driven teaching is a teaching mode in constructivism theory, emphasizing that students are the main body, and the understanding and application of curriculum knowledge can be realized by completing relevant tasks. Task-driven teaching can not only help students understand the course content, but also strengthen students' ability to apply knowledge. A teaching case can usually be understood as a transaction record in a specific situation [4], which will be a completed task to some extent. Realizing task-driven teaching through cases can not only achieve the purpose of understanding the course content through the "recurrence" of the cases, but also strengthen the understanding of knowledge through the "adjustment" of the cases. Therefore, the flexible use of teaching

cases in the task-driven teaching mode can achieve a multiplier effect. Based on this, combined with the basic process of task-driven teaching, this paper analyzes and discusses the construction method and process of task-driven teaching-oriented teaching case database.

## **2 Analysis of the Role of Teaching Cases in Task-Driven Teaching**

In general, task-driven teaching is to allow students to explore around a task, and to consolidate relevant knowledge in the process of solving the task, so that students can effectively explore independently in the process [5]. Introducing teaching cases into task-driven teaching can play a role in task understanding, task analysis, and task evaluation.

### **2.1 Case Analysis Helps to Deeply Understand the Task**

The main purpose of task-driven teaching is to transmit relevant knowledge to students by completing tasks, so that students can understand and master them. Therefore, the primary task of task-driven teaching is to let students know clearly what the essential purpose of the task to be completed is. Therefore, it can be considered to assist students to understand the task by means of cases. Through case analysis, let students re-look at the case from a new perspective, revealing the knowledge points involved in the case more deeply, and then supplemented by the teacher's theoretical guidance, which can better help students understand the concepts and concepts related to the task. Features, but also can more in-depth integration of relevant knowledge in the completion of tasks.

### **2.2 Case Analysis is Helpful for In-Depth Understanding of the Analysis Task**

Task-driven teaching is a highly practical teaching method, and its characteristics determine that the task implementation process cannot only be satisfied with understanding relevant theoretical knowledge, but also requires a clear understanding of the practical application of theoretical knowledge in the process of completing tasks. Have a deep understanding of the organization and implementation. In general, the course teaching process will analyze and introduce relevant theoretical knowledge through various means, but how to understand more deeply requires students to analyze and feel in the actual completion of the task. Teaching cases can provide a situation for students to analyze tasks, so that students can not only fully understand and digest relevant theoretical knowledge, but also further understand and feel the basic process and difficulties in completing tasks. And through case analysis, we will have a more in-depth understanding of the theoretical knowledge application methods involved in completing the task.

### **2.3 Case Analysis Contributes to a More Comprehensive Evaluation of Implementation Tasks**

Traditional assessment forms such as written test, interview or oral test can evaluate how well students have learned, but there is still no corresponding means for students to use them well. Task-driven teaching puts more emphasis on applying what they have learned.

In task evaluation, it is also necessary to seek an assessment method that can better reflect the level of students' application of knowledge. In general, task-driven teaching determines whether students are using it well, usually by analyzing and evaluating the completion of tasks. The method of case analysis and task evaluation by analogy can improve the credibility of the evaluation results. Through, you can also compare the completion of tasks through cases, not only to evaluate the students' completion of the tasks, but also to analyze and comment on the students' task completion process, and then accurately locate the students' problems in the process of completing the task and can be improved. To help students further improve their ability to apply knowledge.

### **3 Demand Analysis of Teaching Cases in Task-Driven Teaching**

Task-driven teaching is a teaching mode in constructivism theory. By integrating the teaching content, the teacher subtly conceals the teaching content in one or more tasks. New knowledge points, under the guidance and help of the teacher, find out the method to solve the problem, and finally realize the construction of the learned knowledge through the completion of the task [6]. Generally, task-driven teaching can be divided into four parts: designing tasks, analyzing tasks, completing tasks, and communicating and evaluating.

#### **3.1 Case Requirements in the Design Task Stage**

The design task is mainly to clearly implement the teaching content of task-driven teaching and to define the task. First, according to the teaching content of the course, it is clear which content is suitable for applying the task-driven teaching method. Usually, some practical and applied content are more suitable for task-driven teaching methods. Secondly, combined with the teaching content, clear tasks. Usually, three principles need to be followed for teaching content design tasks: one is to cover the main knowledge points of the teaching content; In fact, some typical cases can be used as teaching tasks. It should be noted that because some cases are typical, students may already know the results, so they need to make reasonable changes to avoid copying. Therefore, in the design task stage, in order to reflect the teaching content and connect with reality, the requirements of the cases are usually typical cases that can have relatively clear results and are easy to make partial revisions.

#### **3.2 Analyzing the Case Requirements in the Task Stage**

After the task design is completed, students are often not clear enough about the task, and they need to be guided to analyze the task. When analyzing tasks, we cannot directly tell students how to solve the task they are facing, but provide students with relevant clues to solve the problem. Some cases can be used for analogy. For example, if the task involves counting the basic situation of users buying a certain commodity, you can select the case of counting users purchasing another commodity as an analogy, and let students complete the task in a similar way. In the analysis task stage, in order to facilitate students to understand the task, it is necessary to provide a case that can play an analogy role and the implementation process is relatively clear.

### **3.3 Completing the Case Requirements of the Task Stage**

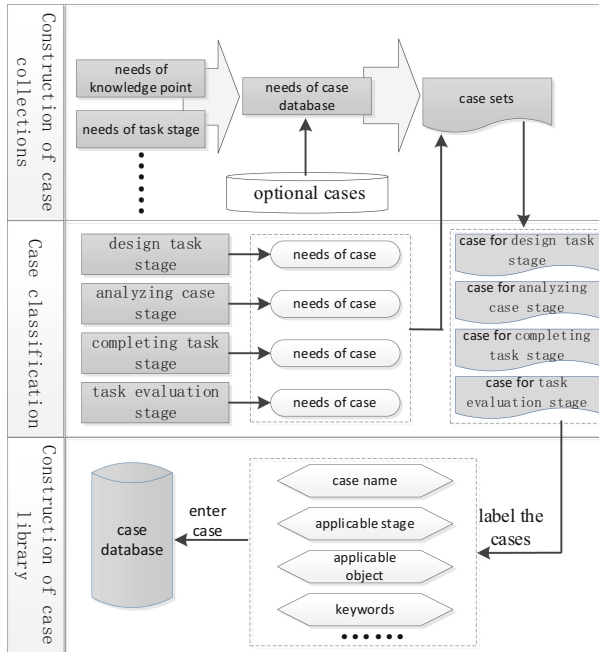
The task-completion stage is the core process of task-driven, and its initiative lies with the students. Students are required to complete the tasks through self-study, discussion, communication and other methods, combined with the main points of the course content. In the stage of completing the task, although the students are the main body, teachers also need to correct some problems that occur in the process of completing the task, and make timely adjustments to emergencies. For example, when students generally do not understand a certain knowledge point in the task, teachers need to be able to provide relevant case materials in a timely manner to guide students to understand the relevant issues more deeply, so as to master the knowledge point. Therefore, although the cases in the task completion stage also need to be used as an analogy, they need to be able to reflect the knowledge points more clearly, and the problem-solving process should be clearer and clearer.

### **3.4 Case Requirements in the Task Evaluation Stage**

The final assessment and evaluation method of the task-driven teaching method is generally based on the evaluation of the completion of the task. Usually, mutual evaluation, comment, simulation quantitative evaluation and other methods can be used, and different evaluation methods need to be selected for different tasks. In addition to the evaluation methods with quantitative results such as simulated quantitative evaluation, other evaluation methods are subject to a certain degree of subjectivity. In order to make the evaluation results more objective, some cases can be selected as supplementary explanations. Therefore, in the process of task evaluation, the case needs to have a clear direction and clear results, as a reference for task evaluation.

## **4 Construction of Teaching Case Database Based on Task-Driven Teaching**

As an important means of course teaching theory teaching and knowledge application, the teaching case database can not only help teachers and students to clarify the theoretical system of the current teaching content, but also help students to apply theoretical knowledge in practice. A complete and real teaching case database can clarify the focus and direction of course teaching, and can clarify the composition of the case database and its applicable scope, methods and means. However, there is still the phenomenon of building case bases for case teaching in actual teaching. When course teaching methods and means have undergone great changes, the case bases are still at the level of static description and have not been upgraded to the practical implementation of teaching level. Therefore, the construction of case database based on task-driven teaching must avoid thinking from the technical level and static and qualitative construction methods. The main process stages and purposes of task-driven teaching are required. On the basis of the stratification and classification of teaching cases, the relationship between a large number of interrelated and mutually restricting complex factors should be stratified and organized, so as to achieve “system-oriented”, but also to be “task-oriented”, combining



**Fig. 1.** Task-driven case database construction process

the construction of the teaching case base with the tasks in task-driven teaching, through sorting out and analyzing the tasks in the teaching, aiming at the needs of task-driven teaching, and establishing a scientific, reasonable and accurate set of, A feasible teaching case database.

According to the case demand analysis of task-driven teaching, the teaching case database can be constructed by hierarchical classification. The basic ideas and processes are divided into: case collection construction, case classification, and case database construction (Fig. 1).

**4.1 Construction of Case Collections**

The basic idea of case-combination construction is to start from the requirements and determine the case set. According to the task-driven teaching needs, the applicable cases are identified and a basic case set is formed. Usually, a set of needs is formed through teaching knowledge points, task stages, etc., and then according to the needs, the cases that meet the needs are clarified and a set of cases is formed. This stage is the process of case aggregation, which is a preliminary screening of optional cases, sorting out and summarizing cases that may be suitable for task-driven teaching, and providing a data basis for the subsequent hierarchical classification of cases.

## **4.2 Case Classification**

The hierarchical classification of cases is mainly the process of sorting out cases by stages. According to the stages of task-driven teaching, the specific case requirements of different stages are clarified, and on this basis, a more specific search is carried out on the constructed case collection. Through retrieval and analysis, the cases that can be applied in different stages are identified (the same case can be used in different stages), and the cases divided by stages are formed.

## **4.3 Construction of Case Database**

The classified cases are summarized to form a case database for task-driven teaching. In order to facilitate future use and case retrieval, it is necessary to label the cases by name, applicable stage, applicable object, keywords, etc., so as to build an orderly and searchable case database, which is not only convenient for case management, but also beneficial to the use of case database.

# **5 Further Thinking on the Construction of Teaching Case Database in Task-Driven Teaching**

At present, the construction method of teaching case base in task-driven teaching has been applied in some courses and achieved certain results. In view of the problems existing in the implementation process and the problems that may arise in the future, some reflections on the construction of teaching cases in task-driven teaching are carried out.

## **5.1 The Construction of the Case Database Needs to Focus on the Combination of Task Design and Cases**

The construction of teaching case database in task-driven teaching is the process of building a case database with task-driven teaching as the core, and the construction of case database needs to be implemented around task-driven teaching. When building a case database, it is necessary to comprehensively consider the teaching content, teaching purpose, teaching method, and teaching support environment, so that the case database can not only be consistent with the teaching content and teaching purpose, but also be fully applied in task-driven teaching. This requires that when building a case base, in addition to considering the general method principles of case base construction, it is also necessary to fully consider the background, level, etc. of the task, as well as the matching degree between the case and the task, and whether the scope of application of the case is within the scope of the task requirements. In this context, the question of whether the case base can support the task-driven teaching process and so on.

## 5.2 The Construction of the Case Database also Needs to Consider Strengthening the Ideology and Politics of the Curriculum

Curriculum ideology and politics are an important part of the teaching process. In addition to supporting task-driven teaching, the construction of case bases also needs to consider curriculum ideology and politics. Task-driven case implementation curriculum ideology and politics can be implemented in the way of “motivate the heart with things, touching people’s hearts, and connecting with hearts”. In the task-driven process, in addition to being easy to understand and analyze tasks, cases can also be more intuitively displayed and more comprehensively analyzed typical cases, so as to guide students to deeply understand the things behind the cases, motivate students’ hearts, and be tempted by things. At the same time, the deeds of typical characters can also be integrated into the case analysis, and through the understanding of the environment and the difficulties faced by the characters in the case, students can feel the tension at that time and the heroic atmosphere of the typical characters through the case, so as to be empathetic. Scenario editing and simulation of a wargame system is a complex simulation activity that emphasizes students’ collaboration in the process of playing different roles. The application of cases in the task-driven process can also create a situational atmosphere in which students work together to tackle key problems, so as to strengthen their collaboration ability and sense of cooperation, fully appreciate the team spirit, and communicate with each other through love.

## 6 Conclusion

Since the introduction of case teaching into the classroom, it has always been an important means in the teaching process, and the construction of the case database has also become an important part of the curriculum construction. This paper discusses the case database construction method based on the task-driven teaching method. The requirements of the cases are clarified through the teaching tasks, and the cases at each stage are further clarified by combining the task stages. Finally, the case database is constructed by labeling the cases. The case database construction based on the task-driven teaching method has a simple method and strong operability, which can play an important role in task-driven teaching, and can also provide feasible ideas for the construction of the teaching case database.

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