Application of Task Learning Method in the Teaching of Mechanical Drawing

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Abstract. With the development of the times, the society is in progress. In the teaching, we should continuously explore new ways and new methods to adapt to the new situation and new characteristics of today's students. In the tide of exploring teaching reform, mechanical drawing also faces the reform of traditional teaching, that is, to convert it into two-dimensional drawing teaching. In the teaching process of mechanical 2D drawing, the task teaching method can raise students' interest in learning, cultivate their ability to find and solve problems and cooperate in groups.

1. Introduction
Task-based learning is one of the most important teaching methods in recent years. Many educators have tried the task-based learning method in teaching practice, and shared its achievements and shortcomings, which provides practical exploration and experience accumulation for teaching reform.

With the rapid development of information technology, human knowledge is being updated more and more rapidly. Because of the continuous emergence of new products and new technologies, people need to update their knowledge and skills frequently[1]. In order to enrich their knowledge, improve their technical or professional level, and enhance their ability to participate in equal and independent social competition, more and more people join the ranks of continuing education. With the enlargement of enrollment scale of mechanical course, the problems of mechanical course education are becoming more and more obvious, especially the decline of teaching quality. Mechanical drawing is a common language in engineering field and a basic course for students majoring in mechanical engineering. It trains students' basic ability of drawing and drawing mechanical drawings effectively[2]. It is an important link for students majoring in mechanical engineering. Students learning "mechanical drawing" results, will directly affect the latter professional curriculum learning, and even affect the ability of students to participate in professional practice. Learning mechanical drawing is not only a course, but also a professional quality training. Therefore, how to improve students' learning interest and quality of mechanical drawing will be a key proposition for teachers. At the same time, mechanical 2D drawing is a basic course of engineering. This course not only pays attention to the theory, but also to the practice. Most of the practical 2D mechanical drawing courses focus on the teacher's explanation and the students' passive acceptance. This kind of teacher said that the student who listens to the teaching pattern may improve through the duty study method[3].

Task-based Learning Method is a multi-dimensional interactive teaching activity that transforms the traditional teaching method of imparting knowledge into problem-solving and task-accomplishing, and transforms the reproducible teaching method into the practical teaching method, so that the students are
in an active learning state. Therefore, the application of task-based learning method in the teaching of two-dimensional mechanical drawing is studied.

2. The Relationship between One Task Learning Method and Mechanical Drawing Teaching

The meaning of task-based learning method: "task-driven" is a teaching method based on constructivist teaching theory. Task-driven teaching is to introduce and learn basic knowledge and skills to cultivate students' comprehensive ability of raising, analyzing and solving problems in the whole process of teaching. Let the student always in the positive upsurge study condition, the student can use the existing knowledge to solve the new question. The task-based learning method accords with Dewey's learning theory of "doing middle school, doing middle school", that is, teachers should urge students to think and acquire knowledge through doing task. In order to help students overcome the psychological weariness, improve interest in learning, in the process of mechanical drawing teaching informationization as a means, using task-driven students in doing, easily resolve the difficulties[4]. First of all, we should create "Blue Ink and Cloud Class" to share learning resources before class, and promote students to change from "being afraid of learning" to "being happy to learn"; in class, we should promote students to change from "not learning" to "learning" through video, micro class and vivid PPT abstraction; after class, we should make evaluation and feedback through questionnaire star creation evaluation system in time to help students realize their own shortcomings and promote students to change from "not learning" to "learning". Task-driven approach to the implementation of classroom teaching, students learning atmosphere and attitude has changed, from the previous "teachers want me to learn" to "I want to learn"; Let students in the information processing "task" driven teaching activities, guide students from simple to complex, from easy to difficult, step by step to complete a series of "tasks", so as to get a clear line of thought, methods and knowledge 2, 2, in the completion of the "task" process, to train students to analyze and solve problems. In this process, students will continue to obtain a sense of accomplishment, can better stimulate their thirst for knowledge, so as to cultivate independent exploration and innovation capabilities.

The Nature of Mechanical Drawing: Mechanical drawing is a basic course with strong practicality, which is closely related to the practice of mechanical production. At the same time, as a discipline, there is a set of relatively independent theoretical system, with its special basic knowledge, basic skills, principles and laws of thinking. In the teaching of mechanical drawing, it is the key to improve the teaching quality to correctly deal with the relationship between theory and practice.

Nowadays, students are required not only to have skillful skills, but also to have the potential of autonomous learning. Task-based Learning fits this teaching mode. The task-based learning method has brought about gratifying changes in the relationship between teachers and students, as well as good teaching results. As follows:

(1) Each student is assigned a task or sub-task that maximizes his or her presence. Through the use of task-based learning, each student with difficulties can do something through the guidance of the teacher and the interaction of the group members[5]. Students gain a sense of fulfillment in each task, thereby stimulating their curiosity, and initiating a positive cycle of constantly exploring problem solving.

(2) Improve the students' ability to analyze and solve problems. Task-driven method is a simple copy of knowledge. Students learn to analyze and evaluate each practical problem according to the accumulated knowledge. Each solution contains comprehensive knowledge. Therefore, task-driven method can cultivate students' ability to explore and solve practical problems.

(3) Learning model for improving students' practical ability. Task-based Learning Method, which is based on independent learning, transforms reproducible teaching into exploratory learning. Students are the main body of learning. Use common knowledge and your unique experience to solve problems. It not only cultivates students' divergent thinking and independent inquiring ability, but also enhances students' exploring spirit, exercises students' will quality and promotes individualized development.

Compared with the traditional teaching mode, the teaching of two-dimensional mechanical drawing advocates the teaching principle of task-oriented and student-oriented. The teaching method of mechanical two-dimensional drawing has completely changed the principle of teachers speaking and
students listening, that is, the teaching mode of passive teaching and learning. Task-based Learning Method is beneficial to arouse students' interest in learning, cultivate students' ability to analyze and solve problems, and improve students' ability to learn independently and cooperate with others. But looking at the current mechanical drawing teaching, there is a widespread phenomenon of teaching inefficiency[6]. The reason is that secondary vocational school students' original learning foundation and learning ability are poor, and they can't understand the abstract content in the mechanical drawing class, which causes students to have difficulty in learning, and there is a weariness of learning. Another reason is that many teachers are used to adopting the traditional teaching mode, fearing that students won't understand them, and that after class they will be allowed to draw the pictures themselves. Because there are too many students who can't completely remember what the teacher says, very few students can draw the pictures. The details are as follows:

(1) Constraints of traditional teaching modes. In the traditional teaching of "Mechanical Drawing", it is mainly to teach knowledge, students learn passively. The teacher is the master of the class. He wants to impart all the knowledge to the students. Therefore, the knowledge he teaches is more detailed and difficult. He does not give full play to the initiative of the students. In addition, the limitations of teaching methods and teaching methods, relying only on traditional wall charts and models and other auxiliary means, make students lack of interest and motivation in learning, there is no active learning opportunities, not to mention innovative thinking.

(2) Characteristics of curriculum contents. The course of "Mechanical Drawing" has its own characteristics which are difficult for students to understand. Its contents have the following characteristics:

1) Abstract. Mechanical drawing mainly expounds the transformation between plane figure (view) and space solid by projection principle. But the difference between the solid object and the plane figure is so great that it is difficult for students to realize the transformation between them. Therefore, students need to have a strong ability of space imagination.

2) Cumbersome. The course of Mechanical Drawing has a large amount of homework, especially the drawing board homework, which needs at least 2-3 classes to complete. Even the words, drawing lines, dimensions and other contents must strictly follow the national standards, and may not have a bit of randomness.

3) Comprehensive. The ultimate goal of the course of Mechanical Drawing is to cultivate students' ability to draw and read mechanical drawings. In order to read a part drawing or assembly drawing, it is necessary to analyze the projection principle and the adopted expression scheme, and combine with the contents such as size, technical requirements, standard parts, etc. to understand the structural shape of the part drawing, the processing requirements, the working principle of the assembly drawing, the assembly route, the structural characteristics, etc. To some extent, these characteristics restrict the effect of cultivating students' innovative ability and cartographic skills in teaching.

4) Graph database file structure. The overall structure description starts from the first byte of the file and requires 6 bytes in total. Among them: the first byte is the identification of the graphic database file: the second to fourth bytes are the date when the graphic database file was created or modified last time; the fifth to sixth bytes are the number of graphic files. A total of 16 bytes are required for the field description part. Among them: the first-sixth byte is the field name of the graphic file; the seventh-tenth byte is the physical storage location of the graphic file; the tenth-fourteenth byte is the actual length of the graphic file: the fifteenth Up to the sixteenth byte can be set as required (the work library file is empty, and the work answer library file is the name of the complement drawing view). The data content part is a graphic file, and the graphic file is a binary file processed by the graphic editing module.

(3) The arrangement and restriction of the teaching plan shall be based on the teaching plan. The subject of Mechanical Drawing is given priority and will be constrained by other courses. In order to learn Mechanical Drawing well, it is necessary to have certain professional knowledge, such as the corresponding metal materials, tolerances, and basic mechanical knowledge. Lacking the support of professional basic knowledge, it is just like a castle in the air. Students can not learn Mechanical Drawing
according to the cognitive law of step-by-step progress. Students can not adapt to this kind of jumping learning, it is difficult to achieve a good training goal.

(4) Constraints on teachers' own abilities. Due to the limitation of teachers' own knowledge structure and the relative lack of practical knowledge, the classroom teaching can not be closely combined with the production site, the teaching content is boring and boring, and can not stimulate students' learning interest. Furthermore, the lack of innovative awareness of teachers themselves, it can not cultivate students' innovative ability[7]. In view of the above reasons, we must find an effective teaching mode and method in mechanical drawing teaching to make up for the above restrictive factors. Based on the theory of constructivism and the principle of behavior orientation, the task-based learning method can solve the above problems. It can be used in the innovative teaching of mechanical drawing.

In task-driven classroom teaching, students study independently around the task main line, the teacher teaches in detail, the students do more, think more and practice more, the students actively participate in the class, the students enjoy learning, and most of the students can finish the task at last. Therefore, the task-learning method has a promoting effect on the teaching of two-dimensional mechanical drawing, which reflects as follows:

(1) Create a harmonious learning atmosphere. In the use of task-based learning, we should first create a relaxed and harmonious environment, turning the classroom into a workplace where students complete their tasks. Students are relatively concentrated according to their study groups, and teachers and students are mixed together. Instead of being a stage for teachers to perform, students really become the center.

(2) Reasonably establish cooperative learning groups. In the implementation of the task-based learning method, students should be reasonably grouped, the form of cooperative learning, so that students through group cooperation to complete the task. Generally, 4-6 students should be divided into a study group according to their knowledge level, practical ability and personality. Especially, the leader should be chosen well, and the students should have rich professional knowledge, practical ability, strong organizational ability, responsibility and appeal. In the implementation process, but also according to different stages, to make appropriate adjustments, try to achieve a balance of each group, each student has the opportunity to start to ensure the smooth start of the task.

(3) Designing learning tasks carefully. Proper task is the premise and guarantee of successful application of task-based learning method in classroom teaching. When designing a task, a teacher shall jump out of the traditional mode of thinking and embody innovative ideas:

1) the task shall attract students and stimulate their interest in learning and desire for learning;
2) the task shall be hierarchical, and all students shall be taken into consideration, so that all students can learn in each study and experience the joy and sense of achievement after the completion of the task;
3) the task shall embody authenticity and rationality and create a real situation close to the life of students; and
4) the task shall best form a system that is conducive to the cooperative learning of a group.

(4) Seriously organizing the process of classroom teaching. The task-based learning method embodies the students' dominant position in the learning process. Teachers, as guides and administrators, play a leading role in the learning process. Teachers should manage the students' activities well.

(5) Attach importance to the demonstration and evaluation of the completion of tasks. Students in the completion of the task, we must let students show their works, and make appropriate evaluation, so that students experience the completion of the task after the realization of self-worth, and inner joy of success. Students can learn to appreciate others and evaluate others, so that there is competition in the cooperation between the groups, and there is cooperation in the competition. The teacher comments, affirms the result, points out the insufficiency, and may develop student's thought.

3. The Application Mode of Two Task Learning Method in the Teaching of Mechanical Drawing

According to the main teaching tasks of "Mechanical Drawing", we take "learning while learning", "learning while learning" and "learning while learning" as the guidance for students' learning process, that is, teachers as the leading force, in view of the characteristics of students' weak foundation and short
attention time, in accordance with the cognitive law and memory law, extend what they have learned to what they have learned, link what they have used to what they have learned, reduce memory interference, decompose the teaching content into several stages that students can accept, reduce students' cognitive difficulty, take students as the main body, use students' basic ability (such as riding a bike, swimming, writing Chinese characters, etc.), and take language as the teaching carrier to organically combine cognition, practice and memory together to form rhythmic and effective teaching interaction, thus forming the whole process guidance for the learning process of "Mechanical Drawing". At different stages, the contents of the action-oriented learning of students should be changed, specifically:

In the first stage, the orientation of students' learning action is drawing. Secondary vocational school students are weak in foundation, different in levels and different in reasons. In order to reduce the negative effect of the difference, at this stage, teachers and students use the memory of the picture and the basic ability of drawing to organize the teaching. From bisection of the simplest line segment → any bisection of the line segment → bisection of the circle → ... → plane figure. In the process of drawing, we should master the drawing knowledge and skills such as the correct use of drawing tools, knowledge of drawing lines and geometric drawing skills, and hide the requirements for knowledge consolidation and application ability among the requirements for drawing proficiency, from the beginner to the master and then to the master. At this stage, with the students' energy and emotional input, the increase of drawing knowledge and ability, students' interest in learning will gradually improve, self-confidence will be gradually enhanced. Students' drawing ability is expressed in the form of drawing, and drawing ability will become the bottleneck for students to learn this course. Want to get, draw, draw fast and good, will play a role in the course and other professional courses to promote learning. At this stage, the teacher's personal presentation is more helpful than the use of modern teaching methods to guide students to learn.

In the second stage, the orientation of students' learning action is learning. Students' drawing ability becomes a tool for students to learn and consolidate new knowledge, and a platform for teachers and students to communicate and interact. In the teaching process, pay attention to the new knowledge to read parts drawings and assembly drawings for guidance, do a good job to the "map" knowledge and memory links.

In the third stage, the orientation of students' learning action is "recognizing pictures". For most students, the information in a part drawing or assembly drawing can be difficult to read. Therefore, the process of "recognizing pictures" should be guided as a process of re-learning, consolidation and application.

In the second and third stages, the teaching effect and efficiency can be improved by proper use of modern teaching means such as physical projection and AutoCAD.

The fourth stage, carries on the mapping, carries on the guidance to student's application ability. In order to reflect the consistency of action-oriented learning, consolidate the effectiveness, and strengthen the learning process, examination and score evaluation is also an important link.

1) The content of the examination shall be mainly drawing and map reading, and the details shall be diluted as much as possible, so as to highlight the students' ability to apply graphics;

2) Ordinary drawing exercises (homework and classroom exercises) shall be recorded directly into the total score by "(quality score)/per copy" so as to strengthen the learning process.

To sum up, "learning while drawing, learning while drawing, learning while learning, learning while learning" is based on the action-oriented learning of cultivating students' professional behavior ability, focusing on the improvement of students' professional ability and the need for further study, and in a relaxed manner, guiding the whole process of students' learning, realizing the teacher-student relationship of dialogue and interactive teaching, achieving the unity of knowledge and skills, process and method, emotion, attitude and values in three dimensions.

Task-based Learning Method is mainly composed of task design, task analysis, task implementation, task evaluation, task expansion and so on.
The task design in the task learning method is the key of the task learning method, which directly affects the teaching effect. Therefore, in the design of "task", the following problems are mainly considered: 3.

1) The design of "task" should accord with teaching content;
2) The "task" design should have a clear goal;
3) The "task" design should be appropriate difficulty, in line with the characteristics of adult students;
4) The design of "task" should be practical and operable. The characteristics of this course are: from point → line → plane, from surface → simple basic body → incomplete basic body, from various basic body → combination body → parts → assembly body. Interlocking from simple to complex, from easy to difficult. Therefore, when designing a task, we must first determine a total task, and then decompose the total task into specific sub-tasks, through the completion of each sub-task, so as to achieve the teaching objectives of this course. The determination of the overall task can not be too difficult, nor too simple, both to include the basic content of the course, but also to arouse students' interest in learning this course. For example: Start with a general assignment that requires a simple view representation of the bearings (bearings are found almost everywhere in the factory and are quite widely used), giving students a sense of urgency to get them interested. When the students feel helpless, the bearing seat will be divided into five components, namely: the bottom plate, cylinder, support plate, ribs and convex. Note that this bearing is both a part, but also a detachable combination, each part of which is an incomplete basic body, then students will feel a little simpler. Secondly, take the soleplate as an example to explain the origin of the incomplete primitives, arrange the first sub-task that is the painting of the soleplate. First restore the incomplete primordium to a primordium, a 4 cuboid, and then see how it is processed from a primordium. That is to say, the base plate was originally processed on the basis of a cuboid, that is, in the upper front of the cuboid drilled two through holes of the same size, the bottom surface of a groove, and then in the front of both sides of the two corner and get. Next, let us know that the complete primitive structure is a cuboid according to the second subtask assigned. Here we still take the cuboid obtained earlier as an example to illustrate. The cuboid is composed of the upper and lower surfaces, front, rear, left and right four sides, and consists of six faces (subtasks), while the surface is composed of countless lines (subtasks), and the lines are composed of countless points (subtasks). It is not difficult to see, after the third, fourth and fifth sub-tasks are all kinds of plane painting, all kinds of straight line painting and all kinds of position point painting. At the same time, the use of multimedia technology and information technology, so that the teaching content image, intuitive, innovative, easy to emotional exchanges between teachers and students, timely feedback, guidance, to stimulate students' interest in learning, so that students are actively involved in classroom activities. Let the students clear "task", with "task" to learn, in the process of learning they will be more diligent, more able to achieve the application of learning.

4. Application Analysis of Three Task Learning Method in Teaching of Mechanical Drawing
Below, take drawing flange workpiece three views as an example, explained the task study method in the mechanical two-dimensional drawing teaching in the concrete implementation process.

1. Task design
   (1) Scholarly analysis
   1) Students have studied the basic principles and drawings of the Three Views and have taken certain courses in surveying. They will use rulers and vernier calipers to measure objects.

   2) Students have uneven academic performance and poor general foundation. In view of this situation, grouping teaching is suitable. On the problem of grouping students, we can adopt the complementary way, that is, the students with good scores match the students with the students with poor scores, which is conducive to the transformation of the poor students, and also conducive to promoting the flexibility of the excellent students, consolidating the knowledge learned, and achieving the effect of "teaching and learning". According to the specific situation of the school, the number of each group is set at 6-8. After grouping, each group assigns a team leader to manage the workpieces and measuring tools used in the study, as well as the attendance of the group members and check the completion of tasks.
2. Analysis of Teaching Content, Determination of Task Objectives

Teaching Content: To draw three views of the flange workpiece, students need to measure the workpiece, select the main view, draw three views and mark the size, so it needs 2 class hours. Key and difficult points: Select and draw the main view; Draw the three-view; Dimension. Ability goal: Can draw parts drawing according to GB standard. Task objectives: through the completion of the task, to achieve the ability objectives and knowledge objectives, learn to draw parts of the correct way to achieve theoretical and practical unity.

(1) Key processes

1. Task creation scenario: We have received a flange part sample from a factory, which needs to draw the part drawings and be processed in small batches in the workshop of the school. Through the creation of the situation, and the display of flange parts in kind, fully arouse students' attention, stimulate students' enthusiasm for learning.

2. Design questions, group discussion: What does the part drawing mainly include? Think about the steps for drawing flange part drawings? Through a discussion, give full play to the subjective initiative among the group members, and reach a consensus. Each group hopes that their answers will be adopted by the teacher to further promote individual and group interest in learning.

3. Displaying the results and explaining the process and steps of drawing the flange part drawings.

1) Analyzing the structural features of the parts, including cylinders, holes, etc.
2) Determining the placement of parts – the choice of master view.
3) Drawing sketches.
4) Drawing part diagrams — alignment of length, alignment of height and equality of width.
5) Label dimensions.
6) Fill in the title column.
7) Inspection and revision.

3. Task implementation

Students draw flange according to the process of drawing parts and steps, the rational use of measuring tools, and gradually draw part drawings. In the process of drawing, the group cooperation is encouraged, the teacher inspects the completion of the group, maintains the classroom discipline and keeps a record of the students' problems. This link so that the combination of teaching, teaching light, heavy practice. Under the guidance of the teacher, students can find and solve problems by themselves in the classroom. At the same time, they can grasp the knowledge and improve the operation skills, so that they can be the real masters of the classroom.

4. Task evaluation

(1) Show your works and appraise each other. After you finish the task, recommend a flange part drawing to show on the stage. One member of the group will explain the idea of drawing and the process of drawing. The other members of the group will appraise the picture and ask questions according to the existing problems. Group members to answer, so not only can cultivate the ability to find problems, but also enhance the cohesion of the group, cultivate students' sense of cooperation. At the same time, teachers need to constantly find the "bright spot" in the process of students' explanation, praise students in time, cultivate students' self-confidence, seize the loopholes of students' explanation, put forward problems, and enable students to find out their own problems and find solutions to stimulate students' interest in learning.

(2) Teacher evaluates and sums up Ss' common problems in the drawing process and in the group presentation. Fifth, task development according to the completion of the task situation, arrange after-school tasks, expand the students' vision, further enhance students' learning ability and skills. Through my long practice, it has been proved that using task learning method reasonably in mechanical drawing class can achieve better teaching effect and improve students' comprehensive ability. At the same time, students in the process of completing the task, easily grasp the knowledge taught by the mechanical drawing course, but also slowly improve their own professional level and professionalism.

The teaching results of mechanical two-dimensional drawing are shown in Figure 1.
5. The Promotion of Four Task Learning Method to Mechanical Drawing Teaching

1. Task-driven classroom demonstrative teaching. In the teaching of mechanical drawing course, teachers need to use all available means to train students to build up the concept of space, realize the transformation from plane-space-plane, and improve students' spatial thinking and imagination ability. For some difficult "task", generally in advance to demonstrate or give a clear, detailed drawing steps to facilitate students to learn independently. For some simple "tasks", you can ask individual students to do it on the blackboard. In the classroom, we should give full play to the main role of students, mobilize their subjective initiative, so that they actively participate in teaching.

2. "Task-driven" after-school work. The course of "Mechanical Drawing" has its particularity, it requires students to practice more and practice more, not only by the object, but also by the composition. It is difficult to do this because the students lack the opportunity of model and practice. Only through very abstract spatial thinking can they learn and master it. However, the practical experience and environment of adult students have a great advantage over those of ordinary students. They can not only draw pictures by specific objects, but also judge the correctness of their drawings according to the actual drawings. They can even take a drawing to process a solid object. In the light of the characteristics of short school time and long factory time of adult students, it is necessary to assign some pertinent assignments for them to do in practice, which will deepen their grasp of the projection law of the three views and form a rigorous style of work.

3. "Task-driven" practical teaching. Mechanical drawing is a very practical basic technical course, which has a strong practicality. Especially, the content and knowledge involved in professional drawing are closely related to production practice. For example, the parts of the process structure, the assembly of the assembly structure, etc., in the expression of the more based on some of the actual background of the painting. Although adult students have strong practical experience, but they are lax in observation, as long as they take the "task" to observe, their learning is 6 when relaxed, of course, will not feel the boring theoretical knowledge and learning effort, so that the learning and mastering of knowledge to achieve twice the result with half the effort.

To sum up, the task-based learning approach has always put students as the main body of learning, task-driven, so that students through their own operations, the book into a living theory of death application. The task-based learning method can solve the problem of "work-study" in adults, and it can improve the students' ability of learning and applying knowledge in short theoretical study and long productive practice, and give full play to the characteristics of rich practical experience and strong understanding ability of adult students in the whole teaching process. Therefore, the task-based learning will play a greater role in the teaching of more adult subjects.

As an important professional course, Mechanical Drawing is a very strong course both in theory and practice, and has a strong application in engineering practice, which is called "engineering language".
The main task of the course is to develop the ability to draw and read mechanical drawings, spatial imagination and thinking ability and practical skills of drawing, and to be able to engage in professional design and drawing work. In the process of vigorously developing education, we should focus on the cultivation of students' innovative spirit and practical ability as the focus of quality education. In the teaching of "Mechanical Drawing", we should attach importance to innovative teaching, regard the cultivation of students' innovative ability and technical ability as the teaching goal, carry out teaching design according to the principle of "ability standard, student subject, task training" and create practical class. In the teaching of mechanical drawing, task-based learning is a very practical and effective teaching method, but some problems must be paid attention to in its application:

1) Don't doubt the students' ability to complete the task. In the teaching process, the teacher appropriate explanation, guidance is necessary, but not too much intervention to students, students can not be a problem immediately stretched out crutches, so it is difficult for students to really solve the problem independently.

2) Teachers shall play a leading role. Students are the main body, but the classroom leader is the teacher, the creator of learning situation, the designer of learning tasks, the provider of learning resources, the organizer of learning activities and the instructor of learning methods.

3) You cannot set a "task" for a "task", nor can you set a task with a single skill. The task design should be based on the outline, and should not be divorced from reality.

4) Pay attention to innovation. Including the mode innovation, the method innovation, the method innovation, the duty innovation, trains student's innovation ability imperceptibly.

6. Conclusion
The important concept of task-driven teaching method is "career-oriented, ability-based". Mechanical drawing has a strong professional foundation. So far, its knowledge system has been quite perfect. For example, according to "career-oriented", curriculum design is based on professional activities. Based on the work process, the knowledge points are broken up and distributed into various subtasks. "What do you use?", there will be no continuity in the teaching process, and the jump of knowledge will be large. "Jump-jump, not reach", It is not conducive to students' understanding of knowledge, so the curriculum design under the task-driven teaching method is still carried out according to the original knowledge system of mechanical drawing. Some task modules of the above-mentioned task-driven drawing teaching method based on SolidWorks have been implemented in the teaching, and the stage effect is good. Under the new situation of rapid changes in various technologies, the goal of talent training requires that the drawing course is to enable students to have both a certain theoretical knowledge of drawing, and a strong ability to actually look at drawings. How to do it under the condition of less drawing lessons Letting students really master the necessary cartographic theoretical foundations and skills is the final goal pursued by cartographic teaching staff, and it is also an extremely difficult task that requires the unremitting efforts and struggles of cartographic teaching researchers.

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