

# Applications discovery method to develop students' awareness of innovation

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**Keywords:** Discovery method; Awareness of innovation; Teaching methods

**Abstract:** Innovation is a source of national development, innovation and training students awareness is fundamental to improve the country's competitiveness, the paper discusses how to use the "discovery method" to raise awareness of innovation university students through curriculum design, teaching methods courses improvement, self Students raise awareness of innovation..

## Introduction

Discovery method of teaching American educator, psychologist Jerome Bruner in his ability to impart knowledge of the relationship between culture and training capacity on the process of teaching methods and ways "of the educational process," a book made in the book proposition put forward their views widely used "discovery method" in teaching methods. In his "discovery of behavior" in an article on the "discovery method" to do a more detailed discussion, he stressed that the discovery is not limited to the kind of seeking man has not known the things correct behavior that discovery, including the use their minds to personally acquire knowledge all methods. He believes that people's understanding of the process is a process of people to enter the main things that make sense to select, conversion, storage and applications. Are motivated to learn, adapt and transform the environmental process. He also believes that teaching must be to mobilize the initiative of students as their responsibility, to enable students to go through analysis, synthesis and other means to find a conclusion or law teachers through the material and become positive "discoverer" adopt "discovery method" of teaching in the teaching process, conducive to student learning and mastery of knowledge and skills, help develop students' discovery research and innovation capacity.

In China, the "discovery method" of teaching methods and the introduction of no good teaching, mainly because China's traditional teaching philosophy and teaching habits, many teachers in our concepts, the teaching and learning are two separate concepts, so the teacher only disciplining students just learning, teaching the concept of leadership in times, students just a successful knowledge heritage, hardly any innovation. Today, more and more intense competition in society, not a competitive one, it will be very difficult to survive, if a nation without a competitive, that this nation has no future, this article on how to improve the competitiveness of the process of teaching students to make explore and study how to "discovery method" into teaching to enhance students' awareness of innovation.

## **Discovery method**

In the cognitive learning process, students can simultaneously experience the "discovery" of excitement and confidence to complete the task of knowledge. This excitement can stimulate intrinsic motivation and self-confidence of students. Bruner said: "The findings include all forms of access to knowledge in their own minds personally." Discovery method can more accurately, more fully reflect the teaching and learning this contradiction in the development of relations. Discovery method, also known as heuristics, research, teaching modern heuristic or problems. Refers to the teacher in student learning concepts and principles, just give him some facts (cases) and questions for students to positive thinking, independent exploration, self-discovery and mastery of appropriate principles and a method conclusions. Its guiding principle is student-centered, independent understanding of the process to achieve that inspired teachers, students consciously, actively explore; scientific understanding and problem-solving methods and procedures; property research objective things; the development of things found The causes and the internal relations of things, find out the rules, to form their own concepts.

The typical processes of learning basic discovery method are: (1) mastery learning task (create problem situations); (2) the development of hypothesis (proposed to solve the problem of possible assumptions and answers); (3) found that supplement, modify and summary.

Bruner believes discovery method has the following advantages: (1) to improve students' intelligence, potential students; (2) to enable students to produce intrinsic motivation to learn, enhance self-confidence; (3) to enable students to learn to identify the heuristic method, students ask questions, problem-solving skills and attitudes inventions; and (4) as a result of students' own knowledge systematic, structured, they are able to better understand and consolidate learning content, and better use it.

## **Application discovery method in teaching**

Innovation, fundamentally divided into two types, one is a passive type of innovation, means that when problems arise, the original method can not be resolved, we must create new ways to solve; one is passive, although finger there are a good way to solve this problem, but the initiative to actively seek new ways to solve this problem. Today, many colleges and universities, "innovation" concentrated in the first, mainly in the study of a variety of topics, but for the second innovative thinking is rarely involved.

In the teaching process, we can introduce the "discovery method" by the following methods.

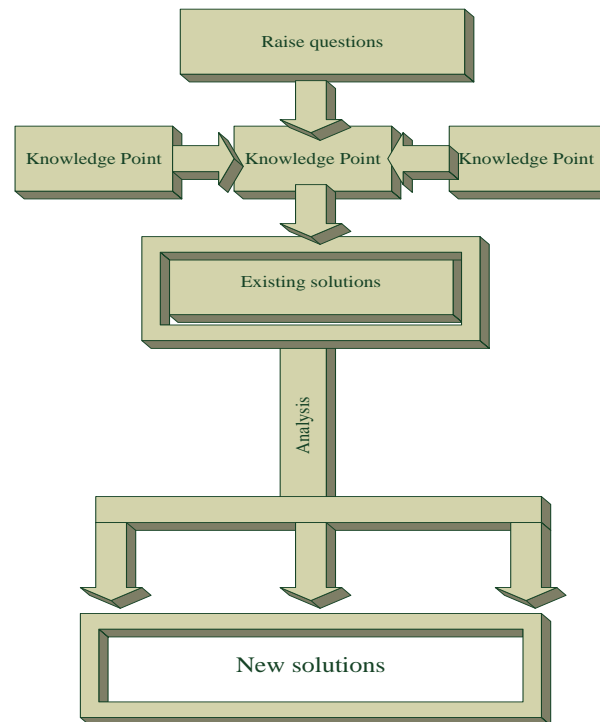


Figure. 1 used processing of "discovery method"

**Raise questions:** Ask a new question, this problem may be difficult for students, but they are not resolved after this question, allow students to think about how we should solve, if you want to solve this problem, we need to know what Knowledge.

**Knowledge Point:** to solve the problem that must be difficult knowledge, we first explain the method according to the standard, there does not need to put all the content on this knowledge to explain it in detail, for example, the definition of the array, there are a variety of methods, we Just a way to talk on the line.

**Existing solutions:** for a solution to the problem, there is simply one of the most sophisticated methods, such as binary tree traversal issue, there is one of the most simple way, we can talk about this method, this method allows students to learn what is the binary tree traversal .

**Analysis:** After students learn the issues related to knowledge, but also to understand the nature of the problem, then the question is, Is this solution only one what? What can we do to improve it? Such as sorting, estimated to solve this problem is no less than one hundred kinds, then we have what way?

**New solutions:** For existing problem, we analyze their deficiencies and propose new solutions.

"Discovery method" into teaching, is a challenge for teachers, teachers first need to change the way the original study to guide the way, the original teaching spend a lot of effort to explain the knowledge into new ways to explain, followed by requiring teachers are familiar with the book knowledge, only to do proficient knowledge in order to have a variety of ideas, the third need teachers themselves have divergent thinking, you can not stick to one idea, the fourth full needs teacher preparation, the contents of each class of knowledge transfer from existing books to the infinite thought, the teacher must be fully prepared to respond to students' various unexpected problems.

All in all, "discovery method" of teaching improving student learning enthusiasm to start, with the induction and guidance of teachers, fully mobilize students found desire to discover the problem, to

find the knowledge of theory and methods to solve problems, to discover knowledge transfer and skills transformation The secret lies, which train vocational students sense of innovation, creativity, to solve practical problems "exam-oriented education" and other education presents a new idea for us to cultivate knowledge of the theoretical and practical ability bi-directional innovation Talent has a good guide.

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