Journal of Education and Educational Research
ISSN: 2957-9465 | Vol. 3, No. 1, 2023

The Basic Problems of Educational Principles: Teaching

Kexin Chen

School of Society, Soochow University, Suzhou, Jiangsu 215124, China

Abstract: Teaching is the most purposeful, planned and organized educational activities in school education activities, and it is the basic way for schools to achieve the goal of education and promote the development of students. Because of this, teaching has become one of the basic problems of educational research. On the basis of explaining the relationship between education and teaching, this paper focuses on the classification of teaching objectives, the organization of teaching content, the selection of teaching methods and media, so as to provide theoretical basis and method guidance for effective teaching.

Keywords: Teaching Objectives; Teaching Content; Teaching Methods and Teaching Media.

1. Introduction

The basic problem of educational research refers to the primary problem that educational research work must face. It is not only the "logical fulcrum of building the building of educational subject system"[1], but also the problem that must be solved in the process of educational practice. What are the basic problems of educational research? In a word, it is the question of what kind of people to cultivate and how to cultivate them. From Confucius, Socrates to modern and contemporary educators, they have all carried out theoretical research and practical attempts around these two issues.

2. Education and Teaching

In the basic problems of education, "what kind of people to cultivate" is to find the purpose of education, and "how to cultivate people" is to explore the way of education, that is, the way to achieve the purpose of education. As far as today's education is concerned, the most effective way to achieve the purpose of education is teaching." Teaching" is "the process of teaching and learning". Teaching and learning do not simply coexist. Real teaching can only be triggered by teachers 'teaching activities, triggering students' learning activities, and conducting teaching activities. Referring to the relationship between education and teaching, Herbat pointed out that "I cannot think of any 'education without teaching', as on the contrary, I do not admit that there is any 'teaching without education' " [2]. His meaning is very clear, namely that education and teaching are closely linked. Education is realized through teaching, and education promotes the continuous improvement and development of teaching. Because of this reason, teaching has become one of the basic problems of educational research. What kind of teaching objectives to formulate, how to organize and arrange teaching content, what kind of teaching methods and teaching media to adopt are all questions worth pondering.

3. Classification and Expression of Teaching Objectives

The teaching goal is the result or standard that teachers and students expect to achieve through teaching activities, and it is a specific expression of what learners can do after learning. Teaching objectives can be divided into both a broad sense and a narrow sense. The broad sense of teaching goal refers to the purpose and purpose of education. In the narrow sense, the teaching objectives are the classroom teaching objectives produced in the process of dividing the national and regional educational purposes and school education plans into specific teaching units and class hours. The teaching objectives stated in this paper are a narrow purpose.

Most of the relevant research on teaching objectives has focused on the classification of teaching objectives. Different scholars have different categories, the best known as Bloom and Gagne.

(1) Bloom's classification of educational objectives

Bloom's Theory of educational goals classification was first proposed in 1956 by Bloom and his team members, dividing educational goals into three major domains: cognitive, emotional and action skils.

First, classification of cognitive domain goals. According to the depth of students' knowledge and skills, Bloom divides the cognitive goals into six levels from low to high, that is, knowledge, understanding, application, analysis, synthesis and evaluation. These six aspects are a progressive and cyclical relationship. Among them, knowledge, understanding and application are low-order thinking, and analysis, synthesis and evaluation are high-order thinking.

Second, emotional domain goal classification. He goals of the emotional field were announced by Craswall in 1964, mainly related to the learners' attitude goals, emotional goals and value goals. According to the degree of value internalization, the goals of the emotional field can be subdivided into five levels: acceptance, response, value system, value organization and value system personalization.

Third, target classification of movement skills field. The teaching objectives in the action skills field are later than the former two, and multiple categories appear. Here, the classification, by most people agree, the classification proposed by Simpson et al. Simpson et al classify motor skill goals into seven levels: perception, orientation, directed response, mechanical action, complex explicit response, adaptation, and innovation. The original teaching objectives were revised in 2001 by Anderson et al. The modified classification of educational objectives has been modified from an initial dimension to two dimensions: knowledge dimension and cognitive process dimension. "The former is used to help teachers distinguish 'what to teach', while the latter aims to promote students to retain and transfer the knowledge they have learned" [3].

(2) Classification of Gagne's learning results

Gagne has a great influence on objective theory, and Gagne's classification of learning results has practical value for designing teaching objectives. He divided the possible results of teaching into five categories: one is the speech information, refers to the information that can be expressed with verbal symbols or written symbols, is the declarative knowledge to answer the world "what"; the second is the wisdom skills, refers to the ability to answer the question of "how to do"; the third is the cognitive strategy, refers to the ability to regulate the cognitive processes of learning, memory and thinking, is to answer the knowledge of "how to learn"; four is the ability to use rules to regulate their own muscle coordination, is the knowledge of "how to operate". Fifth, attitude: refers to the internal tendency formed through acquired learning to influence individual behavior choice, which is to answer the question of "how to treat it".

(3) The expression of teaching objectives

Along with the rise of the classification of teaching objectives, many educators began to design a set of methods for describing and stating teaching objectives, so as to exert the function of goal orientation, motivation and regulation. There are three main methods of expressing teaching objectives: the expression of cognitive view, the expression of behavior view and the combination of two viewpoints. Among them, the expression method of cognitive concept emphasizes the presentation of internal psychological process to the presentation of observable explicit behavior, and the organic combination of explicit behavior and internal psychology. Generally speaking, the teaching objectives should be clear, specific and observable, and the expression should be defined by observable and explicit behavioral reactions, and the behavioral verbs must be measurable, specific and clear; describing the learning results of students after teaching rather than the teaching process of teachers.

4. Organization and Arrangement of Teaching Content

(1) The organization mode of the teaching content

After selecting the teaching content according to the classroom teaching objectives, it is necessary to arrange and organize these contents properly, so that students can master the knowledge quickly and effectively, and achieve the teaching objectives smoothly. When organizing the teaching content, it is necessary to determine the relationship between the content, and then make the overall arrangement. Many scholars have conducted in-depth research on the organization of teaching content, and put forward various methods for the organization and arrangement of teaching content. According to the level of learning, learning activities are divided into eight types, namely, signal learning, stimulus-reaction learning, chain learning, verbal associative learning, discrimination learning, concept learning, rule learning and problem-solving learning.[4] These eight types of learning are organized according to simple to complex, and each high-level learning can only be realized on the basis of low-level learning. If the teaching content is organized in this way, teachers must be required to be familiar with the teaching content and do a good job in the division of levels, after mastering the lower level of content, the high level of learning.

(2) The arrangement of the teaching content

The order of the teaching content is to make scientific arrangements for "what to teach first" and "what to teach later". Traditional teaching is only progressive in the logical order of the teaching content, without taking into account the acceptability of learners. The scientific design should not only be carried out in accordance with the logical order of the teaching content, but also arrange the order of the teaching content according to the learning theory and the characteristics of the learners themselves. This arrangement conforms to the logic and the law of the development and the order of the students' "learning". The following is a brief introduction of the teaching order of different knowledge based with their own subjects.

The teaching order of declarative knowledge. Declarative knowledge is knowledge about "what it is", and it can understand the laws of nature and human society itself directly through human statements.[5] Declarative knowledge can be divided into two categories. One is the knowledge where there is almost no transfer. For example, remember "the establishment time of the Tang Dynasty", the teaching order can be in no particular order. The other is the learning of meaningful knowledge, which needs to be arranged in a certain logical order. For example, the teaching goal is "to understand the liao Xia Jin Yuan regime establishment, development and related system construction, know the northern minority regime in the development of the important role of" [6], the teaching order should be in accordance with the time successively, introduce dynasties change order, on the basis of clear historical events.

The teaching sequence of procedural knowledge. Procedural knowledge is about what to do and how to do it. Procedural knowledge solves the problem of the thinking operation process, the knowledge about how to transform from a known state to a target state. Procedural knowledge is also a skill, namely, a set of procedures for how to do things. Procedural knowledge is closely related to practical operation and has a dynamic form. The teaching order of procedural knowledge is divided into the following three stages: first, to master the presentation form of procedural knowledge; second, to make students clear the conditions for the application of procedural knowledge; third, the transformation from declarative knowledge to procedural knowledge.[7] Therefore, the teaching should first let the students understand the concepts, rules and conditions, and then transform the declarative knowledge into procedural knowledge through diversified exercises. The following takes "Cultivate students' ability to read historical maps" as an example to illustrate the teaching order of procedural knowledge. First of all, students should know that the map reading should pay attention to the map title, legend, place names and other elements, so that students can master the declarative knowledge. Secondly, the historical time of the map is defined, and the map analysis is conducted combined with the historical events of the period, so as to transform the declarative knowledge to the procedural knowledge. Finally, through continuous map reading exercises, to reach the degree of relative automation. At this time, the learners have formed a skilled skill, the analysis of the historical map is handier.

The teaching sequence of strategic knowledge. Strategic knowledge is essentially knowledge about "how to learn", such as how to remember the time of an event, how to establish the connection of historical events, how to write a good historical composition. Strategic knowledge is transformed from procedural knowledge, which is a special procedural knowledge.[8] General procedural knowledge involves the objects of external objective things, while the

objects of strategic knowledge processing are the cognitive activities within the learners themselves. If procedural knowledge is about "how to do it," then strategy is about the question of how to "do it effectively". According to the characteristics of strategic knowledge itself, the teaching order should be considered from the following aspects:

First, to clarify the strategic knowledge in the teaching objectives. The biggest difference between strategic knowledge and other knowledge lies in the recessive nature of its knowledge. Students' understanding and acceptance of strategic knowledge is slower than that of declarative knowledge and procedural knowledge, and the expression form of strategic knowledge is also different from these two types of knowledge. Therefore, only by clarifying the strategic knowledge in the teaching design and teaching activities can the teachers really promote the mastery of the knowledge of countermeasures. For example, teachers can ask students to organize the knowledge points of history in the form of frame diagram, and can compare and identify the similarities and differences of some historical things and events.

Second, the situation that emphasizes strategic knowledge. Strategic knowledge generally exists in declarative knowledge and procedural knowledge. Different strategic knowledge has a corresponding background, and each strategy also has its corresponding application field. For example, organizational strategies are suitable for application in recall-only learning, finishing strategies for paired associative learning, and retelling strategies are suitable for application in series learning. Therefore, the richer the students' knowledge in a certain field, the more conducive it is to master the corresponding strategic knowledge.

Third, emphasize the development of students' metacognitive ability. Metacognition is the cognition of its own cognitive activities, mainly including metacognitive knowledge, metacognitive experience, and metacognitive monitoring. Students' mastery of strategic knowledge is closely related to their metacognitive level. From the perspective of cognitive development, children have cognitive development first, and then they have metacognitive development.[9] Due to the low level of self-awareness development, children master strategic knowledge in slower progress than another knowledge. In the teaching process, teachers should consciously guide students to point their cognitive activities to the cognitive process itself. For example, guide students to consciously allocate time when solving problems, adopt appropriate problem-solving strategies, and reflect on their own ideas and mistakes in solving problems.

5. Election and Use of Teaching Methods

Teaching methods can help teachers to guide and adjust the teaching process, and finally achieve the purpose of education. In teaching, when the teaching objectives and contents are determined, the choice and application of teaching methods will become one of the key factors for the success or failure of teaching. Any kind of teaching method is used to promote students' learning, and it is not good or bad, good or bad. When choosing teaching methods, teachers can comprehensively consider the teaching objectives, teaching content, subject characteristics, student characteristics, teachers' own quality and other factors, and combine different teaching methods to achieve the teaching objectives.

(1) Teaching method

Teaching method refers to the information presentation and presentation of students, which is the most commonly used teaching method in teachers' teaching. Various forms of teaching, long or short, can be formal or informal, and it is usually used in combination with other teaching methods. Wonderful teaching, first of all, requires teachers to skillfully introduce the topic, attract the attention of students, present and describe the types and goals of learning. Secondly, use the "advance organizers" to provide students with clear and structured information. Thirdly, in the teaching process, we should strengthen the monitoring of students' learning. Ask students to take notes in class to promote the interaction between students. Finally, control the capacity, time and scope of teaching. The teaching content should not be too much or too little. The narration of the most important part should be arranged within the first 15 minutes, and the teaching should be avoided. At the end of the lecture, the teacher should review and summarize the content, and check the students' understanding of the new knowledge.

(2) Discussion method

Discussion method is a teaching method for students to discuss and solve a certain problem and identify the truth of right and false to acquire knowledge under the guidance of teachers. Compared with the teaching method, the discussion method puts more emphasis on the interaction of the teaching process and the cultivation of students' active learning, independent thinking and innovation ability. For various reasons, the discussion method is often difficult to use in the actual teaching process. As far as teachers are concerned, under the dual pressure of teaching and scientific research, compared with the strict assessment requirements of scientific research, many teachers have no intention to put their energy into teaching, so they are not willing to try. As far as students are concerned, our students have grown up in the cramming teaching mode. They have become used to passive learning and accept all the content taught by teachers. They do not know or dare not challenge the authority. As far as the school is concerned, the school has formulated a very perfect classroom teaching supervision and management system. Regardless of the primary and secondary schools, even the university courses, most professional core courses are assessed in the way of examination, which seriously restricts the reform and innovation of teachers in classroom teaching.

(3) Self-study law

Self-study method refers to the free learning method that teachers require students to complete independently related to classroom homework or practical exercises. The biggest advantage of self-study method is that it can improve students 'understanding and consolidation of the knowledge, and can cultivate students' learning autonomy. Its disadvantage is mainly that its actual teaching effect is influenced by the understanding and application of teachers and students. If the students do not understand the purpose and requirements of self-study, or think they are unreasonable, they will passively cope with or resist the task; if the teacher guides, regulates or evaluates improperly, it will also affect the students' learning effectiveness. It needs to be clear that the self-study method is neither completely laissez-faire to students, nor that teachers and students are unrelated to each other. Its effective use also depends on the guidance and regulation of teachers. In the preparation stage, the teacher should determine the nature and type of the homework and ensure that the proposed

homework objectives are consistent with the interest and ability level of the students. In the implementation stage, teachers should clearly state the purpose and requirements of the homework, the steps and time limits of the homework. At the end stage, teachers should collect homework in time, correct and evaluate them, provide detailed feedback for students, and conduct supplementary teaching when necessary.

6. Teaching Media Selection and Application

Teaching media is the carrier and tool of carrying and transmitting teaching information. There are many classification methods for teaching media, such as sensory and physical properties.[10] According to the sense of the teaching media organs, can be divided into: auditory media (recording, reread machine, etc.), visual media (textbooks, blackboard writing, wall charts, photos, slides, projection, etc.) and audio-visual media (film, television, video, interactive media, etc.) according to the physical classification, can be divided into optical projection teaching media, electroacoustic teaching media, television teaching media, computer teaching media, etc. The choice and application of teaching media will affect each part of teaching, so the following points should be paid attention to in the application:

First, Combination and application of multiple media outlets. In view of the different adaptability and limitations of various multimedia, and often the limitations of one media can be made up by the adaptability of other media, under possible conditions, it is best to use a variety of media combinations to carry out teaching, so as to make all variety of media promote their strengths and circumvent their weaknesses, and complement each other. For example, TV video has a unique advantage in the performance of dynamic scene, but it is not as good as slide and projection in the performance of static magnified picture. If the two are combined, it can not only show the dynamic scene and the static enlarged picture. Multimedia combination teaching should pay attention to: the information transmitted by different channels should be related or related, otherwise it will produce mutual interference; the information transmitted by different channels is not the better, the information per unit time, exceeds the acceptance ability of learners, but will reduce the learning effect.

Second, a certain degree of media redundancy promotes information integration. The smooth integration of information by learners largely depends on a certain degree of media redundancy. In order to form the overall impression of information, learners must make the information be stored in the brain before it can be integrated.[11] Therefore, in order to ensure the analysis and integration of information, the media cannot transmit information too fast; on the other hand, it should create favorable conditions for information analysis and integration. For example, the advantages of media can be used to emphasize the proximity of things with convenient control of temporal order and spatial distance.

Third, follow the psychological rules of students' learning. Due to the main psychological activities in the process of learning including attention, perception, memory and concept formation, so the design of the media will follow attention to selectivity, new sex, simple sex, moderate and plasticity, perceptual integrity, relativity and contrast, memory block and finite, pay attention to the comprehensive use examples, counter exempland, column attribute method to guide students to effectively form the concept.

7. Conclusion

To carry out research or reform of teaching, we should not only pay attention to the above related teaching objectives, contents, methods and media choices, but also pay attention to other basic educational issues such as educational concept education, educational system, educational purpose and classroom creation. Strictly speaking, teaching is only an effective way to realize education, which belongs to the lower concept of education. Therefore, in order to realize the development of teaching, first of all, we should do a good job in the research and reform of educational concepts, educational purpose and other aspects, and take this as a guide, step by step, implement it into teaching, and finally realize the mutual promotion of teaching and education.

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