School Curriculum Design Based on Multiple Intelligences Theory

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Abstract: The theory of multiple intelligences provides a meaningful reference for us to challenge the traditional school curriculum design. The school curriculum design based on the theory of multiple intelligences has the following characteristics: Student development as the center of curriculum value orientation; The goal of curriculum design is to fully develop students' multiple intelligences; Update and expand curriculum content; Curriculum implementation as "Teaching through Multiple Intelligences"; Establish developmental and situational evaluation view, diversity of curriculum evaluation.

Keywords: Theory of Multiple Intelligences; School; Curriculum Design

1. The basic connotation of multiple intelligences theory

Howard Gardner, the professor of psychology at Harvard University, proposed the theory of multiple intelligences in response to the traditional intelligence theory in 1983. According to the traditional intelligence theory, human cognition is unitary, and individuals can be described by using a single quantifiable intelligence concept. Gardner broke through this idea, arguing that a person's intelligence was not based on his performance in school, but on his ability to solve problems and create things in real situations. He defined intelligence as: "Intelligence refers to the ability to solve problems or make products in a particular cultural context or society. Problem solving ability is the ability to target a specific goal and find the correct route to that goal. The creation of cultural products requires the ability to acquire knowledge, spread knowledge, and express personal views or feelings." Generally, its basic idea is as follows:

1.1 There are at least eight intelligences in each person, and they exist in separate ways

According to Gardner, intelligence does not exist in an integrated way, with language and mathematical logic at its core, as we once thought; In terms of its basic structure, intelligence is multiple. There are at least eight intelligences in each person, namely, language intelligence, mathematical logic intelligence, musical intelligence, spatial intelligence, body movement intelligence, interpersonal intelligence, self-knowledge intelligence, and nature observer intelligence. All kinds of intelligence is not exist in the form of integration, but independent of each other, each has a different development rule and use different symbols system. In addition, Gardner also pointed out that human intelligence should not be limited to the types he identified, and it is possible for people to identify and summarize new types of intelligence in certain activities or situations.

1.2 Each kind of intelligence is manifested in different degrees in each person, and the combination of intelligences is different

Each kind of intelligence has multiple manifestations, and various relatively independent intelligences are organically combined in different ways and degrees. Even the same kind of intelligence varies in different people. It is this difference in intelligence among individuals that makes each of us "different". Therefore, in the view of multiple intelligence theory, everyone is an individual with multiple abilities, and there are intelligence differences. What is important is that individuals should combine types of intelligence in the appropriate way and degree in a particular

problem situation, so that their advantages in the field of intelligence can be proved and reflected. So, each person can develop himself according to his unique field of intelligence and superior intelligence through such an activity as education.

1.3 Intelligence is the potential ability of the central nervous system, its activation depends on the environment and education of a particular culture

Intelligence is not something that can be seen with the naked eye or measured by some particular standard. It is the potential development of the central nervous system. Intelligence, a central nervous system potential, may or may not be activated——whether this potential can be activated depends on the environment and education of a particular culture. The development of intelligence is different due to the difference of social and cultural environment and educational conditions. The environment and education under a specific culture can activate some potential ability existing in everyone. It follows that intelligence is inseparable from real life situations, that it is not an abstract thing, and that it must and can only be expressed through real problems.

2. School curriculum design from the perspective of multiple intelligences theory

In traditional school curriculum design, our guiding principle is to teach only one or two core intelligences, and to teach them through uniform direct instruction. This kind of school curriculum makes our education not only cultivate students with one-sided development, but also "good students" who follow the rules and have no personality. Gardner's theory of multiple intelligences provides a meaningful reference for us to challenge the traditional ideas of school curriculum design and form a new curriculum design with the characteristics of The Times.

2.1 The value orientation of curriculum design centered on student development

The theory of multiple intelligences points out that every student has his or her field of intelligence advantage, have their own learning style and learning method. The difference between each student is not the difference of intelligence level, but the difference of intelligence characteristics and development direction, each student may become his or her advantage in the field of material. "The aim of school education should be to develop multiple intelligences and to help students find careers and hobbies that suit their intelligent characteristics." When talking about the implications of multiple intelligences for the school of the future, Gardner strongly advocates the "individual-centered school", in his view, "an individual-centered school should be experienced in assessing the abilities and tendencies of individual students. It's looking not only for a curriculum that matches each student, but also for teaching methods that match those curriculum." Therefore, the curriculum design from the perspective of multiple intelligences theory is to seek the curriculum arrangement that matches each student and advocate the value orientation centered on the development of students. "students" is the central factor of curriculum design. Some Chinese scholars have also proposed that there are two ideas in the curriculum design based on multiple intelligences theory, namely "teach for the theory of multiple intelligences" and "teach through the theory of multiple intelligences". Although the two curriculum design train of thought is different, but its purpose is to make the course more adapt to the students, the design of the course are the development of students as the center.

2.2 The goal of curriculum design is to fully develop students' multiple intelligences

For a long time, due to the influence of traditional ideas, Chinese primary and middle school education pays more attention to the linguistic intelligence and logic and mathematical intelligence in the theory of multiple intelligences, while the other intelligences are seldom involved. Almost all the school curriculum revolve around the language ability and mathematical ability. Such school education, which attaches too much importance to students "academic intelligence" , has indeed cultivated many students with language and mathematical logic ability, but on the other hand, it has greatly suppressed the development of students' various intellectual abilities, and greatly buried all kinds of talents with various abilities needed by the society.

The theory of multiple intelligences holds that everyone has a variety of intelligences, with their own strengths and weaknesses, and everyone can find suitable learning content and ways. With the right curriculum and learning environment, every child can develop accordingly. Therefore, school education should be oriented to all students, and the goal of school curriculum design is to fully develop students' multiple intelligences. The design of school curriculum should not only pay attention to the development of students' linguistic intelligence and mathematical logic intelligence, but also pay attention to the development of students' musical intelligence, interpersonal intelligence, self-knowledge intelligence, nature observer intelligence and other aspects.

2.3 Update and expand the curriculum content, emphasizing the integrated learning of various subjects

Under the consideration of the theory of multiple intelligences, the course content is selected around the eight

intelligences, which requires to reflect the diversity of human intelligence. In view of the disadvantages of traditional school education which only pays attention to academic intelligence, school curriculum should take into account the learning of different fields of knowledge, update and expand the old curriculum content, and rationally allocate the proportion of all kinds of intelligent learning. In addition, in order to adapt to different types of learning activities of different students, the representation of knowledge can take a variety of forms. Gardner believes that "According to the theory of multiple intelligences, intelligence can be both the content of teaching and the means or media to communicate with the content of teaching." Therefore, in addition to text presentation, the design of textbooks can also strengthen the use of pictures, video, three-dimensional and multimedia, so as to enhance the effect of students' learning.

The theory of multiple intelligences also emphasizes the integration of topic knowledge, such as project learning and subject learning. They use multiple intelligences around a certain topic or core knowledge to research and learn the knowledge of each subject, so as to achieve the purpose of developing multiple intelligences and having a deep understanding of topic learning. Therefore, in the selection and design of curriculum content, we should strengthen the integration of various disciplines and integrate the learning of multi-disciplinary knowledge.

2.4 In terms of curriculum implementation, "teaching through multiple intelligences" can realize diversified teaching

One of the ideas of curriculum design based on the theory of multiple intelligences is "teaching through multiple intelligences", which requires us to use diversified teaching means in the design of school education curriculum, while making different intellectual fields develop in an all-round way, and mobilizing different intellectual activities to play different roles in education and teaching. "In the teaching of a course, the content can be presented in a variety of ways, whether by teachers, books, software, hardware, or other media," Gardner says: "In many cases, the choice of the above presentation model contributes to the success or failure of the educational experience."

Thus, the theory of multiple intelligences for curriculum design provides a variety of breakthrough point, the teachers can design on the basis of effective learning activities to develop students' multiple intelligences. According to the theory of multiple intelligences, our teaching way to diversification, not only should vigorously carry forward the traditional cherished lectures, teaching methods, and should be obtained from art, interpersonal interaction and self-reflection, can use group discussions, self-reflection, to provide more visual images and the appropriate background music to increase students' learning and understanding of knowledge. For example, a history lesson can be taught in a pattern of language, logic, space or personal understanding, and even a geometry lesson can be taught in a pattern of space, logic, language or mathematics.

2.5 Sets up the developmental and situational evaluation view, adopt diversified ways of evaluation

In terms of curriculum evaluation, we should set up the developmental and situational evaluation view to promote students' intelligence development. The theory of multiple intelligences emphasizes the incentive function and development function of evaluation, that is, evaluation should achieve two purposes: One is to provide beneficial feedback for individuals, help individuals to know their own intelligence strengths, so as to consciously develop strengths and make up for weaknesses; Second, the evaluation results can provide useful information for course designers and make suggestions on learning direction. In addition, the theory of multiple intelligences advocates the evaluation in a certain real situation, that is, in an actual or similar to the actual situation to evaluate students, and then reflect the actual problem-solving ability and innovation ability of students. Situational evaluation is convenient for teachers to evaluate students in multiple dimensions in dynamic specific situations and for students to carry out self-reflection.

In traditional school education, the evaluation of students is mainly limited to the aspects of linguistic intelligence and mathematical logic intelligence. This kind of evaluation is very one-sided and limited, which makes some students who do not perform well in verbal or mathematical logic intelligence lose their interest and confidence in learning. According to the theory of multiple intelligence, each person's intelligence performance is multifaceted, and school education should pay attention to the diversity of students' intelligence and comprehensively evaluate students' ability. Therefore, curriculum evaluation methods should be diversified, which can be carried out not only through language and logical reasoning, but also in other ways. In addition to the traditional paper-and-pencil test, we can learn from the current international popular "portfolio assessment" technology.

References

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