

The Embryology Research on Students' Classroom Learning Behavior

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Abstract

The inherent behavior transition of students' classroom learning behavior is a process of transition from outside to inside and from the inside to the outside. Perceptual information is the starting point of classroom learning behavior inherently occurs. Abstract internalization is the basis of classroom learning behavior inherently occurs. Innovation generation is the key to classroom learning behavior inherently occurs. Firstly, the consciously degree of students' learning cogitation restricts the processes of innovation generation learning behavior. Secondly, the learning cogitation type restricts the quality of innovation generation of learning behavior. External action is the practice of learning behavior inherently occurs. Firstly, the change of students' learning behavior at any time should be observed and recorded. Secondly, students continuous reflect on the process of classroom learning behavior. Finally, classroom learning behavior should be constantly improved and modified according to the questions found by students after their reflections. These four aspects are not a simple "flat loop" from perceptual information to external application, but a "spiral process." External application also means the beginning of the next perceptual information. These four stages are relatively independent, though they are connected to each other and interlocking.

Key words: Student classroom learning behavior; Perceptual information; Abstract internalization

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INSTRUCTION

The inherent behavior transition of students' classroom learning behavior is a process of transition from outside to inside, from the inside to the outside, which has gone through perceptual information—abstract internalization—innovative generation—action application and other links. Perceptual information is the logical starting point for classroom learning behavior, and abstract internalization is the cognitive extension of classroom learning behavior. Innovation generation is the key to classroom learning behavior, and external application is the terminal test of classroom learning behavior. The conversion between the four factors constitutes the internal mechanism of classroom learning behavior.

1. THE PERCEPTUAL INFORMATION: THE LOGICAL STARTING POINT OF CLASSROOM BEHAVIOR INTRINSIC OCCURRED

Perception is the concept image of student's sensory organs of accepting the information provided by the classroom learning environment background, and passing this information to the appropriate functional brain tissue and resulting in some attributes on this information. This image is not the attribute information itself, but only students' emotional response to information about the properties, but this emotional reaction contains the attribute contents of the information. It is through this emotional reaction, the information properly realizes the promise of the transformation of the concept information.

The traditional understanding of the “perception” mainly focuses on two views: One is empiricism, the other is intellectualism. Empiricism sees the perception as the sum of sense. The understanding of sense is divided into four types: The first is the various impressions of subjective experience, for example, when a person sees a kind of “yellow” color, there will be a yellow thinking realized for him. This sort of realized belongs to a matter of personal, rather than the object itself. The second is defined the sense as perceiving the reaction of object’s nature in consciousness, but the nature is not a component of consciousness, but only belongs to the object. Therefore, the understanding of yellow is no longer a feeling of the subject, but a specific property external to the object, which in fact is a feeling of sense jumping from one extreme to another, this will produce a kinds of contradiction, explain consciousness itself with the perceived objects, but had to admit that the perceived object is obtained only through perception. Third, referencing the psychological theory of stimulus - response feeling patterns, the feeling is grasped through human’s sense. The psychology and physiology epistemological of empiricism proofed the correspondence relationship between the perceptual things and sensory perception. Thus, perception is seen as a causal process, such as “two objectively equal graphics will seem not equal because of the addition of auxiliary lines. Another example is that when red is presented with green, the result will be gray.” In these cases, the feeling giving can not be defined as a direct result of an external stimulus.” (Ponty, 2001) Fourth, reference the function of the association and memories. The one hand, some individuals will make the current sense impressions gained the nature of things based on previous experience and the principle of similarity, On the other hand, individuals can make the combination of current sense impressions and obtain the nature according to the experience in their own minds and based on and the proximity principle, the basic role of this process is the association. For example, when an image is rendering in the background, why can we see and recognize this item (lamp)? The answer by empiricism is that it makes us think of a similar pattern we have ever seen, and we’ll call it “lamp”. Thus, the perceived object is the result of association.

Intellectualism mainly explores the concept of perception through the “note” and “judgment”. Intellectualism gives a structure to sense material through the “note”, since I can feel the distinctness of the objects in the process of note, perceived object should contain a comprehensible structure exhibited in the note. For example, I can see the sky is blue, because my consciousness contains the concept of blue, which is the reason for the introduction of the concept of “judgment” of intellectualism. According to the judgment from the intellectualism and empiricism, I have two legs, from the

empirical point of view because I have the image of two legs. And intellectualism thinks I am able to perceive an object, because I have judged this “object”.

The grasp of “perception” by empiricism and intellectualism looks against each other, in fact, they have a common false premise. That is both of them presuppose an objective and free world, forgetting the perception body, both of them can not express the special way of constituting a object by conscious perception, both to them can maintain the distance from the perception, but are not involved in the perception. Therefore, “perception” itself is not a result of isolated and external stimuli, but the sum of the internal state perceiver experienced. It is everything has a certain significance for it and has a sense because of it around the learner at a particular time and space. The sensation is a direct access to the outside world for us, but the perception is an inner experience currently, which has the intentionality, experience directionality and transcendence.

Students’ awareness of information in the classroom learning environment is not the information itself (Wang, 2001), “it” is a factor of my personal experience, perception is a re-constituted, it needs to be based on the previously learning experience of learners. “Perception” has the inherent nature, the generation of perception can not leave the materials provided by foreign objects, otherwise perception is meaningless. Perception can not be independent of the emotional material, the harmonious unity of perceiver and perceived object reflects the immanence of perception.

2. ABSTRACT INTERNALIZATION: THE COGNITIVE EXTENSION OF CLASSROOM LEARNING BEHAVIOR INHERENTLY OCCURS

It needs further abstraction during the process of further transformation from students’ perception to the information material in the classroom learning environment background. “Abstract” is the process of students’ comparison among perceived information and finding key differences. Its appearance is to restructure the information at a higher level. Internalization is to deepen the perception information. As the subject of cognition, in the process of learning to accept the information, students will not be fully accepted the information without hesitation because this information is taught by the teacher. They should analysis and evaluation it according to their cognitive structure, not only to understand perceived information, has the ability to make value judgment and make a positive or negative selection on received information with “self-demand and self-satisfaction” as value orientation, and to be recognized the information with positive evaluation.

The concept of “internalized” form is represented by Anaheim Tulk French Society School, its basic meaning is social consciousness transforming to individual consciousness. In social psychology, internalization is the individual recognizing the norms and values of society as a part of their own ideas. In the field of cognitive psychology, internalized refers to the process of acquisition of the rules and abstraction. In cognitive psychology, learning is the process of constructing new knowledge by the existing knowledge in the minds of learners.

Students' mental structure is a dynamic system, which is developing and changing accompanied by the learning activities, as well as a process of self-improvement and self-development. It can constantly accept new knowledge, solve new problems and adapt to the new environment. About the evolving of the human's mental structure, Piaget in his epistemology once wrote: “Human's development is based on the existing cognitive structure as a starting point. Any influence of external stimulus is internalized into the cognitive structure of the subject through these two functions of ‘assimilation’ and ‘adaptation’” (Piaget, 1996). Assimilation and adaptation are the psychological mechanism of abstract internalization of students. Assimilation refers to the students reform, adapt, combine and absorb the perceived information and add it to their personal original information, so to enrich their mental structure and thinking disposition. Adaptation refers to the students already existed mental structure conflict with the perceived information, and results in the adjustment and change of the original mental structure, so as to establish a new mental structures. Assimilation can lead to the quantitative change of students' mental structure, and adaptation can lead to the qualitative change of students' mental structure. In the students' mental structure, assimilation - adaptation - assimilation - adaptation cycle, and balance - unbalance - balance - unbalanced alternating with each other. The continuous development of human's mental structure is such a continuous cyclic process. Assimilation and adaption are two aspects of the same process. Students' learning is not simply the accumulation of knowledge and information, and more importantly, it is the conflict between the new and old knowledge and experience as well as the consequent restructuring of mental structures.

It needs further analysis on how the information perceived by students in the classroom be internalized into individual's mental structure through assimilation and responsive. The receiving of perceived information by students will inevitably cause the conflict with the original ideas system, and breaking the balance of the original structure of the mind. Students agree and accept the information into their mind structure, which is the “assimilation” of perception information. The information will be existed in the form of “quantity” in individual's mental structure without structural reorganization. With the continuous increasing of the amount of knowledge,

students' mental structure constantly changing, will be gradually generated the change process from “quantity” to “quality”, which is student's mental structure achieved structural reorganization, and means the process of “adapt” has completed, the students mental structure has reached a new balance.

3. INNOVATION GENERATION: THE INHERENT KEY TO CLASSROOM LEARNING BEHAVIOR OCCURS

Perceptual information and abstract internalization completed the stage of information internalization, and the subject of the classroom learning behavior completed the transformation from the advocated concept outside of the “self-use” theory, which laid an important foundation for classroom learning behavior. It is a natural thing to deduce theoretically, however, in the study and practice, it is often possible to see this phenomenon that the students can identify the learning content conceptually, and does not produce corresponding learning behavior in the study and practice. The key to the question is the conceptual identification is some granted “idea”, but there is no specific “approach”, reflected in some specific behaviors of the students in learning activities rely on the students' innovation generation. From the perspective of embryology analysis, the students' learning behavior in daily learning activities is a kind of form generated from individual in their own learning activities for a long-term, it is a conflict relationship between the new and the old learning information. The process of transformation from the perceived information to behavior also needs to be merged with students' existing knowledge and experience as a background merging. Compared with the perceptual information and abstract internalization, the innovation generation and learning behaviors are increasingly linked. Although innovation generation is the goal ought to be of students in the learning activities, the real action application has not yet occurred, but as long as experienced this link, the learning behavior will really occur. Innovation generation is to explore combining site between students' internal mental models and active application, to convert the information in the mental models to operational actions.

Innovation generation is the key to student learning behavior. There are many factors affecting innovation generation, such as the individual's social history and cultural factors, personal habits, environmental factors and so on. But the most important factor impacting individual's innovation generation is students' cogitation, which directly affects the process, quality and level of innovation generation.

Firstly, the consciously degree of students' learning cogitation restricts the processes of innovation generation learning behavior.

Students' strength of learning cogitation awareness has an important impact on personal learning. The students with strong sense of learning cogitation awareness usually present actively absorbing and seriously accepting the perceived information, which plays an important influence in understanding and internalizing information.

Teachers in the classroom teach the same content, but the contents constructed in each students' psychology are different. The students with strong sense of cogitation can be good at absorbing knowledge, identifying problems, actively making summary, continuously transforming learning behavior. For some students with weak consciousness, the behavioral tendencies and ideology of "wait", "rely", "request" in the learning process is obvious. Although they agree that the information received, but do not know how to transform the learning behavior, so they tend to imitation learning, to learn from other students, and then gradually transform into their own innovative learning behavior. Of course, in the classroom learning activities, there are some students learning the content teachers explained without identification, just passively receive and absorb the information, which is similar to the "stimulus - response" theory talked in psychology learning theory. Strictly speaking, the study produced in this way is not really learning behavior.

Secondly, the learning cogitation type restricts the quality of innovation generation of learning behavior. On the type of cogitation, the book named "Metaphors We Live By" written by Lakoff, Mark Johnson and Metaphors from University of Chicago George thinks that metaphor is not just rhetorical language, but also a way of thinking - metaphorical concept system. As the basis for people's perception, thinking, experience, language acts, metaphor is seen as the most important basic way of human's existence. In general, the type of thinking can be divided into such categories: structural metaphor, orientational metaphor and ontological metaphor. Structural metaphor is to construct a new concept by a conceptual structure, and superimpose these two concepts to each other, exploring the words of all aspects of one concept used to talk about other concept. Orientational metaphor is a series of metaphor concept constructed referring to the spatial orientation. Spatial orientation in general is derived from the interaction between people and nature. In the process of this interaction, there exhibits upper - lower, front - back and other concepts, These concepts will be specifically projected onto some abstract concepts, forming some abstract words. Ontological metaphor refers to human's initial way of life, and human's cognition of a thing can express the understanding of the metaphor of this thing for abstract concepts.

The three types of metaphors are interwoven used by students in the learning activities. When initially perceiving information, students' orientation metaphor and ontological metaphor plays an important role, and

the students' structural metaphor plays a key role in the process of gradually abstract integrating of information. If students can be aware of these three cogitation of their own in the classroom, the enhancement of learning effect will be achieved.

4. EXTERNAL APPLICATION: THE TERMINAL EXAMINATION OF CLASSROOM LEARNING BEHAVIOR INTERNALLY OCCURS

Classroom learning behavior is a continuously improved and optimized process. It is a process with a beginning and end, a process from the inside to the outside and then from outside to inside. The final explicit learning behavior performance is terminal verification to classroom learning behavior. External applications are to generate a new form of learning from the perceive information on the outside and put into practice to accept external examination. Its important role is to examine the feasibility and effectiveness of classroom learning behavior, and make further amendments. In the process of classroom behavior examination, the following points can be carried out.

Firstly, the change of students' learning behavior at any time should be observed and recorded. The new classroom learning behavior is generated in the classroom learning activities by students can cause the changes of classroom learning activities. If the new learning behavior is very far from the original learning behavior, it can lead to conflict with the original classroom learning behavior, and students may arise learning suited because of these conflicts. Therefore, when such situation occurs, the adjustments should to be made and the real reason for these conflicts should to be found. The degree of learning effectiveness consistent and other aspects are all the materials for examining the effectiveness of classroom learning behavior.

Secondly, students continuously reflect on the process of classroom learning behavior.

The new classroom behavior is essentially a process of behavior changing. In the actual classroom learning activities, students should have a sense of reflection and make continuous reflection classroom learning behavior. This reflection is not to stay in the general sense of observing and thinking, but to find the deep logic behind students' classroom learning behavior, learning to explore the motivations and real reason of the learning behavior. Only in this way, can the students constantly find the emerging issues of themselves in the classroom learning activities as well as make constant adjustments, and thus have a positive learning outcome.

Finally, constantly improve and modify classroom learning behavior according to the questions found by students after their reflection.

Any of students' behavior suitable for classroom learning environment is not easy, but a continuous improvement process, which often needs to experience once or even a lot of times correction and improvement can achieve the desired effect. Therefore, the continuous improvement of students' classroom learning behavior and balance between students' prior learning behavior and existing learning behavior are the re-optimization of students' learning behavior. In such a continuous reciprocating process, students continue to solve the problem of learning behavior, and produce more optimized positive learning behaviors.

Perceptual information, abstract internalization, innovation generation and external application are four

stages of students' classroom learning behavior occur, which is a continuous spiral process. These four stages are relatively independent, connected to each other and interlocking.

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