

## A Preliminary Study on the Experience-based Five-step Instruction Method

Qing Li <sup>1,a</sup> and Xianbo Wu <sup>2,b</sup>

Shandong Technology and Business University, Yantai, Shandong, China

<sup>a</sup> ruoyou2007@126.com; <sup>b</sup> wuxianbo1976@126.com

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**Abstract:** Helping a new generation of young people to face and adapt to an uncertain and unpredictable future is an important topic in contemporary higher education. The experience-based five-step instruction method combines five types of instruction events, that are connection, presentation, experience, reflection and application, to create a student-centered, interesting, effective and useful instruction.

### 1. Background and Problems

Uncertainty and unpredictability are the important features of today's human society. One of the core tasks of higher education is to enhance the ability of young students to deal with an uncertain and unpredictable future. The world is developing and change is eternal. In the face of a changing world, we cannot mechanically copy the past experiences, and cannot use the "past" to tailor the "future." How to teach and what to teach are all important. Cultivating young students to deal with an uncertain world and an unpredictable future requires new instruction thinking and instruction methods. We can't use the old methods of the past to teach current new students to face unknown problems in the future.

For a long time, management thinking based on the assumption that the future is predictable has almost become the only way we do things. The behavioral mode under the guidance of this thinking is characterized by "learning-planning-action". This behavior is sensible in a known or predictable environment, and learning based on this thinking mode is also effective in learning known knowledge in a stable environment. But in an environment where long-term planning or predictive success is not possible, the most effective way of thinking and acting in the face of unknown areas is to act first, then reflect and learn in action, that is, "action-learning-uplifting". Mao Zedong pointed out in "Practice Theory" that "Practice, cognition, re-practice, and re-recognition, which is cyclical and infinite, and the content of each cycle of practice and cognition is relatively higher than before. This is the whole epistemology of dialectical materialism, and is the unified view of knowledge and action in dialectical materialism."

### 2. The Path and Method

Based on the above cognition, we developed a experience-based five-step instruction method. This instruction method is explored in the long-term instruction practice, and it is the integrated innovation based on the achievements of the predecessors. It integrates the fruits of innovation. It combines Chinese education and instruction training scenarios, based on Dewey's philosophy of experience, and integrates the instruction design of M. David Merrill's five-star principles of instruction, Robert Mills Gagne's Principles of instruction design, Babson College's Practical Entrepreneurship Method, NCEE's the 44 innovative instruction methods and Eriksson International Coach Academy's the coaching techniques and methods.

This instruction method includes five types of instruction events (connection, presentation, experience, reflection and application) with experience as the core, so it is called "the experience-based five-step instruction method".

The "connection" in the five-step instruction method refers to a instruction event that connects learners to familiar situations or content, builds a sense of security, and motivates learning motivation. M. David Merrill's activation principle tells us that effective learning can be promoted when learners activate mental models of existing knowledge and skills and use them as the basis for new learning[1]. Specific connection methods include quick questioning method, metaphor method, and experience activity method.

The "presentation" in the five-step instruction method refers to the instruction event that to effectively express the content within a given time. Demonstration is an important event in the instruction process, but it is not the only event. Instruction cannot be equal to the presentation of content. The content should be presented in accordance with the student's cognitive rules. It uses a combination of structured thinking, visual thinking, and vocal thinking to mobilize both the left and right brains to combine sensibility and rational thinking. The specific rendering methods include organized induction, image metaphor, canvas rendering, mind mapping, model building, video display, and scene rendering.

The "experience" in the five-step instruction method refers to the instruction event that allows the learner to feel the

instruction goal in a real or near-real situation. Constructivists believe that "knowledge is built by learners individually or collectively, and based on their actual experience of the objective world." Research in the field of cognitive neuroscience describes how human bodies and brains experience ingesting information and proving that "human beings are very suitable to learn from the experience"[2]. Life is education, and society is school. There is an experience everywhere in life. The experience does not only happen after leaving the campus to participate in actual work, but also occur in the classroom and on campus that matches the learning objectives, the key of which is how to explore and design. The specific experience methods include docking the second classroom, play, challenge, debate, role playing, career magic tour, interview, etc.

The "reflection" in the five-step instruction method refers to the instruction events that insight into the nature of things through phenomena (facts) and promote actions. Not all "experiences" can be turned into knowledge, and not all people can learn knowledge as long as they have "experience". Reflection in action is the key. If there is no reflection, the experience is just an experience, though reflection, the general experience can turn into a learning experience. People must go through the cycle of experiencing, reflecting, forming concepts and testing, and finally returning to the experience. Specific reflection methods include the recap, the brainstorming, the structured reflection (recovery-insight-action), the 5why analysis, and the pair-to-peer question.

The "application" in the five-step instruction method refers to the instruction events that transfer the knowledge learned to life and work. The fundamental purpose of instruction is to teach students to use the right methods to analyze and solve problems. Instruction should play a greater role in promoting students out of the classroom, out of the textbooks, into the society, into life, and into practice to apply what they have learned. The specific application methods include filling the form and prototyping (making small animation or video with tools such as mobile app "Pictures" and "Little Shadow"), canvas, etc.

The five-step instruction method is a dialectical five-step method, which has steps but not relies on steps, using the instruction methods flexibly to achieve effective instruction. Some or all of the five steps can happen at the same time. The five-step instruction method is the principle. It is necessary to prevent it from being dogmatically and modularized and to become a rigid program. The essentials of using the five-step instruction method for instruction design are that the connection should be fast, the presentation should be clear, the experience must be moving, the reflection should be deep, the application should be practical, and the five steps should be flexible.

### 3. Summary and Reflection

The five-step instruction method inherits Dewey's educational philosophy. Dewey attaches great importance to the cultivation of thinking ability. He proposed a five-step approach to scientific thinking, that is, the perceived difficulties, the difficulties and definitions, the possible solutions, the assumptions that can be solved by reasoning, and whether the conclusions are credible through observation or experimentation. He also applied the five-step thinking method directly to the instruction method. He believed that "the elements of the instruction method and the elements of thinking are the same. These elements are: first, the student must have a real experience situation; second, create a real problem within the situation as a stimulus for thinking; third, he must possess knowledge and engage in necessary observations, propose various ways to solve the problem; fourth, he must be responsible for the methodical development of the best way that he thinks out to solve the problem; fifth, he has the opportunity and need to test his method through application to make this meaning be clear, and let him find out if the method is effective."

The five-step instruction method is scientifically based. Brain anatomy and physiology studies in the field of cognitive neuroscience describe how the human body and brain ingest information from the experience and prove that "humans are well suited to learning from experience." The ten principles of learning based on cognitive neuroscience research support experiential learning: first, learning is not isolated from experience but from experience; second, learning is not passive but active; third, learning is not mainly relying on hearing but relying on multiple feelings; fourth, learning is not straight, but iterative; fifth, learning is not step by step, but spontaneous and simultaneous; sixth, learn more to emphasize the meaning of information rather than simply accumulating information; seventh, learning is not fragmented but holistic; eighth, the limitation of perception does not limit learning, because learning can be extended through sensory and computational power; ninth, learning should not be hard, but be natural; tenth, learning has no end but is a continuous process.

The difficulty of Five-step Instruction Method is the design and implementation of experience activities. Teachers should actively innovate various experience activities and forms based on their own and learners' resources and conditions. On the one hand, previous experience can be activated by evoking memory, association, description and presentation of relevant knowledge, including virtual situation, role play, class discussion, story telling, etc; on the other hand, new experience can be activated through simulation method, game method, role playing method, action learning project, interview, internship, experiment and other methods. The teacher's task is to design or select experience activities of moderate intensity, frequency and time, which may be educational; carefully match the experience to the student's needs; introduce the information to the students and provide necessary information and guidance. Life is education and society is school. Life is full of experiences, and experiences don't just happen when you go out into the real world, "Learning experiences" that match learning goals can also occur in the classroom and on campus. The key is how our teachers explore and design.

The key of Five-step Instruction Method is introspective guidance. Does "experience" mean "learning"? It

doesn't. Not all "experiences" can be turned into knowledge, and not all people can learn knowledge as long as they have "experiences". "Reflection in action" is the key. Without reflection, experience is just experience. Reflection is what turns a general experience into a learning experience. David Kolb's research found that human understanding of an object is a continuous construction process based on the interaction between concept and experience. People must go through the continuous cycle of experience, reflection, forming concepts and testing, and finally return to experience. People need to go in and out of the experience, and most importantly the reflective process.

The key difference between experiential learning and pure experience is reflection, and helping students reflect on experience is the most important task for teachers. How can teachers help and promote learner reflection? First, create a learning environment that is conducive to all learners to participate in reflection, so that learners are immersed in it and have to reflect on their own experience, such as the cooperative learning form of pair and pair sharing. Second is to guide the structured reflection, to guide the learners to answer: what happened? Why does it happen? What did I learn? How can I apply what I've learned to the future? Third, adopt some specific methods and means to promote the occurrence of reflection process, such as taking photos, video recording, recording and other ways to record the whole experience process, and analyze the details that were not noticed at that time in the second interview; instructing students to write observation notes while experiencing, and writing down the contents that may be forgotten; guiding students to record the experience process in short text, video or pictures and share it in the form of WeChat circle of friends, microblog, etc. (we can establish a small online learning community that supports students to share their reflection freely, deeply and safely by setting up a sharing range or WeChat group, etc.); guiding students to share their reflections after experience with digital narrative methods such as short video, etc.

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### **References:**

- [1]. Sheng Qunli, Wei Ge. Focus on five-star instruction [M]. Fuzhou: Fujian Education Press 2015.
- [2]. James R. Davis [United States], etc. Seven methods of high-performance instruction [M]. Translated by Chen Dinggang. Guangzhou: South China University of Technology Press, 2014.