ORIGINAL ARTICLE

A Case Study of 271 Education Group's Learning Protocols: Reconstruction of Course Contents Based on Holistic Module Learning

Shuzhong Liu

Shandong 271 Education Group, Weifang 261000, Shandong, China

***Abstract**: The holistic module learning and protocol-guided learning concepts underpin 271 Education Group's learning protocols. This article discussed the history of learning protocol development and its significance. Using the experience of 271 Education Group as an example, we attempted to illustrate the fundamental structure of learning protocols. It is hoped that this study will have an effect on how the new national curriculum program and course standards are put into place.*

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***About the Author**: Shuzhong Liu, Shandong 271 Education Group, Weifang 261000 Shandong, China. E-mail: liuwangshuangfang@163.com*

***Correspondence to:** Shuzhong Liu at Shandong 271 Education Group of China.*

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Introduction

HOLISTIC module learning is a student-centered education methodology that aims to organize classroom instruction around "major concepts" in modules while also re-integrating learning materials and activities into a holistic process (Sun, 2022). Teachers and students must build a systematic and holistic view of knowledge for all topics. "Major concepts" refer to the underlying core ideas, principles, and theories of each discipline, which teachers use to combine disparate knowledge, skills, and methodologies in order for students to have a comprehensive and transferable understanding of knowledge, whereas a "module" is a set of interconnected parts organized around a major concept. Module learning is a teaching approach in which learning materials are divided into broad modules rather than isolated and fragmented classes. A holistic module learning method starts with figuring out what the major concept is. Then, basic questions are made around it to get students to ask questions on their own, and finally, learning is done through task-driven methods.

Protocol-guided learning is a way of teaching in which teachers plan learning protocols for their students ahead of time. These protocols include learning goals, materials, methods, and procedures, and they help students learn more on their own (Wang, 2022). It is also a student-centered teaching model that focuses on developing students' academic skills and fostering their overall growth (Gao, 2006). Well-designed learning protocols are a key part of high-efficiency and high-quality classroom instruction, and they also help make sure that holistic module learning works well.

Based on holistic module learning and protocol-guided learning, 271 Education Group reorganizes course content by making holistic module learning protocols, which are also called 271 learning protocols. Holistic module learning protocols are smart, well-organized plans for learning that help students study on their own. They include learning materials for students, learning dynamics of students, and visual feedback to students.

The Background of the Learning Protocol Construction

Requirements of the New Era for Better Course Planning

Students are exposed to continuously emerging new knowledge due to the rapid development of science and technology and the widespread use of the internet. Comparatively, the contents of textbooks are less current and restricted in scope. Students may lose interest in classroom learning if instruction is limited to predetermined course topics without any supplementary information. In this case, learning protocols can serve as the optimal alternative to textbooks. Students can be better prepared for class and get interested in learning if they are given extra information and a thorough learning plan before the session.

Calls for Curriculum Reform

Educating students to be autonomous learners, critical thinkers, and socially responsible citizens is the primary purpose of education and the most important responsibility of instructors. In a traditional classroom dominated by the teacher, students are passive recipients of static information and have few opportunities to develop their creativity. Nonetheless, creative-thinking-focused learning procedures can drive students to seek out alternative learning strategies. For instance, a holistic module learning protocol might design a module's learning process by integrating objectives, scenarios, tasks, and evaluation, indicating the development of students' higher-order thinking skills. This helps students learn how to learn on their own for the rest of their lives and meets the need for skilled workers in the knowledge economy.

The Need to Improve Student Physical and Mental Development

In China's examination-focused education, kids have been overburdened with repetitive exercises and fixated on test scores, both of which are extremely detrimental to their physical and mental health. The younger generation of today has a strong aversion to mechanical indoctrination and is more interested in proactive and participatory communication and connection. Even if they are based on textbooks, well-designed learning protocols usually go beyond them to satisfy students' urge for exploration. Teachers can use learning protocols to help students take initiative and get involved, as well as to help them learn better.

The Significance of Learning Protocol Construction

Providing Background Information to Facilitate Students' Deep Learning

Students' profound learning encompasses the history of relevant knowledge and their unique life experiences. It necessitates that students comprehend the historical, cultural, and literary contexts of a certain body of information in order to see the ideological and cultural evolution behind it and enrich their own viewpoints and experiences. Moreover, when such background material is interwoven with students' real circumstances, they are more likely to gain subject-matter insights and learn the personalized meaning of knowledge (Jiao, 2019). As a great teaching aid, learning protocols can supply students with vast amounts of background knowledge necessary to their in-depth understanding that is absent in textbooks. It encourages students to comprehend knowledge in historical and cultural settings; to experience multiple modes of thought based on the growth of knowledge; and to absorb knowledge by incorporating it into their own life situations.

Offering Logical Support for Students' Knowledge Structure

Logic is crucial for the creation of a knowledge system. Bruner asserts that knowledge is constantly structured. The best curriculum program for a school should be built on the fundamental structures of subjects. Curriculum change tends to enable students to mas-

ter the fundamental structure of subjects (Li, 2007). Knowledge structure is important not just for understanding the logical linkages underpinning a discipline but also for developing students' ability to transfer transdisciplinary knowledge and solve problems. According to structuralist perspectives on education, the primary goal of learning is to engage students in the process of establishing the knowledge structure of the subject, which requires teachers to guide students in forming a holistic picture of the disciplinary structure rather than merely requiring them to memorize the fragmented contents presented in textbooks. Before they can learn the basic ideas and steps of a discipline, students need to understand how information is put together.

In building learning programs, protocol-guided learning views knowledge as a holistic entity. Based on constructivist principles, it employs complex, relational, and holistic thought to generate structured learning protocols. A structured learning protocol enables students to study knowledge throughout the entire network; comprehend the correlation between knowledge points; comprehend the rationale behind the evolution of disciplines; and construct their own knowledge structure inside and between disciplines. Structured protocols can also, to a certain extent, cause cognitive conflicts in students, get them to think about the structure of their knowledge when faced with new situations and problems, help them improve their knowledge structures as they change and rebuild them, and use their knowledge to solve new problems effectively (Wang, 2014).

Assisting in Generating Students' Sense of Meaning in Learning

Education has been impacted for a very long time by the concept of modern scientism. Educators have often adopted a worldview dominated by scientific and technological rationalism, while the pursuit of life's purpose and spiritual significance has been disregarded (Sun, 1998). Individuals are motivated to widen and intensify their investigation into the kingdom of knowledge by their perception of learning's significance. The process by which public information is converted into individualized knowledge and external objective knowledge is absorbed into the interior spiritual world generates a sense of significance in learning (Rong & Wu, 2016). It is futile to merely transmit knowledge. Li (2015) says that students can only learn in a meaningful way and develop a sense of purpose and competence when they understand the link between what they know and what they are worth.

Learning protocols can act as a link between students' own direct experience and the knowledge found in textbooks, which is an indirect experience. Protocol-guided learning emphasizes the importance of learners' engagement as well as their personal experiences, practices, and events. Through learning protocols, students are aided in developing their own perspective of knowledge and life as they learn by being taught to grasp knowledge in the context of their own personal experiences and life situations. In the meantime, learning protocols create a link between students' knowledge and their inner selves. When students reflect on the link between themselves and their knowledge, they find the hidden value of knowledge, which gives learning a sense of purpose (Zhang, 2015).

The Construction of Learning Protocols by 271 Education Group

The main parts of the strong structure of learning protocols that 271 Education Group made based on the ideas of holistic module learning are learning goals, tasks, scenarios, and evaluation.

Establishing Learning Objectives

The state's Ministry of Education's course standards and the specific learning circumstances of the students determine how learning objectives are created. Students' learning and teachers' instruction might have the same goals with well-defined objectives. Learning goals should help students reach their full potential in terms of "knowledge and skills," "process and method," and "emotional attitude and values" (Li, 2014).

Teachers with the 271 Education Group choose the learning protocol's objectives for each individual module in accordance with the demands of the syllabus and the academic standing of the students. Students are well informed about the goals they will achieve through pre-class learning activities created by the protocol, making them more proactive and engaged in class learning. Learning goals might be intellectual (knowledge and skills) or non-intellectual (emotional and psychological). The learning protocols should clearly state the intellectual objectives, which should be achieved by students using all available means. Teachers may not write down the implicit learning goals, but they will work them into lessons in a flexible way. These goals are not intellectual in nature.

Simultaneously, the language used to express learning objectives should be as specific and accessible as feasible. Avoid using broad terms such as "knowing about," "understanding," "mastering," etc. The objectives indicated in the learning protocol are not merely a reiteration of those in the textbook; rather, they are goals that combine the actual situations of the students in the class with guidance, motivation, and adjustment functions. The prerequisites for establishing learning objectives are listed below.

- Each session must have no more than three or four learning objectives.
- Goals can be broken down into three parts: "knowledge and skills," "process and method," and "emotional attitude and values."
- As part of setting goals, the learning protocol highlights the important and difficult parts of self-directed study that students need to pay attention to.
- Learning objectives must be practical and attainable.

Designing Learning Tasks

The four distinctive characteristics of holistic module learning are task-driven learning, situational experience, autonomous inquiry, and promoting transfer. The schools of the 271 Education Group lay a special emphasis on task design in learning protocols in order to execute this teaching paradigm. The following guidelines should inform the design of the task:

Boosting Students' Self-Motivation to Study

Self-motivation to learn, as opposed to being forced to study, is the most important aspect of task design. Students' interest in learning can be sparked by an ideal learning activity that transforms dull, unfamiliar information into engaging, difficult activities. As students complete assignments, their requests for additional information and abilities grow.

Pointing to the Cultivation of Student Key Competencies

A well-designed exercise can help students develop their fundamental abilities and key characteristics. Students spontaneously design their own knowledge structures while completing learning tasks, improving learning methods and skills, and developing key competencies as a result.

Developing Higher-Order Thinking Skills in Students

Higher-order thinking refers to cognitive abilities based on a higher level of processing. Synthesizing, reasoning, comprehending, application, and evaluation are examples of higher-order thinking skills (HOTS). The tasks in 271 learning protocols are hard enough to require a lot of thought and careful execution in order to help students develop higher-order thinking.

Posing Open Questions

Open questions are those that cannot be answered with "yes" or "no" answers or ready-made textbook solutions. Open, heuristic questions in tasks can pique students' interests in learning, prompt deeper thought of existing knowledge, and spark their curiosity about new areas to be studied.

Constructing Learning Scenarios

Situational learning is a teaching strategy critical to holistic module learning that creates instructional settings based on real-world conditions. Contextualizing learning promotes student initiative and participation in the classroom. Dewey (2005) classified teaching into three categories: Level one addressed each class as a separate unit; level two acknowledged the relationships between knowledge points; and level three, the most effective teaching technique, concentrated on the connections between school education and real-world experiences. These connections can be made through learning scenarios. Based on a certain theme, all kinds of communication, such as texts, charts, and data, can be used to build learning environments that increase students' overall ability to deal with complex tasks in a variety of contexts. Throughout the whole learning process, there are subject-related contexts. This creates an environment and atmosphere that is good for learning, stimulates the natural desire to learn, and lets students get real experience.

It is critical in 271 learning protocols to incorporate real-world challenges into learning activities. Teachers include science and technology, social hot topics, issues about making a living, and other real-world topics in their lessons, taking into account the students' life experiences and academic levels. This way, students can use what they learn to solve practical problems that matter to them, improve their ability to find, analyze, and solve problems, and achieve flexible knowledge transfer and use.

In the learning protocol, authenticity is the most important requirement for situation construction. Students can experience the creation and development of knowledge through an authentic setting, which also helps them internalize that knowledge. Additionally, complicated and contentious real-world problems can stimulate students' in-depth thinking. Students aren't forced to give definitive answers, but those with an open mind are better able to develop their critical and divergent thinking.

Establishing Evaluation Standards

Formative and summative assessments are used in conjunction to evaluate learning in comprehensive modules. Formative assessment includes quizzes and rating scales that are integrated into learning activities. As a summative assessment, there is an exam that corresponds to each module to gauge the academic development of the students. Based on the results of the two types of evaluation, teachers figure out how well their students are getting on with lessons and change their lesson plans as needed.

Test question design in the learning protocol should meet the following requirements.

- Relevance to core knowledge of each course
- Reasonable levels of difficulty, suitable for average students. There are optional questions set for high-achieving students, which are not compulsory.
- There is a completion deadline.
- Timely feedback and correction

Summary

Many Chinese schools have adopted the protocol-guided learning model of instruction in response to curricular reform. Learning protocols enable student-centered and instructor-led instruction, which prevents teacher control in the classroom (common in traditional teaching modalities) and laissez-faire, unstructured classroom management. Instead of immediately imparting knowledge to students, teachers in this teaching paradigm provide them with instructions to independently research and practice. Students that follow the routine are well-prepared for the lesson in advance and identify questions to be brought up in class for discussion, which helps to focus and maximize learning in the classroom. Well-defined classroom activities in the protocol give students an ordered process and increase their participation in class. Additionally, in protocol-guided learning, creative after-class activities take the place of repetitive exercises. This considerably lessens the academic load on students and produces effective after-class extensions.

Holistic module learning, which emphasizes the value of individualized protocols, is more advanced than protocol-guided learning, which is characterized by "learning before teaching." The 271 Education Group's holistic module learning protocols are not only designed with students in mind but are also adaptable to each person's cognitive capacity, academic standing, and learning progress. Additionally, 271BAY educational technology makes it possible to include enormous volumes of learning content and apply learning protocols digitally. Students can select the resources they require, use the learning strategies that work best for them, and share and show their learning outcomes online, adding democratic components to their education that may help them develop more independently.

It is crucial to acknowledge the 271 learning protocols' shortcomings, including the lack of a thorough evaluation framework for students' essential skills and the narrow range of available learning activities and scenarios. The 271 protocols' current iteration is by no means complete. In order to give students the best ways to improve how well they learn and to make sure that the new curriculum reform goes smoothly and works well, we hope that this article will serve as a springboard for more in-depth research and more practice with building learning protocols.

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