Should schools be places to confront questions, or just to learn answers?

By **MAKOTO HATTORI**

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IN this age of globalisation and rapid technological advancement, a fundamental question arises about education: What does it mean to be educated in a world where established solutions quickly become obsolete?

Many may already know that having problem-solving skills is critical, and various approaches, including “inquiry-based learning,” are being implemented in schools. However, it is not easy for teachers to effectively foster these skills.

As the key to developing these skills, the role of questions posed by teachers in the classroom is beginning to receive attention.

To examine the impact of teachers’ questions on students’ thinking skills, I visited two high schools running the International Baccalaureate (IB) programme.

IB is an educational program from early childhood through high school level. It is an internationally recognised programme accredited by the International Baccalaureate Organisation based in Switzerland. Students who complete the diploma programme at the high school level are qualified to enter universities worldwide. Over 5,700 schools in 159 countries and regions including Japan offer the programme.

My first visit was to Shohei High School, a private school in Saitama Prefecture. In a class called Theory of Knowledge for second-year students, teacher Jin Yonemura began with the question, “To what extent does knowledge contribute to our lives? Let’s think about it.”

As students broke into small groups to begin discussions, diverse examples and ideas were presented, such as: “We can live without memorising all the laws; it doesn’t contribute to our daily lives” and “Classical Chinese and ancient Japanese literature aren’t relevant to our current lives but broaden our future horizons.”

Amid the discussions, Yonemura asked students questions like, “How is knowledge different from experience?” and “What is experience?” Students approached the problem from their unique perspectives as the discussions continued.

Students told me that they found joy and a sense of accomplishment in this approach.

Akari Mizuno, 17, said, “Being asked about things I hadn’t thought of and finding answers myself is much more enjoyable than being taught the answers.”

Mizuki Honda, also 17, added, “Thinking is challenging, but it’s rewarding.” Yonemura explained that students often continue discussions during breaks or after school.

IB uses questions about knowledge to enhance students’ abstract and conceptual thinking. It provides numerous well-crafted questions called “Knowledge Questions.”

These questions are organised into four categories: scope, perspective, methods and tools, and ethics. They include questions like “How should you judge when experts’ opinions differ?” and “Even if a model is clearly wrong, how can it still be useful?” and “How do ethical judgments differ from other types of judgments?”

The core of IB is Theory of Knowledge, which is almost entirely composed of questions. It focuses on fundamental questions about what knowledge is and how it should be handled, providing concepts that help students develop thinking skills.

It includes concepts like evidence, certainty, truth, interpretation, objectivity, perspective, culture, values, and more. It helps students think about complex issues and cultivate the ability to have a multidimensional perspective.

Kohei Maeda, the vice principal and IB coordinator of Shohei High School, says: “One major direction is to ask high-level questions. Specific questions about the subject knowledge will not contribute to future applications. This is because once the knowledge is outdated, it becomes useless.”

His view is that answering a variety of quality questions has enabled students to fully develop their thinking skills.

You may already know that teachers ask students a variety of questions in general school settings. For instance, at the beginning of a lesson, teachers might ask questions like, “How did the Tokugawa shogunate stabilise?” or “How does changing the weight of a pendulum’s bob affect its period?”

These questions introduce the themes of the lesson and are used to direct students' attention. However, these questions often lead students to search for known answers. This approach typically involves teachers passing on knowledge and waiting for students to respond with the answers.

Currently, the most important thing in schools is to ask questions about significant, unresolved issues. Students need to identify problems in the real world, come up with questions that point towards solutions, and gather, organise, and analyse information.

The official course of study in Japan encourages students to find questions through interactions with real-life and societal issues, set tasks, collect information, and develop skills in organising, analysing, summarising, and expressing information.

Finding questions and setting tasks for students is not easy. In many schools, the main focus is on acquiring knowledge, while the methods for processing and using knowledge are not given enough importance. More emphasis needs to be placed on conceptual understanding so that knowledge can be applied to solve problems.

At Miura Gakuen High School in Yokosuka, Kanagawa Prefecture, another IB school I visited, students speak with great enthusiasm about inquiry-based learning.

Third-year student Maika Ishizaki, 17, said, "Continuing to dig deeper into a topic and ultimately confronting ethical issues made me think until I wanted to give up on thinking."

Vice Principal Shinji Nozakura said: "At many schools, inquiry-based learning tends to be over-taught, resulting in a loss of student agency. We try not to teach too much, so that students can come up with questions from everyday life by themselves."

The ability to ask meaningful questions is a distinctly human skill. It enables us to harness the potential of artificial intelligence. So why not ask more open questions with no fixed answers in schools to empower students' questioning skills?

Questions with fixed answers can now be processed by AI, so we no longer have to think about them for ourselves. — The Yomiuri Shimbun/ANN