

## Possibilities and pitfalls of competency-based education

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The new National Curriculum Standard has implemented with various features, one of which is its unique reviewing process. It took over a 10-month long period to establish subcommittees and working groups for individual school subjects since the first meeting of consultation of ministers.

Over this period, all discussions were intensively carried out by the Special Committee on Curriculum Planning. The committee members undertook a radical review of the current National Curriculum Standard, clarifying such fundamental questions as what an ideal school of the future should be like, what academic ability all children need to develop, and how the curriculum improvement should be made in order to help children develop academic ability. The *Summary of Issues* released by the Special Committee on Curriculum Planning explains the reason why the committee took this steps as follows: “Before we begin to discuss the individual content of what to teach, we first need to look at competencies to be developed from the children’s viewpoint as a learner and define the competencies in light of ‘what children will become able to do’ through learning across the curriculum and/or individual subject. Then, we can examine ‘what children need to learn’ or the necessary individual contents of the instruction and construct ‘how children learn’ each content imagining the specific children’s learning behavior” (Special Committee on Curriculum Planning, 2015, pp.7-8).

The concept of ‘what children will become able to do’ is the “competencies” as an idea of academic ability under the new National Curriculum Standard.

The *Summary of Issues* continues to state that “the direction of the committee’s discussion is supported by the accumulation of the findings of the scientific research on ‘learning’ or ‘knowledge,’ which has been trying to demonstrate ‘what it means to learn’ or ‘what knowledge is’” (Special Committee on Curriculum Planning, 2015, 8).

In the *Summary of Issues*, Special Committee on Curriculum Planning raises at least three important points.

First, as the basis of this reviewing process, it is clearly stated that there is a sense of values that new curriculum standard has a perspective of children as a learner.

Secondly, as a result of reviewing the curriculum from the viewpoint of children, ‘what children will become able to do’ or the argument of academic ability was placed at the top as a goal, and then ‘what children learn’ and ‘how children learn,’ which is the argument of educational content and method was positioned as means of achieving the goal.

Third, to support the discussions as mentioned above, there is a clear awareness of the accumulation of scientific findings on ‘learning’ and ‘knowledge.’

In the traditional discussions on the curriculum, the focus of discussion tended to be on listing the knowledge and skills that the children needed to acquire for the individual subject from the perspective of adults as a teacher. However, it is more important to clarify how knowledge and skills are developed in each child and help their lives. Unless this process becomes evident, it is concerned that the children can not effectively utilize the knowledge and skills taught by the adults. In this sense, it is revolutionary in the history of curriculum policymaking that, before examining specific content of education, the special committee began with discussing what national curriculum standard means from the perspective of children’s competencies and how their competencies can be extended and refined.

For future discussion, it is essential to organize the concrete curriculum based on the above-mentioned new principle and implement the educational practice. Toward this goal, it is necessary to achieve a rich creation of the new curriculum collaborating with other scholars and practitioners from various fields of study of education.

## **2. Research on *competence* and some related questions**

### **(1) White’s concept of competence**

As described in the *Summary of Issues*, the concept of competency and the idea of education based on it have been developed through scientific research on ‘competence’ such as ‘learning’ and ‘knowledge’ of human beings. Competency has its roots in several studies, but at first, we should discuss Robert White's work (White, 1959, 1963).

Based on observations of infants and young children, White argued that human beings have a natural tendency to engage actively to the environment surrounding themselves, this natural tendency brings children the interaction with the environment, and children expand and refine the effective ways to interact

with the environment. This whole process is as White called competence.

In his discussion, White defined competence as an innate motivational factor and the relational and cognitive capability to interact effectively with the environment.

Interestingly, in his definition of competence, ‘knowing’ does not simply mean knowing the name or understanding the concept, but it also implies being ‘able’ to effectively ‘interact’ with an object according to its characteristics, and acquiring and refining generic skills of ‘interaction’ through ‘knowing’ and ‘interacting’ the individual object.

In other words, White proposed competence as a holistic concept that includes the motivational factors driving ‘knowing,’ the mechanisms of ‘knowing,’ and the way to ‘interact’ with an environment that expands and refines by ‘knowing’ both qualitatively and quantitatively.

## **(2)McClelland's concept of competence**

While paying attention to White’s claims, it was David McClelland, who allowed us to develop or downsize competence into meanings widely used today (McClelland, 1973, 1993).

McClelland demonstrated with concrete facts that traditional intelligence tests, school grades, and certificates of qualification, which examine possession and understanding of domain-specific knowledge, do not predict job performance or success in life. In his discussion, he emphasizes affective factors such as motivation and emotional self-regulation, positive self-concept and self-reliance, and skills related to interpersonal adjustment and communication.

McClelland defines competence as the factors that are necessary and sufficient to achieve high-quality problem solving for the various challenging situations faced in real life. Of course, knowledge was also included in the competence category, but its weight remained relatively small in his definition of competence.

The discovery by McClelland, as a natural consequence, will have a significant impact on corporate personnel management and organizational management, as well as on the curricula and evaluation of higher education institutions that supply human resources to companies.

## **(3)Expectations for dialogue and collaboration between factual and normative science**

For White, ‘competence’ means becoming able to interact effectively with a different environment. McClelland, on the other hand, defines ‘competence’ as a criterion for professional achievement and success in life. Although both

definitions have certain things in common in terms of whether they can individually and creatively carry out appropriate problem-solving actions according to the situation, the directions of their discussion are the opposite. White starts his discussion from the innate tendencies of human beings, whereas McClelland starts from social needs and practical benefit.

McClelland proposed to define competence as the factors necessary and sufficient to guide success in life, but it is necessary to rigorously examine what success is in life and who decides it. If this is neglected and the dominant values of society are easily adopted, then education will serve to stabilize and reproduce the current social order and political and economic systems, and eventually become a social device to strengthen them.

Content-based education which aimed to select and teach knowledge and skills from cultural assets such as academia, science, and art, may have had structural difficulties in connecting with social reality, but that is why it was also 'safety.' On the other hand, competency-based education from the perspective of curriculum tends to be society-centered. In the competency-based education, the condition and function of education depend on the two principles over the relationship between education and society: which is whether education will follow social change (social efficiency) or whether it will generate social change through supporting the development of the child who will be the subject of social construction (social reconstruction).

As seen above, the concept of competency-based makes it possible for education to be closely related to the real world, but it also has greater risks. In this sense, the competency-based education can cut two ways, so that it needs to be carefully examined.

Also, it should be noted that the idea of competency-based has arisen from scientific research centered on psychology. As seen in White's study, it provides many suggestions for the creation of education based on what children's 'learning' is and what 'knowledge' means. This is a significant achievement in changing the principle of curriculum development, which has been apt to focus on examining from the viewpoint of adults.

At the same time, in the competency-based education, it is more necessary than the content-based education to carefully and extensively discuss the values and the social engagement that we need to aim for; however, science does not have sufficient methodology to refer to the values. This shows that there are limitations and perils of science studies in the creation of education, which raise expectations for the leadership role of normative science centered on educational philosophy.

Furthermore, what can be done, and what cannot be done in the factual sciences such as psychology and learning science? What can be done, and what cannot be done in normative studies centered on philosophy? It is hoped that these issues will be thoroughly examined and that the two academic fields will continue to interact and collaborate with each other closely.

### **3. Is generic skills substance or capability?**

Competency-based education aims to enable children to individually and creatively carry out problem-solving activities appropriate to the situation. It has been believed that the core of these efforts is the development of generic skills that go beyond individual subjects. However, generic skills do not exist generically and noumenally as a separate thing from the domain-specific knowledge taught in each subject.

For example, psychologists believe that thinking skills refer to the function of an enormous amount of domain-specific knowledge that is semantically and functionally linked to various situations and contexts and is highly refined so that it can be freely delivered as needed. When we see children able to solve problems through the unique and creative delivery of appropriate knowledge and skills in response to situations, contexts, and problems, we believe that they have a high level of thinking skills, but in reality, it is the specific knowledge that exists and functions within the children.

As Gilbert Ryle has pointed out, it is wrong to believe that there is a substantive power that produces a characteristic behavior behind itself (Ryle, 1987). Practically speaking, it is impossible to teach thinking skills itself directly, and through each knowledge and skills, generic thinking skills (or action or state that appears to be thinking skills) has always been realized.

In recent years, in light of an academic ability argument and curriculum, there have been some cases where teachers have tried to teach generic skills one by one into children, but they have fallen into the same error. Moreover, this idea turns competency into new contents, which is almost impossible but also extremely dangerous and annoying because it spreads misunderstandings about competency-based education.

Instead, the practical goal is to improve the quality of domain-specific knowledge and promote its elaboration. In order to realize children's generic skills (or action or state that appears to be generic skills), it is necessary to provide lessons based on 'a discipline-based epistemological approach,' and it is even

more urgent to reinstate and expand subject content research.

Interestingly, the same idea has been already evident in White's concept of competence. Moreover, according to White, every child innately owns the emergence of competence and the developing mechanisms of competence, so even the expression 'developing the children's competencies' may not be appropriate. We probably should refer to 'facilitate to become evident of competencies,' 'prepare a learning environment in order to enhance and refine competencies' may be appropriate. From this point of view, it is possible to define what teaching each subject means in the new National Curriculum Standard as facilitating children's 'competence' more tangible, enhanced, and refined in light of 'a discipline-based epistemological approach.'

#### References

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