Education can be defined as a specific human activity in order to increase educational value through the interaction between teacher and learner. Educational value can be in turn defined as the characteristics that are desirable and essential to education. The educational value is conceptually independent of other values such as moral value, economic value, aesthetic value, political value, etc. (Baek, 2000a; Broudy, 1952; Spranger, 1930; Taylor, 1961).

The three criteria for evaluating educational value were suggested as follows; ‘improvement & advancement,’ ‘sincerity & enthusiasm,’ and ‘individuality & wholeness’ (Baek, 2000a; Korea Ministry of Education, 1997). In this respect, ‘improvement & advancement’ was defined as increasing academic achievement in various areas. ‘Sincerity & enthusiasm’ was defined as attending sincerely and enthusiastically in teaching and learning activities. ‘Individuality & wholeness’ was defined as accepting unique personality of each other and pursuing to be a whole person. These kinds of measurement criteria are related to each other, but are independent conceptually (Baek, 2000a). Therefore, the sum of educational value of certain activity can be measured as the volume of a hexahedron, which is constructed by three criteria (see figure 1).

Educational testing has traditionally focused on the technical aspects of measurement rather than the educational value of certain teaching-learning activity in Korea. Objective multiple-choice item format tests were widely used to examine the student’s achievement in schools. Even though the higher-order thinking skills involved in such things as drawing inferences, analyzing text, or demonstrating a deep understanding of a domain can be measured by objective multiple-choice item format tests, it is very difficult to write multiple-choice exam questions that assess the higher-order thinking skills (Glaser, Lesgold, & Lajoie, 1987; McMillan, 2004). As a result, a large proportion of the items on an achievement test measure only factual knowledge in Korea. These tests fail to show understanding or to appraise the

A Quasi-Experimental Research on the Educational Value of Performance Assessment

Sun-Geun Back
Seoul National University
Korea

Eun-Hui Hwang
Baekhyun Middle School
Korea

The purpose of this study is to demonstrate that performance assessment increases educational value in teaching-learning activities using a quasi-experimental research design. In this research, the three measurement criteria of educational value are suggested as ‘improvement & advancement,’ ‘sincerity & enthusiasm,’ and ‘individuality & wholeness.’ A pre-test was administered to 4 classes (156 students) in 7th grade. Classes were divided into an experimental group (2 classes, 79 students) and a control group (2 classes, 77 students), according to the pre-test results. Only the experimental group was involved in the performance assessment for 9 weeks. The results of this study show that performance assessment has a positive effect on the educational value of teaching-learning activities in schools.

Key Words: performance assessment, educational value, teaching-learning activity, quasi-experimental research

Sun-Geun Baek, Professor at the Department of Education, Seoul National University; Eun-Hui Hwang, Science teacher at Baekhyun Middle School. Correspondence concerning this article should be addressed to Sun-Geun Baek, Department of Education, Seoul National University, 599 Kwanak-Ro, Kwanak-Gu, Seoul, 151-748, Korea. Electronic mail may be sent to E-mail: dr100@smu.ac.kr; Phone: +82-2-880-7645, Fax: +82-2-878-1665
knowledge structure of the cognitive processes underlying differential performance in specific fields or domains of study (Baek, 1994; KMOE, 1997). In other words, such tests are designed to determine who the biggest information ‘container’ is, but are not designed to determine how one becomes an expert or how one's competence can be improved. Therefore, multiple-choice exams are inadequate for providing an understanding of the instructional and learning processes. In addition, they are insufficient for prescribing remedies or other instructional interventions. This history of testing has had very little affect on increasing educational value in teaching-learning activities in Korea (Baek, 2000b).

In order to solve these problems, many educators have been interested in performance assessment, rather than multiple-choice tests. They have been interested in performance assessment for a number of reasons: (a) to improve learning and understanding; (b) to develop teaching strategies for individualized instruction; (c) to express the idea that people should learn how to apply what they know; (d) to foster student’s acquisition of authentic cognitive performance within a learning domain; (e) to look beyond standardized tests for ways of sampling students’ performance that are more closely linked to instruction; (f) to enhance student’s self-awareness and self-regulative learning; (g) to integrate teaching, learning, and assessment in the classroom (Bae, 2000; Baek, 2000b; Baron & Boschee, 1995; Darling-Hammond, Ancess, & Falk, 1995; Herman, Aschbacher, & Winters, 1992; McMillan, 2004; Sternberg, 1991; Wiggins, 1989). Many educators expect that if performance assessment is appropriately implemented within teaching-learning activities, it will increase the educational value more than traditional multiple-choice tests do (Baek, 2000a; KMOE, 1997).

The main purpose of this study is to investigate, comprehensively, whether or not performance assessment based teaching-learning activities create more educational value in comparison to the traditional teaching-learning activities that are not performance assessment based. The reason for selecting a performance assessment based teaching-learning activity, as the subject of study, is that there are many theoretical studies that emphasize the settlement and extension of performance assessment, but there are few studies that compare empirically and comprehensively performance assessment based teaching-learning activities to that which are not performance assessment based in Korea.

Performance assessment was introduced into Korean elementary schools, middle schools, and high schools officially in late 1990s (KMOE, 1998; National Institute of Educational Evaluation, 1996). After the introduction, the Korean Ministry of Education, and many other organizations, undertook continuous studies and efforts to establish and expand performance assessment. Additionally, many experts have been studying the understandings, practical uses, problems, and improvement methods regarding performance assessment (Bae, 2000; Baek, 2002b; Baek et al., 1998; Kim, 2000; KSEE, 2000; Lee et al., 1998; Paek, 1999). There are 6 doctorate dissertations, 389 master's degree theses, 44 separate volumes of research, and 254 research papers in Korea regarding this topic (Heo et al., 2001). However, the majority of those studies are theoretical reviews and only a few studies are empirical studies. Those empirical studies show that performance assessment has had positive effects on the improvement of students’ intellectual and emotional abilities in areas such as achievement, learning attitude, creativity and inquiry ability, etc. (Bae, 2001; Cho et al., 2001; Han et al., 2000 No, 2000; Park & Baik, 2000). Even though those empirical studies show some evidences about the educational value of performance assessment, many Korean