Building a Thinking and Learning Styles Test

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Abstract. Matching teaching styles to thinking and learning styles increases academic achievement. Therefore, an attempt has been initiated to build a test of thinking and learning style. The test is developed to help school teachers to understand the readiness levels of students in the process of providing teaching and learning activities that best accommodate students’ thinking and learning styles. The Thinking and Learning Style test, consists of 25 items, was derived from the Split Brain theory and research evidences. This article reports the background and rationale of building the test and its validity and reliability construction.

Introduction
Teaching without knowing students’ thinking and learning styles reduces its effectiveness [4, 5, 20, 24, 27]. It was observed that the teaching and learning strategies are implemented in schools without considering students’ thinking and learning styles [20]. Therefore, an attempt has been initiated to build a test of thinking and learning style. It was developed to help school teachers to understand their students’ thinking and learning styles, as well as their own styles. The instrument named Thinking and Learning Style was developed based on theories and evidences of brain researches.

Theories and Evidences of Thinking and Learning Styles
When people are thinking or learning, they tend to rely on either the left or the right brain [3, 15, 24, 31]. The tendency for a person to rely either the left or the right brain in processing information is called brain hemisphericity [33]. Based on experiences and research findings, educational psychologists [1, 11, 19, 21] argued that an educational practice is one of the factors of brain hemisphericity.

Bogen believed that there are two distinct ways of knowing. The first way of knowing is related to intuition, divergent, imaginative, holistic and subjective ways of thinking (right brain functions). In contrast, the second way of knowing is related to intellect, logical, convergent, rational, sequential, analytic and objective ways of thinking (left brain functions) [3]. In his effort to develop an IQ test, Munzert asserted that the differences between left and right hemispheres’ functions are qualified by the mental activities, which are processed in each half of the brain [18]. His theory of “Intelligent creativity-creative intelligence” asserted that the left brain is the “intelligence creativity” side, and it is the control centre for such intellectual functions, such as time, memory, numbers, language, speech, logic, analysis, sequence, classification, computation, and seriation. These functions encompass the abilities necessary for academic success. While the right brain is the “creative intelligence” side, and it is the control centre for the mental functions involved space, intuition, attitudes, emotions, extrasensory, rhythm, music, dance, synthesis, fine arts, mechanics, physical coordination, and visual-spatial.

Similarly, in their efforts to establish a brain style test, Torrance, Reynolds, Riegel and Ball [34] listed the functions of the left and right brain [9, 23, 25]. These functions are in line with the split brain theory, with was derived from the findings of split brain experiments, that the left brain involves with verbal, logical, sequentially-order tasks, while the right brain processes visual, intuition, spatial.