

# THE EFFECTIVENESS OF A BRAIN-BASED LEARNING STRATEGY ON THE DEVELOPMENT OF INNOVATIVE THINKING SKILLS AND SCIENTIFIC LITERACY AMONG FEMAL STUDENTS OF SCIENCE COURSE (2) WHO HAS DIFFERENT PATTERNS OF BRAIN CONTROL AT AL TAIF UNIVERSITY

**KHALID.H. M. AL OSAIMI**

**Assistant Professor of Science Education**

**Faculty of Education - Al Taif University**

***ABSTRACT\_** This study aims to identify The effectiveness of the learning strategy that depends on the brain for the development of innovative thinking skills and scientific culture among students of science course (2) who has different patterns of brain control at Al Taif University. The study sample consisted of (120) female students ,and divided randomly into two groups experimental group and control group. Each group consisted of (60) students. The experimental group studied using education strategy based on the brain, while the control group studied in the traditional way. Three tools were utilized in the study and included an (innovation thinking test, testing scientific culture, and a brain control measurement), After data collection and analysis, several results had been reached. the following are the most important: 1- There are statistically significant differences at the level of (0.05) between the mean scores of students of experimental group and the control group in the study performance: (innovation thinking test, and testing scientific literacy) for the favor of experimental group students. 2- There are no statistically significant differences at the level of (0.05) for testing innovation thinking and testing scientific literacy attributed to the variable brain control. 3- The results confirmed that the size of learning strategy effect based on the brain were as follows medium, and large), for developing both of innovation thinking and scientific literacy, as the value of ETA square (n) was: (0.64),and (0.95) reaspectively. This confirms the effectiveness of using learning strategy based on brain in the development of innovative thinking and scientific literacy, the study included a number of recommendations based on the results: the study also suggested making further studies and researches.*