

Abstract

The aim of the research to identify the effectiveness of the model to accelerate thinking in:

1. Acquire biological concepts among second-grade students in biology.
2. the mental skills of students in the second grade intermediate in biology.

In order to verify the objectives of the research, the following two hypotheses were formulated:

There are no statistical differences at the level of significance (0.05) between the average score of experimental students who study biology according to the model of acceleration of thinking and the average grades of control group students who study the same subject according to the usual method of testing the acquisition of concepts.

2. There are no significant differences at the level of significance (0.05) between the average score of students in the experimental group who study biology on the model of accelerating the thinking and the average grades of control group students who study the same article according to the usual method of mental skills.

In order to verify the validity of the two hypotheses, a two-month trial was conducted. The following procedures were adopted:

The experimental design of the experimental groups and the post-test controls was used to acquire the biological concepts and the mental skills. According to this design, the "Medium Banner of Islam for Boys" was chosen by the General Directorate of Education in the holy governorate of Karbala by the mean method. The school (106) students divided into three divisions (A - B - C), randomly selected (A), the number of students (35) students to represent the experimental group, who studied on the model acceleration of thinking, and in the same way was chosen Division (C) The number of students (34) students Such as the control group who studied according to the normal method. The two groups were then statistically compensated for a set of variables: the age of time calculated in months, the educational achievement of the parents, previous achievement in biology, previous information, intelligence.

The scientific material was determined in the last three grades (seventh, eighth and ninth) of the biology book (2016, i7), which is to be taught for the second intermediate grade by the Iraqi Ministry of Education for the academic year 2016-2017. The content of the chapters was analyzed and a number of concepts (37) main concepts and (23) sub-concepts. According to these concepts, a number of behavioral goals were formulated, reaching (164) behavioral goals. In accordance with these objectives, (16) daily teaching plan for the experimental group and (16) p Of teaching daily to the control group.

The researcher has developed according to conceptual map (15) a main and branch concept and gave each concept three experimental paragraphs according to the three cognitive processes (definition - discrimination - application) The test clauses were 45 multi-choice test pieces with four alternatives. The apparent honesty, the validity of the content (construction), the coefficient of difficulty, the coefficient of ease, the coefficient of discrimination, the effectiveness of the wrong alternatives for each of the test paragraphs were found, and the stability coefficient of the test was found in two ways: (0.85), corrected by Spearman-Brown (0.92), and Kyoder Richardson-20 (0.83)

The second tool consisted of testing the mental skills, which consisted of (9) skills, each skill (4) test paragraphs, and thus the total number of test paragraphs (36) test paragraph of the type of multiple choice of four alternatives, The reliability of the content, the coefficient of difficulty, the coefficient of ease, the coefficient of discrimination, the effectiveness of the wrong alternatives and the stability coefficient

were two ways: the midterm split (77%) and the Spearman-Brown equation (0.86) and the Kieder Richardson-20 equation (0.84.)

The experiment was applied in the second semester of the academic year (2016 - 2017) and over the course of (8 weeks). The actual teaching started on Wednesday, 1/3/2017 and ended on Sunday, 2017). After using the appropriate statistical means, the results showed that the students of the experimental group who studied on the model of acceleration of thinking on the students of the control group studied according to the normal method in the tests of the acquisition of biological concepts and mental skills. In the teaching of biology for the second grade average because of the P In addition to suggesting a similar study on other variables and for other stages of study.