

# **The Effect of Integration Between "Hands-on and SCAMPER" Strategies on Development of Mind Habits and Scientific Concepts Acquisition within Ninth Grade students.**

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## **Abstract:**

The purpose of the study is to comprehend the impact of integration between the two “Hands-on and SCAMPER” strategies in development of mental habits and the acquisition of scientific concepts within ninth grade students. Community of the study consists of (504) male and female ninth grade students in Jericho and Jordan Valley governorate in school year 2018-2019. The study was conducted on an intentional sample of (90) students from ninth grade students who attend Zahrat al-Madaan primary school for boys and from Jericho Girls Secondary school. The sample is divided into experimental and control groups, each group has (39) boys and (51) girls. The researcher developed an instrument for mind habits and a test for acquisition of scientific concepts to teach a unit of the Science & Biology book for ninth grade students. The validity and reliability have been confirmed. In addition, the researcher made a teacher’s guide to the unit to be used in the merge of two strategies.

The researcher used experimental method in the semi- experimental design. The two groups consisted of boys and girls. The experimental group was examined by the two strategies of “Hands-on and SCAMPER”, whereas the control group was examined in the usual way. The data was analyzed using ANCOVA to measure differences in brain habits and to acquire scientific concepts between the experimental and the control groups. The results showed that there are statistically significant differences in the development of the habits of the mind attributed to gender and in favor of males, and there are no statistically significant differences in the development of the habits of the mind due to the teaching method and the interaction between teaching and gender. The results also showed statistically significant differences in the acquisition of scientific concepts due to the teaching method, and in favor of merge between the two “Hands-on and SCAMPER” strategies, as well as the existence of statistically significant differences in the acquisition of scientific concepts attributed to gender that favor females, and the absence of statistically significant differences in the acquisition of scientific concepts due to the merge between the teaching method and gender. In view of results of the study, the researcher recommended training programs to introduce teachers to contemporary teaching methods that incentivize students thinking out of the box, and realize effective role in the learning-teaching process.