

The level of inclusion of the essential features of inquiry in the scientific activities included in highschool chemistry textbooks: An analytical study

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Abstract

This study aimed to identify the level of inclusion of the essential features of inquiry in the scientific activities included in high school chemistry textbooks in Saudi Arabia. Text analysis approach was implemented to accomplish the study goal. The text analysis tool was adopted from the tool developed by Alshamrani (2012) depending on the classification of the National Research Council (NRC, 2000) for the essential features and levels of inquiry, and tested for validity and stability. The study sample reflects the whole population. That is all the (128) activities included in high school chemistry textbooks with all four types: lab, launch lab, data analysis lab, and the chemistry lab.

The study concluded that the first features (learner engages in a scientifically oriented questions) and the third feature (learner formulates explanations from evidence) were included in all the (128) activities, the second feature (learner gives priority to evidence when responding to questions) was included in the (124) activities, the fourth feature (learner connects explanations to scientific knowledge) was included in (36) activities, and the fifth feature (learner communicates and justifies explanations) was included in (15) activities only. Although the results of the analysis confirm the balance of the level of inclusion among the upper and the lower levels of all the essential five inquiry features, the results show no balance in the inclusion among the upper and the lower levels for each essential inquiry feature separately, where the inclusion concentrated either on in the upper or lower levels the features.

Keywords: inquiry features, scientific activities, chemistry textbooks, content analysis, inquiry.