

**The effect of different patterns of designing E-courses according to Quality Matters (QM) standards on developing programming skills and computational thinking at Umm Al-Qura University students.**

**Prepare**

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**Abstract**

This research aims to measure the impact of using e-course design by Quality Matters some style, sequence style and complex style, on improving the achievement and computational thinking in the computer programming skills at students of Common First Year Deanship at Umm Al-Qura University. In order to achieve the aims of the research, it used the experimental approach (the design of Quasi-experimental) and applied it on the sample of the research, which consist of (30) students, who are divided into two groups; the first is experimental group it consists of (15) students. They studied with the e-course design by Quality Matters, sequence style. The second group it consists of (15) students, They studied with the e-course design by Quality Matters, complex style. The tools of the research are represented in the achievement test, observation card and computational thinking. Also, the researcher used the statistical methods, which are represented in (man- wetny, Cronbach's alpha coefficient, person coefficient and binary sequence coefficient). The research reached to that there are statistically significant differences at ( $\alpha=0.05$ ) between the mean scores of first experimental and second experimental groups, the second experimental group at the levels of skillfully achievement test, but first experimental groups are cognitive achievement test, and computational thinking test. In the light of the study results, the study recommends, Expansion in the use of E-courses in training courses that are provided by Colleges of university, Urging teachers to use E- courses during their teaching process due to their effectiveness in increasing the academic achievement, Providing users of E- courses with the required technical support in order to reach to the desired results.

**Keywords:** E-courses- Quality Matters- Programming skills- Computational thinking- Umm Al-Qura University.