**Investigating the Effect of Integration Approaches of Student Response System on Academic Achievement, Engagement and Cognitive Loads in Live Online Classes**

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**Abstract**

Student response systems (SRSs) increase the engagement of students by supporting them to participate in the course and thus contribute to their academic achievement. However, in most of the experimental studies in which the effects of SRSs were investigated, details on how to integrate SRSs into the course were not provided. This study aimed to investigate the effect of using SRSs in different parts of live online classes on students' academic achievement, engagement, cognitive loads and views about the SRSs. This study was conducted in a mixed-method research design and 80 undergraduate students who took the Research Methods course constituted the study group. Two experimental groups were randomly assigned. In the first experimental group, SRS was used at the end of the course as an assessment of the current week. In the second experimental group, SRS was used at the beginning of the course as an assessment of the previous week. The experiment lasted seven weeks. The academic achievement test, live online classes engagement scale and cognitive load scale were used as data collection tools. The study findings show that the first experimental group have significantly higher academic achievement than the second experimental group. On the other hand, the integration approaches of the SRS did not affect significantly the engagement and cognitive load of the experimental groups. Qualitative findings indicate that the integration approaches of SRS have different contributions. The views of the two experimental groups regarding the advantages of the integration approaches of SRS are different.

**Keywords:** student response system, integration methods, live online class, engagement, cognitive load

**Statements & Declarations**

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