

## Assessment of Students Skills in Error Detection in SQL Classes using Rubric Framework - An Empirical Study

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**Abstract :** Rubrics to learning research provide many evaluation criteria and expected performance standards linked to defined student activity for learning and pedagogical objectives. Despite the rubric being used in education at all levels, academic literature on rubrics as a tool to support research in SQL Education is quite rare. There is a large class of SQL queries is syntactically correct, but certainly, not all are semantically correct. Detecting and correcting errors is a recurring problem in SQL education. In this paper, we use the Rubric Abstract Framework (RAF), which consists of steps, that allows us to map the information to measure student performance guided by didactic objectives defined by the teacher as long as it is contextualized domain modeling by rubric. An empirical study was done that demonstrates how rubrics can mitigate student difficulties in finding logical errors and easing teacher workload in SQL education. Detecting and correcting logical errors is an important skill for students. Researchers have proposed several ways to improve SQL education because understanding this paradigm skills are crucial in software engineering and computer science. The RAF instantiation was using in an empirical study developed during the COVID-19 pandemic in database course. The pandemic transformed face-to-face and remote education, without presential classes. The lab activities were conducted remotely, which hinders the teaching-learning process, in particular for this research, in verifying the evidence or statements of knowledge, skills, and abilities (KSAs) of students. Various research in academia and industry involved databases. The innovation proposed in this paper is the approach used where the results obtained when using rubrics to map logical errors in query formulation have been analyzed with gains obtained by students empirically verified. The research approach can be used in the post-pandemic period in both classroom and distance learning.

**Keywords :** rubric, logical error, structured query language (SQL), empirical study, SQL education

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