

## Quantitative and Qualitative Analysis: Predicting and Improving Students' Summative Assessment Math Scores at the National College for Nuclear

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**Abstract :** This research aims to predict academic performance and identify weak points in students to aid teachers in understanding their learning needs. Both quantitative and qualitative methods are used to identify difficult test items and the factors causing difficulties. The study uses interventions like focus group discussions, interviews, and action plans developed by the students themselves. The research questions explore the predictability of final grades based on mock exams and assignments, the student's response to action plans, and the impact on learning performance. Ethical considerations are followed, respecting student privacy and maintaining anonymity. The research aims to enhance student engagement, motivation, and responsibility for learning.

**Keywords :** prediction, academic performance, weak points, understanding, learning, quantitative methods, qualitative methods, formative assessments, feedback, emotional responses, intervention, focus group discussion, interview, action plan, student engagement, motivation, responsibility, ethical considerations

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