

## Enhancing Usage of Scientific Formulae for Students less Proficient in English language in an Undergraduate Class :a case study in Saudi Arabia

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### Abstract:

The curriculum at General Sciences department in a Saudi Arabian University includes ‘Physical science’ for Computer Science, Information Technology and Business courses. Students are apathetic towards Physical Science and question, as to, “How this course is related to their majors?” More than sixty percent of the students come from institutions where English is not the medium of instruction, which makes student learning and academic achievement challenging as they are less proficient in English language. After observing the usage of incorrect scientific formulas in assessment test and the number of failures, for two consecutive semesters, the instructor was keen to find an effective strategy to enable students understand concepts and to transformed surface learning to deep learning through developing advanced techniques in writing assignment. The main purpose of this research is to roll the situation and let the students partake in the process of transformation from diffident failures to confident achievers. This study is participatory action research, in which instructor designs effective written task to engage students in their learning . The study is conducted through two semesters with a total of 32 students. The effectiveness of this approach is studied using questionnaire at the end of each semester, students evaluation and teacher observation. Major outcomes of this study were overall improvement in students usage of scientific formulas in tests, problem solving, language proficiency, performance in summative assessment and also fortifying confidence. This process transformed instructor into engaging and reflecting practitioner. Also, these strategy was implemented by other instructors teaching the course and proved effective in opening a path to changes in related areas of the course curriculum. However, refinement in the strategies could be done based on student evaluation and instructors observation.

**Keywords:** language proficiency, physical science education, scientific formulae, writing assignments

**Cite as:** Afrooze, A. (2018). Enhancing Usage of Scientific Formulae for Students less Proficient in English language in an Undergraduate Class :a case study in Saudi Arabia. *Arab World English Journal*, 9 (2).

DOI: <https://dx.doi.org/10.24093/awej/vol9no2.22>