

# Review of: "Effects of Teachers' Professional Development on Students' Academic Achievement"

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**Potential competing interests:** No potential competing interests to declare.

The author tried to study a topic still fresh to be researched as teachers' quality and competencies of teaching and learning that is improved through continuous professional development the first the most important input to deliver quality education at any level, which their academic achievement. However, there are gaps observed in the different sections of the article:

- **Title:** It is not focused: Which teachers? (primary or secondary) Which professional development? Students' math achievement???
- **Abstract:** Does not follow the format of 7<sup>th</sup> Edn of APA, and some of the key elements of an abstract are missed, and some of the keywords are not relevant as of the focus of your study.
- **Introduction:** While reviewing the theoretical and empirical studies and contextualizing your study,
  - The model of teachers' professional development(PD) adopted and the four steps described are very old,
  - It lacks focus as most of the review was about PD in Africa and in Caribbean rather than in Nigeria,
  - The form of PD adopted in the study, cluster meeting workshops seem traditional rather than school-based/teacher led PD through action research, professional learning communities, etc.
  - Some of the ideas are not acknowledged.
  - Some concepts like instructors are confusing....
- **Statement of the problem:** The practical problem regarding mathematics teachers (at which level is not known) subject matter, pedagogical content and general pedagogical knowledge, and the gap of the PD to fill their teaching competencies including the hypotheses is not clearly stated.
- **Research design:** Students' math achievement is measured using test. However, it is not known how/if the test is constructed, tested its reliability and validity.... Also, in the sample size, it is stated that there were 38 pairs of treatment and control groups, and in method of data analysis, t-test was used. How? Which type of t-test? Moreover, ethical issues were missed.
- **Recommendations:** Very general and confusing as teacher educations/instructors are academics that provide/facilitate teacher education and training in higher education, and teachers are usually at primary and secondary levels though used as synonyms.
- Limitation of the study is missed.

Finally, if the topic of the study is delimited to students' math academic achievement in a certain grade level, the practice professional development of teachers, particularly this use of the transformational models of CDP are questioned, the study will be more relevant and timely.