

Learning approach among health sciences students in a medical college in Nepal: a cross-sectional study

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Dear editor

Shah et al¹ aimed to explore the learning approaches among medical, dental, and nursing students which were considered useful to transform the students to become better learners. While the generic objective of the study is appreciated, we have some concerns regarding the methodology and statistical analysis of the study.

Shah et al mention that a self-administered 20-item validated questionnaire (R-SPQ-2F) is used to evaluate the learning approaches of the students. The purpose of redoing reliability of a validated questionnaire is not clear. Moreover, the reliability that has been calculated ranged from 0.48 to 0.72, which is not within the acceptable limits.

The authors have not made any attempt to reconcile the contradictory results they quote in two studies done in the Medical Faculty, University of Colombo.

In the Results section it is stated that “overall mean value of deep approach (32.62±6.33) was found to be significantly greater ($P<0.001$) than surface approach (25.14±6.81) among all the participants”. Here the purpose of performing the testing procedure is not clear. The objective of the study was to evaluate the learning approaches of the students, and the use of the questionnaire was to divide the students into surface learners and deep learners. Once they were divided into two groups, the questionnaire has no further role. Type of learning is a binary variable. One can consider the use of a nonparametric test such as the Chi-square test to find the association with socio-demographic characteristics and other academic factors. The mean and SD are not appropriate methods to present 5 point Likert scale data. Even if such a mean can be calculated, the quality of teaching in a class can be scientifically established only if a “control class” is set up; different teachers/teaching methods are used; and outcomes in performance are assessed. Similarly, in Table 2, the use of Pearson’s correlations between scales and subscales based on a Likert scale data is not appropriate as the domain scores are not continuous.

As mentioned in the previous paragraph, the total score obtained from the questionnaire has no role once the students are divided into two groups. Even if the scores are of some relevance, the student’s *t*-test is still not an appropriate test to compare the average of main scales and sub scales across the categories of year of study (first and second), sex, age group (≤ 20 years versus >20 years), and mode of fund payments (self-funded versus scholarship-awarded students). The nonparametric test such as the Median test or Wilcoxon rank sum test is appropriate in this situation. Instead of multiple Students’ *t*-test in Table 3, a nonparametric pairwise Kruskal–Wallis one

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way analysis of variance would have been appropriate in this situation.

Regarding Figure 1, the simple bar diagram is not appropriate in this context. A stacked bar diagram could have been used.

The authors use emotionally loaded adjectives such as “surprisingly” and “alarming”, which are best avoided. The expression of emotive sentiment can be both misleading and unscientific. It shows a bias on the part of the authors.

The causality attributed to the finding of “deep learning approach was getting lowered due to reduction in intrinsic motivation and strategies adopted...” cannot be substantiated. There is no evidence imputed for such a claim of causality.

The authors quote findings of another study in the discussion and make recommendations based on that study. This is

not correct because the recommendations they give are not derived from any analysis of data from the current study.

In the Conclusion section, it is stated that the learning approach of the students was shifting progressively toward surface approach after completion of an academic year in medical school. This conclusion is not reliable as the test procedure used was not appropriate and the data used are from a cross-sectional study and not from a follow-up study.

Disclosure

The authors report no conflicts of interest in this communication.

Reference

1. Shah DK, Yadav RL, Sharma D, et al. *Learning approach among health sciences students in a medical college in Nepal: a cross-sectional study. Adv Med Educ Pract.* 2016;7:137–143.

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