Reviewer’s report

Title: Language, culture and international exchange of virtual patients.

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Reviewer: Afonso Cavaco

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Comments on the BMC Medical Education Manuscript Number 2116720648811814

“Language, culture and international exchange of virtual patients”

I would like to thank the editors of BMC Medical Education and the authors of the manuscript for the opportunity to read about the development of Virtual Patients (VPs) usage in Cluj University. This is a very well written manuscript, mainly of a quantitative nature, addressing a current and relevant issue, thus fitting the editorial policy of BMC Medical Education and making an important contribution to the field. The bibliographic references used are pertinent and up to date.

Discretionary Revisions.

This is a research paper where it is easy to find a research objective, although it was not formulated as a clear research question.

The methods are appropriate and well described. Anyway, some reviewer’s comments are presented below.

The data collection and the analytical methods used are sound, being the discussion and conclusions balanced and supported by the data. Nevertheless, based on the manuscript’s title, some discussion on cultural variations of VP dialogues could have been more explored along the manuscript.

No limitations are stated by authors, although some comments might be made in relation to cultural adaptation and the level of virtual reality that was being used. Without questioning the true merits of the ‘eViP’ initiative and knowing the intense resources consumption of most VPs solutions, authors have not discussed how much this web-based simulation of patients (Web-SP) differs from common computer case-study presentations i.e. how much the teaching/learning process would benefit from other computer solutions, including different levels of immersive virtual reality. Additionally, the study here reported is also missing feedback from students, their experience with the system (being first users), including VPs acceptability and perceived value as a pedagogical option for learning and/or assessment in medical education.

Authors have referred previous published work done in this area and there are no comments in relation to the abstract, except for the last sentence of the methods section, which is not clear to me.
Minor Essential Revisions.

The last sentence of the last paragraph in the Background section refers to a question. Since no questions were formulated previously, I would suggest replacing this word by “issue”.

In the Methods section (3rd paragraph) authors refer students were randomly assigned with two different cases (English and Romanian). There are no descriptions to what each case comprised i.e. how much similitude/dissimilitude existed between VPs, thus controlling for possible variation between clinical situations.

Major Compulsory Revisions.

In the Results section (2nd paragraph), authors have found a statistically significant difference in the number of words in diagnostic justification. Since Romanian is a Latin-based language differing from English (Germanic-based), it is expected some natural variation, with a probable greater number of words in Romanian. This raises doubts in relation to the true meaning of differences found in the number of words used in both VPs languages.

Additionally, authors have also registered students’ preference for answering in Romanian rather than English, when using the English VP. Therefore, the last column of Table 1 should reflect this situation and discriminate between students’ replies, for English VPs.

In Results 3rd paragraph, authors described to have found a number of statistically significant differences in students activities between the 2010 and 2011 cohorts. Reasons supporting this are discussed later in the Discussion section, 4th paragraph.

Using an epidemiological perspective, it is hard to accept that both cohorts had an equivalent background and training without giving any evidence-based data. In paired comparisons such as this one, researchers should have controlled for possible background differences and confounding effects. Authors should have demonstrated how the 2 cohorts were similar in basic demographics (e.g. average age and gender) as well as in education performance (e.g. average marks). Otherwise, the differences found might not be due to VPs origin (Cluj vs. USA). Unwanted bias might have been introduced if both 2010 and 2011 groups were already different in their learning process and academic success.

I also found difficult to understand the end of the 2nd sentence in this 3rd paragraph.

As referred previously, the 4th paragraph in the Discussion section would benefit from more evidence in Results. This is further justified when in the 11th paragraph authors discussed differences having isolated the language effect. In this 11th paragraph is also stated that cultural features are difficult to translate into VPs, suggesting that cultural equivalency was not possible to address when, for instance, USA VPs were translated to Romanian. Although this confounder is
indeed hard to control for, here authors had an interesting opportunity to discuss study limitations. This is even more relevant since language and culture are part of the manuscript title.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I have no competing interests in relation to the paper being reviewed.