Reviewer’s report

Title: Learning with case-based worked examples: Comparing the effects of additionally providing self-explanations and making or studying concept maps on physiotherapy intervention knowledge

Version: 1 Date: 2 October 2014

Reviewer: Martine Chamberland

Reviewer’s report:

- Major Compulsory Revisions
  None

- Minor Essential Revisions
  Throughout the text, the authors seem to use problem-solving skills and transfer performance as synonyms. This might be confusing for the reader since the authors did not make that equivalence explicit in the text and I am not sure that in fact the two terms are interchangeable. Transfer being usually defined as the ability to extend what has been learned in one context to new contexts.

Methods:

In the paragraph under « Experimental procedure », it is mentionned that participants completed a mental effort rating scale after the pre-test. I don’t clearly understand the rationale of doing this measure at that point (unless it was an opportunity for the participant to familiarize with the scale) ; moreover, the results are not reported later.

Did the participants have any specific preparation or instructions for self-explanation ? Please clarify this point.

Data Analysis:

To keep the line of thinking obvious for the reader, I would suggest to present first the analyses used to answer the first question (learning outcomes of the conditions) and second, the analyses used to answer the second question (mental effort).

Results:

Table 1 is too busy and shows different types of outcomes. I would suggest to present the results in two different tables :

Table 1 : Conceptual knowledge and problem-solving ; and Table 2 : Mental effort

In the results of the pre-test, since there is no significant difference in the ANOVA, I think that Tukey post-hoc analyses could be deleted.
Again, to keep the line of thinking obvious for the reader, the authors should present first, the results of the first question and second, the results of the second question.

- Discretionary Revisions

Background:
I am not sure that the section entitled « Meaningful learning » is absolutely necessary. Also, since it introduces the following sections on self-explanation and concept maps, it gives the impression that worked examples described in the previous section do not lead to meaningful learning, which is not, I think, the case.

Discussion:
If participants did not have any specific preparation for self-explanation, this point could be discussed as an additional advantage of this strategy.

Appendices: I think there are too many appendices. I would keep only appendix A, C and D

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
no