Reviewer's report

Title: Spaced education reduces the influence of learning styles on examination results in a basic radiological science course: a cohort study

Version: 2 Date: 17 February 2012

Reviewer: Gudrun Edgren

Reviewer's report:

This is an interesting study in which the authors investigate the effect of spaced education on students’ acquisition of knowledge. The manuscript is, in my opinion, well suited for publication, after some revision.

There is a clear research question

The methods seem well suited for the research question, but I have some questions in this section, see below

The data are sound

The manuscript adheres to relevant standards

Limitations of the work are not clearly stated, see below

The authors acknowledge work in the field, it seems limited, but that is probably the state of this field

Title and abstract are accurate

Writing is acceptable. There are some small mistakes in grammar.

Major Compulsory Revisions

Methods:

1. The intervention and the differences between the two groups is not clear from the methods. On p 6 the intervention is briefly described. At the bottom of p6 the description starts from the introduction and the text that follows on p 7 is not at all clear. Do both groups receive questions? Do they get the same 3 questions every time? Or do they get the questions only once?

A figure with an overview of the study would be helpful.

2. How is the knowledge test designed in relation to the questions sent out? Were the questions the same? Did the students in the intervention group actually prepare directly for the exam questions?

3. How is the relation between learning style and results in exam performed? Are four correlations calculated for each student? Or are students classified as having one learning style? This needs to be described in more detail.

Discussion
4. The limitations of the work are not discussed. These are, first, the limited number of students. Another is the limited number of questions in the knowledge test, is the test reliable? Has this been ascertained, and how? And, could the results be an effect of the intervention as such (“Hawthorne effect”), or of the extra interest from the teachers, and not from the spaced education?

Minor Essential Revisions

Methods

5. P 6 line 6 from bottom, the web link does not work (but this one does http://www.engr.ncsu.edu/learningstyles/ilsweb.html , is it the same questionnaire?)

Discretionary Revisions

Results

6. Tables: It would be much easier for the reader if the actual questions were included in the table. The way it looks now, it is necessary read the Appendix while studying the tables

7. P 13, there is a reference no 17, which does not exist in the reference list

8. Minor revision of language

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests