Reviewer’s report

**Title:** What makes a great radiology review course lecture? The Ottawa Radiology Resident Review Course experience

**Version:** 1  **Date:** 21 October 2013

**Reviewer:** Gina Sorrentino

**Reviewer’s report:**

This is a solid, comprehensive study that aims to find common characteristics of highly-rated radiology review sessions. I like many things about this manuscript. I think the approach is thoughtful and included relevant parameters. The question is well-defined and important to many of us in the education field. More quantitative data on this topic is always a good thing. 55 is good number of sessions and having about 60 evaluations for each session puts the evaluation results in good standing. For the most part, the statistical approach seems appropriate, and the data are treated correctly (except below).

I. Major Compulsory Revisions

The single-rater video reviews are problematic. Tallying the number of times a thing happened seems objective to me and therefore “safe” for a single person to perform without replication. However, the subjective parameters of speaker spontaneity, tone, and image quality do not yield valid results for a single rater, especially with a 5-point Likert scale whose anchors are not defined. These questions should be added to the post-presentation attendee evaluation and analyzed after further rounds of data collection.

Unfortunately, some of the significant results came from two of these subjective parameters (speaker tone and image quality), so I am sure the authors will be reluctant to discard the data. A compromise to reduce the subjectivity may be possible. If those three parameters could be strictly defined and then rated as part of the presence/absence data, this method might restore objectivity. For example, the speaker would be rated as “dynamic” in tone if a certain number of pitch changes were noted by the rater (that’s just an example - the authors would define the parameters, of course). This will require a little bit of re-analysis on the part of the authors, but potentially eliminate the most problematic aspect of the study.

However, if the editor does not believe that my suggestion solves the issue, then those results will have to be removed from the manuscript.

II. Minor Essential Revisions

The following must be addressed before publication.

**Introduction:**

- The introduction cites four references for factors that may go into making a
great radiology lecture. These refs are underutilized in the manuscript. What do they say? What is common practice or common belief in the field of radiology presentations? Do your parameters draw from these references? That first intro paragraph should be fleshed out a bit. This is the set-up for your experimental design and your discussion.

Methods:
• The methods section is mostly acceptable, but the last sentence before Data Extraction is very unclear. I am not sure that the equation would actually make a percentage, and what was the percentage calculated for? What purpose did it serve and where was it reported? Please clarify this.
• Please report the year and version of Microsoft Excel that you used to calculate the statistics. It may seem like a pedantic point, but older versions of Excel have well-published bugs even for simple statistics.

Results:
• The results reference only those parameters that had statistically significant p values, but all of the parameters are listed in the tables. Perhaps the parameters could be organized by p value, starting with the most significant. The text should introduce these in the same order. This may require some alteration of tables and text, but would save the reader a lot of trouble.
• Tables 1 and 2 were referenced correctly, but Table 3A was never referenced at all and 3C was not included in the document I received. Tables must appear and be numbered in the order in which they are referenced in the text. I see the necessity of splitting up 3A, B, and C, but they must be in order.
• When reporting p values in Table 3, the text skips around between 3B and 3C, which is acceptable, but referencing the specific table after each p value (at the end of the sentence) would help the readers greatly.
• Table 4B is also never referenced in the text.
• In the text results of Table 3A cases-per-minute, the p value is reported incorrectly (missing a zero that takes it from significant to insignificant!).

Discussion:
• The factors or characteristics in references 1-4 should be compared to your results in the Discussion section. Your results are quite interesting and would be more powerful if compared to what is currently known or accepted in the realm of Radiology lecture presentation. Do your quantitative results support or not support any long-held but previously untested beliefs in the field? As you mention, your finding that more images do not make a better presentation is very interesting in that light. Direct comparison of your results to your references may bring more of these interesting points to light.
• Your results in Table 1 are also underutilized. The attendee comments are reported, but not integrated into the quantitative results at all in the discussion. Please explore this and bring any notable patterns to the discussion.
• At some point, you should discuss the parameters that were not found to have a
significant p value, especially those that had a low p value that may not have reached statistical "significance," such as number of times the audience laughed. Comparison to references 1-4 will be helpful here, as well.

III. Discretionary Revisions:
• The methods say that there were 57 presentations given by 39 speakers. For speakers who presented more than once, did they perform consistently? Did they have consistent strong or weak points in the same parameters each time? It’s not essential, but there could be something to be learned if there were any multi-session speakers who were consistently good.

Thank you for this study. It gives quantitative results and a framework that can both be built upon in future studies.

**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 declare that I have no competing interests.