Author's response to reviews

Title: The Influence of Objectives, Learning Experiences and Examination Blueprint on Medical Students' Examination Preparation

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Author's response to reviews: see over
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Editorial Board
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Dear Editors,

Thank you for your second review of our manuscript entitled: “The Influence of Objectives, Learning Experiences, and Examination Blueprint on Medical Students’ Examination Preparation”. We appreciate the feedback and constructive criticism of the paper by your reviewers. Also, many thanks for encouraging us to re-submit the paper. The paragraphs below deal firstly with the more recent review of the paper and the changes we have made in response to these reviews, but also includes our previous modifications made from the initial feedback received from your reviewers. We look forward to your evaluation.

Sincerely,

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Second Review Summary

Reviewer # 2 and #3 did not require any major or minor revisions

Reviewer #1

A) Major Compulsory Revisions

1.1 Regarding definitions of intended, informal and hidden curriculum
- we have provided definitions in the first paragraph of the introduction based on Hafferty’s paper (reference 4). We feel that having objectives and blueprinting as features of the intended curriculum, and content in lectures and small groups as features of the informal curriculum, is reasonable and consistent with those presented definitions. We have attempted to consistently therefore in our wording of the intended curriculum being represented (and not strictly defined) by objectives and blueprint, and the informal being represented (and not strictly defined) by the content in lectures and small groups. The hidden curriculum is also defined, and intentionally touched on only superficially in the study, as it is perhaps more complex to analyze and really was not the major goal of the paper

1.2 Regarding Conclusions
- the wording of the first line of the conclusion has been changed to stating that course objectives and blueprinting are features of the intended curriculum, and content from lectures and small groups are features of the informal curriculum, which also relates to the discussion above in item 1.1

1.3 Regarding wording of last paragraph
- we have changed this wording, taking out the term heretical, as well as trying to avoid overly bold statements.
First Review Summary
Reviewer #1

A) Major Compulsory Revisions

1.1 Regarding study hypothesis

Page 4 in the ‘Background’ section now reads:

“It is our belief that by publishing the examination blueprint, the effect of the hidden curriculum is reduced, such that the process of evaluation becomes an ally rather than an enemy of the intended curriculum. Hence, it was hypothesized that publication of the objectives in the core document (intended curriculum), including the examination blueprint, would lead to increased utilization of these components by the students in their examination preparation, and consequently increased success in the examination.

1.2 Regarding “Informal curriculum”

This point also touches on a comment from Reviewer #3 (see point 3.3 below) concerning new data introduced in the discussion. As we stated in the introduction, there is a potential in any curriculum for an ‘informal’ curriculum to develop, if teachers veer significantly from the intended curriculum.

In addressing the concerns of Reviewer #1, the discussion now reads:

“Of the 19 preceptors who responded, 16 (84%) said that they were aware of the objectives, although only 7 (37%) prepared their learning experiences based on the objectives. The low frequency of preceptors utilizing course objectives in their preparation for lectures and small groups creates the potential for an informal curriculum.”

Therefore, though the preceptors were aware of the objectives, they did not specifically use them frequently to prepare for their lectures, hence the potential for an informal curriculum. Having said that, the next few lines of the discussion read:

“Despite course objectives also being downplayed by preceptors, there appeared to be congruence between the learning experiences and the evaluation process as only 4% of students disagreed with the statement that “the exam tested material actually taught” and 2% disagreed with the statement that “the exam tested important aspects of subject matter. The observation of congruence between the material taught and the evaluation process suggests that the informal (or delivered) curriculum did not significantly veer from the path of the intended curriculum, i.e., the material taught matched the course objectives”.

Therefore, though the learning experiences may have veered from the objectives or ‘intended’ curriculum, it was not perceived by the students after their evaluation, and thus felt by the authors that the informal curriculum did not significantly veer from the intended on in this case.

The paragraphs above are hypotheses to explain the study results. The presentation of ‘new’ data in the discussion was felt to be justified, as this was a ‘post-hoc’ analysis
aiming to explain results that were somewhat different than the expected results, as hypothesized above in section 1.1.

1.3 Regarding focus groups

The authors acknowledge this limitation, now included as a study limitation in the discussion, which reads:

“Lastly, this study was limited in that exit interviews or focus groups were not conducted to explain why students did not turn to the objectives as much for guidance. These sorts of investigations would be of clear benefit in future similar studies.”

B) Minor Essential Revisions

1.4 Regarding blueprint

This has been added as Table 1.

1.5 Regarding the final paragraph of the conclusion, it now reads:

“We would guard against drawing a heretical conclusion from these results that objectives are unimportant, as we strongly believe that all worthwhile educational experiences are driven by objectives. Instructional objectives serve two important purposes: to guide course design and assessment, and secondly to communicate expectations to students. It may be that in the final preparatory stage for examinations, when these two purposes have already been served, students turn their attention to other important features of a course, such as the examination blueprint. The notion that the more successful students were able to disregard objectives when preparing for their examination may be a testimony to the congruence between the pillars of education in a well-designed course”

Reviewer #2

Major revisions. None.

Minor revisions

2.1 Regarding first number of preceptors: 19 out of 32 responded, page 8.
Reviewer #3

Major revisions
3.1 Regarding response rate

First sentence of results reads: “Eighty-one of one hundred”

3.2 Regarding median-split

This has been corrected throughout manuscript. A mean score was used to split the class into two groups, those above the mean, and those at/below the mean. This has been changed in a number of places in methods and results (including Table 3).

3.3 New data in discussion.

This was discussed above in section 1.1. The presentation of ‘new’ data in the discussion was felt to be justified, as this was a ‘post-hoc’ analysis aiming to explain results that were somewhat different than the expected results, as hypothesized above in section 1.1. The response rates are also included in the discussion on page 8, first paragraph, and were shown above in section 2.1.

Minor essential revisions

3.4 Regarding rationale for knowing relative influence of curricular components on preparation for en-of-course examinations

See bottom page 3 and top of page 4, now read: “Knowledge of which components influence examination performance would be valuable in increasing the efficiency and effectiveness of curricular design”.

3.5 Regarding the introduction

‘how’ changed to ‘frequency’ on page 4, second paragraph

3.6 Regarding information about renal course

Provided on page 4, second paragraph

“This course has a total of 108 hours of instruction, with close to 50% of these hours spent in small group teaching that closely follows relevant lectures”

3.7 Regarding rational for dichotomizing data
The reference provided (number 8: Jamieson S: Likert scales: how to (ab) use them. Medical Education 2004, 38:1217-8,) suggests that data from Likert scales is ordinal, hence the most appropriate way to handle is to dichotomise.

3.8 Spelling error, students, corrected.

3.9 Regarding two variable interaction terms: see page 5, second paragraph, changed to two-variable.

3.10 The project was deemed to be a Quality Assurance/Improvement project, which is why these issues were not mentioned.

3.11 Regarding median-split, as discussed above, the mean was used to split the groups and changed throughout the manuscript.

3.12 Because a logistic regression analysis was used, it was deemed more appropriate to use Odds Ratio as a measure of effect size.

Thanks again for your thorough review. The paper has benefited significantly from all of your comments.

Dr. Sylvain Coderre