Reviewer's report

Title: Determining the quality of educational climate across multiple undergraduate teaching sites using the DREEM measure.

Version: 1 Date: 29 December 2004

Reviewer: Hettie Till

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. I have read this paper quite a few times now and have serious problems understanding just exactly what the authors were trying to achieve as there is no clear research question. In the Abstract they state, "In order to determine the quality of the educational environment perceived by students generated by the new curriculum...." However, in the Background section the closest they come to a problem statement is "Identifying these elements within an educational environment and evaluating how students perceive them will help to achieve the highest quality educational climate and learning experience." Nowhere do they explain what "these elements" are unless they were trying to link the educational climate to "strategic, surface and deep learning" which they don't refer to ever again in the paper. Two lines further they mention that, "Several questionnaire-based educational tools have been published that set out to achieve this aim and 'quantify' the elements of the educational climate. They further state in the Background section that they "chose to examine the usefulness of the universal 'culture free' DREEM....." However, again this statement is not elaborated, i.e. the usefulness of the DREEM for what purpose?

2. I find the introductory part ("Background" and "Our Curriculum") rather cryptic and wandering and this section should be completely re-written. In the "Our Curriculum" section, there are some statements about the undergraduate curriculum (the entire curriculum, or just the Obstetrics and Gynaecology part?) being re-designed to bring it in line with external recommendations. It appears as though the Obstetrics and Gynaecology section consists of only 8 weeks in the final year of the curriculum taking place in 8 teaching hospital sites. It appears as though all the formal lectures take place at the principal Teaching Hospital. Does this mean that only the clinical rotations take place in the 8 different hospitals? There is no explanation of whether all the other modules that make up the final year happens in the same manner and whether a group of students stay in the eight teaching hospital sites for the entire year. Did they all go to the principal teaching hospital for all the preceding undergraduate years? All of this information can be very important, because it would affect exactly what educational environment the DREEM Inventory measures.

3. The Methods section is only 5 lines long and does not explain what is being measured. Were students told, for instance, that only the 8 weeks of Obstetrics and Gynaecology must be kept in mind whilst completing the Inventory? The DREEM questions are of such a nature that it would be more likely that the environment of the entire curriculum would have been measured. If this is so, it might explain why the authors found "that the educational learning environment is evenly achieved across all centres". The Methods section will have to be completely re-written to provide sufficient details to firstly see whether this study is viable, and secondly to allow the study to be replicated.
[Up to here it appears to me as though this study might be seriously flawed. However, I am providing a review of the rest of the paper on the assumption that my questions above can be answered satisfactorily.]

Results
4. This section should be looked at by a statistician.
The authors "prove" and "disprove" statistical differences between the 8 teaching sites which are apparently based entirely on mean scores for the 5 domains then calculated into percentages. A nice little paper by Susan Jamieson "Likert scales: how to (ab)use them" appeared in Medical Education (2004;38:1212-1218) questioning the use of means and parametric statistical analyses used for ordinal data.

5. In this section also a table of results per item and per teaching site should be given (see for example Al Hazimi, Al-Hyaiani & Roff's latest paper: Medical Teacher 2004;26(6):570-573). This information could give an indication of exactly which areas of the educational climate are perceived as less than satisfactory and indicate differences between the 8 teaching hospitals in specific areas. However, such a table of mean responses again does not give an indication of skewed or polarized distributions and a calculation of where most students 'agree' or disagree might be a better indication of areas of weakness (see the Jamison paper mentioned above, as well as Till 2004 - referenced as No. 7 in this paper)

Discussion
6. This section is not clear and should be re-written. The authors apparently used small differences in percentage values calculated from mean values to make certain ?curricular? changes.
In the Abstract they state, "This information may be usefully employed to improve our medical education delivery and strategy, and target areas that would not necessarily have been identified without the DREEM tool".
In the Discussion they state, "We have used this information to improve our medical education delivery and address identified shortcomings. These targeted areas would not have necessarily been identified without the use of the DREEM tool".
Unfortunately the authors have not shared any of this information with the reader. There is no indication of what information they obtained from the DREEM Inventory that indicated shortcomings to them, or how they extracted such information from the means of the 5 DREEM domains as indicated in the Result section.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Background
7. Line 9: Capitals required in Dundee Ready Education Environment Measure
8. Line 10: (DREEM) Inventory NOT "tool". (Twice in the same line).
9. Line 12: The five domains not "modalities".

Our Curriculum
P4
10. Line 4: Insert "that" between "ensuring" and "the" at the end of the line

Results
12. Line 2: Insert "the" between "of" and "DREEM" and 'Inventory" after "DREEM"

Discussion
13. Line 1" Insert "Inventory" after "(DREEM)"
14. Line 4: Delete "score" before "DREEM"

P6
15. 4 lines from the end" principal NOT "principle".

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Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Needs some language corrections before being published

Statistical review: Yes

Declaration of competing interests:

I declare that I have no competing interests