Reviewer’s report

Title: Situational Awareness within Objective Structured Clinical Examination (OSCE) Stations in Undergraduate Medical Training - A Literature Search

Version: 1 Date: 27 Feb 2017

Reviewer: Andrea Vallevand

Reviewer's report:

Article Review: Situational Awareness

While incorporating whatever changes are requested by the Journal's Editor (and certainly before this article is re-submitted), I would recommend that the authors read the entire submission out loud to identify less than clear sentences. As an example, please read out loud, the sentence between lines 112 and 115.

Overall, I am a little confused about the flow of the article. The authors start with patient safety, move to the aviation field, introduce Endsley's Model of Situational Awareness, SA's training in non-technical skills and then discuss clinicians being unaware of SA and, thus, not being able to convey data gathering and its incorporation into the diagnostic process. The authors then focus a section on Clinical Reasoning and then introduce OSCEs and whether they are a suitable instrument for assessing SA.

Are the authors trying to "parallel and integrate" Situational Awareness and Clinical Reasoning? Judging by the Figure and the first sentence of the Conclusion, I would suspect so and that's a very interesting viewpoint, which I find extremely compelling. Having said all that, this integration has not been presented clearly enough in the Introduction.

The authors state that the purpose was to review the literature to identify the parameters of SA, based on Endsley's Model, which can be assessed in OSCE stations. The authors have provided an informative table that outlines which of the SA levels are represented in the nine articles identified. My recommendation is that the authors, starting at line 198 provide a section on the SA Level findings. For example, all nine articles incorporated Level 1 (perception information gathering). Be sure to provide examples. Of course the most compelling section will be on the research that incorporated all three Levels, but if your purpose is to identify parameters of SA found in OSCEs, the results should be presented.
Please list some examples of these contributing causes (e.g., interpersonal communication and crew coordination) of deficient crew performance so that the reader, who may be unfamiliar with Crew Resource Management, can have a frame of reference of these causes.

Please incorporate "Endsley's Model of Situational Awareness" as a preface to the description of the 3 Levels of the Model. Also, you need to refer to the Figure you have included.

Please clarify. You state that "some medical schools have incorporated patient safety education into their curricula". Have all of these programs emphasized SA as a cornerstone of curriculum design by integrating the 12 tips outlined in the Armitage article? Or, is the Armitage 12 tips for implementing patient safety article a recommended resource for implementing a patient safety curriculum and is, thus, independent of the General Medical Council?

I am unclear as to the purpose of this section. You start by stating students learn clinically from experienced doctors. Then you state that professional clinicians are commonly unaware of SA and cannot convey the key critical information that must be identified and integrated for effective clinical reasoning. Is this section intended to provide support for the development of patient safety education that integrates SA as a critical objective of the curriculum?

Schuwirth's commentary on what topic? Why would you use "conclusive performance" rather than outcome based assessment of clinical reasoning, if that is the term used by Schuwirth?

Sandars . I would recommend you remove "Prof"

What is "augmented awareness"? You have not used this term in the paper up to this point. If there are various terms that are used interchangeably to describe SA, you need to list them.
Line 149:  OSCEs are, in theory, intended to evaluate the effectiveness of the curriculum - I'm not sure I would go so far to state "OSCEs allow".

Line 161:  What is "sense-making"? I know it was one of your search terms, but again, refer to the comment on "augmented awareness". You may want to add a sentence in the Introduction section that addresses the various terms used by other authors to describe SA.

Line 201:  The term "system thinking" is not defined. Actually, in the Varkey article it is referred as "systems thinking" as in "systems thinking through history taking and communication", p. 50. The paragraph describing the Varkey research is extremely unclear. Furthermore, the authors have not articulated what levels of SA (as defined by Endsley) were addressed in the Varkey research. This is particularly important as the authors have cited Varkey as suggesting OSCEs were an ideal tool for assessing SA (lines 261-262).

Line 222:  I would suggest including the six evaluation criteria in parentheses to provide a frame of reference.

Line 278:  "This was seen in a paper-based scenario". Technically it was not seen in a paper-based scenario. Paper-based scenarios were utilized (two formats) and the results demonstrated what exactly.

Line 282:  Gruppen has two co-authors. So, Gruppen and colleagues…. In their study..

Line 300:  Baker is identified as the author on line 297. "They" have not been provided a citation number and there is no "Baker et al" noted in the Reference List.

Figure:  "Generating" is spelled incorrectly in the SA Level 3 component of the illustration.
Table: I would suggest adding a column that documents the specific task being assessed during the OSCE. For example, Varkey used a station on prescriptions. You might add a column on the Year of Training, and the number of participants in the research.

Also, there is no reference to the table in the text.

Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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