Author’s response to reviews

Title: Evaluation of the Korean Version of the Self-assessment of Nursing Informatics Competencies Scale

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Author’s response to reviews:

We greatly appreciate your thoughtful comments that helped improve the manuscript.

We reflected your suggestion in the manuscript.

Please find highlight the revised text using red colored highlighting.

I look forward to your reply regarding our manuscript.

Reviewer 1

Please, this paper is not the original as a research paper. The following reasons:

- Introduction, the results and discussion has not been completely explained both in the abstract and in the body of the article.

: Based on your comments, we added the following sentence:

“In order to assess nursing students’ informatics competency, we need a useful scale that covers computer skills and informatics knowledge and abilities and reflects important advances in the field such as standardized terminology and wireless communication.”
Introduction: It is very low expressed (both in the abstract and in the body of the article), the introduction is not clear purpose and use of research and at the end of introduction is finished by providing the reference from the other people. Also the results and discussion has not been completely explained.

: To clarify the purpose of the study, we supplemented the contents of the abstract and the body of the article.

Keywords are compared with the mesh.

: Three original keywords are mesh terms.

The Tables reform by adding other statistical methods.

: Some results were added to tables.

The Methods in the article abstract and the article text is not clear.

: The design of this study was a methodological approach to evaluation of the Korean version tool (page 2).

The Section of the method is lacking text of nursing student's written consent.

: The “ethical considerations” section was written and presented separately, and the sentence in the data collection section was revised as follows. -->gt;(page 8) The survey was conducted only for those who gave their written consent, and, (…)

The conclusion of this study is not clear and the section of Acknowledgments has not Ethical considerations and ethics number.

: “Ethical considerations” was prepared separately and presented on page 6.

Some of the references are old.

: We added more recent published references [17, 26].
Reviewer 2

[Abstract]

The authors should inform as to whether the SANICs is widely used and has had good results. A brief rationale for using this particular measure is needed

Line 11 is unnecessary, and I suggest removing

Line 18: Delete 'and its' and replace with 'across'

Line 30: How does this compare with the categories in the original version Are these totally new?

--&gt; Based on your comments, we revised the sentence as follows:

“In order to assess nursing students’ informatics competency, we need a useful scale that covers computer skills and informatics knowledge and abilities and reflects important advances in the field such as standardized terminology and wireless communication.”

[Line 11] “After the translation process, the 30-item K-SANICS was completed”

--&gt; The design of this study was a methodological approach to evaluation of the Korean version tool (K-SANICS).

[Line 18] We deleted “and its”

[Line 30] We added the description in the discussion section (page 11)

Page 3

Line 13-14: This is misleading- it reads as though nurses cannot perform patient centred care without electronic record systems, which is not the case. Please revise the statement to indicate that these systems can facilitate patient centred care.

Lines 42-48: Was this curriculum content provided in all universities nationally? Why is it piecemeal? Please provide more information to clarify your assertion here.
Lines 50-52: Please clarify whether you mean that students are more knowledgeable than lecturers or vice versa.

--&gt;Based on your comments, we revised the sentence as follows:

◊ [Lines 13-14] “facilitate nurses to perform patient-centered care by providing health information (…)”

Based on your comments, we added the following sentence:

◊[Lines 42-48] “Various curriculum contents have been tried, but these were not provided in all universities nationally.”

Based on your comments, we added the following sentence:

◊[Lines 50-52] “This may be an obstacle for educators to accurately grasp the needs of students related to nursing informatics.”

Page 4

Line 23: The authors refer to existing scales which they say 'do not reflect the latest advances in the field', yet they go on to describe the development of the SANICS, to include these development, in 2009. There is a problem with tenses here, with a development pre-2009 being referred to as current. Please revise.

The authors describe the SANICs as covering aspects which were omitted by the other 2 measures by Staggers et al, and Cornenwett et al. There is no information as to the effectiveness of the English version (did it do what it was supposed to) or the frequency with which it had been used. The rationale for introducing the measure to a Korean population should be expanded.

--&gt;We revised page 4 to “did not reflect the important advances” following your recommendation (page 4).

We added a detailed explanation on page 4 as the reviewer suggested.

◊ “The SANICS was validated and it was internally consistent for nursing students with various educational and demographic backgrounds. Moreover, the high responsiveness of the SANICS indicates its strong ability to detect significant changes in informatics competencies [17]”
Page 5

Please state how many nurses were in the potential pool of participants from these 3 provinces. Was there a separate university in each province, or a separate hospital?

Line 25: Given the international readership of the journal it will be necessary to briefly explain 'baccalaureate program'

Line 33-37: There is an implication here that only 3rd or 4th year students had access to the hospital information system. Did 1st or 2nd year students not access clinical records in this way?

Line 33: The crucial issue of competency is mentioned here, but at no other point in the document. How did the scores measure this?

Line 60: Use of the word 'adequate' is a bit jarring. A preferred phrase would be to say that the ethical review board deemed the information provided to be adequate.

---&gt;There was a separate university in each province. We added the sentence to the “setting and sample” section as follows:

◊ “The first and second grade students not participating in clinical practice were excluded. Data were collected from 254 students recruited from three universities using a self-reported questionnaire.”

[Line 25] We added a description of the baccalaureate program.

[Lines 33-37] Most first and second year nursing students in Korea do not have clinical training, so we did not include them in the study participants.

[Line 33] The method and the meaning of the K-SANICS score are described on page 7.

[Line 60] Based on your comments, we deleted “adequate.”

Page 6

Please describe who the investigators were. Were they university lecturers?

he details on data storage would be better moved to the 'data analysis' section.

Line 6: Do the authors mean 'lecturers' rather than 'professor’?

Line 11: Who were the research assistants and what was their previous relationship, if any, with the participants?
Line 16: What was the response rate i.e. how many students were approached to participate, compared to the number who took part.

Line 20-21: If written consent was provided, was this scanned then stored electronically? What happened to the hard copies of the signed consent forms?

Line 23: The authors state that 'personal information that may identify study participants was not collected', yet the questionnaires asked participants for their age and gender. These data are personal, hence the phrase is incorrect. Please remove amend to state that gender and age were the only personal details requested.

Lines 37-52: Please indicate whether the translation process was in line with recognised guidance, e.g. from the WHO. There are several methods of translation- please indicate the rationale for choosing this one.

Line 45: Please state who 'the researcher' is, as referred to here (identify in terms of being a member of the study team or otherwise)

--&gt;To clarify the meaning, we changed “investigators” to “researchers.”

We think that it is right to describe it in “ethical considerations” because the data storage is done to protect the information of the study participants.

[Line 6] In this sentence, professor means researchers. We are professors.

[Line 11] The research assistants are staff members of the school who provided a place for the survey. So, they only provide information on the procedure for submitting questionnaires to students.

We deleted the sentence to reduce the confusion of the reader.

[Line 16] We added the response rate (84.7%).

[Lines 20-21] We saved written consents as scanned files and discarded the hard copies of the signed consent forms.

[Line 23] We revised the sentence as follows:

◊ Personal information that could identify study participants (except for gender and age) was not collected or used in reporting the results.

[Lines 37-52] We added the following sentences:

◊ In this study, a four-step conceptual review process was applied based on the guidelines proposed in previous studies [20, 21]. Four steps were carried out in the order of translation, back-translation, expert committee review, and pre-test.
We revised it as follows:

the researcher is a member of this study team

Line 25: Please say why the pilot data were not included in the analysis. Was this something that could have been considered? If so, it can be included in the study limitations.

Line 38: Again, for an international (non-American) audience the use of 'major' should be explained.

Section on data collection:

1) Please describe the investigators- were they members of the study team?

2) Were the students approached on one day only or across several days at each site? How many sites were included?

3) How refusals to participate were recorded (how were those who declined to take part assured that researchers would not continue to approach them on other occasions)?

How did the researchers ensure that people were not given the questionnaire more than once?

4) How long were the students given to make the decision to participate?

5) Where was the data collected? The section on ethical considerations mentions that the researcher 'left the room' to reduce the risk of the students feeling coerced to participate. Please clarify whether the students were asked to complete the questionnaire immediately, or whether they could complete it at home, or at a later time.

Please give a little more detail as to how the completed questionnaires were submitted (e.g. in a post box, delivered straight to the research team, or otherwise).

The reason why we conducted the pilot study was that we wanted to evaluate whether K-SANICS was easy for nursing students to understand. We did not include them in the final analysis because we made minor corrections after receiving feedback from the pilot subjects.
[Line 38] We revised “major” to “major in college” on page 7.

Section on data collection:

Based on your comments, we revised the section on data collection.

Page 8

Line 52: Please insert the N before the percentage given, and give the range for age. Please indicate whether this was a representative sample of the total nursing student population in the area, and nationally.

Line 59: Please clarify that the need for computer and informatics education was identified by the students themselves.

--&gt; Inserted the information and described the sampling method in the setting and sample section (page 5).

We amended that sentence (page 8).

Page 10

Please provide the names of the factors in the original version, to enable the reader to make a comparison between those identified in the Korean version.

Line 55: The following section describes the outcome of identifying the factors, not the process.

The section from Line 54 on page 10 to line 6 on page 12 would be more clearly presented in a tabulated format, to replace the text. This complete section should be under the 'results' and not discussion. Please amend.

--&gt; We added that and amended it (page 10).

This section was moved to results (page 10) and summarized.

Page 12

Lines 8-10: Please present this statement as an opinion of the author who is referenced and not as a fact.
Lines 18-19: The authors state 'our scale includes....' Can they clarify whether these component were in the original version prior to translation?

--&gt; Based on your comment, we revised that sentence

◊ Utley-Smith (2004) mentioned that nursing informatics competency is one of the five essential competencies that every nurse should possess.

Page 13

The authors should include some reflections as to the degree to which their analysis may have been influenced by including a non-Korean in the research team

Line 18 -36: These are results and should be included in the appropriate section

--&gt; A suggestion was added to the last part of that section (page 13).

And the original tool was discussed in the factor analysis section (page 10).

The discussion section should include some thought about how competencies are set. How would they be determined and by whom?

--&gt; We added the opinion in the discussion (page 13).

The text on page 14 'the K-SANICS should be an appropriate tool for measuring informatics competency in nursing students, and we expect it to be useful in research as well’ needs to be expanded. How will the effectiveness of this tool be measured, and how has it been measured to date? If this is missing from the evidence to date please identify it as a limitation and include some thoughts as to how this could be addressed in future studies.

--&gt; Based on your comment, we added the following sentences:

◊ Second, studies to validate the effectiveness of the K-SANICS have not been conducted sufficiently. So, various studies using the K-SANICS as a tool need to be performed.

Reference to evaluations of competencies of other healthcare professionals is needed.
Thank you for your detailed comment. We added a new reference and cited it on page 13 as “Moreover, the items in SANICS reflect interprofessional informatics skills that support interpersonal communication, patient-centered care and team collaboration [27].”

Please provide some detail as to the value of assessing competency during training, with particular emphasis on the impact on patient care.

We added the sentence to the conclusion section.

Furthermore, improving the nursing informatics competency of students will be a great contribution to the quality of care they provide to their patients when they become nurses.