

Final exam paper MAE4010

Based on the work done in the groups, and the documentation delivered in several stages during the study year, your final paper is an individual paper where you give a full account of the test development process. The intended reader of your report is NOKUT.

The paper should have a structure as outlined below:

1. Background and introduction
Even if the reader of your report is NOKUT, you should demonstrate that you are familiar with the Student Survey (what it is, purpose, intended use etc) in the introduction.
2. Theory (of specific relevance for the construct to be measured)
3. A framework for the "CONSTRUCT"
4. Methods and data (description of the procedure and the data collected)
You can assume that the reader is familiar with the methods you are using. You still need to inform the reader about the methods you have used and why (with appropriate references) and the data/sample
5. Results, including brief discussions informing the next steps in the process
 - a. Feedback from experts (feedback from Instructors/Peers/NOKUT)
 - b. Cognitive interviews
 - c. Pilot
6. Discussion and final recommendations
7. Appendixes: You are free to deliver a range of appendixes. Appendixes should include:
 - a. Initial version of the questionnaire
 - b. The questionnaire used in the cognitive interview
 - c. The piloted questionnaire
 - d. The proposed final questionnaire

If perceived useful, appendixes with more detailed and technical aspects of the conducted analyses may also be included.

Parts 1 to 6 is the major paper to be assessed – and this part should not exceed 15 pages (Font 12 pt, line distance 1.5, margins 2.5). There are no limitations for the appendixes, but keep in mind that the paper should not be directly dependent on reading details in the appendixes. It should be possible to read the main arguments from the text, but appendixes may still be useful for completing the documentation of what was done in the various phases of developing the instrument. The appendixes will not be included as a major source for the grading.

Criteria for assessing the paper

The overall aim is that the exam paper should be an independent and complete report of the process with developing a test instrument. The paper is based on the continuously reported group assignments – with feedback given at several previous stages.

Criteria characterizing a **high-quality paper** are:

- There is a good flow and structure in the paper, e.g.
 - concepts are introduced and defined
 - claims and conclusions are substantiated with arguments
 - the text is well-written, accurate, to-the-point and condensed
 - references are used appropriately with a consistent format
- The proposed framework follows from discussion of relevant theory¹, demonstration of familiarity with the context, practical constraints and purpose of the instrument to be developed. The framework should give direction for item writing, and represent a reasonable hypothesis for the content, structure and progression of the construct from low to high values.
- The gradual development of the instrument from first ideas to final proposal should be fully documented, showing how information/evidence is applied in successive steps.
- The results from the cognitive lab should be effectively presented, and only provide information of specific relevance for the further development of the items.
- The statistical analyses include descriptive statistics of the overall measure and the single items - with reasonable discussion about how this informs the instrument development.
- Furthermore, a carefully conducted analysis will contain the results and discussion of confirmatory factor analysis of the piloted instrument in two steps:
 - The initial analysis of all the piloted items
 - The final analysis of the selected items
- In general, it should be clear to the reader of the paper how the analyses have been done, but not at a level of details including the R scripts etc.
- The discussion and final recommendations should be critical, and identify limitations and further steps needed

To get a pass-mark (grade E or better) the report should include a framework, a brief description of the core procedures undertaken in the development, presentation of (some) results from all stages in the process and a discussion providing a minimal argument for the final selection of items.

For the grade C or better the report is regarded as complete. The report provides a convincing argument for the final version of the instrument, including presentation and interpretation of analyses without serious flaws.

¹ The fact that some constructs are less “theoretical” in nature, will be taken into account when judging the papers

For the grade A the paper should be of an outstanding quality – both in terms of well-executed analyses, effective presentation and critical discussion. All criteria listed above should be fully met for this grade.

Within each topic, the best paper will be delivered to NOKUT as the formal report of the development process. This paper will be labeled with the candidate's name as the first author and the other group members as co-authors – to acknowledge that the final product is a joint intellectual property.

NOT TO BE INCLUDED IN THE STUDENT VERSION

Each of the ten criteria listed above will carry the same weight in the assessment of the paper, and will be rated 1 to 5:

1. Serious flaws or incomplete
3. Complete, with minor weaknesses
5. Complete with very high quality

GRADE	POINTS
A	45-50
B	40-44
C	35-39
D	30-34
E	20-29

RATER FORM

STUDENT NO: _____

CRITERIA	1-5
There is a good flow and structure in the paper, e.g. concepts are introduced and defined claims and conclusions are substantiated with arguments the text is well-written, accurate, to-the-point and condensed references are used appropriately with a consistent format	
The proposed framework follows from discussion of relevant theory ² , demonstration of familiarity with the context, practical constraints and purpose of the instrument to be developed. The framework should give clear direction for item writing, and represent a reasonable hypothesis for the content, structure and progression of the construct from low to high values.	
The gradual development of the instrument from first ideas to final proposal should be fully documented, showing how information/evidence is applied in successive steps.	
The presented results from the analyses should provide relevant information about the quality of the overall measure and the single items.	
The results from the cognitive lab should be effectively presented, and only provide information of specific relevance for the further development of the items.	
The statistical analyses include descriptive statistics of the overall measure and the single items - with reasonable discussion about how this informs the instrument development.	
Furthermore, a carefully conducted analysis will contain the results and discussion of a confirmatory factor analysis of the piloted instrument.	
Given the results from the first CFA, the student provides a well-argued solution for a reduced instrument (with reference both to substantial and statistical criteria)	
In general, it should be clear to the reader of the paper how the analyses have been done, but not at a level of details including the R scripts etc.	
The discussion and final recommendations should be critical, and identify limitations and further steps needed	

² The fact that some constructs are less “theoretical” in nature, will be taken into account when judging the papers