

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 exam delivery is an individual paper where you give a full account of the test development process. The intended reader of your report is NOKUT. The exam will be rated on the A to F scale.

Structure of the report

The paper should be paginated and have a structure as outlined below:

1. Frontpage with a report title (the title must include the label used for the construct). DO NOT INCLUDE YOUR NAME!
2. Separate page with Table of contents, including an overview of the appendixes
3. 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.
4. Theory (of specific relevance for the construct to be measured)
5. A framework for the construct
6. Methods and data (a brief 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 main characteristics of the data/sample
7. Results, including brief discussions informing the next steps in the process
 - a. Feedback from experts (feedback from Instructors/Peers/NOKUT)
 - b. Cognitive interviews
 - c. Analyses of the pilot data
8. Discussion and final recommendations
9. List of references (APA style)
10. Appendixes: You are free to deliver a range of appendixes. Appendixes should include:
 - a. Initial version of the questionnaire, including how the items target framework categories
 - b. The interview guide developed for 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 9 is the major paper to be assessed. Parts 3-8 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 technical

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 final quality of the instrument, as for instance reflected through fit indexes, reliability etc. is not part of evaluating the quality of the instrument. The paper is based on the continuously reported group assignments – with feedback given at several previous stages. All the material you have developed until now, is joint intellectual property, and can be used without being explicitly references to.

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 and consistent with APA style
 - The rules for how the paper should be formatted are fully implemented (page limitations, fonts, margins, line spacing, cover page and table of contents)
- The proposed framework follows from discussion of relevant theory¹, demonstration of familiarity with the context, practical constrains 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 a single unidimensional 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 briefly and 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 at least 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

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

Descriptions of the grades A, C and E

- **For the grade A** the paper should be of an outstanding quality. The report leaves no room for doubts about the nature of the work done and the final suggested instrument clearly links back to a well-developed framework with clear reference to theory and well-executed analyses. The presentation is effective, convincing and reflects a critical and evidence-based approach to instrument development. All criteria listed above should be fully met for this grade.
- **For the grade C or better** the report should be complete. The report provides a coherent and convincing argument for the final version of the instrument, including presentation and interpretation of analyses without serious flaws.
- **To pass the exam (grade E or better)** the report should include the main components of 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 each topic, one specific report will be selected as the delivery to NOKUT. 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.