



DEPARTMENT OF EDUCATION AND SPECIAL EDUCATION

QRM1805 Test- and instrument construction for educational research, 7.5 credits

Prov- och Instrumentkonstruktion för utbildningsvetenskaplig forskning, 7,5 högskolepoäng

Third-cycle level / Forskarnivå

Confirmation

This syllabus was confirmed by the Department of Education and Special Education on 2018-10-08, and is valid from Spring semester 2019.

Responsible department/equivalent

Department of Education and Special Education, Faculty of Education

Entry requirements

For admission to the course, the applicant has to be registered as a doctoral student in the third cycle or have a doctoral degree. The applicant should also have documented prior knowledge corresponding to the learning goals in the QRM1800 course “Basic statistics for educational research, 7,5 credits”, or similar.

Learning outcomes

Research in the educational sciences is often based on information about individuals' performance on some instrument measuring knowledge, skills, abilities, attitudes or something else that is of relevance to what is being investigated. It is of central importance that this information is of good quality, so that valid interpretations can be made. Irrespective of the nature of the instrument that is used; if it is a test, a self-report scale, a questionnaire or some other format, the instrument should reflect what it intends to measure, and give reliable information.

The purpose of the course is to give the students both theoretical and practical knowledge on what characterise instruments of good quality and how they are constructed. The participant will in this course learn how to evaluate the quality of an existing instrument, but also, through a scientifically grounded development process, engage in the constructions an instrument of their own.

Knowledge and understanding

- explain what characterises different types of instruments with relevance for educational measurement, such as test, scales and questionnaires
- describe the different steps in the development process of the instrument
- account for methods that are used for investigating properties of items and tasks, as well as for standard setting

Competence and skills

- plan for the development of an instrument, where every step in the process can be motivated from theories on instrument construction
- construct items and tasks according to guidelines for item construction
- discuss common threats to the validity and reliability of the instrument

Judgment and approach

- evaluate the usefulness of an instrument based on information about its purpose, design and properties
- discuss ethical aspects regarding how instruments are used, and consequences that may follow

Course content

The course deals with instruments that are used in the contexts of educational research, such as measures of individuals' knowledge, skills or attitudes, or instruments for evaluating school or classroom performance. The course will initially give an orientation in different types of instruments, such as knowledge tests, self-report instrument, tests and questionnaires. The course will then focus on the different steps that are included in the development process, from the how the targeted constructs are theoretically described to how they are practically operationalized. In the light of the ongoing digitalisation of tests and surveys that is taking place in society, the course also include reflections on the implications for both the administration of tests and for the collection of information for research purposes. An overall theme regards the many irrelevant factors that can affect the reliability and validity of measurement and how these can be prevented. The course will therefore also give an overview of basic methods for analysing the characteristics of items and item constellations.

Types of instruction

The course is in the main an on-line course, but with three days on campus, with lectures, seminars and workshops. Prior to the campus days there will be individual literature studies.

After the on-campus meeting, the course continues as an on-line course, with lectures, assignments and seminars over the internet via GU's learning platform.

Course participants are expected to take responsibility for their own learning, independently and together with peer students, by reading the course literature and actively participate in seminars and group work, and by performing the practical exercises and complete the tasks that are assigned by the course leader.

Language of instruction

The course is given in English.

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Grades

The grade Pass (G) or Fail (U) is given in this course.

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Types of assessment

One part of the examination is to scrutinize different types of instruments, and a second is to develop an instrument, or a selected part of a more substantial instrument, and to write a report on this (appx 5 pages) where the development of the instrument is described; its purpose, expected characteristics and considerations that have been made with respect to target group and administration, as well as the different steps in the development process, and a plan for how the instrument can be tried out and analyzed according to quality criteria. This description and the discussion of the instrument's design and quality has to be based on and linked to theory and methods in the course literature

Furthermore, a pass grade requires active participation in assignments and seminars, and attendance at all mandatory tasks

Course evaluation

Course evaluation will be carried out after the course. The evaluation will be used as advice for the future development and planning of the course.

Other information

The number of participants is limited to 15. Priority will be given to doctoral students within the Educational sciences if the number of applicants for the course is exceeding the number of places.

Course participants need access to computer/laptop, computer accessories for online communication (camera, headphones, mic) and the required statistical software (see list of literature).