Item banking for optimal tests

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Why AEA members should attend this workshop:

The workshop will offer an introduction into Item Banking and applications for test assembly from a practical point of view. Participants will gain insight in the do's and don'ts when using an item bank for the purpose of developing assessment instruments, and will receive practical guidelines to use metadata and psychometric theory to assemble optimal tests based on an existing item bank. participants will have hands-on experience in using automated tools to make linear or adaptive tests, based on Item Response Theory (IRT) or Classical Test Theory (CTT). Main features of these applications will be addressed in the workshop. Participants will be able to understand and assess the usefulness of item banking in their own work.

Who this Workshop is for:

The workshop is aimed at those who want to know more about item banking and test assembly with a focus on applications. Participants might be novice or more experienced users. No prior knowledge is required to attend the workshop, although some knowledge on CTT and IRT would be welcome.

Participants will practice using software for some examples and are invited to bring their own laptops for practicing (Windows).

Overview:

The workshop starts with an introduction to item banking as part of the test development cycle, from the perspective of the test developer.

The <u>first</u> session of the workshop starts with some theory and best-practices: why is item banking an important issue; how can we make item banking be profitable for us, the test developers? An overview on item banking systems will be given, and participants will be encouraged to share their views and experiences with item banks.

In the <u>second</u> session participants will learn about the main features of the test construction process. The participants will practice specification of test requirements, using examples from the test construction experience of the presenters and, when available, from the participants themselves.

A brief introduction into Classical Test Theory and Item Response Theory will be given, with a focus on the use of both in item banks and the optimization of the test design The participants will practice with hands-on exercises to assemble their own test based on an example item bank.

Special attention will be paid to the development of multiple parallel test forms. The use of these multiple test forms will be discussed, as well as the requirements that must be fulfilled: test equating usually needs the use of anchor items, while security measures usually limit item use.

The topic of the third session will be computerized adaptive testing. The goals and usefulness of simulations for constructing CATs will be discussed. The measurement characteristics of a CAT can be studied and set before publishing it. This way, the performance of proposed selection algorithms and constraints can be studied and possibly altered to better suit the needs of the stakeholders.

In the <u>fourth</u> and last workshop session various aspects of item bank maintenance and renewal will be discussed: how can we identify potential shortcomings in the available item pool, what role do security issues and item renewal schemes play in a project? Developing long-term views in item banking will be the main topic in this session.

Preparation for the workshop:

No special preparation is required, the workshop format will be interactive allowing participants to discuss their own experience and/or problems. If available, participants are encouraged to bring their own item bank data for discussion. It is the belief of the workshop leaders that sharing experience in applications will stimulate and enable participants in solving educational measurement problems that they encounter in their practice or anticipate encountering.

Tentative schedule

Time	Session	Presenter
09.00	Coffee and registration	
09.30	Welcome & introductions Outline of the workshop	
9.45	Introduction to item banking as part of the test development process Hands-on exercise 1	
11.00	Break	
11.30	Main features of linear and (computerized) adaptive tests, test specifications and item bank requirements Hands-on exercise 2	
13.00	Lunch	
14.00	Using IRT and CTT in test assembly Hands-on exercise 3	
15.30	Break	
	Item bank maintenance and renewal Hands-on exercise 4	
16.30	Workshop close and evaluation	-