

CBT: why and how ?

Gilles GUILLARD

Head of Unit "e-selection and test development"

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CBT in general and in EPSO

- Computer-based testing has grown substantially in the last 30 years, not only in private but also in public organisations worldwide
- CBT introduced in 2005 in EPSO and progressively extended to all open competitions/selection processes of the EU



What are the main advantages of the CBT system? (1)

- 1. Processing high volumes with more flexibility for candidates**
(candidates can test anywhere, anytime within set period)
- 2. Higher quality of assessments and increased cost/effectiveness**
(reusable questions, monitoring of CBT item bank, electronic records of tests)
- 3. Faster procedures**
(overlapping events, automated scoring)



What are the main advantages of the CBT system? (2)

- 4. Improved image**
(e-Commission, user-friendliness)
- 5. High level of security**
(high level of encryption and secured environment, small number of actors)
- 6. New types of assessments**
(audio-video based tests, essay-type, etc...)



Processing high volumes...



...with increased flexibility for candidates !

- Over 400.000 candidates have taken a test on computer since introduction in 2005
- Approximately 250.000 tests delivered under the new selection model (since 2010)
- +/- 68.000 candidates tested in 2012 / +/- 40.000 candidates tested in 2013
- Worldwide testing across network of standardised testing centres
- Online booking tool available 24/7: candidates can chose their testing date, time and location / possibility to reschedule appointments = increased participation rates !



More robust pre-selection tests

2005

- MCQ only
- Limited number of tests
(VR/NR/EU)
- Limited number of test centres within Europe
- 3 language regime
- Long process
(separated registration/
Booking/ testing)
- Rely heavily on external expertise

2014

- New types of tests (*essay-type, audio-video*)
- Variety of tests covering a range of skills (AR, SJT, ACC, PO, Linguistic)
- Worldwide testing covering all continents (EUR 27 + 51)
- 24 languages (including HR)
- New on-line self-assessment tool
- Combined registration/booking/testing
- In-house psychometrics
- ERICA (new delivery mode)



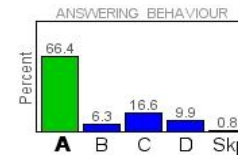
CBT item bank: professional testing

- All questions provided by specialised companies after open procurement process
- Content free of bias per contractual conditions
- Several layers of rigorous internal quality control before delivery
- In-depth item performance analysis after each competition based on IRT ("Rasch Model")
- Items showing unwanted behaviour are flagged and investigated (blocked for delivery)
- 80.000 items (52.000 active in the item bank): according to experts in the field – notably ITC and ATP – one of the largest item bank of its kind in the world

Item performance analysis

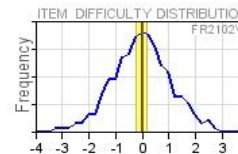
FR2102V Item Profile (VR+NR Cumulative)

Count	957
Valid	949
Correct	635
Avg Duration	107.5



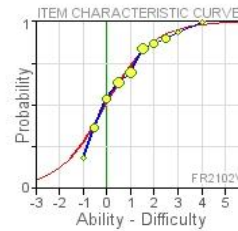
Rasch Model Measures

IPAR (Difficulty)	-0.02
STD Error	0.077
Adjusted IPAR	-0.04



Model Fit Statistics

Infit MSQ	0.99	≈ 1, < 1.5
Outfit MSQ	0.99	≈ 1, < 1.5
r PTME	0.41	≈ 0.40, > 0.25
ObsMatch	72.9%	> 72.3%
Discrim	1.03	≈ 1



Homogeneity (DIF)

Gender	0.411	> 0.01
Age	0.896	> 0.01
Proximity	0.561	> 0.01
Nationality	0.956	> 0.01

GENDER BIAS		MODEL FIT		HOMOGENEITY (DIF)				
F-	-1.1	F+	OutFit	89.5	Sex	Age	Prox	Nat
								

[BG] [CS] [DE] [EL] [EN] [ET] [FI] [FR] [HU] [LT] [LV] [NL] [PL] [PT] [SK] [SL] [SV]



ERICA (I)

Epso Rasch Item Combination Algorithm

- **Increased fairness** for candidates:
 - Better difficulty management
 - Ascending order of item difficulty
- **Improved ownership** of SB:
 - Possibility to simulate expected score distribution
 - Prior knowledge of actual test forms which will be delivered to candidates
- Use of broader range of questions / **improved diversity** of test content
- **Deployed successfully** for AST3 cycle and AD cycle

New types of tests : example of the interpreters intermediate tests

- Simultaneous interpretation of a recorded speech (appr. 12 min)
- Test is delivered **between the admission stage and the assessment centre** – first half of December
- AD5 level only (entry level)
- Computer-based test – audio-video format (candidates look at an audio-video file (speech) and record simultaneous interpretation in CD quality)





EPSO PRELIMINARY INTERPRETING TEST

Sensitivity of the Microphone



Volume of Speech



00:19:73



Internet-based testing (self-assessment)

- Deployed on Dec 5th 2013 for the AST 3 cycle / Compulsory for the AD cycle in 2014 and Translators
- Potential candidates can take an online test 24/7 from any location in the actual testing environment (unproctored)
- Questions pulled out of EPSO item bank (available in 24 – languages (VR/NR/AR/SJT/ACC/P&O/RC)
- Helps candidates to familiarise themselves with the tests and deters applications from tourists (immediate feedback on scores obtained)
- **250.000** exams taken so far
- Extremely positive feedback from candidates

3 good reasons not to be afraid to take the step forward!...

1. **You are not alone !:** plenty of experience, best practices and guidelines for many years now (ITC guidelines on CBT for example)
2. **No "one size fits all" !:** many different solutions available on the market, most of them highly adaptable and configurable (ATP and EATP conferences)
3. ***I want my money back !:*** High ROI (quality of assessment, candidate's experience and satisfaction, speed, etc...)



THANK YOU!

QUESTIONS?

