What Types of Electronic Questions Objects are Needed?

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ICTE 2011 – Rožnov pod Radhoštěm, September 13, 2011

Agenda:

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1 Goal of the Paper

- to support the use of ICT in education in the field of electronic testing;
- to open this problem domain for wider range of takers.

2 UoD (* 1. 9. 2004)

- Faculty of Economics and Management (9)
- Faculty of Military Technology (13)
- Faculty of Military Health Sciences (9+2)

- NBC Defence Institute
- Language Training Centre
- Physical Training and Sports Centre

3 Department of CIS (* 1. 9. 2005)

Current structure:

- Radio communication systems
- Telecommunication systems
- Information systems and programming
- Computer networks and operation systems
- Information security

4 Study Branch: Communication and Information Systems (CIS)

- Bachelor Study (P) (+ in English)
- Following Master Study (P,C)
- Doctoral Study (P,C) (+ in English)

- Lifelong Learning - Courses

5 The Term ‘Universal Question object’

UQO = [assgn, defr, evalr, fdb], (1)

where

assgn is the assignment,
defr defined reactions,
evalr evaluation of reactions,
fdb is feedback.

6 The Term ‘ Question object’

QO = [id, qf, ans, sco, fdb], (2)

where

id	is name of the question type prototype,
qf	is question formulation,
ans	are answers,
sco	is scoring,
fdb	are feedback conditions (feedback can be immediate and delayed).

7 The Term ‘Electronic Question’

Q = [QO, as], (3)

where

QO is a question object,

as is the list of answers which were generated from **QO**.

‘**as**’ is a subset of ‘**ans**’ from the previous definition 2

8 Useful Types of Question Objects

- Multiple Choice,
- Multiple Choice Multiple Correct,
- True-False,
- Matching,
- Short answers.

9 The Term ‘Life Cycle of a Question Object’

LC_QO = [S1, S2, ..., S8], (2)

where

S1 is creation of the main idea of question object proposal;

S2 is making a standardized description of question object proposal;

S3 is discussion and adjustment of question object proposal;

S4 is creation of accepted question object in chosen authoring software;

S5 is discussion and adjustment of the overall design and especially the graphic design of electronic questions;

S6 is question object usage;

S7 is maintenance of question object;

S8 is discard of question object.

10 Practical Example of QO Realization

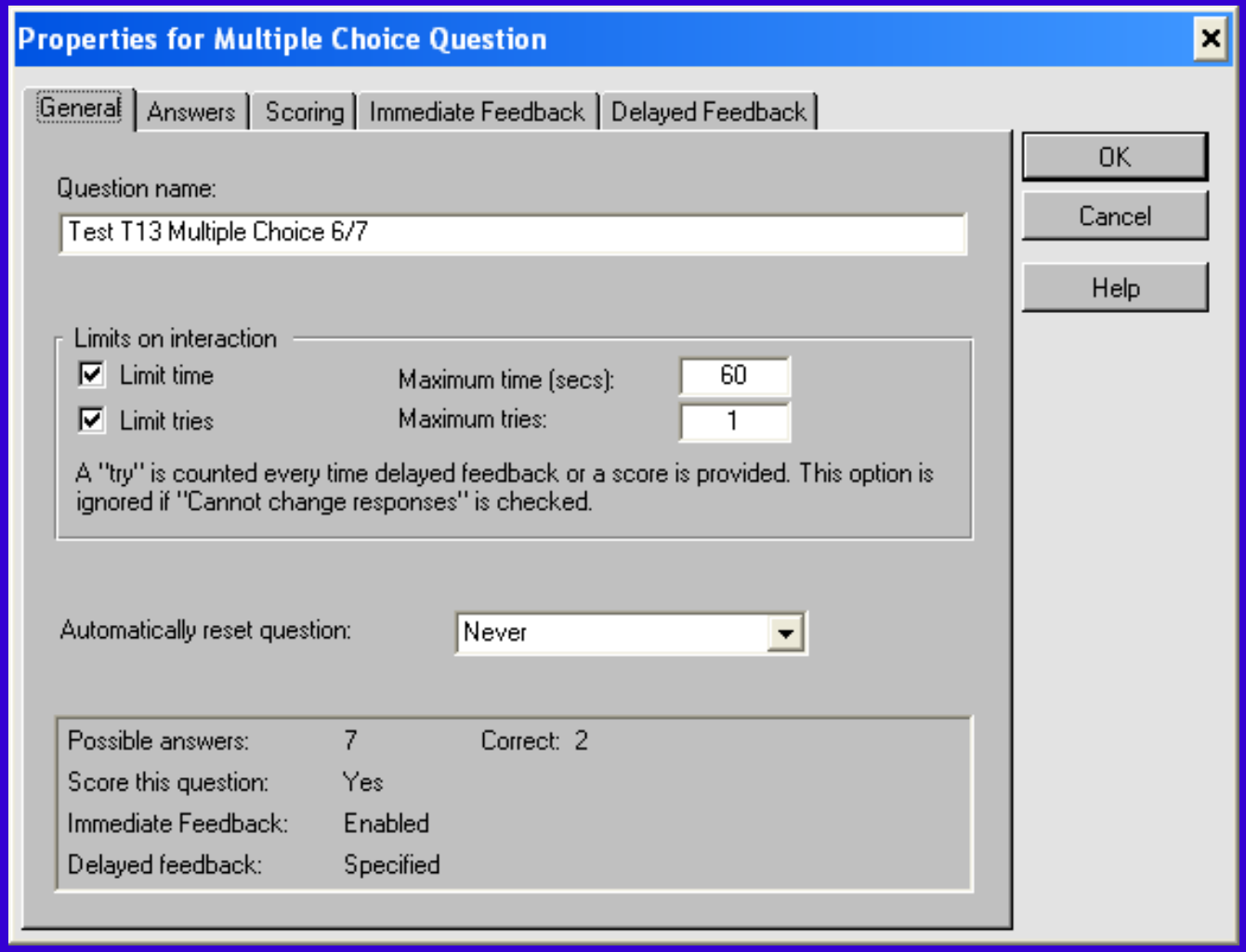
10.1 The Extended Properties for Multiple Choice Question – Tab General

10.2 The Extended Properties for Multiple Choice Question – Tab Answers

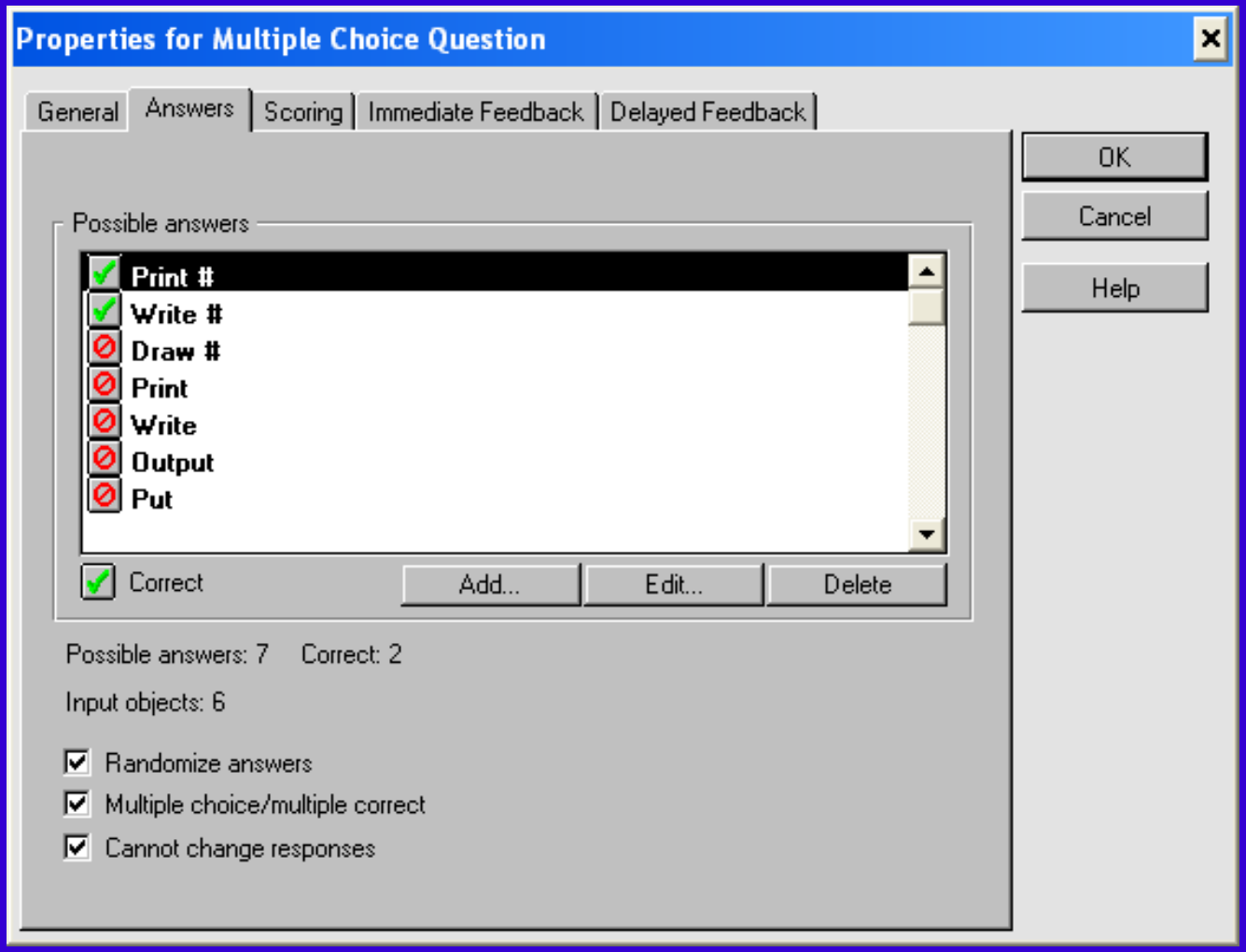
10.3 The Extended Properties for Multiple Choice Question – Tab Scoring

10.4 One of the Possible Multiple Choice Question Realization

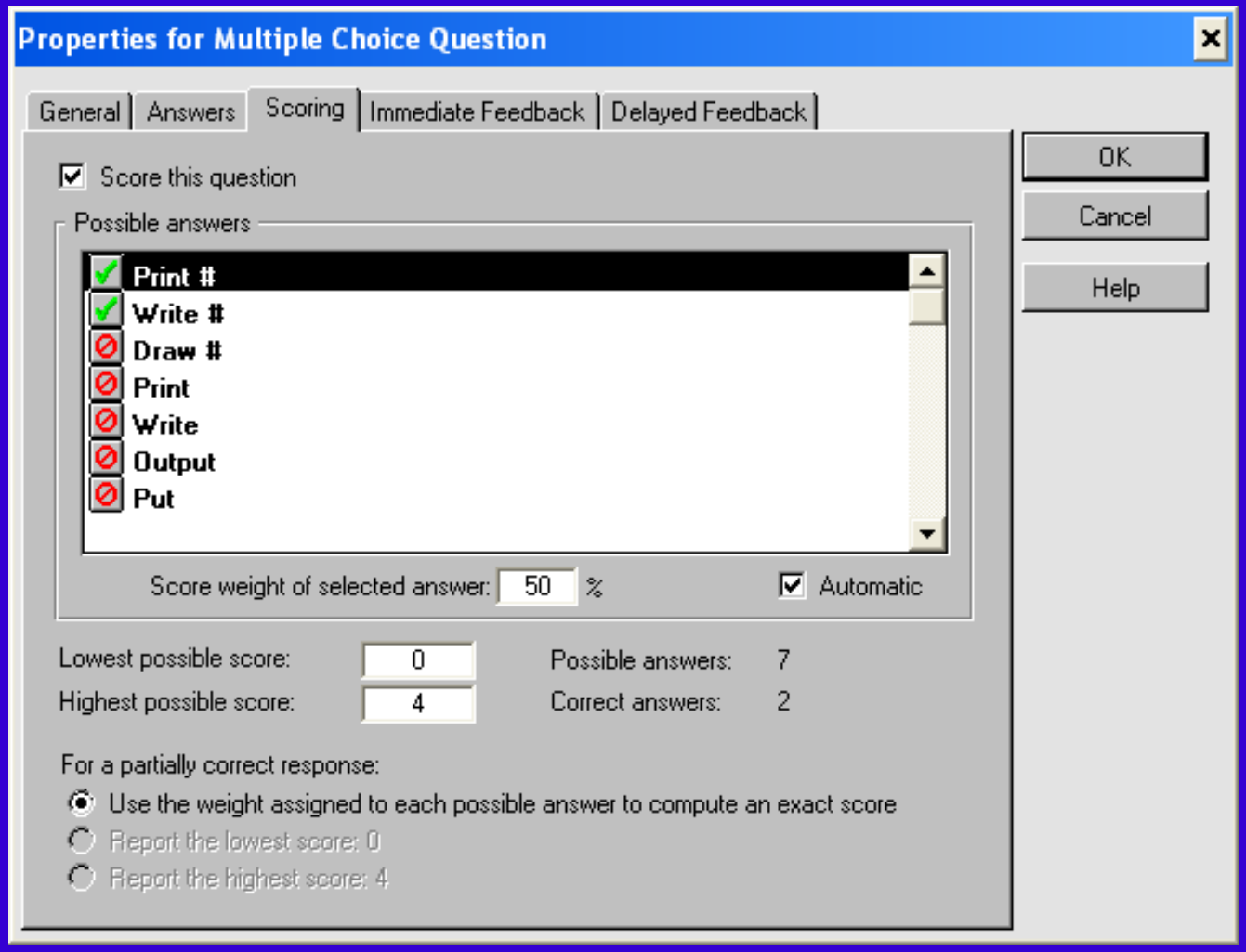
10.1 The Extended Properties for Multiple Choice Question – Tab General



10.2 The Extended Properties for Multiple Choice Question – Tab Answers



10.3 The Extended Properties for Multiple Choice Question – Tab Scoring



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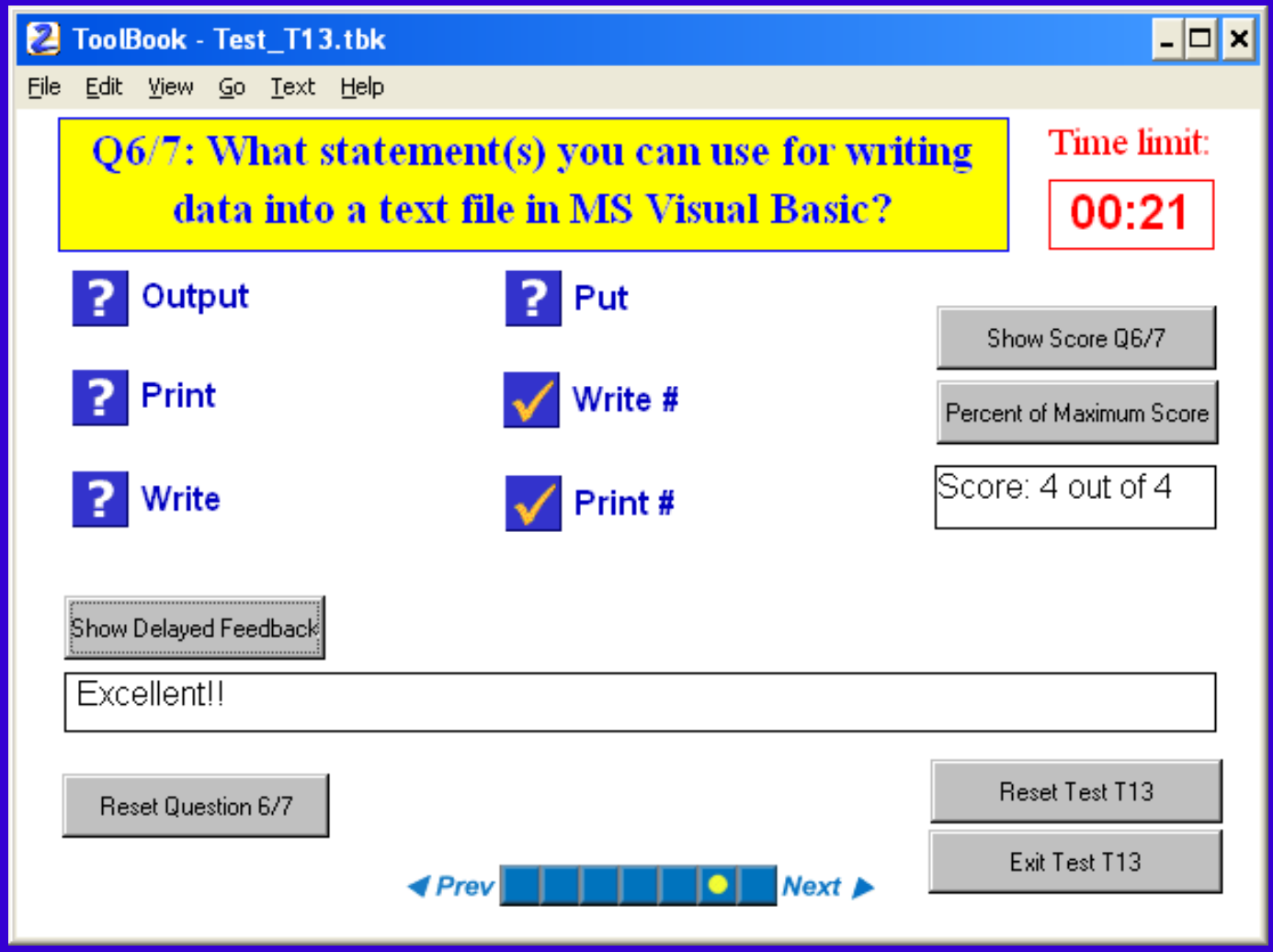

11 Conclusion (1/4)

- The creation of good electronic tests is often a more demanding work than the creation of good study texts.
- This difficult work is sometimes an underestimated work.
- This topic (electronic questions as the items of electronic tests and self tests) requires more attention. Its contribution to the expected study results can be very significant.

8 Conclusion (2/4)

- The electronic tests and especially electronic self tests should be the integral part of electronic support of nowadays education.
- The utilization of various question objects can bring a new quality and new possibilities to the testing and self testing processes.
- Paper does not give the complete solution, but can inspire the potential users (academic staff – teachers and cooperating students) to go this way.

8 Conclusion (3/4)

- Electronic self tests and tests should be the necessary supplement of study materials at the educational institution.
- Electronic self tests should be ever used without monitoring the students - the problem of study privacy necessity.
- List of available and recommended QO templates should be prepared and known at the educational institution.

8 Conclusion (4/4)

- Every department of educational institution should have a contact and responsible person for the electronic questions creation.
- This contact person should be interested in both theory and also practical usage of electronic self tests and tests.
- Close cooperation with students is the key for the high-quality self tests and tests creation and usage.

Thank you for your attention.

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