

POSITIVE AND CRITICAL CONSIDERATIONS ON COMPUTER-ASSISTED EVALUATION

VAJU GEORGE¹, URSACHE LILIANA^{1*}, HERMAN COSMIN¹

¹*Moodle Romania, Bd. Revolutiei nr. 91, Arad, Romania*

Abstract: The paper presents authors' experience with the assisted assessment of student (pupils, students, or adults), the assisted methods applied locally and online. The authors of the present material effectively apply these methods for about ten years using different systems. The results are clearly positive and would not justify further activity, but as in any business there is something concrete that can be improved further. These are general for all applications studied and applied to the present like the systems Claroline, Sakai, Netschool, Moodle, and even the platform currently being in the stage of implementation in Romania, INSAM. But the examples are made for the platforms MOODLE and INSAM, for practical reasons, namely MOODLE has been applied extensively in recent years and INSAM was studied as a new element in the Romanian market.

Keywords: e-learning, e-working, MOODLE, INSAM

1. INTRODUCTION

Assisted learning has become a reality imposed by the dynamic social necessities. The huge technical progress made in the last decades at international scale, the alert rhythm in the introduction of technical innovations in the household and at work, the multiples channels of information and learning both of the child and the adult, the risk that information from some channels could not be entirely correct obligates those who are working in education to keep up with those new elements of progress.

Moreover, the phrase of introduction of the technical progress in the process of learning begins to have no content just because of this avalanche of novelty which is constantly increasing. The person who is standing on the borderline of this domain will be permanently subordinated to these factors and must not fall behind or risks to reach the point of self-isolation. In fact, the permanent issue is to connect the classic, which is fundamental and shall remain the same in information content, with the forms of presenting and working. These last ones have a never ending dynamic for the person who is the beneficiary of learning (student, teacher, adult etc.).

From over a decade the authors have been applying the assisted learning techniques in the educational process. This article contains a side by side comparison between the possibilities offered by the Moodle platform, which is free, and INSAM, currently in implementation phase in the pre-university schools, at the evaluating part of schooling.

* Corresponding author, email: ionescu@bacau.ro
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2. PRESENTATION

2.1. MOODLE Platform. Given items by Moodle Platform

In Figure 1 is presented a print screen from the address [1], which is in concordance with the official Moodle site [2], with the active items list, the address where is installed the last Moodle variant, Moodle 2.0 (Figure 1). The list contains 13 types of items from which the subject tutor have to choose the right one for the wanted action. One could notice that on this platform the teacher of a class has to follow generally the next steps:

- to make appropriate categories of questions;
- to make questions in the interior of these categories.

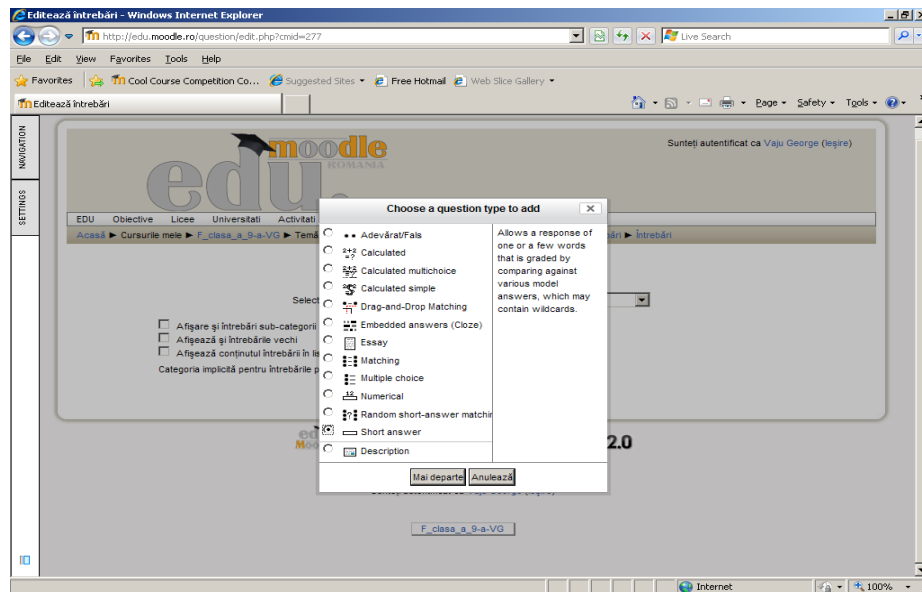


Fig. 1. Given items by Moodle platform.

After the categories (Figure 2) are made and populated with questions, it is to build a test template where one has to set the parameters that the test will guide. The test is populating separately with selected questions from different categories and subcategories of items.

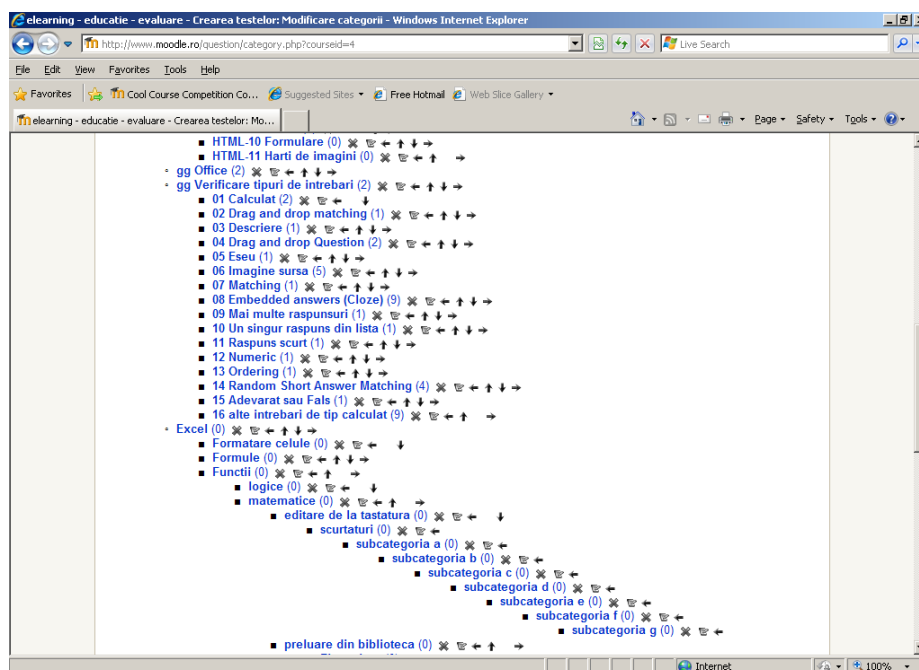


Fig. 2. Example of grouping the questions in categories.

This building modality ensures a greater reliability in the making of tests. The making way, the organizing of questions and the making mode of the tests are presented in pictures 2 and 3, and more detailed in [3] (Figure 3).

There could be specified the length of the test, the hours between the tests could be taken, a preordained or random order of the items and the concordant answers, the number of questions per page, the number of allowed attempts, with or without the answers from the previous session and the possibility of choosing from several evaluation systems. The test could be sent to evaluation either at its whole fulfillment or after every item, with the penalty of the repeated answers at the same questions. After the test is sent, the student could check his answers, score and correct answers, plus a feed-back.

For a good security, the test could be sent to the subject into a new window, deprived from web-searching proprieties, protected by a passkey to control who and when sustains the test; the new window could be associated with a set of IP addresses thus restricting the access of the computers from a particular laboratory and it could also be made invisible when one desires not to be accessed.

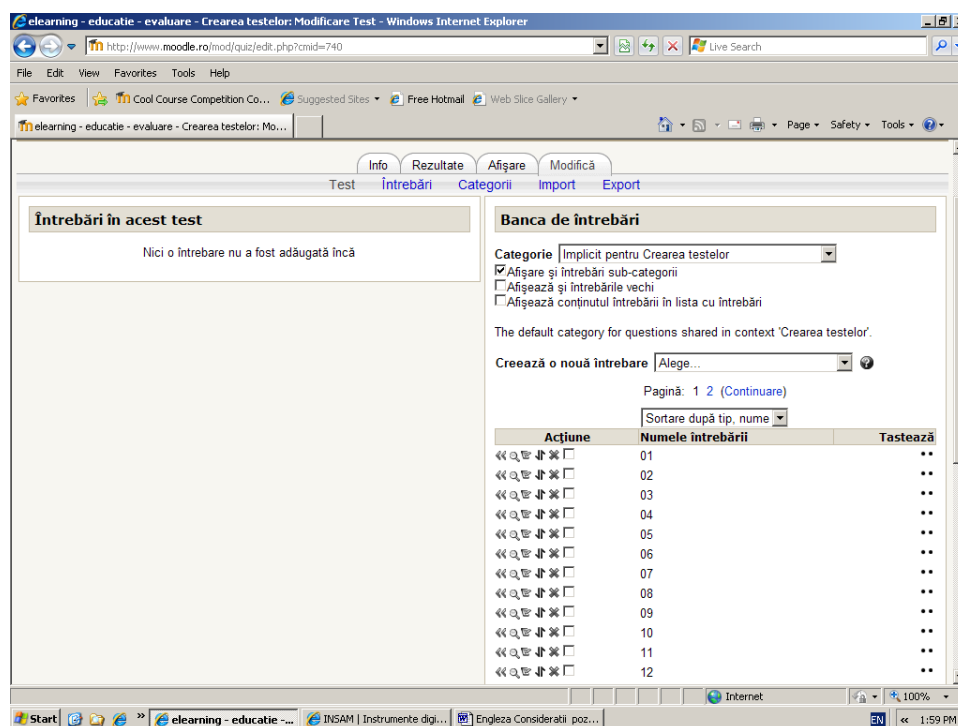


Fig. 3. The writing of the test formulary with questions from different categories. Print screen from [4].

2.2. INSAM Platform

The digital evaluating platform INSAM which is implementing in the pre-university schools from Romania tries a new structure in objective, semi objectives and subjective items. The number of items types is much bigger than those from Moodle [5] but the logical working areas are obviously the same. Furthermore on INSAM platform there are defined properties which a test must meet and express standardization, fidelity, validity and objectivity.

Types of items in INSAM platform:

Objective items

Pair type – with arrows

Pair type – with lists

Dual choice – true/false

Multiple choice – with more answer variants, just one correct

Multiple choices – with more answer variants, more corrects

Multiple choices – Picture zone 1X3-more correct answers

Multiple choices – Picture zone 2X2-more correct answers
 Multiple choices – Picture zone 3X1-more correct answers
 Multiple choices – Picture zone 3X3-more correct answers

Semi-objective Items

To fill in – Selection from the list
 To fill in – Find the word
 To fill in – Find the words
 With short answer – Fill in with the suitable word
 Structured question – Free answer
 With free answer – Free answer
 With multiple choice – Interpretation - Free answer

Subjective Items

Unstructured Essay – Free answer
 Structured Essay – Free answer
 Induced text – Free answer
 Problems resolving – Free answer
 Free answer little thought – Free answer

It is easy to observe that are many types which want to associate with the images. The detailed working way is presented in INSAM [6] manual.

2.3. Positive aspects

The positive aspects have finally imposed the use of the assisted evaluating methods and especially the percentage objectivity if the included items are just objectives and semi-objectives:

- The identical repeatability of the test applying;
- The simultaneity or quasi simultaneity application at a big number of evaluated people;
- The repeating of the action at known time intervals without the intervention on the runway of the tutor;
- The addition of the results with some clues;
- The keeping of the results so in any moment it can make statistics more or less reliable;
- Eliminating of human effort of correcting which in case of many runs becomes big, and practically impossible to conclude;
- The immediate result for the person who is evaluated which can extract more information about his evolution, obviously if he is interested.

2.4. Negative aspects

- necessity of a calculation system and networking;
- requires previous prepare but awarded by time economy in case of repeating actions;
- exists a retainer for those who have poor abilities as trainers and peers;
- if there are many subjective items introduced in test, then the correction effort become big again for the evaluative, applying the item on-line having just the advantages that it can be redressed from any PC at any time, and it keeps the correction a long time, at extremis a complete schooling cycle.

3. DIFFICULTIES FOR PHYSICS, MATHEMATICS, AND DISCIPLINES THAT ACCEPT ITEMS WITH SUBUNITS IN CASCADE

At physics discipline and more other, there are a lot of problems which present a certain situation with some entrance data and its resolving is constituted by a subset of resolving items which use these entrance data or the numeric results obtained at the resolving of the previously item. At that, the certain resolve of a secondary item is supposed to have two mandatory ways of resolving, both literary resolve and the numeric resolve.

None of the studied platforms by now doesn't permit the editing of a complex mathematical expression in the answer field, for example using derivative and integrated signs, even if the editing field of the announce already has this possibility. In some matters the editing of the expressions in another soft is recommended, for example

in Math Type and after conversion, a copy-paste in the answer field. A work variant like this can't be applied for all the students.

4. CONCLUSIONS

The resolving of the situation previously presented could be done in some authors' opinion by the creation of a new macro-type of item that can have a subset of secondary items. These secondary items should recognize the resolving of the problem points whatever the order of presentation of the results for the literary resolve and for the numerical resolve. The secondary items must have their own percentage that sum up for the total percentage of the problem.

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