

STUDENT'S SATISFACTION ON DIGITAL ASSESMENT LITERACY. THE CASE OF DEVALS PROJECT

GREGORIO RODRIGUEZ-GOMEZ

University of Cadiz, EVALfor Research Group, gregorio.rodriguez@uca.es

MARIA SOLEDAD IBARRA-SAIZ

University of Cadiz, EVALfor Research Group, marisol.ibarra@uca.es

Abstract: The importance of student participation in assessment process has been evidenced by many authors. Nevertheless, if we pretend an effective student participation in assessment processes then students should be trained for that. Firstly we will present the DevalS training courses named *How should be used assessment to learn?* These courses were designed to be implemented with year 1 university students. The courses are focused on the use of assessment as learning in the areas of Education, Business Administration, Health Sciences, Engineering and Arts. The courses are based on the framework that is known as assessment as learning and empowerment. Serious games and EvalCOMIX web service are used in order to facilitate student participation in assessment and feedback processes. Secondly, previous results on students' satisfaction with these courses implemented in several Spanish universities are offered.

Keywords: Assessment, Assessment Literacy, e-Learning, Design of online courses, Curriculum development, Simulation, Technological Tools, Innovation,

1. INTRODUCTION

Innovation in assessment is essential if we want to improve the quality of the results of learning. However, tutors who try to innovate in this area often express frustration with the attitude and performance of their students and feel that students need to be "trained in assessment" [1].

Many authors have called for increased literacy among tutors and students in the area of assessment. However, few contributions have focused their attention on digital assessment literacy

University students in the 21st Century are described in terms of new concepts such as "digital natives" or the "Google generation". This demands transformations in the traditional relationships between students in an educational context and also between the students and their tutors in a way that encourages learning that is collaborative, shared and less centralised.

Firstly, this paper presents the structure of the DevalS training courses (*How should be used assessment to learn?*), whose design is based on the principles of assessment as learning and empowerment [2] and which aims to develop students' assessment skills within a technological context. Finally, the paper includes a preview of the results of a study among a number of Spanish universities on students' satisfaction on these courses.

2. DEVALS COURSES TRAINING FOR DIGITAL ASSESMENT LITERACY

In order to implement assessment as learning it is essential for students to be fully competent in assessment. DevalS training courses (*How should be used assessment to learn?*) were designed to be implemented with year 1 university students. These courses are based on a logical framework, which organises it, and on a learning sequence model for adult learning, which was agreed upon prior to the design.

The Image 1 shows this logical framework. It references the main aspects around which the DevalS courses were designed: the skills which are focused on and assessed; the content to be developed into; the organisation of the course into events, sequences and episodes, in which various technological resources are used, specifying the various learning and assessment tasks, through whose products and actions the skills and course contents are evaluated.

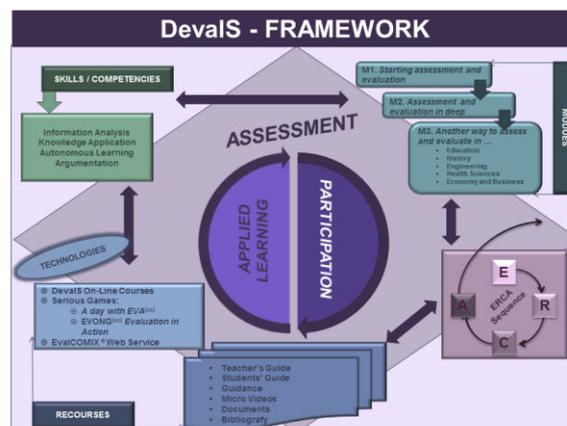


Image 1: Logical framework of DevalS courses.

Image 2 illustrates the organisation of the course into three training modules (4 ECTS). The first module introduces to student to basic concepts on assessment. In this module is used a first serious game (*A day with Eva*). In the second unit the students deep in assessment and they used the second serious game titled *EVONG – Evaluation in action*. Finally, in the third training module the students used the concepts learned previously in specific contexts such as Education, Economy, Engineering, Health or Humanities.

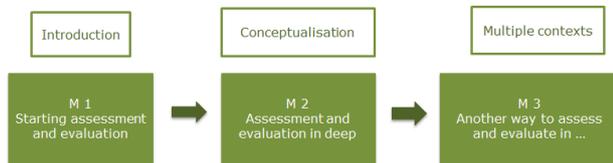


Image 2: Structure of DevalS training courses *How should be used assessment to learn?*

The first serious game *A Day with Eva* [3] introduces students to the basic concepts on assessment. This serious game is a “Point and Click” conversational graphic game which operates within six different scenarios (bedroom, campus, faculty building, study room, refectory and classroom). In the course of the game the students must make a range of routine decisions which cause them to reflect on the key aspects of assessment in an everyday context.



Image 3: Presentation of *A day with Eva* serious game.

The second serious game, called *EVONG-Evaluation in action* [4], is aimed at the creation and management of an NGO (Non-Governmental Organisation). Using this game students will have to analyse information, apply their knowledge of assessment and be able to learn autonomously. Unlike “A Day with Eva”, in this game the students will have to choose one of three different profiles to play it.



Image 4: Presentation of *EVONG – Assessment in action* serious game.

The web service EvalCOMIX® was used to practice self- and peer-assessment activities [5].



Image 5: EvalCOMIX® web service home page.

3. OBJECTIVES

The aim of the study was to obtain students’ responses to the following research questions:

- Do students see the DevalS training course as a programme that benefits their skill development?
- What is the degree of students’ satisfaction with the DevalS training courses?
- Do students believe the skills trained in DevalS training courses are transferable to other contexts?

4. METHODOLOGY

This study, based on a quasi-experimental posttest design, followed a survey methodology. During 2014/2015 academic year students from Spanish universities participated in four editions of the DevalS courses (2 for Education, 1 for Economy and 1 for Art History) that were primarily aimed at training students in e-assessment. In the context of these four courses the students used EvalCOMIX® web service and two serious games (*A day with Eva* and *EVONG-Evaluation in action*). After finish the courses 133 students responded to a specific questionnaire on the satisfaction on the courses.

Research sample

A total of 133 students completed the online DevalS Satisfaction Questionnaire. Table 1 shows the distribution of gender, the university and the subject of the participants.

Table 1. Sample distribution by gender, university and subjects

	n	%
Gender		
Male	20	15.0
Female	113	85.0
University		
Rovira i Virgili	33	24.8
Seville	85	63.9
Salamanca	15	11.3
Subjects		
Art History	16	12.0
Childhood Education	38	28.6
Labor Relations	18	13.5
Pedagogy	61	45.9

Instrument

After completing the training courses the students completed the DevalS Satisfaction Questionnaire. This instrument consisted of Likert type questions with six levels or response (1= Minimal; 6 = Maximum) and three open questions where students indicated the most positive aspects and those they felt that could be improved. In total, the students had to give their opinions on 48 questions about the courses.

The internal consistency of the online questionnaire was measured using Cronbah's Alpha statistic (.91).

Data Analysis

The IBM-SPSS v22® software package was used to analyse the data. First, a descriptive analysis of measures of central tendency (Mean, Standard deviation), reliability analysis and graphical analysis was completed. The Kruskal-Wallis test was used to identify the possible existence of differences in opinions depending on the different courses.

4. RESULTS

Even when the online questionnaire was concerned with the students' global degree of satisfaction with their participation in the courses, this study only focuses on the key results related to utility and learning on assessment.

In Table 2 it can be seen that students gave very positive scores in terms of the consequences on the key consequences they had for their personal skills development (items S_1 to S_8) and their global usefulness and interest (items U_1 to U_3).

Table 2. Mean and standard deviation by items

Item	Declarations	Mean	SD
S_1	Learning by assessing	4.95	.80
S_2	Learn in real life and motivating and situations	4.65	.97
S_3	Understand and apply basic elements of assessment	4.89	.79
S_4	Practice assessment through serious games	5.05	.96
S_5	Develop relevant skills for my learning process	4.80	.88
S_6	Improve my university performances	4.65	.97
S_7	Take advantages for my daily life	4.59	1.06
S_8	Transfer learning to professional context	4.84	.86
U_1	Utility of DevalS course	4.77	.95
U_2	Interest of DevalS course	4.61	.98
U_3	Global satisfaction with DevalS course	4.57	1.01

Skills development

Image 6 shows the results when the students were asked about the learning on assessment. It can be seen that students agreed to a greater extent that DevalS course was useful to learning by assessing (S_1), to learn in real life and motivating situations (S_2), to understand an apply basic elements of assessment (S_3) or to practice assessment through serious games.

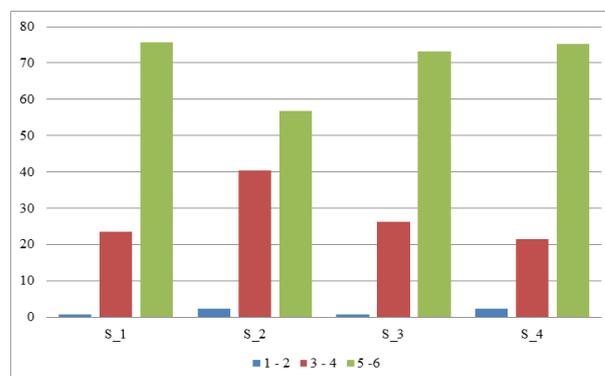


Image 6: The students' scores in relation to satisfaction with DevalS courses (Skills development dimension)

Image 7 shows the results when the students were asked about the transfer and utility of DevalS course. It can be seen that students agreed to a greater extent that DevalS course was useful to develop relevant relevant skills for learning process (S_5), to improve university performances (S_6), to take advantages for daily life (S_7) or to transfer learning to professional context (S_8).

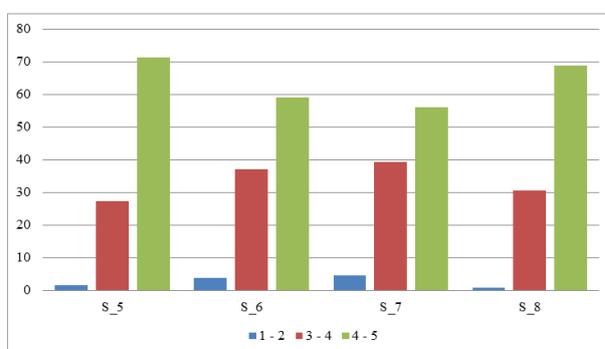


Image 7: The students' scores in relation to satisfaction with DevalS courses (Transfer dimension)

Global satisfaction

Image 8 shows the results when the students were asked about global satisfaction on DevalS course. It can be seen that students agreed to a greater extent that DevalS course was useful (U_1), interesting (U_2) and globally satisfactory (U_3).

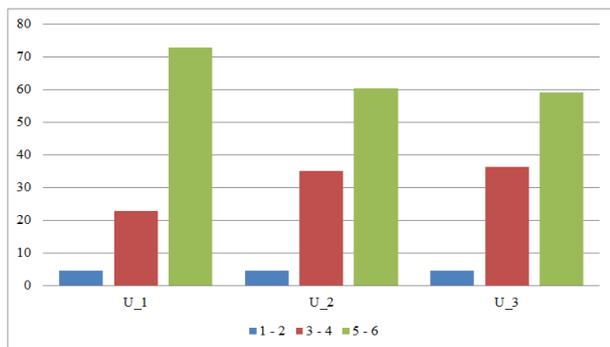


Image 8: The students' scores in relation to global satisfaction with DevalS courses.

Differences by course

Image 9 shows the means in each item by course. In order to test differences by groups the Kruskal-Wallis test was used. Statistically differences ($p < .05$) were found on the items S_1 ($p=0.016$), S_2 ($p=.013$), S_4 ($p=.011$), S_6 ($p=.20$), S_8 ($p=.021$), U_1 ($p=.004$), U_2 ($p=.001$) and U_3 ($p=.000$).

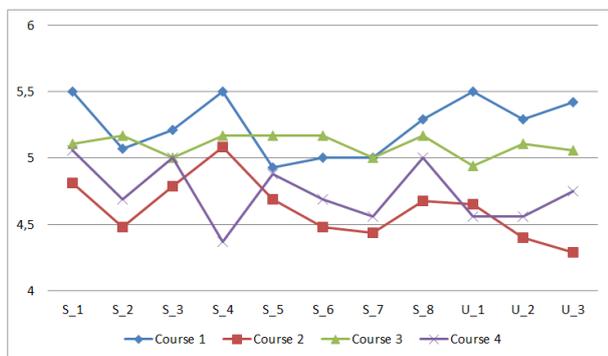


Image 9: Means items by courses.

5. CONCLUSIONS

According to the opinions of students who participate in this study the DevalS courses are useful, interesting and develop their skills as assessors.

This study presents data which highlight the real possibilities and benefits of the DevalS courses. In terms of its usefulness the majority of students feel that the courses helped them to learn on assessment. Students highlight in general that the DevalS courses they improve their assessment skills.

Several authors [6,7,8] asserts a new focus on assessment is needed in order to put the spotlight on the promotion of lifelong learning, which encourages student participation in the assessment process, so that students are able to make judgments about their own learning process.

Based on the results obtained in this study, we believe that the DevalS courses facilitates students' analysis, reflection and decision making about assessment practice. Training students as assessors, that is to say on digital assessment literacy, using web-based services such as

EvalCOMIX® [9] and serious games, improve the skills development of students, encouraging at the same time lifelong learning.

Nevertheless, the DevalS courses training are perceived as very different. In this sense, it will be necessary more research in order to minimize these differences and increase their efficiency.

ACKNOWLEDGEMENT

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REFERENCES

- [1] Price, M., Rust, C., O'Donovan, B., Handley, K., & Bryant, R., *Assessment Literacy. The Foundation for Improving Student Learning*, Oxford Brookes University, Oxford, 2012.
- [2] Rodríguez-Gómez, G. & Ibarra-Sáiz, M.S., *Assessment as Learning and Empowerment: Towards Sustainable Learning in Higher Education*. In M. Peris-Ortiz & J.M. Merigó (Eds.), *Sustainable Learning in Higher Education. Developing Competencies for the Global Marketplace*, (pp. 1-20), Springer International Publishing, London, DOI: 10.1007/978-3-319-10804-9_1, 2015.
- [3] <http://eva.evalfor.net>
- [4] <http://evong.evalfor.net>
- [5] <http://evalcomix.uca.es>
- [6] Brow, S., International perspectives on assessment in Higher Education, *RELIEVE – Revista Electrónica de Investigación y Evaluación Educativa*, 21 (1), DOI: 10.7203/relieve.21.1.6403, 2015
- [7] Taras, M., Student self-assessment: what have we learned and what are the challenges. *RELIEVE – Revista Electrónica de Investigación y Evaluación Educativa*, 21 (1), DOI: 10.7203/relieve.21.1.6394, 2015.
- [8] Boud, D. & Soler, R., Sustainable assessment revisited, *Assessment & Evaluation in Higher Education*, DOI: 10.180/02602938.2015.1018133, 2015.
- [9] Rodríguez-Gómez, G. & Ibarra-Sáiz, M.S., Towards sustainable assessment: ICT as facilitator of self- and peer assessment. In M. Peris-Ortiz, J. Alonso-Gómez, F. Vélez-Torres & C. Rueda-Armengot (Eds.), *Educational Tools for Entrepreneurship*. Springer International Publishing, London, (In press).