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NATIONAL REPORT AUSTRIA

WP2

NATIONAL REPORT

AUSTRIA

FIELD RESEARCH ABOUT SPECIFIC NEED OF THE PARTNERS

REGARDING ASSESSMENT

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die Berater[®]

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CRITON - prediction of e-learners' progress and timely assessment of the achievement of learning outcomes in Lifelong Learning

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1 Introduction

Assessment is in the core of the project CRITON (www.criton.eu). CRITON is a transnational cooperation project to enhance the learning process in distance education systems and e-learning, using assessment methods for predicting the progress of students and to improve evaluation methods leading to better learning outcomes and more personalized learning.

Assessment is an ongoing process that involves planning, discussion, consensus building, reflection, measuring, analyzing and improving based on data and artifacts gathered about a learning objective.

Any assessment is linked to critical questions, such as:

- *Why* do we measure?
- *What* are we measuring?
- *How* do we measure it?
- *How much* do we need to measure?
- *When* do we measure it?

In the CRITON project seven partners from six different countries participate (Greece, Austria, Finland, Lithuania, Sweden, and Germany).

This National Report presents the findings of a survey with students in adult education and higher education about different assessment methods used in their eLearning environment in order to define the most widely used assessment practices in Austria, which can provide accurate measure of student performance in eLearning.

The research questions of the study are:

- Which are the most widely used educational assessment methods in e-learning in the study population in Austria?
- How widely spread is peer assessment among the study population?
- Are e-portfolios used among the study population?
- How can feedback influence student achievement in eLearning?

2 Review of the Literature

The following section summarizes a review of literature about assessment practices in e-learning in Austria conducted 2013.

The research about E-Assessment practices in Austria resulted in five main texts about e-assessment practices. The keywords used in the research phase were the German equivalents for E-Assessment, best practice in e-assessment, evaluation of learning outcomes, and e-testing. The search was carried out from March to May 2013 in google scholar, google for Austria, main libraries and publishing houses' websites.

The search did not produce vast results, since there are a number of publications on e-learning in Austria, but almost none of them concentrate on e-assessment. The University of Vienna Library for example has 236 books on e-learning, but not anything about assessing e-learning.

The main term „E-Assessment“ is in the German language used as a term for two different processes: on the one hand for assessing learning outcomes and performance of online courses and studies and on the other hand for recruiting processes in organizations, who work with e-assessment tools in human resource management.

Now the five main texts are summarized here.

TEXT 1: „E-Testing im österreichischen Hochschulbereich – eine Chance?“

Translated title: Does E-Testing have a chance at university level?

By Andreas Raith

Publication Date: 2004, 122 pages, German language, publisher: Donau-Universität Krems

The book starts with an overview of traditional ways of testing and exams and then contrasts this with E-testing. Traditional ways of testing were written and oral exams, assignments during a time of some weeks and months resulting in a cumulated grade (process grading) and portfolio testing. E-testing is different to these and is simply defined as computer-mediated testing via internet or intranet. Self-learning is excluded from the book.

E-testing involved a lot of competences of the teacher, to design adequate questions and assignment types. Adequate types are: single choice, multiple choice, true/false questions, short answer questions, keywords, matching, quizzes, and essays. Other competences of the teacher should be to administrate the exams technically, design the exams, and analyse them.

Then advantages and disadvantages of e-testing are discussed. Advantages are that they do not depend on time and space, that they can be analysed quickly, that their assessment is transparent and easily standardizable. The disadvantages are accessibility problems of students to the computer, technical problems using the computer, and open legal questions.

Then the costs of using traditional testing methods and e-testing methods are compared. If a written exam with paper/pencil method is compared to an e-test with 1.000 pupils each, the results say that the traditional exams needs 24 hours time in preparation, implementation, and analysis and that the e-test

in comparison only needs 4 hours for the same amount of pupils. The estimated costs of a traditional exam are calculated with app. 10.000 €, the e-test only with 2.200 €.

TEXT 2: „Prüfen mit Computer und Internet - Didaktik, Methodik und Organisation von E-Assessment“

Translated title: Assessments with the computer and the internet – Didactics, Methods, and Organizing E-Assessments

By Susanne Gruttmann, Claus Usener

Publication Date: 2011, 9 pages, German language, published by University of Graz

E-Assessments have specific requirements regarding didactics, methods, administration, and technical requirements compared to traditional assessments. E-assessments aim at promoting learning and selecting those who do not fulfil learning outcomes.

Two types of e-assessments are discussed in the text: Summative assessments want to measure if learners have reached certain learning outcomes. Formative assessments aim at measuring learning progress in several steps or times.

The text also differs between two adequate types of e-assessment questions: convergent and divergent assignments. Convergent assignments have a fixed number of answers, like multiple choice or true/false answers, and divergent assignments have an open number of answers which involves background knowledge of the learner, like short texts or essays. E-assessment makes a lot of sense for convergent assignments, but is practically not used very much for divergent assignments.

The text also gives an overview of administrative tasks for e-assessment, including preparation like producing participant lists, prevention of manipulation, or filing old assignments.

The text ends with a summary and potential and barriers to e-assessments.

TEXT 3: „Qualitätssicherung im E-Learning. Veränderung durch derzeitige Technologien und Konzepte“

Translated title: Quality assurance in E-learning. Changes based on current technologies and concepts.

By Ulf-Daniel Ehlers

Publication Date: 2011, 8 pages, German language, published by University of Graz

The article talks about learners 2.0 who learn with e-portfolios during the course of a semester and exchange knowledge about a subject with other learners, but also with teachers and experts. The learner generation “ne(x)t generation” learns online using all available spaces.

The texts want to know how the quality of learning in web 2.0 can be measured and assured. Assessing e-learning processes requires a high level of autonomy of the learner and measuring these processes has to concentrate on learning outcomes and individual performance. The text shows the differences in quality assessments in traditional and new learning processes. In new processes the quality of a learning outcome is assessed by peers or learners themselves in self-evaluation and not by experts any

more. Contents of subjects are made by learners themselves and not by teachers any more. While traditional assessment methods are about what learners have learned, new ones are about participation. Teachers will be in a new role, not of assessing learning processes, but of reflecting them together with learners. Learners are in the new role of not receiving learning materials, but of producing them.

TEXT 4: „E-Testing. Die konsequente Fortführung von e-Learning“

Translated title: E-Testing. The consistent continuation of E-Learning.

By Walter Khom

Publication Date: 2006, 16 pages, German language, publisher: bit media

Measuring skills is becoming more and more important. E-testing is available everywhere and it is an objective form of assessment. It involves a number of roles and staff members: the learner, the teacher, the educational controller, the educational administration, and the educational planner of the organisation.

E-assessment involves different types of assignments, especially multiple choice and test as well as simulation. Both forms have clear advantages when used with large number of users (1.000 or more). The text then gives three examples of organisations and how they use e-assessment and shows the process logics of e-assessments: the administration sends out a date for an e-test, then learners can register for it, then modules or specific e-tests are allocated to the learners, then the e-test starts and is done, and is followed by an analysis. The teacher has to end the e-test after it is finished.

The text ends with the advantages of e-testing.

TEXT 5: „Entwicklung und Einsatz von e-Testing Szenarien“

Translated title: Development and Usage of E-Testing Scenarios.

By Patrick Hoitsch

Publication Date: 2008, 153 pages, German language, publisher: GRIN Verlag GmbH

Electronic assignments are integral part of modern education and training and have a positive influence on learning and skills acquisition. E-Testing can also help to improve organizational and administrative processes of testing in colleges or universities. Based on the current discussion in Austria about teaching quality this book aims at introducing technical and didactical requirements for using E-testing in Austria and to give recommendations for the future. An empirical study at the College “Fachhochschule CAMPUS 02 Graz” is included.

The first part of the book gives an overview of international and national educational activities describing theories and strategies of learning, focusing on new media integration and electronic assignments and testing. After looking at advantages and disadvantages of e-testing, different aspects like types of questions in e-assignments, or types of tests etc. are discussed.

Then e-testing tools of moodle and dynamic power trainer are introduced and their functionalities are compared. Five different scenarios of integrating e-testing into learning processes are discussed in the practical part of the text. The text ends with recommendations for teachers who use e-testing.

3 Methodological Approach

A quantitative questionnaire on assessment practices, suitable for students and teachers across all educational levels was developed by HOU (Greece).

Questionnaires for all levels of education (primary and secondary education, higher and adult education, VET) for students and tutors were collected through the website *SurveyMonkey* [<https://www.surveymonkey.com/>] and data were obtained in a form suitable for statistical processing, either through the statistical package SPSS or Microsoft Excel software.

According to the type of data, descriptive statistic conducted through frequency tables and graphs for all variables and comments were made on the results.

4 Research results

This section summarizes the results of the empirical survey. The survey took place between 21.5.2013 and 9.9.2013 in Austria. The study population is described below.

4.1 Study population

In sum 40 people were asked about assessment practices in Austria in different educational levels. *die Berater* (P3) is an institution of adult education, which means that there is a concentration on the educational sector of adult education.

The table below summarizes the number of collected questionnaires. 2 students from primary and secondary school answered the questionnaire, the number is very low due to the fact that few schools in Austria use e-learning at all. 33 students in higher education and adult education answered the questionnaire. Nobody answered the questionnaire in VET due to the fact that VET is all about practical education and has no e-learning elements in Austria and 5 tutors and teachers answered the survey to also view their opinion.

Table 1: Study population

Study population	Students in primary & secondary education	Students in higher education & adult education	Students in vocational education and training	Tutors and teachers	SUM
AUSTRIA	2	33	0	5	n=40

As the table above shows, analysis only makes sense for higher education and adult education. In the next section therefore *only results of students in higher education (college, university) and adult*

education are described due to the sample size and the concentration of the partner *die Berater (P3)* on adult education issues and target groups.

Students from higher education and adult education were mainly between 25 and 49 years old. Only 18% were below the age of 25 and only 3% were older than 50 years.

Table 2: Age of study population

Age of the students in the survey	Frequency	Percentage (%)
Under 25 years	6	18 %
25-29 years	8	24 %
30-39 years	11	33 %
40-49 years	7	21 %
50-59 years	1	3 %
60 years or older	0	0 %

The questionnaire included one question about self-reported socio-economic status. 24% rated themselves as people with a high socio-economic status (status of their job, educational background, income) and 76% reported middle high status.

Table 3: Socio-economic status

Self-reported socioeconomic status of the students in the survey	Frequency	Percentage (%)
High status	8	24 %
Middle status	25	76 %
Low status	0	0 %

Gender was balanced with 2/3 female study participants and 1/3 male participants.

Table 4: Gender

Gender	Frequency	Percentage (%)
female	20	61 %
male	13	39 %

All students from higher education and adult education in the survey worked. 39% of them work part-time, 58% work full-time and 3% have seasonal or occasional jobs. This is important regarding the following results and their choice of e-learning in general.

Table 5: Work status

Current work status	Frequency	Percentage (%)
Yes	33	100 %
No	0	0 %
Type of work		Percentage (%)
Part-time work	13	39 %
Occasional/seasonal work	1	3 %
Full-time work	19	58 %

4.2 Using e-portfolios, learning styles and preferred answer formats

The following section summarized results about the use of e-portfolios, learning styles and preferred answer formats in e-learning.

12% of students from higher education and adult education use e-portfolio, but the majority (88%) does not use it. For those who use it answers about its usefulness are quite different – from no usefulness at all to very high usefulness.

Table 6: E-portfolio usage

E-portfolio use	Frequency	Percentage (%)
Yes	4	12 %
No	29	88 %
E-portfolio usefulness if in use		Percentage (%)
Not much	1	3 %
A bit	1	3 %
Quite a lot	1	3 %
Very much	1	3 %

We understand something about learning styles of the students with the next question. 55% answered that trying to understand the topic while doing e-learning exercises was their main goal. 45% concentrated on finishing the exercise.

Table 7: Main focus while e-learning

Concentrate on:	Frequency	Percentage (%)
Understanding the topic	18	55 %
Finishing the exercise	15	45 %

According to the study population multiple choice questions are still the most dominant answer type (36%), followed by short answers (21%) and drag and drop menus (10%). 9% are familiar with animated quizzes, 7% with sentence builders, 6% with tables and charts during e-learning assessments. Less used formats are voice response and games (3% each).

Table 8: Dominant answer formats

Assessment Formats in use	Frequency	Percentage (%)
Multiple Choice Question (MCQ)	24	36 %
Short answer question type	14	21 %
Sentence builders	5	7 %
Tables and charts exercises	4	6 %
Voice responses	2	3 %
Drag & Drop	7	10 %
Word match	3	4 %
Animated quizzes	6	9 %
Games	2	3 %

Asked about their four preferred answer formats in e-learning assessment, students from higher education and adult education stated preferring multiple choice questions over short answers, drag and drop menus, and animated quizzes.

Table 9: Preferred answer formats

Preferred Assessment Format	Frequency	Rank
Multiple choice question (MCQ)	22	Position 1
Short answer question type	11	Position 2
Drag & Drop	5	Position 3
Animated quizzes	4	Position 4
Sentence builders	3	Position 5
Tables and charts exercises	3	Position 5

The preference for multiple choice questions was explained with the clarity of response items, no need for further explanations, and time saving by the survey participants. Also multiple choice questions can easily be analysed, graded and evaluated. They are easy to use and seen as reliable methods of assessment (user friendliness).

Short answer formats and drag and drop menus are preferred because they are more interactive and participants have the feeling of being more challenged and not just completing an exercise. Some participants like the combination of pre-formulated answers and free answers. For them this guarantees for competence. Also teachers know with short answer formats that students know the topic and are able to express it by themselves, which is not the case in multiple choice questions. One participant prefers answers where he/she can choose own words and one participant stated that more interactive formats were more fun.

4.3 Peer assessment and feedback practices in the study population

Students from higher education and adult education were also asked about the familiarity with peer assessment. 27% answered never using it, 48% answered rarely using it, which means that assessment is in most cases still done by the teacher alone. Only 18% usually use peer assessment. When asked about the usefulness of peer assessment, 45% answered that it was not useful or a little bit useful. Only 27% stated that it was quite helpful for them.

Table 10: Peer assessment

Peer assessment frequency	Frequency	Percentage (%)
Never	9	27 %
Rarely	16	48 %
Usually	6	18 %
Always	0	0 %
Peer assessment usefulness		Percentage (%)
Not much	1	3 %
A bit	14	42 %
Quite a lot	9	27 %
Very much	0	0 %

9% of students from higher education and adult education stated not paying attention to feedback at all, while 39% mentioned paying attention to it a little bit. 33% answered that they pay quite a lot of attention to it and 18% state paying very much attention to it. Most students pay attention to feedback in the case of a good and bad mark, so it does not depend on the grade (70%). One fourth mentions paying more attention to feedback in the case of a bad mark. Feedback as a useful tool in the learning process was agreed on by most students: 24% say that feedback helps them a lot, 30% quite a lot and 42% a little bit.

Table 11: Feedback practices

Attention to feedback	Frequency	Percentage (%)
Not much	3	9 %
A bit	13	39 %
Quite a lot	11	33 %
Very much	6	18 %
You read feedback more carefully in the case of:		Percentage (%)
A good mark	2	6 %
A bad mark	8	24 %
Both cases	23	70 %
In what extent does feedback help you understand and learn in e-learning environment?		Percentage (%)
Not much	1	3 %
A bit	14	42 %
Quite a lot	10	30 %
Very much	8	24 %

We also wanted to know if feedback practices in e-learning lead to discussions with the teacher. Unfortunately it does not, since 12% say that it does not lead to a discussion, 55% say only sometimes and 33% say that it leads to a conversation with the teacher often.

Table 12: Feedback with the teacher

Feedback leads to discussion with teacher	Frequency	Percentage (%)
Not at all	4	12 %
Sometimes	18	55 %
Often	11	33 %
Always	0	0 %

When asked what other comments survey participants had about e-learning in an open answer format four teachers agreed that they would rather have face-to-face learning rather than e-learning if they had the choice. The direct contact with teachers would allow them to ask questions directly rather than through a computer. E-learning is seen as suitable and reasonably useful in connection with conventional assignments, but no substitute for these.

In most cases LMS are only used for uploading and downloading of assignments and material. A lot of educational institutions do not comprehend the potential of LMS and do not use it or exploit all its

advantages. Assessment features are often very easy to use, can be analysed quickly and without much effort, also for students.

Two teachers agree that online assessments are to be preferred in the future, since they are most user-friendly. Online assignments and assessment for subjects are preferred when a topic can easily be explained and brought across, for example concentrating more on facts and figures of a topic. For more complex contents however face-to-face assessment formats are preferred.

5 Final Conclusions and Recommendations

Concluding results from the literature review the usage of the term e-assessment remains. The main term „E-Assessment“ is in the German language used as a term for assessing learning outcomes and performance of online courses and studies and for recruiting processes in organizations, who work with e-assessment tools in human resource management. More literature can be found about the second type.

Concluding results from the empirical study with students from adult education and higher education who use elearning, all students work and study in parallel. 58% even work full-time.

E-Portfolios are not used frequently in Austria. 88% do not use it. If it is used the usefulness is unclear and assessed differently. More focus should be put into information about usefulness of e-portfolios in adult education and higher education.

Multiple choice answer formats are still the most dominant answer format in e-assessment. Short answers are also popular and drag & drop down menus. Less frequently used are word match, games and voice responses. Animated quizzes would be preferred by students in adult education and higher education (ranked fourth) but are hardly used in practice.

Peer assessment is seen as quite useful by most students in the study population but 75% say never or rarely using it. This needs more elaboration in adult education.

Feedback in blended learning, which is the dominant way of e-learning in Austria, should lead to conversations with the teacher or tutor but it only does in 33% of the cases (often) and 55% of the cases (sometimes). So e-learning and face-to-face teaching still seem to be disconnected.

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