

DOCUMENT RESUME

ED 428 726

IR 019 387

AUTHOR Steffens, Karl; Underwood, Jean; Bartolome, Antonio; Grave, Lidia
TITLE Assessment in Open and Distance Learning. Teeode Project.
PUB DATE 1998-06-00
NOTE 9p.; In: ED-MEDIA/ED-TELECOM 98 World Conference on Educational Multimedia and Hypermedia & World Conference on Educational Telecommunications. Proceedings (10th, Freiburg, Germany, June 20-25, 1998); see IR 019 307.
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Computer Uses in Education; Course Evaluation; *Distance Education; Educational Objectives; Educational Technology; *Evaluation Methods; Faculty Development; Foreign Countries; Higher Education; Learning Strategies; *Open Education; *Student Evaluation; Tables (Data); Teacher Surveys; Test Format; Training
IDENTIFIERS *Course Development; European Union

ABSTRACT

The aim of the TEEODE project was to develop a representative survey of the models of assessment and evaluation used by institutions supporting distance learning in the 15 member states of the European Union. This paper focuses on issues of course development and assessment, and, in particular, on how effective learning outcomes are achieved and how the learning is communicated to the learner. The emphasis is on the tutors' perceptions, teaching assessment, and support-related issues. The introduction provides an overview of the project and a summary of "deep" and "surface" approaches to learning. Development of the Course Tutor Questionnaire and the survey sample (n=224) are then described; use of an online questionnaire widened the sample to include data from Israel, Mexico, and the United States. Results in the following areas are discussed: the tutors, the courses, the students, assessment of the courses, production of the assessment material, delivery of the assessment instruments, and staff development. Four tables present data on the subject areas of ODE (Open and Distance Education) courses, the level of courses, main objectives for assessing students, and areas in which advice and/or training would be appreciated by the tutors. (DLS)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

Assessment in Open and Distance Learning. Teeode project

ED 428 726

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Karl Steffens
Universität zu Köln
karl.steffens@rs1.rz.uni-koeln.DE

Jean Underwood
University of Leicester
jdu@le.ac.uk

Antonio Bartolomé
Universitat de Barcelona
Antonio.Bartolome@doe.d5.ub.es

Lidia Grave
Universidade Aberta
lidiagr@univ-ab.pt

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

G.H. Marks

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

**Teeode is a project funded by the European Commission
through the programme SOCRATES for Open and Distance Education.
<http://www.doe.d5.ub.es/te/teeode/>**

Introduction

Distance learning courses are an important way of meeting society's needs for more flexible ways of educating and training a modern work force. Supporting students at a distance raises new and interesting questions. Of particular interest to the TEEODE project were the methods of assessment and evaluation employed by the various suppliers of distance learning courses. The aim of the TEEODE project was to develop a representative survey of the models of assessment and evaluation used by institutions supporting distance learning. This survey endeavoured to cover all fifteen member states of the European Union.

For each of the member countries of the EU we attempted to survey up to 10 institutions on their formal procedures or framework for assessment and evaluation; and up to 10 tutors on individual courses within those institutions on how they conduct their assessment and evaluation.

In this part of the TEEODE project we have focused upon issues of Course Development and Assessment, and in particular, on how we achieve effective learning outcomes and how that learning is communicated to the learner. Other parts of the project have looked more closely at the institutional issues. The emphasis here is on the tutors' perceptions, teaching assessment and support-related issues.

If distance learning is to be seen as legitimate it must meet student, tutor and, in many cases employers', needs. In assessing their students, tutors should have a clear idea of their learning goals and they should also be able to match those goals to the assessment and evaluation instruments they employ.

Marton and Sälj  (1976) showed that students that tackled their studies in a way which was called a 'deep approach' gained a through understanding of the material studied. On the other hand, students whose approach was labelled a 'surface approach', failed to gain a grasp of the material which had been studied. Ramsden (1988) provides a useful summary of 'deep' and 'surface' approaches to learning.

Deep Approach Intention to Understand	Surface Approach Intention to complete learning task assignments
---	--

IR019387

Focus on what is 'signified', i.e. the author's arguments	Focus on 'signs', i.e. the text itself
Relate and distinguish new ideas	Focus on discrete elements
	Memorise information
Relate concepts to everyday experience	Unreflectiveley associate concepts and facts
	Fail to distinguish principles from evidence, new information from old
Organise and structure content	
Learning is internal	Treat the learning task as external imposition focusing on the assessment

In the tutor questionnaire presented here we were interested in identifying tutors' perceptions of:

1. the learning goals of the individual course they chose to tell us about;
2. the modes of assessment they felt aided them in achieving those goals;
3. any mismatch that might occur between those goals and the modes of assessment.

1 The Course Tutor Questionnaire

The Course Tutor Questionnaire (CTQ) was based on interviews with tutors and administrators in ODE institutions, and the final versions (pilot as well as translations) were also checked for readability and understandability.

Translations of the English version were made into Finnish, French, German, Italien, Portuguese, Spanish and Swedish.

In the process of translating the English version, a number of problems were encountered which had to do with differences in the educational systems in the different European countries. What, for instance, is the equivalent of an English BA in other European countries? We endeavoured to approximate to the English original as close as possible to make results comparable across European countries.

The final form of the CTQ consists of seven parts which relate to

1. the tutor,
2. the course,
3. the students,
4. the assessment of the course,
5. production of the assessment material,
6. delivery of the assessment instruments,
7. staff development.

If the respondents were interested in receiving a copy of the results of the investigation, they were asked to provide their address.

The different versions of the CTQ were made available in the internet at
<http://www.doe.d5.ub.es/te/teeode>

The user was asked to type in his or her responses and these were then collected at the the University of Barcelona. Also, paper versions of the CTQ were sent to ODE institutions in different European countries.

2 The Sample

The initial sample of 10 tutors from each of 10 institutions for each of the member countries of the EU we attempted changed over time. One of the main reasons for this was the method of data collection (paper-based questionnaires sent out by regular mail and on-line questionnaires made available on the web).

There were two main benefits of the on-line questionnaire. The first was that it widened the sample beyond the initial fifteen member states, hence the inclusion of data from Israel, Mexico and the USA in our survey. It also proved highly efficient in gathering data together and the transfer from questionnaire to data-sets for analysis was achieved with efficiency through this route of data collection.

Unfortunately, however, there were some problems with accessing the on-line questionnaires and we have suffered data loss, thus some 25% of the UK sample is missing and we are aware that our Scandinavian contacts also had difficulty in initial access to the web questionnaire.

We tried to reach as many ODE institutions as possible, being well aware that, within the limitations of our budget, it was not possible to have neither a truly representative nor a purely random sample. We did hope, however, that we might achieve representativeness at least to some degree.

There were 224 CTQs returned. They were distributed across the different countries very unevenly. It is difficult to establish the reason for this, but one explanation that seems very plausible is that ODE institutions in Europe vary very much with respect to the extent and importance they have in the different European educational systems. In the UK ODE is well established but this is not the case for many of our European partners.

3 The tutors

Of the 224 respondents, 59 (26.3 % of 224) indicated they were course organizers and 175 of them (78.1 % of 224) declared to be course tutors. However, only 17 (7.6 % of 224) acted both as course organizers and course tutors.

Somewhat more than half of the tutors were employed on a full-time basis (125 versus 99 half-time, i.e. 55.8 % versus 44.2 %). An interesting finding was that all of the tutors were relatively new in their courses: none of them had worked for more than three years in his course, 99 (44.2 %) had given his course for less than three year but for more than one year, and 125 (55.8 %) had given his course for less than one year. This finding may reflect that rapid and recent rise in interest in ODE across our institutions or, it may be the case that tutors selected to talk about new courses rather than courses they have worked on for a number of years.

4 The courses

Table 1 gives an overview of the subject areas that were covered by the different courses. The single most cited category is languages (33.5 %), followed by literature (20.5 %). If we subsume the first six categories under the heading "Science of Letters", than almost three quarters (71.4 %) of the courses fall under this heading and a remaining 18.3 % (categories 8 to 12) under the heading natural sciences. This contrasts sharply with the findings of the Institution Questionnaire in which Business and Management Studies dominate the ODE field.

	Frequency	Percent	
Literature	1	46	20.5
Social Sciences	2	9	4.
Languages	3	75	33.5
Education	4	19	8.5
Humanities	5	11	4.9
Arts	6	-	

Medicine	7	1	.4
Math & Statistics	8	12	5.4
Business and Management Studies	9	11	4.9
Engineering	10	-	-
Computer Science	11	5	2.2
Natural and Physical Sciences	12	13	5.8
Others	13	22	9.8

Table 1: Subject areas of ODE courses

Of the 224 tutors, 175 (78.1 %) rated their courses as academic and 45 (20.1 %) as professional or vocational. The length of the different courses varied substantially. 68 (30.4 %) of the tutors indicated that their courses lasted less than a year, 81 (36.2 %) had courses lasting between one and two years, 20 (8.9 %) were involved in courses lasting more than one year but with a time limit, while 55 (24.6 %) indicated that their courses did not have any time limit.

Table 2 shows how the tutors rated the level of their courses. As is evident, the vast majority of the courses (170 of 224, i.e. 75.8 %) lead to an academic qualification. This is very much in line with the tutors' labeling the courses as academic versus professional or vocational.

	Frequency	Percent
Postgraduate degree	34	15.2
Bachelor degree	21	9.4
Certificate or diploma	115	51.3
Professional qualification	14	6.3
No qualification	8	3.6
Other	30	13.4
No answer	2	.9

Table 2: Level of courses

Cross-tabulating subject areas by course level shows that 63 of the 74 language courses (85.1 %) and 37 of the 47 literature courses (78.7 %) are academic while of the remaining subject areas in the sample, 23 of 58 are (71.6 %) academic.

5 The students

We asked for the age of the ODE students, but the results were rather inconclusive. 130 tutors (58 %) indicated that there was no set age and 69 (30.8 %) judged the age of their students to be more than 23 while only 25 (11.2 %) assumed their students to be younger than 23. It therefore seems that the age of the ODE students of our sample may be somewhat higher than that of "normal" college and university students. This is consistent with a view of ODE as an important way of gaining qualifications while working.

Concerning the entry qualifications of the students for the ODE courses, about half of the courses require no prior qualifications while requirements for qualifications are almost evenly distributed across the categories GCSE or General School Certificate (post 16; 15.6 %), A-level or Advanced School Certificate (16.5 %) and Bachelor Degree or equivalent (17.4 %).

6 Assessment of the courses

Of the 224 tutors, 92 (41.1 %) reported that formative assessments were undertaken during the course, 16 (7.1 %) indicated formative as well as summative assessments were being conducted while 116 (51.8 %) reported that formative as well as summative assessment was being done.

The most preferred mode of assessment turned out to be written assessment (208, corresponding to 92.9 %) followed by practical assessment (51 / 22.8%) and oral assessment (43 / 19.2 %).

Please note: For this and the following questions in this part of our report, the alternatives were not mutually exclusive, i.e. a tutor might indicate that the assessment was conducted in written form as well as orally and practically; percentages are based on the 224 responses for each alternative.

With respect to the question of where the assessment was conducted, 84 tutors (37.7 %) named the host institution, 86 (38.4 %) a designated centre at a distance, and 49 (21.9 %) a place of the student's choosing.

The tutors were given a number of alternatives which described the main objectives for assessing students on their courses and asked which of these they deemed most appropriate with respect to their own courses. Answers are given in table 3.

to test factual knowledge	71	(31.7 %)
to test understanding	145	(64.7 %)
to test application of knowledge	167	(74.6 %)
to test practical skills	44	(19.6 %)
to test problem solving abilities	52	(23.2 %)

Table 3: Main objectives for assessing students

Evidently, the tutors consider application of knowledge and understanding as the most important objectives for assessing students' achievements.

In order to learn more about tutors' motives and beliefs with respect to conducting assessments of their students, we asked them to what extent different forms of assessment matched their educational goals. The forms of assessment were (1) multiple choice questions, (2) comprehension tasks, (3) problem solving tests, (4) practical tests, (5) project file or diary, (6) oral presentation or examination, (7) long essay or dissertation, and (8) written examination.

The tutors were asked to indicate to what extent the forms of assessment matched their educational goals on a five-point scale: (1) excellent, (2) good match, (3) satisfactory, (4) poor match, (5) no opinion. From these data, we computed two indices. First, we defined the degree of acceptance (DA) as the proportion of tutors (in percent) who chose to check one of the first three alternatives, i.e. who indicated that they perceived at least a satisfactory degree of match between the form of assessment and their educational goals.

Second, we transformed these categories (degree of match) into numerical values, assigning 1 to excellent, 2 to good match etc. We then computed a mean rating (MR) for those tutors who did rate the match between form of assessment and their educational goals. A low MR thus signifies a high degree of acceptance, and conversely, a high MR signifies a low degree of acceptance.

The most acceptable form of assessment (79 %) turns out to be the assessment by comprehension tasks, marked by the tutor and conducted for formative assessment. This form is also rated highest with respect to the match between assessment form and educational objectives. These results are in line with our former findings (see table 3) that the tutors considered the assessment of understanding and the application the main objectives of their assessment procedures. Interestingly, this form is less acceptable for summative assessment purposes (55 %) or with students or peers doing the marking (38 % for formative and 22 % for summative purposes).

It seems that the question of who does the marking has a decisive influence on the tutors' ratings. For example, with respect to multiple choice questions, the best match between form of assessment and educational objectives is achieved when the marking is done by the tutor; students' marking obviously widen the gap between assessment and educational objectives, while computers seem to be even less welcome as marking agents (the mean rating for this combination is 3.11 - formative - and 3.16 - summative assessment). Preference for tutors' marking is also exhibited with respect to the other assessment forms (indicated by the degree of acceptance as well as by the mean ratings). Although our tutors are working in a new mode of teaching, they are still using very traditional approaches to assessment.

Finally, with the exception of the „classical“ assessment forms of written examination, the assessment instruments are considered more acceptable for formative than for summative assessment.

7 Production of the assessment material

In this section, we wanted to know where the assessment material that the tutors are using come from. More than half of the tutors (126, i.e. 56.3 %) indicated that were using assessment instruments that were produced by course team members. In most cases (98, i.e. 43.8 %) the instruments used were the result of a collaboration of the course team.

However, some tutors to some extent (57, i.e. 25.4 %) used assessment instruments that were not produced by course team members most of which (67 %) came from commercial sources.

Concerning the type of the assessment instruments, 64 (28.6 %) of the tutors used instruments that were standardised, 80 (35.7 %) used instruments that were not, while 75 (33.5 %) did not know whether their instruments were standardised or not.

8 Delivery of the assessment instruments

While in the section on the assessment of courses we had asked for the educational objectives that were being pursued in assessing the achievement of the ODE students and to what extent the instruments being used matched these educational objectives, in this section we wanted to know what kind of assessment instruments were actually being used.

When asked about the “traditional“ instruments, 61 tutors (27.2 %) reported using oral tasks and 206 (92.0 %), i.e. the vast majority used written tasks. However, only in a very few cases was this assessment computer supported (in 3 cases for oral tasks and in 19 cases for written tasks).

Tutors were also asked if there existed a set interview schedule that must be followed in oral examinations. 33 (14.7 %) responded yes, and 30 (13.4 %) responded no, while 155 (69.2 %) checked the do-not-know alternative. This is another indication that oral examinations do not seem to be used frequently as assessment tools.

In general, assessment criteria do exist, however. 90 (40.2 %) tutors declared this to be true, only 10 (4.5 %) denied this, and 117 (52.2 %) preferred to check the no-answer alternative.

Finally, we wanted to know if computers were used in the assessment and in what ways. Very few tutors used computer technology for assessment. Of the tutors that did so, 7 indicated that the system marked students' responses while 21 indicated that it did not. At the same time, 13 reported that the system provided feedback on responses to students while 12 reported that it did not.

Of those tutors who used telematics, 6 conducted assessment in real-time and on-line while 16 did not conduct the assessment this way.

9 Staff development

In this last section, we wanted to find out in what areas there might be a need for further advice or training, and we asked the tutors whether they felt they might benefit from advice or training in the areas given. Frequency counts of the answers are exhibited in table 4.

	Introductory training	Advanced training
Design of distance learning materials	25 (11.2 %)	51 (22.8 %)
Assessment of distance learning	11 (4.9 %)	39 (17.4 %)
Design of multiple choice tests	16 (7.1 %)	31 (13.8 %)
Design of problem solving tests	18 (8.0 %)	32 (14.3 %)
Marking of essays	7 (3.1 %)	21 (9.4 %)
Design of formal examinations	7 (3.1 %)	24 (10.7 %)
Use of computer based tests	37 (16.5 %)	39 (17.4 %)

Table 4: Areas in which advice and/or training would be appreciated by the tutors

The data show clear variations in tutors' perceptions of their personal training needs for different modes of assessment. Few tutors felt that they needed additional help in marking, essays or in preparing formal examinations. However, significant numbers requested help in computer based assessment at both an introductory (16.5 %) and advanced (17.4 %) level. There was also considerable interest in obtaining additional training in the design (22.8 %) and assessment (17.4 %) of distance learning courses - but this need was for advanced level skills.

10 Summary and conclusions

The returns of the Course Tutor Questionnaire did not live up to our expectations. We invested a large amount of time and effort to contact ODE institutions in Europe and to distribute the questionnaire, but we received a relatively small number of responses. We only know that return quotas are in general relatively low with this kind of studies. Additional data has been received post this analysis. They will be incorporated in the year 2 report.

Nonetheless, from the tutors who did respond we received some very interesting data. It is clear that tutors aim at testing the application of knowledge and understanding when they conduct their assessments, and there is a preference for formative assessment, i.e. assessment that is done during the course. Traditional methods are being used, but tutors' preference is with comprehension tasks, multiple choice questions, and course essays. At the same time, tutors feel they would benefit from advice and training in the design of distance learning material and in the assessment of distance learning.

With respect to the computer, the results seem to be a bit paradoxical: On the one hand, tutors indicate that their educational goals can better be reached with multiple choice tests when marked by the tutor than when marked by the computer. This is difficult to understand because it would not at all be difficult to do the marking of multiple choice tests with the a computer program in an "objective" manner. The objectiveness of multiple choice tests is in

general very high because the assessment of the results is independent of the person (or machine) who does the marking (given that there is a key for the correct alternatives). We therefore conclude that many tutors still do not feel at ease with the idea of letting the computer do the assessment simply because of lack of familiarity with this possibility. We consider this assumption to be substantiated by the fact that more than half of the tutors also were relative new in their teaching jobs (with an experience of a year or less with their courses) and that at the moment, there is indeed relatively little use of computers for assessment purposes in ODE institutions.

At the same time, tutors would appreciate advice and training in the use of computer based tests. Since they also exhibit interest in getting to know more about the design of distance learning materials and in the assessment of distance learning, we assume that their somewhat hesitant attitude towards computers would turn into a favourable one if they actually were given advice and training in using computer programs to develop distance learning material and instruments to evaluate the learning processes of their students.

References

- Bayliss, H (1995). Postgraduate distance learning in British dual mode universities.– *Open Learning*, **10(2)**, 46-51
- Harris, RW (1990). The CNNA, accreditation and quality assurance. *Higher Education Review*, **22(3)**, 34-54.
- Marton, F. and S  lj  , R (1976). On qualitative differences, outcomes and process I and II. *British Journal of Educational Psychology*. **46**, 4-11 and 115-127.
- Ramsden, P. (1988). *Improving Learning: New Perspectives*. London: Kogan Page.
- Sander, P, Naylor, P, & Stevenson, K (1996). Student perceptions of the tutor's role in distance learning. *Open Learning*, **11(1)**, 22-30.
- Thorpe, M (1995). The expansion of open and distance learning – A reflection on market forces. *Open Learning*, **10(2)**, 21-25.



U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)



NOTICE

REPRODUCTION BASIS



This document is covered by a signed "Reproduction Release (Blanket) form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.



This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").