

## Evaluation of on-line Formative Actions.

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This work describes the authors' experience in the working out of guides for the evaluation of formative actions based on information and communication technologies. Firstly, it is mentioned the participation in the work line called "Methods of Evaluation in the Virtual Teaching" included in the summons for the Unit for the Quality in the Andalusian Universities (UCUA). It is detailed as well the participation in the design of other model for the evaluation guide for the Virtual Teaching, this time in the project called "Thales-CICA-Web" in which the following Societies participate: The Andalusian Society for the mathematical Teaching "Thales", CICA (Scientific Computer Centre of Andalucía), The Consejería de Educación of Junta de Andalucía, The Universities of Córdoba, Granada, Málaga, Cádiz and Sevilla.

**Keywords** Elaboration of the Teaching guides for the on-line Teaching; Evaluation of on-line formative activities; Quality indicators.

### 1. Introduction.

During the academic year 2004-2005 the work line or project called "V Methods of Evaluation of Virtual Teaching" was set up within the search and development work line of the UCUA, groups of study and specific analysis in Quality in the Andalusian Universities. All the projects proposed by the Andalusian Universities were joined in an only project in which there was a Unit responsible from the Virtual Campus from the different Andalusian Universities, the technical staff responsible for the computing management of the campus, searching group in teaching pedagogy, experts in e-learning, Unit for the Quality of the different Universities, etc.

Within this cross-curricular work group we mainly worked in the group of "experts in Virtual Teaching", since we have been working for more than ten years coordinating, teaching, designing and approving on-line courses in different institutions and organisms (Consejería de Educación, CEPs, Pedagogical Training Associations, Universidad de Cádiz, etc.)

As a result of this searching work line, the @FORTIC Guide [1] was designed which is the main tool the Andalusian Universities nowadays have to evaluate the formative actions based on information and communication technologies. The guide is based on EFQM Model (European Foundation for Quality Model).

We have as well taken part in the design of another model guide for the evaluation for the virtual teaching, within the project Called "Thales-CICA-Internet". We have participated in the Studies Direction Team of the project, which has, among others, the duty of selecting the projects or courses which are going to be taught each year and analysing the quality of the courses and the students' opinion at the end. Nowadays the IX edition is being carried out and this courses project which are targeted mainly to the scientific and technological updating of teachers of all academic levels in Andalucía and of university students.

The Studies Planning, Documents and Experiences Exchange included in the action line of the UCUA for the period 2001-2006, has the general Objective "To Establish regular strategies for the investigation of the environment reality as a base for the detection of the chances and the threats which allow to establish strategic or functional plans to improve the Andalusian University System (AUS). Among its specific objectives we will highlight:

1. To promote evaluation studies and methodologies interesting for the AUS.

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2. To create an objective data base, updated and organised around topics related to evaluation in particular, and quality in general.

Following those points, the UCUA summoned the creation of investigation groups and specific analysis of the main lines described below.

The objectives and main lines of the summons [2] were “To support the development of projects directed to the working-out of useful methodologies in the following main lines:

- I. Methodology for the evaluation studies plans from the point of view of the professionals.
- II. Methodology which integrates the use of “The Portfolio” or similar procedures as a base of the institutional evaluation of the teaching process of the university teachers.
- III. Systems of information/documents in the net related to quality.
- IV. Manuals for the evaluation of optimization in the use of university facilities.
- V. Methods of Evaluation of the Virtual Teaching.

It was mentioned in that summons that it would be highly valued those projects “which propose the working out of a guide for the evaluation of subjects, topics, self-learning exercises, etc. including the methodology which lets it evaluate, as well as the introduction and organisation of material, those aspects related to the usefulness of the material specifically developed for the learning process, for the self-assessment and for the students evaluation”.

The project we had presented, this time together with the other Andalusian Universities, was among the chosen projects [3]. This project, called “GEAV UGR 24 –Design and experimentation of a Methodology of evaluation of the Quality of the Virtual Courses at a University Level V. Method of evaluation of the Virtual Teaching” has a financing of 26000 euros and was coordinated jointly by Oscar Cordón, Eduardo Blanco and Alfonso Infante.

We have also taken part in the design of another model of a guide of evaluation for the Virtual Teaching, this time inside the project called “Thales-CICA-Internet”. In this project, besides the designing of teaching guides to evaluate the quality of the on-line courses, it is sought to fall upon the uses of new technologies from the teaching field giving tools for the making of high quality educative resources.

## **2. Description of the contents of the @FORTIC Guide for the Virtual Teaching.**

### 2.1 Introduction.

The @FORTIC Guide was, as it has been already mentioned, the result of a project of investigation and development of the UCUA in which we had participated from the beginning to the end.

In the University environment, the Information and Communication Technologies (ICT), led by multimedia and computer means, have been a great advantage in the scientific and academic life, not only for their use as tools in the investigation process and scientific production, but as means of communication as well which has contributed to eliminate time and space distances.

The number of Universities which teach virtual teaching or tele-education and the variety of contents which are included in that modality, from Seminars to University Degrees as well as Optional Subjects, Doctorate Courses, Masters, etc. is increasing more and more.

Probably due to the speed of its implantation, it could be that it is being made without a profound analysis about what it is being done, how it is being done, what results are being obtained and in what direction. This situation of speed leads us to an urgent plan of the necessity of an evaluation and serious and reflective value of what is done, so these new learning-teaching contexts are made according to pedagogical and communicative parameters adapted to each context, person and necessity.

### 2.2 Aims and features of the @FORTIC Guide.

The aim of this guide is to evaluate the quality of the formative actions developed on the basis of the information and communication technologies (@FORTIC).

@FORTIC can be understood as every formative action developed with/through/from and in the ICT, which uses the Internet as a communicative environment, including from the necessary materials for its development to the learning-teaching strategies, as well as the participants (giving them different roles).

It is a broad concept, since it comprises every teaching process which has the use of new means or resources, as a support to facilitate and stimulate the learning, having in mind that the use of technologies is not only the simple juxtaposed use of means and resources, because this doesn't grant per se a quality formative action.

Therefore, the @FORTIC Guide is featured by:

- Having as an objective to facilitate the teaching-learning process, adapting to the needs and possibilities of the students, eliminating the time and space barriers.
- Using technological means which are around the information and/or communication on the basis of an instructive strategy.
- Seeking to increase the possibilities of didactic communication between teachers and students, as well as among learners.

### 2.3 Objectives, elements and methodology to follow in the application of the Evaluation Guide.

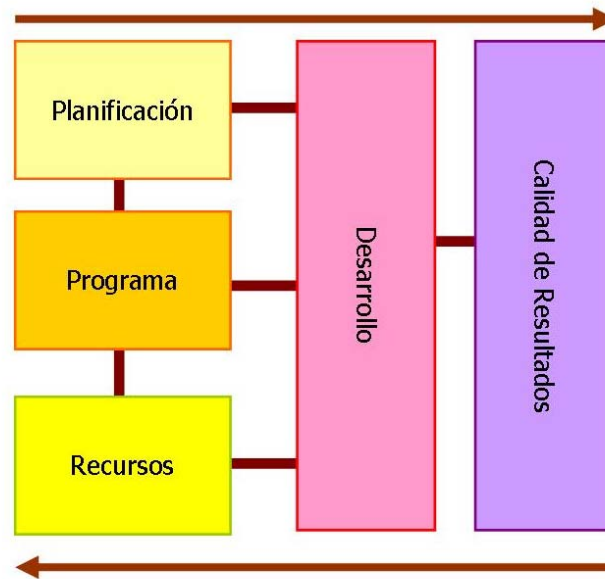
Through the valuation of a series of criteria and sub criteria, included in the guide related to five dimensions of the teaching-learning process, the different modalities which @FORTIC can adopt are intended to be evaluated.

To achieve this aim, the following aspects of the @FORTIC Guide should be evaluated in each of the possible modalities:

- Related to planning: The identification data, the organisation structure, as well as the management, following up and improving procedures.
- Related to the program: The structure, the objectives, the contents, the teaching materials and the bibliography to use, students' activities and competences, the communication tools, the programmed time distribution and the anticipated evaluation.
- Related to the resources: Human resources (teachers, students and supporting staff), technical and financial resources.
- Related to the process development: The methodology to use and the systems of evaluation and orientation / tutorial action.
- Related to the quality of the results: The inherent results of the process and the satisfaction of the people involved (students, teaching team and technical team).

Each of these elements is included in the model which is presented in figure 1. The initiative of accreditation and institutional evaluation which are followed in our country nowadays are based on this model.

To facilitate the evaluation process, the aspects to value in each sub criteria are collected in the guide as well as the criteria and sub criteria, and some questions which make a reflection on each of them, suggesting finally a consideration of each of the sub criteria.

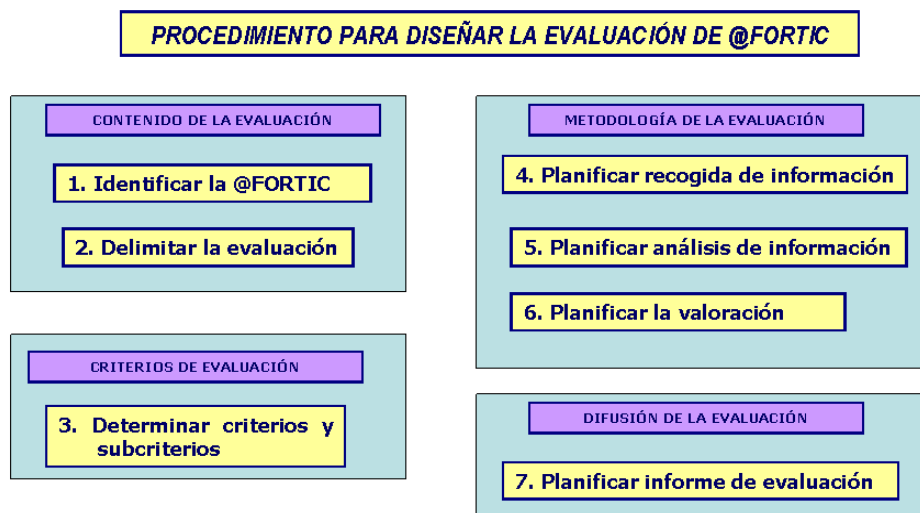


**Fig. 1** Evaluation model for the @FORTIC Guide.

2.4 The evaluation process: Stages for the application of the Guide.

The evaluation guide of the formative actions based on the use of the ICT has been elaborated with the intention, among others, of being a useful instrument for the designers and for the users or evaluators of this kind of formative activities.

In figure 2 the seven main tasks which the self-evaluation team or Studies Direction Team should develop are showed and they are specified in the @FORTIC evaluation guide.



**Fig. 2** Procedure for the design of the evaluation of the @FORTIC Guide.

The first level criteria which are necessary to evaluate a formative action are:

1. Planning of the formative action.
2. Program of the formative action.
3. Resources of the formative action.
4. Development of the formative action.
5. Quality of the results.

### **3. Evaluation Guide for the formative actions of the Thales-CICA-Web Project.**

This Guide tries to be the framework for the evaluation of an on-line formative action from its proposal for the selection to the evaluation of the degree of satisfaction of the participants in the formative action.

In this sense, a follow-up of the activity is made to the participants, teacher tutors, contents managers, coordinators, technicians and other agents involved in the formative action in order to make us know in detail the profile and the degree of satisfaction, the achievement of the learning objectives and the degree of difficulty of each activity carried out as on-line virtual teaching.

#### 3.1 Selection Process. Initial Questionnaires.

In this process, the formative actions to be suggested in the next edition are selected by the Teaching Team or Studies Direction Team which is composed by the project coordinator, representatives of the organisers, teachers and experts on virtual teaching.

#### 3.2. Evaluation Process. Intermediate and Finale Questionnaires.

Through the development of the different on-line courses a follow-up of the action is carried out, intermediate reports are required to the teachers, and the level of action of the participants and the degree of achievement of the objectives are evaluated.

When each formative action is ended, several forms are filled in through the Internet about the degree of satisfaction, interest, quality model of learning, etc.

### **4. Future perspectives. Conclusion.**

The Knowledge Society and the new European Space of Superior Education (EEES) set and demand new competences to the professional development and to the teaching practice of the Spanish University.

Having a model of evaluation guide of formative actions based on ICT is a useful tool for the university teacher and for the University itself. In this sense, the guides which have been described here, as a result of the effort and reflection of the group, are offered to the university community to guide the evaluation process of the people and institutions involved in formative activities based on ICT, and which will let the improvement of those on-line formative actions in the future.

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