INTRODUCTION TO INFORMATICS FOR FUTURE DOCUMENTALISTS IN THE EUROPEAN HIGHER EDUCATION AREA

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Abstract: In recent years, there has been an expansion in the use of IT tools. However, using these tools efficiently has been detected by the teachers as one of the main weaknesses of the students of the Humanities and Documentation Degrees at the University of A Coruña. Taking advantage of the introduction of the European Higher Education Area, the need to improve these weaknesses providing the student with the basics of the most common computer applications is considered. This article describes the "Applied Informatics" subject that is currently taking place at the University of A Coruña, as part of the Documentation and Information Degree.

1 INTRODUCTION

One of the most recurrent complaints from the teachers which give classes at the Faculty of Humanities from the University of A Coruña is related to the limited knowledge that students have about the advantages they can obtain from a proper use of the functionalities that IT resources provide.

Even though most students have their own computer, its use is mainly restricted to searching information on internet [limitedly] and using it as a mere typewriter to create presentations for any type of work.

Aspects as simple as making document (indexes, references, etc.) generation, repetitive calculations in spreadsheets, etc, automatic are systematically wasted by the students, mostly due to their ignorance.

Under this premise, we propose – taking advantage of the introduction of the new syllabus established by the European Higher Education Area (CRUE, 2003) – a subject in which those tools that allow maximizing the productivity in his/her daily work are shown, starting almost from scratch.

2 GLOBAL DESCRIPTION AND OBJECTIVES OF THE SUBJECT

Applied Informatics is part of the syllabus of the first semester of the first year, both in the Documentation and Information Degree(UDC, 2010b) and the Humanities Degree (UDC, 2010a). This subject has 6 ECTS credits, divided into 4 theoretical credits and 2 practical credits.

As mentioned before, the objective of the subject is to show the students the benefits of using different IT tools within their reach and the way these tools should be used.

Thus, the subject will follow a practical approach, since the main goal is to not only know what can be done, but also know how it can be done. The main purposes of this subject can be summarized as follows:

- Become familiar with computers, their functions, basic operation and components.

- Use the most common IT applications: office software programs (word processors, spreadsheets, ...), internet, etc.

- Have the possibility to use the main data management IT tools.

- Produce and reproduce documents in any media or format for diffusion.
- Have the capacity of communicating using the resources offered by new technologies.

Within the competences defined in the syllabus approved by the University of A Coruña for the degree, the following ones can be outlined as the most directly related to the Applied Informatics subject:

- Specific Competences
  - Knowledge of techniques and work methods
  - Innovation in presentation and diffusion of culture
- Transverse Competences
  - Learn to learn
  - Solve problems effectively
  - Apply critical, logical and creative thinking
  - Work autonomously with initiative
  - Capacity for proposing improvements and innovations
  - Creativity and originality in thinking and practice
- Nuclear Competences
  - Use basic information and communication technology (ICT) tools which are necessary for the exercise of the profession
  - Critically asses the available knowledge, technology and information when dealing with and solving problems
  - Assess the importance of research, innovation and technological development in the socioeconomic and cultural progress of the society

More specifically, the subject?s competences are the following:

- Know how to manage the file system and how to organize information in a personal computer
- Know how to create complex text documents with sections, styles, figures, tables and crossed references
- Know how to use a bibliographical reference manager
- Know how to manage information in a spreadsheet
- Know how to create multimedia presentations
- Know how to create multimedia content of different types: images, graphics, sound, video, etc

3 TEACHING METHODOLOGY

The subject is based on three elements: theoretical classes, guided practical classes, and practical exercises. During the theoretical classes, the fundamental concepts of the subject are introduced so as to allow the student to study the proposed matter in depth. At this point, the teaching staff plays an essential role, but students are also encouraged to participate actively and this participation will be taken into account.

Students receive the teaching material and a selection of bibliographical references, enabling them to prepare the classes in advance or to focus on a specific aspect.

The guided practical classes are dedicated partly to the application of the exposed theoretical concepts to a practical case. During these classes, students play a more relevant role; the professor merely presents the problem, makes a brief exposition about the way it should be resolved and provides an individualized (or generalized, if relevant) support in case of doubt. Practical sessions take place individually (or in pairs).

The practical classes (or practical exercises) are similar, but the teacher only presents the problem and the students have to solve it without any kind of external help. Later, the teacher will review these practical exercises in order to obtain a final qualification.

4 PROGRAMME

The classes are within one semester, with two classes each week (1.5 hours per class). The programme is divided into 5 large sections of different nature. The subjects are the following:

- **SECTION 1: Informatics Basics**
  - Computer history
  - Hardware
  - Software
  - Operative Systems
  - Computer Networks
  - Internet
- **SECTION 2: Text Document Edition**
  - Text styles
  - Content structuring
  - Task automation: indexes, crossed references
  - Reference managers
- **SECTION 3: Information Management in Spreadsheets**
  - Data

Table 1: Weighting criteria for the evaluation of the subject.

Aspect	Criteria	Instrument	Weight
Attendance and Participation	– Active participation in theoretical and practical classes – Participation and output tutorials	Observation and teacher's notes	10%
Concepts	– Command of theoretical and operative notions	Final theoretical example	30%
Practical exercices	– Reasoning of solution – Quality of work – Clarity of exposition	Obervation and teacher's notes	45%
Guided Practical Classes	Ouput and elaboration of exercices during practical classes	– Obervation and teacher's notes – Presentation exercises and practical classes	15%

– Graphics
– Formulas

- **SECTION 4: Information Management in Databases**
  - Modelling
  - Queries
  - Forms

- **SECTION 5: Creation of Multimedia Content**
  - Digital images
  - Computer Graphics
  - Sound and video
  - Presentations

The different sections will be explained in a classroom in which computers are available for the students. Thus, it is possible to alternate guided practical exercises with explanations in relation to how each tool works.

5 EVALUATION

The evaluation process of this subject is continuous and consists of several sections: assimilation of theoretical concepts, realization of guided practical exercises and execution of practical exercises (see Table 1).

In order for students to pass this subject, the sum of their qualifications in the different sections must be at least 5, and the results of the theoretical exam and each practical exercise must reach at least 40% of the highest mark in order to check a minimum achievement of the subject.

The practical exercises will be retained for one year. The students who have already passed these during the previous year may repeat them but are not required to do so.

6 EXPERIENCE

The subject, introduced in the session 2009/2010, has been welcomed by the students. They have learned how to take advantage of tools they usually used.

With a reduced learning effort, they obtain much more complete results and, what is welcomed with great satisfaction by the students, in less time.

During this year, in which the subject has been introduced, there has been great attendance. In addition, the results of the evaluation of the teachers have been very positive. Thus, this shows that this subject has had great acceptance.

Furthermore, as it shows Figure 1, ratios related with Performance (pass credits / total enrolled credits or matriculated) and Success (pass credits / real presented credits) are higher in the proposed subject than the mean values in the degree. In this case, we would point the low difference between performance and success rate for the subject. It reflects the very low abandon rate for it, so we it could be seen as a acceptation measure for the students.
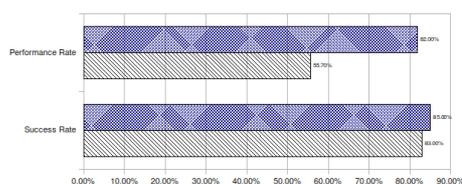
Figure 1: Performance and Success Rate for the first year.

7 CONCLUSIONS

As mentioned in the previous section, there has been a great degree of acceptance by the students.

However, it will be necessary to wait until it is checked whether students start to apply the acquired knowledge systematically to the presented subject or others or, on the contrary, *old* techniques are still used.

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