AN EDUCATIONAL ONLINE TOOL FOR THE INITIAL ASSESSMENT OF SKILLS NEEDED FOR THE FINAL-YEAR PROJECT

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Abstract

This work aims at shedding some light on new challenges faced by European universities nowadays. Education in the European Union has dramatically changed with the implementation of the European Higher Education System (EHES). These changes represent a challenge for lecturers from higher education both at an instrumental and at a methodological level.

One of the main novelties of the EHES within the Spanish educational system is that all students need to elaborate an undergraduate dissertation in order to obtain the degree title. Considering lecturers' current workload we believe it would be convenient for tutors to have an evaluation tool that allows them to rapidly and accurately assess the key abilities that students already master and their training needs in order to be successful in elaborating the final-year project dissertation.

In this work we propose an online tool that aims at facilitating tutors when providing tuition of final-year projects. To conclude we consider that this innovative assessment tool will help lecturers during the tutoring process of the final-year project in different degrees.

Keywords: Evaluation and assessment of student learning, online learning, basic academic skills, online tool for assessment, final-year project.

1   INTRODUCTION

With the implementation of the EHES, the education in the European Union has dramatically changed. Modifications in the training model arise from the need to train professionals that are able to solve problems of their professional field independently. The new training programmes have to provide undergraduate students with the opportunities to develop abilities that are adequate and necessary for the job market [2].

In this context one of the main novelties of the EHES within the Spanish educational system is that all students need to elaborate an undergraduate dissertation in order to obtain the degree title. Conversely, before the EHES final-year projects were only requested in technical degrees [6], [3]. For this reason in the majority of university degrees the experience in tutoring final-year projects is still sparse and there are many unknown questions regarding the tutoring process. During the final-year project students have to show an integrated control of abilities acquired throughout their degree studies. In particular, it is expected that they have to be able to manage, organize and interpret relevant information of the field they have chosen to research on and, at the same time, they have to be able to produce judgments, arguments and to reflect on the chosen subject of the final-year project. To achieve these goals, students normally receive tuition from a tutor that has to guide, advise and plan training activities for them [7]. To be able to plan the training activities, the tutor needs to know at the beginning of the tuition process what is the student's level of skill in different aspects needed for elaborating the undergraduate dissertations. In this sense, it is necessary to develop tools that allow the evaluation of these competences.

1.1   European higher education system

European higher education systems are undergoing radical restructuring in line with the objectives defined by the Bologna Process. It began in 1999 to pursue complementary higher education reforms in order to establish a 'European Higher Education Area' of compatible national systems [5].

As a result of the Bologna process, the educational systems in Spain and in all the European countries are reorganizing. This is the direct effect of the political decision to converge the different national systems in Europe. For Higher Education institutions these reforms mean the actual starting point for

another discussion: the comparability of curricula in terms of structures, programmes and actual teaching. This is what Tuning offers. In this reform process the required academic and professional profiles and needs of society play an important role. One of these challenges in the educational orientations promoted by the EHES requires the planning of subjects guided toward the acquisition of competences on the part of the student. These competences are a key element which allows the students a successful life in the future. Therefore, higher education in Europe faces many challenges and, thus, this implies the necessity of adapting curricula in terms of contents, structures, learning tools and assessment methods.

Nowadays, university students have to acquire different competence: generic competencies and specific competencies. Generic competencies (also known as general or transversal skills) are not related to any specific content, but are important in most professions and can be applied in a wide range of situations. On the other hand, specific competencies are skills related with specific knowledge of any area. One of the academic tasks that allow the acquisition of these competences is the final-year project.

1.2 Final-year project

The Real Decreto 1393/2007 [13] establishes that, in order to obtain the degree title, undergraduate students have to elaborate a final-year project [7], [9]. This final phase activity represents between six and thirty credits of the degree and consists of an individual academic task that involves studying in depth a subject that undergraduate students have to choose [11]. As a result of the final-year project, students have to present an extended piece of writing (i.e. a dissertation) based on the work developed within the project. This is an unparalleled academic activity that substantially differs from other courses of the degree because it has an integrative nature [1], [12].

Due to the fact that in Spain each university is entitled to establish the norms about how to elaborate, present and evaluate final-year projects, there is a wide diversity of final-year projects [3], [7]. At University of Granada, for example, students have different final-year projects options to choose from, for example: case studies, experimental studies, professional reports, clinical guides, reports developed from the external professional practice and artistic work. However despite the wide diversity of possible final-year projects, they all share some basic characteristics: they all include a research component, in all cases is the student who has to decide the approach and orientation of the final-year project and they all are essentially individual pieces of work that require mentoring and tuition [11]. Also, in all cases the final-year project has to demonstrate the skills acquired by the undergraduate students throughout their degree studies [9].

Thus, this academic task is orientated to assessing specific and transversal degree abilities [1], [9], [8], [12]. Particularly at University of Granada it is necessary to have passed the sixty per cent of the total number of credits that constitute the degree and have passed the first year and basic disciplines in order to be able to enrol for the final-year project [9]. The final-year project allows determining how well undergraduate students understand the content of their degree and prepares them for postgraduate studies, thus it represents a valuable learning mean and a useful assessment instrument [12], [11].

One could expect that by the time students register for the final-year project, they should master, many of the different tasks that the project entails. When producing the final-year project students have to able to formulate research problems, determine an adequate conceptual framework, identify sources of information, collect and interpret data [11]. Because it is a complex task, the project can be one of the greatest challenges for the undergraduate students and sufficient support and training are need in order for the undergraduate students to be successful [11].

1.3 Tutor needs

Final-year project tutors play a crucial role in assisting undergraduate students with their final-year project. They have to be able not only to provide students with specific subject knowledge but also to advise on research methodology, manage the final-year project through the process until the end or edit the piece of work that students produce [12]. Tutors also have to provide students with some general information about a dissertation's expected content, style and structure.

While they have to mentor students, tutors also need to be able to foster autonomy in the undergraduate students to whom they give tuition for the final-year project [4]. However fostering autonomy can be a difficult task and it entails providing enough support to students [11]. Some of the

aspects that were found to influence students' autonomy are students' previous experience, the level of trust that they establish with their final-year project tutor and their beliefs regarding the skills needed to achieve the goals [4].

Regarding students' previous experience it is assumed that specific abilities are supposed to be acquired by students before starting to prepare their final-year projects [8], [12]. However, despite the fact that in previous degree courses course work assessed skills such as referencing or writing [12], not all undergraduate students necessarily master these skills. Some of the challenges encountered by supervisors are related with grammar, spelling, presentation of the final-year project and with time management [10]. Thus, tutors need to identify students' competency in these basic skills that are required for completing this academic task. Students' ability in elaborating the final-year project must not just be assessed at the end of the process when students' have to hand in and present their final-year project. A continuous evaluation system is necessary. In this way the final-year project becomes an opportunity for students to reflect on their learning process and for tutors to give students feedback and in this way to reinforce their autonomy [8].

Still supervising undergraduate final-year projects is a very arduous activity [12]. For the majority of university lecturers in Spain the final-year project is a novelty and, for this reason, they are still not familiar with the peculiarities of this new academic task [1]. Furthermore, apart from the tutoring of final-year project, the majority of tutors also have to perform many other academic tasks and, in many cases, they are work overloaded. Considering lecturers' current workload we believe it would be convenient for tutors to have an evaluation tool that allows them to rapidly and accurately assess the key abilities that students already master and their training needs in order to be successful in elaborating the dissertation.

2   AN EDUCATIONAL ONLINE TOOL FOR THE INITIAL ASSESSMENT OF SKILLS FOR THE FINAL-YEAR PROJECT

In this work we propose an online tool that aims at facilitating tutors when providing tuition of final-year projects. This online tool will give lecturers quick information about the undergraduate's skills. We consider that this innovative assessment tool will help lecturers during the tutoring process of the final-year project in different degrees.

The current online tool was developed using the survey on-line application *LimeSurvey*. In the following sections we present its applications and components.

2.1   Application

The online assessing tool was firstly designed to be completed in social science degrees (Speech therapy language, Psychology, Teacher of primary education, Teacher of childhood education), but also it can be applied different degrees such as Computer Science, Medicine or Arts. The administration of the current tool could be made even with postgraduate student.

Its application is easy; it is online by clicking the chosen option. For this reason is an appropriate tool to gather information in an effortless way from many students.

2.2   Components

The scale consist of a total of sixteen questions that collect relevant information about seven basic skills for the final project. It is a 4-point scale which discriminates between I do not dominate this skill (1) and I totally dominate this skill (4). To complete the scale students must read each sentence and self-assess in what point are their academic abilities.

The tool was designed to evaluate students' abilities which are relevant for the development of the final-year project. These basic abilities are:

a. Databases information searching: it will be important to select those databases that are the most appropriate for the topic of interest.
b. Using referencing style: this skill is going to be essential to present a work in the academic area.
c. Using English for academic purposes: the majority of the research is in English. For this reason undergraduate students need a certain level of English if they want to access

information. Furthermore, English is the international language and the default teaching language in a wide selection of courses. Then, knowing reading and speaking in English will be very useful for them.

  d. Writing academic texts: all final-year projects have to be presented in a written document thus being skillful in this aspect will improve the quality of the work.
  e. Using software for editing documents and for presentations: these abilities are necessary nowadays and will enhance the final work.
  f. Making oral presentations: it will be relevant not only being good at writing but also at presenting the final work to the lecturers.
  g. Planning skills: this skill will be really important given the amount and variety of work that undergraduate students should take into account when they have to prepare a final-year project.

3 CONCLUSIONS

The aim of this work was to present an online tool that aims at facilitating tutors when providing tuition of final-year projects. The inclusion of the final year project at undergraduate level has been introduced in Spain recently [13] and it has taken great effort to carry it out. Thus it is worth developing any tool or method to improve the final-year project tutoring procedure.

Given that lecturers have to deal with different demands we believe it would be convenient for tutors to have an evaluation tool that allows them to rapidly and accurately assess students' initial competencies during the development of the final-year project.

In sum, the online tool that has been presented in this work appears to be a beneficial instrument for using in academic contexts for a number of reasons: (1) it assesses the main academic skills that undergraduate students should master in order to fully develop the final-year project, (2) it is an easy and fast way of getting information for using whether in research or teaching, (3) it provides undergraduate students with effective feedback, which contributes to improving their skills, (4) and it yields lecturers with effective information so they can render their undergraduate students with specific and useful support. It can also be used as a guide to plan different training activities throughout the degree studies in order to provide students with more opportunities to acquire these basic academic skills

3.1 Limitations

Although this online tool is easy to use, a possible limitation could be that students have to self-assess themselves. Some students are capable of rendering accurate and honest answers about their skills but others are not. This may provide lecturers with erroneous information about undergraduate students' skills and therefore lecturers might not be able to provide students with the needed support.

Also having to assess students' skills for the final-year project using an on-line tool might not be considered useful by some lecturers who are not used to using this kind of tools.

3.2 Future research

It would be advisable that future studies should analyse the scales' psychometric properties. Thus, in order to confirm the scale's usefulness and validity a factorial analysis should be performed. It would also be useful to compare the results of the scale among several types of degrees for example, social sciences and technical degrees to obtain information about the procedures and the methods used in each degree. This would also allow a better understanding of the training need of undergraduate students at the beginning of the process of elaborating the final-year project in different degrees. Finally, we are aiming at extending this research by proving information on the usefulness of this instrument with master or doctoral students.

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