

FOSTERING ENGLISH-TAUGHT HIGHER EDUCATION PROGRAMS IN A SPANISH UNIVERSITY: THE 'TEHENGLISH' INNOVATIVE PROJECT

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Abstract

In recent years, coinciding with adjustments to the Bologna process, many European universities have attempted to improve their international profile by increasing course offerings in English. According to the Institute of International Education (IIE), Spain has notably increased its English-taught higher education programs, ranking fifth in the list of European countries by number of English-taught Master's programs in 2013. This article presents the goals and preliminary results of an on-going innovative education project (TechEnglish) that aims to promote course offerings in English at the Technical University of Madrid (Universidad Politécnica de Madrid, UPM). The UPM is the oldest and largest of all Technical Universities in Spain. It offers graduate and postgraduate programs that cover all the engineering disciplines as well as architecture. Currently, the UPM has no specific bilingual/multilingual program to promote teaching in English, although there is an Educational Model Whitepaper (with a focus on undergraduate degrees) that promotes the development of activities like an International Semester or a unique shared curriculum. The TechEnglish project is an attempt to foster courses taught in English at 7 UPM Technical Schools, including students and 80 faculty members. Four tasks were identified: (1) to design a university wide framework to increase course offerings, (2) to identify administrative difficulties, (3) to increase visibility of courses offered, and (4) to disseminate the results of the project. First, to design a program we analyzed existing programs at other Spanish universities, and other projects and efforts already under way at the UPM. A total of 13 plans were analyzed and classified according to their relation with students (learning), professors (teaching), administration, course offerings, other actors/institutions within the university (e.g., language departments), funds and projects, dissemination activities, mobility plans and quality control. Second, to begin to identify administrative and organizational difficulties in the implementation of teaching in English, we first estimated the current and potential course offerings at the undergraduate level at the UPM using a survey (student, teacher and administrative demand, level of English and willingness to work in English). Third, to make the course offerings more attractive for both Spanish and international students we examined the way the most prestigious universities in Spain and in Europe try to improve the visibility of their academic offerings in English. Finally, to disseminate the results of the project we created a web page and a workspace on the Moodle education platform and prepared conferences and workshops within the UPM. Preliminary results show that increasing course offerings in English is an important step to promote the internationalization of the University. The main difficulties identified at the UPM were related to how to acknowledge/certify the departments, teachers or students involved in English courses, how students should register for the courses, how departments should split and schedule the courses (Spanish and English), and the lack of qualified personnel. A concerted effort could be made to increase the visibility of English-taught programs offered on-line.

Keywords: Internationalization, Integrating Content and Language in Higher Education (ICLHE), English as the Medium of Instruction (EMI), bilingual programs, Spanish University

1 INTRODUCTION

The use of English as a medium of instruction is increasingly present in many educational settings. In recent years, many non-Anglophone European countries have developed an increasing number of programs taught in English in an effort to draw international students and promote campus internationalization. This has been largely attributed to the establishment of the European Higher Education Area (EHEA) through the Bologna process, which encouraged universities across Europe to harmonize their degree structures and qualification frameworks so as to allow student and staff mobility throughout the EHEA and beyond [1][2]. In Spain, the internationalization process is relatively new but intense and diverse in the Spanish university scene. According to the Institute of International Education (IIE) [3], Spain has notably increased its provision of English-taught higher education programs, ranking fifth in the list of European countries by number of English-taught Master's programs in 2013. While English-taught degrees are frequent in fields related to Business Administration, Economics or Engineering [4], bilingual programs (in English and Spanish) are more common in the Social and Legal Sciences [5].

Recent studies suggest that those universities with strategic internationalization plans get the best results [6]. These strategic plans involve all university actors (students, teachers, administrative staff and managers) as well as one of the activities that define the existence of the university: the transmission of knowledge. It is generally accepted that any process of internationalization born in pursuit of excellence must offer high quality courses in English. Those courses should help to serve two main objectives: attract foreign students and prepare national or domestic students for jobs with an international component.

Within this context, Integrating of Content and Language in Higher Education Association (ICLHE) has become a key strategy in higher education programs and, as such, an object of both teaching and research. ICLHE aims at ensuring a dual integrated learning- content and language- using language as the medium of instruction for content [7]. Due to its relevance, a number of studies have begun to explore the needs and benefits of ICLHE at the university level [8][9]. Some relevant empirical studies are those carried out at the Technical University of Madrid (Universidad Politécnica de Madrid, UPM) [6] and Universidad of Alicante [10] with regard to the use of English as a medium of instruction in Spanish Universities. This paper builds on the results of the Agroinglés project and presents the goals and preliminary results of an on-going innovative education project (TechEnglish) that aims to promote course offerings in English at the UPM. As a case study, the paper shows the particularities of the design and implementation of an English-taught wide program in the Civil Engineering School at the UPM.

1.1 Agroinglés Project

The ongoing convergence between European universities has promoted academic programs in English as a fruitful framework for internationalization. At a local scale, the Madrid region has promoted English bilingual programs at primary and secondary education. In 2010/2011, up to 24% of students in the public educational system at Primary State Schools were enrolled in bilingual programs. This new scenario will undoubtedly pose a challenge to the Spanish Higher Education Institutions, with a growing demand for bilingual curricula.

In this context, we analyzed the implementation of programs in English in the degrees of the School of Agricultural, Food and Biosystems Engineering (ETS de Ingeniería Agronómica, Alimentaria y de Biosistemas, ETSIAAB) at the UPM. Different existing experiences in English Programs in Spanish Universities were analyzed. Students and teachers of ETSIAAB were asked to fill out an opinion survey in 2013 and 2014, addressing three issues: interest in participating in a program in English, preferred model of the program and self-assessment of English proficiency. The interest of high school students and companies and institutions in the food production sector was also examined.

The conclusions of the study were published [6], and highlight the disparate national offer of programs in English and language requirements for both teachers and students, and a great interest by both teachers and students of the ETSIAAB and high school students to participate in such programs. The conclusions and recommendations to promote bilingual instruction at the ETSIAAB took into account the identified necessary resources, the approaches followed by more veteran Spanish Universities, and adapted them to the technical school's idiosyncrasy.

1.2 TechEnglish Project

The AgroInglés project helped to identify specific areas to help promote the Internationalization Plan proposed in the Educational Model Whitepaper of the UPM. At the same time it generated interest beyond the ETSIAAB and has highlighted the need to address this challenge with a decidedly cross and multidisciplinary spirit. In this way, teachers from seven schools (Aeronautics and Space Engineering; Agricultural, Food and Biosystems; Architecture; Civil Engineering; Telecommunications and System Engineering; Building; Industrial Design and Engineering), with internationalization experiences in different phases decided to join forces to contribute to the internationalization process in which the UPM is immersed.

From this general objective, taking into account the structure of our university, the project aims to cover three key areas:

First, the need to design a framework to promote teaching in English at the UPM. It seems clear that those universities with strategic plans in this direction get the best results.

Second, a consideration of the different degrees of internationalization in different Schools, some being more advanced than others (e.g., the Civil Engineering School).

Third, the important role of the Department of Linguistics Applied to Science and Technology, with its transversal nature to design and implement a future program.

These three areas crystallize into three specific goals of the TechEnglish project:

1. Promote an internationalization program at the UPM
2. Design and implement an internationalization program for courses offered at the school level: The case of the Civil Engineering School.
3. Design and implement a training/coaching program for teachers.

2 THIS ARTICLE WILL DEAL WITH RECENT ADVANCEMENT REGARDING THE FIRST TWO GOALS. FOSTERING AN INTERNATIONALIZATION PROGRAM FOR COURSE OFFERINGS AT UPM

Any process of internationalization born in pursuit of excellence must necessarily have a high quality academic offering in English. With this project we intend to influence precisely the courses in English proposing actions to its promotion, such as:

2.1 Developing a Framework to Teach in English at the UPM

The overall goal of this task is to help develop a framework to improve the internationalization of university programs at the UPM by increasing the number and quality of courses offered in English. This involves proposing a strategic plan to the whole university community including students, professors, administrative personnel and representatives from all Schools and Rectorate personnel. Several other Spanish universities have already developed "Internationalization Programs" or specific programs to promote the use of English, and face the intrinsic problems of this objective. Therefore, we decided to review them first. Those programs were then summarized and compared in order to start to develop a framework based on the specific needs of the UPM.

Several work group meetings were scheduled to define the methodology. At the first meeting, each member of the group (a total of 7 professors) was given an internationalization program from another Spanish university and asked to summarize it. A second meeting was held to discuss and compare results and assign further reading. An excel sheet was designed to summarize the data and facilitate comparisons. By the third meeting, we had analyzed the information from 13 universities (Universidad Carlos III, Universidad de Alcalá, Universidad del País Vasco, Universidad Politécnica de Valencia, Universidad Pompeu y Fabra, Universidad de Almería, Universidad Autónoma de Barcelona, Universidad Politécnica de Cataluña, Universidad de Vigo, Universidad de Córdoba, Universidad Rey Juan Carlos, Universidad Pública de Navarra, Universidad de Granada). In general, all the existing programs included information on the following elements: students, professors, administrative personnel, courses offered, other actors/institutions within the university (e.g., language departments), funds and projects, dissemination activities, mobility plans and quality control.

Our group also defined the key sections and sub-sections of the programs mentioned above to facilitate comparisons among universities and identify key issues to develop the strategic plan for the UPM. The sections on students, professors and administrative personnel included sub-sections on training, admission, mobility and certification. The section on available courses included information on preparing the course (administrative details), advertising, area of knowledge, minimum amount of students and evaluation. For institutions at the university we included the involvement of language departments, commissions, vice-chancellorships and their specific tasks and agreements with other universities. The dissemination activities included an assessment of how to use social networks to get the whole university involved. The funding, mobility and quality control sections did not have sub-sections.

All the summaries were grouped into one Excel file and compared. Not all the programs from other universities contained the same information. Therefore, it was necessary to precisely define each section and to evaluate the importance and applicability of each subsection to the case of the UPM. For example, in the student section, training refers to the availability of courses that are given to students to improve their English level and to enable them to be able to register in university level courses taught in English. For teachers, the courses would enable them to teach university level courses in English. Likewise, for administrative personnel, the courses would enable them to help the professors give courses in English (for example, preparing and giving practical classes) and to manage and work in an English speaking environment. In all cases, it is important to identify who provides these courses (the university itself or whether it is outsourced). Moreover, it is important to describe the system that certifies the different actors. Normally students are asked for a B1 level, or may just be interviewed or have to complete a specific language course. In a similar way, the remaining sections were further defined (course offerings, funding, mobility, etc.) and an overall framework was developed to begin to complete the program to teach in English at the UPM. The next step is to conduct personal interviews with other members of the university community (vice-chancellors, directors of the different schools, professors, administrative personnel, student representatives) to further enrich the program proposal.

2.2 Identification of administrative and organizational difficulties for the implementation of education programs in English. Potential solutions

Previous teaching experiences in English at UPM, together with the information gathered in the project *Agroinglés*, allowed the detection of important difficulties related with the establishment of English-taught higher education programs. Some of the difficulties are related with allowing the student the possibility to choose the language in a course, by adapting the registration process. Another source of challenge is the acknowledgment of the courses taken in English by the student (in their academic certificate) and the courses taught in English by the academic staff. In particular, the problems arise in a bilingual situation where courses are offered simultaneously in Spanish in English. Students have to subdivide into two groups and decisions have to be made regarding schedule, academic staff available to teach in English and other organizational matters. One of the lines of work of the *TechEnglish* project is to identify all those administrative difficulties and provide effective solutions. The study will be based on successful experiences carried in other universities and in our own university, and the adaptation of those to the specific needs of UPM and each one of the participating Technical Schools of the UPM.

The first difficulty is when a student has to sign up for a course and be assigned to a group, which varies depending on the School (there is no standard process in the UPM). Therefore, we have to investigate different ways in which students are assigned to a given course, in order to offer a solution suitable for all Schools, or even more, to suggest important changes for the global process of registration, in order to promote bilingual studies. We need to provide guidelines to enable students to sign up for different courses in English, without being forced to attend courses with difficult timetables. If the process was similar in all Schools, it would also favor the participation in international exchange programs.

Another difficulty encountered is that neither students nor lecturers are recognized for a course in English, as opposed to other universities. This occurs because there is no distinction made between the English and Spanish course when courses are given simultaneously. These matters also open a debate regarding the degree of recognition that is found appropriate, to promote the participation of academic staff in the development of a bilingual program.

To deal with these problems we are analyzing different ways of assigning students to groups in all Schools of the UPM as well as in other universities, where bilingual studies are running well. Also, we would like to work together with the administrative staff that handles the course registration platform, to find a way to differentiate between English and Spanish groups in each course.

2.3 Recommendations to increase visibility of course offerings in English

The demand of students for bilingual teaching-learning (usually English as a second language) at Spanish Universities is increasing; one of the reasons is that many students arrive to university with bilingual secondary studies (most of them Spanish-English). This trend is expected to increase in the near future. Moreover, Undergraduate, Master and Doctorate bilingual courses are also found to be appealing to international students. However, few universities in Spain offer those kinds of courses and the visibility on their web sites is poor. Indeed, one of the deficiencies detected by the Agroinglés project was the reduced visibility of the English academic offerings at the UPM, but also at other universities. Without a doubt, this reduces the attractiveness of English teaching in national and foreign students. Therefore, it is highly recommended to evaluate visibility strategies adopted by successful universities, which could be implemented at the UPM. Hence, one of the activities of this action was to evaluate how the course offerings in English were advertised on institutional websites. The final goal is to identify effective ways to advertise UPM's English programs, defining weaknesses in our approach and identifying strategic aspects that have scarcely been addressed by competing institutions to gain an edge in recruiting. For that purpose, 77 National and 68 International private and public universities were distributed among the eight participants in this working group and evaluated. In order to accomplish the objective the working group developed a spreadsheet, to register information of the following parameters:

General visible aspects to consider as criteria:

- a. Determine whether a friendly, simple, intuitive and attractive website, has been designed to capture students' attention.
- b. Discern whether the website structure was fundamentally directed to current or future students.
- c. Evaluate whether the website adequately promotes the University, highlighting the strengths such as, cutting-edge research, internationalization, sports or cultural activities.

Specific visible aspects of English or bilingual offer, internationalization and English level credentials:

- d. Visibility of English studies: It was considered highly positive if the University website had a link connecting the English courses offered by the University. Therefore, the students could directly see all the bilingual or English academic courses, at different levels (Bachelor, Master or doctorate).
- e. Internationalization grade or level of the University: The internationalization section was evaluated too. This category is useful to provide information about the courses taught in English (in non-English speaking Universities) as well as to give information about mobility programs, languages courses or accommodation.
- f. English level credentials of teachers and students: English level credentials for students but also for English teachers will be analyzed in all the universities in order to determine whether a minimum level can be established for both groups.

Preliminary data show wide differences among the universities evaluated. For instance, some universities focus on providing attractive web designs, mobile windows, photos and videos, while others include too much information, which is difficult to unravel. Some have a clear international projection and their web pages are translated into several languages, highlighting their mobility programs, whereas others have no English version available. Despite this, there is an obvious effort to increase the international profile, indicated by the prominent presence of "Internationalization" tabs on websites. However, the purpose of the linked information was predominantly directed towards Erasmus students (either incoming or outgoing), teaching the native language to foreigners, and explaining how to enroll.

Finally, there was little information about the English level of teachers at all the Universities analyzed. Only 9 % of the Spanish universities that teach some classes in English mention that teachers have a C1 level. This is clearly an aspect that UPM could use to improve and recruit students interested in

English classes. The final evaluation of all the compiled data will provide useful information about successful strategies to improve communication with current and future students.

2.4 Dissemination of project results

The dissemination of the main project results to the wider higher education community is key to streamline the process of internationalization of the UPM. It will serve to deepen the understanding of the project's work, make known the findings and recommendations of the project and, ultimately, promote a real change for the adoption of English-taught higher education programs at the UPM.

Several dissemination activities have been designed for reaching internal and external audiences. First, a TechEnglish workspace was created on the Moodle education platform to allow professors and students to observe the development of the project and have access to materials and useful links. Second, a web page (<http://blogs.upm.es/techenglish/>) is being developed to reach the general public and show the activities and main outcomes. The project will also be disseminated using social networks and preparing workshops, conferences and seminars within and outside the UPM. In this regard, some actions have already been taken. The TechEnglish project will be presented at the 23rd AESLA International Conference on multimodal communication that will take place at the School of Mining and Energy Engineering in Madrid, between the 16 and 18 of April, 2015.

3 THE CIVIL ENGINEERING SCHOOL: A CASE STUDY IN THE PROMOTION OF INTERNATIONAL PROGRAMS

The Civil Engineering School is nowadays the only school in the UPM where all the subjects of one of its degrees (the degree of Materials Science) are taught in English during two semesters. This is the consequence of the willingness of the School to promote the internationalization of its programs. This trend has been prompted by the high level of internationalization experienced by the construction and public works industry in Spain over the last few years.

In order to expand even more the internationalization of its programs, the School has designed a strategy aimed at expanding English teaching to many other courses and degrees. This strategy has a twofold objective: the improvement of our students' speaking and writing skills in English, and the attraction of learners from all around the world to the programs we offer.

The strategy is targeted to three different kinds of people: first, non-English-native lecturers and staff; second, students who are not fluent in English; and third, foreign students who do not speak Spanish. The strategy, which includes the dissemination of our English syllabi abroad, is designed to be sustainable over time.

One of the key challenges is to explore certain areas to help both teachers and administrative staff experience a smooth transition from the Spanish to the English teaching environment. To that end, and taking advantage of the Tech-English project, we envisage the implementation of the following actions:

- 1) Support young lecturers and staff members to spend short stays in English-speaking universities so as to improve their English.
- 2) Assist the lecturers in the adaptation of their didactic resources (e.g. slides and notes) to an English-medium instruction environment.
- 3) Organize workshops oriented to improve the English communication skills of lecturers.
- 4) Invite native lectures from other universities to teach at our school.

Another crucial point of the Tech-English strategy in the Civil Engineering Schools is to give support to both national and foreign students, who are not fluent in either English or Spanish. To that end the School is defining supportive measures to increase the national students' awareness of the importance of being fluent in English. To help with this task, the School can take advantage of former students who are currently involved in the internationalization plans of large construction firms. Moreover, to facilitate the integration of foreign students in the Civil Engineering School, we will move towards the dissemination of bilingual information in the school (e.g. web, courses syllabi, academic guides, signs, etc.).

In addition to the measures previously mentioned, and in order to draw the attention of international students, the Civil Engineering School intends to foster the appeal of its English degrees among

foreign students. A key issue of the strategy will be to maintain and consolidate the programs in English in the future. In order to tackle this issue, the Civil Engineering School will liaise with construction and public works companies interested in hiring civil engineers with a competent level of English in order to raise money for maintaining this strategy over time.

4 CONCLUSIONS

The preliminary results of the innovative education project TechEnglish, to promote the course offerings in English at the UPM, suggest that it is quite feasible to prepare a bilingual program due to the student demand and willingness on the part of university staff. A university wide program should include the main actors (students, professors and administrative personnel) within a favorable organizational framework where the process of registration and recognition is transparent. Courses must be properly advertised on-line to attract national and international students and specific measures in more advanced Schools (which already have a working international program), may be taken to further increase course quality including short stays abroad or collaborations with international companies.

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