

CONCLUSIONS FROM THE ACADEMIC EXCHANGE IN ENGINEERING AT UNDERGRADUATE LEVEL

Claudio José Benavent Montoliu¹, Pedro Fuentes Durá², and Enrique Ballester Sarrias³

Abstract $\frac{3}{4}$ A modern university should search for new issues to improve its teaching and pedagogical methods. One of the most relevant is the participation in educational co-operation international programmes. This is claimed to be a key aspect which allows the achievement of teaching modernisation and the renewal of academic structures. Professors and students exchange, the setting-up of common syllabuses, the validation of studies taken abroad and the development of common teaching materials will definitively contribute to reach this aim.

Index Terms $\frac{3}{4}$ Co-operation, Exchange, Internationalisation, Undergraduate.

TEN YEARS OF INTERNATIONAL EXCHANGE AT EUITI VALENCIA

The Escuela Universitaria de Ingeniería Técnica Industrial de Valencia (EUITI Valencia) started its international activity back in the late eighties. Since then, it has joined many international exchange programmes which resulted in over one thousand of its graduates taking a study or trainee period in a foreign University or Company. This kind of stays abroad contributed not only to fulfil the students' scientific and technical knowledge, but also to improve and enlarge their language skills. Also, students could face the challenge of being integrated in a foreign culture, overcoming different difficulties and struggling for new goals.

Students benefited directly from academic exchange with the acquisition of an outstanding social, academic and human dimension, which is not likely to be achieved in any other way. The experience provided students with an additional value from a personal and professional point of view.

The EUITI Valencia has obtained through these years important results which are presented and discussed in this paper, including the demolition of traditional barriers affecting academic exchange and the increase in the level of satisfaction among participants. Furthermore, a vast improvement of the process of dissemination among students, together with a substantial advance in the process

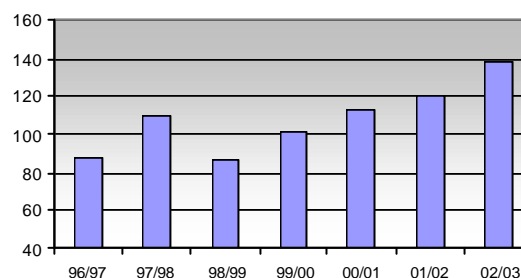
of academic recognition has been achieved. They both have resulted in a higher student accessibility to mobility programmes, which is still growing. Last but not least, an overwhelming increase in the number of teaching staff members involved in international activities, and a remarkable increase in the number of private companies co-operating in international exchange programmes have become a satisfactory reality.

THE ROLE OF INTERNATIONAL RELATIONS IN MODERN UNIVERSITY

The world has become smaller and the country borders cannot separate educations any longer. The students go on supplementary study trips to other countries. Teachers cooperate on cross-frontier joint projects. International courses are developed in many educations. Foreign guest teachers are attached and exchanged and international classes are established. And on top of everything education is downloaded from web as e-learning.

It is first and foremost important, as the grandaunts from all European educations must function in an international work market whether John or Gloria chooses to work in Spain or Germany in a company with many international contacts or to go on trips abroad to work in a subsidiary, in an international company or in a completely foreign company.

Outgoing Students EUITIV: ERASMUS



¹ Claudio José Benavent Montoliu, Universidad Politécnica de Valencia, Escuela Universitaria de Ingeniería Técnica Industrial de Valencia, Assistant of Head of International Relations, Camino de Vera 14, E-46022 Valencia, Phone: +34-96-3877186, Fax: +34-96-3877189 relint@upvnet.upv.es

² Pedro Fuentes Durá, Universidad Politécnica de Valencia, Escuela Universitaria de Ingeniería Técnica Industrial de Valencia, Head of International Relations, Camino de Vera 14, E-46022 Valencia, Phone: +34-96-3877186, Fax: +34-96-3877189 relint@upvnet.upv.es

³ Enrique Ballester Sarrias, Universidad Politécnica de Valencia, Escuela Universitaria de Ingeniería Técnica Industrial de Valencia, Dean, Camino de Vera 14, E-46022 Valencia, Phone: +34-96-3877181, Fax: +34-96-3877189 eballest@isa.upv.es

Today the companies must cope in a larger market and therefore new competencies are sought after in employees. Here we talk about language, it is important to be able to succeed outside the usual bounds enabling you to cooperate with foreign colleagues. Through inter-cultural competencies you must come to understand that there are other ways of doing things. Schools and universities must try to meet all the new requirements by changing their educations and orient themselves abroad.

Finally we must not forget that the international educational cooperation also has a cultural dimension as experience with sharing living conditions with other peoples cannot but lead to a larger understanding of diversity and characteristics which is the precondition for international understanding.

The Bologna Declaration: based on a statement signed at Sorbonne in Paris in May 1998, 29 European Ministers for Education, who were gathered in Bologna in June 1999, adopted a declaration of creating a European area for education "The European Higher Education Area". They committed themselves to realise this project within a period of 10 years.

In Bologna the ministers agreed that the educational policy of each country was to be brought into higher conformity with each other and a number of necessary reforms were to be carried out in the participating countries. The targets to be achieved were worded like this:

- Adoption of a system of easily readable and comparable degrees
- Adoption of a system essentially based on two cycles, undergraduate and graduate
- Establishment of a system of credits – such as the ECTS system
- Promotion of mobility by overcoming obstacles to the effective exercise of free movement
- Promotion of European co-operation in quality assurance
- Promotion of the necessary European dimensions in higher education

The strength of the Bologna Declaration is the fact that it is a European declaration not a EU-declaration. The Bologna Declaration is an indication of recognition for the development of a global market for production and communication of knowledge and can be seen as a joint European answer to this development.

The Prague Declaration: In May 2001 the ministers with responsibility for higher education in 30 countries met again to discuss the follow-up of the Bologna-process and the establishment of a European area for higher educations in 2010.

At this meeting the ministers stressed the need for the perspective of a lifelong learning in the educations and as an essential element in the European area for education. The higher educational institutions and the students were recognised as important cooperational partners in the area.

In a communiqué from the meeting the following were among others stressed as important areas of effort:

- Adoption of a system with easily understandable and comparable marks
- Adoption of a system consisting of two parts: undergraduate (bachelor) and graduate (Master)
- Establishment of a system for recognition of qualifications
- Promotion of mobility
- Promotion of European cooperation on quality assurance
- Promotion of a European dimension in higher education

Berlin 2003: The next follow-up meeting will be in Berlin in the second half of 2003. Here progress must be revised and new priorities set for the next phase towards a European area for higher education.

FUTURE EDUCATIONAL ENVIRONMENT

But internationalisation is not only cooperation between the institutions in Europe – the entire world. There is also competition. It might easily become a fight for students when the entire education or part of this can be taken in another country. The large English-speaking countries have for long been the popular targets and for instance France is also gaining ground.

Just in these days a large national conference is taking place in Spain where the subject is how education will probably be a commodity before long. Today we see that for instance USA and Australia press heavily for an opening of the global market for education as a service, which can be considered as a commodity on the free market. In UNESCO's Lisbon Convention Transnational Education is defined as: "All types of higher education study programmes, or sets of courses of study, or educational services (including those of distance education) in which the learners are located in a country different from the one where the awarding institution is based".

One of the major questions in connection with Transnational Education is quality assurance: how do we ensure that the educations offered internationally have the quality you require nationally? – Each nation has its own rules and procedures.

The Bologna process has helped in creating a joint European educational area, which in the future will equip our educations to the coming global competition and there is no doubt that this step has been noticed in the rest of the world when and if Transnational Education will be a reality.

In Spain and also in the rest of Europe this is not at the top of the agenda but we might have to get used to this and therefore to a much larger extent than before reorganise and internationalise our higher education if we are going to cope on a free educational global market in the future.

RESULTING DEBATE AT EUITI VALENCIA

To all intent and purposes, the introduction of the international concept will raise questions and bring forth new issues. Issues that will have to be dealt with sooner or later, and the truth of the matter is that many people in the field are not aware of what is going on yet.

Mainstream or Something for Dedicated Enthusiasts?

A first issue was already mentioned: is internationalisation going to be a mainstream issue for all involved, or is it going to remain a marginal thing? It is our conviction that it is the former, given the political, economic and technological developments of the last few years. The introduction of Bologna – Prague transcends the EU boundaries and the consequences of that issue will be felt at all levels. Our economies and societies are becoming multicultural and globalised, which will need people who can deal with this development and who will be able to anticipate on this evolution.

And then there was the advent of ICT and the Internet, probably an evolution whose impact we have not begun to understand. And the Internet and ICT are, by definition, internationally focussed media.

Co-operation or Competition?

There are a number of factors that will decide on this issue, and in all likelihood it will be both. The European introduction of the Bologna agreements will lead, amongst other things to greater transparency, mobility etc. And then there are the new providers which are coming on the market of higher education. Once the GATT agreements have been decided upon, it will be clear that the commercial provider will turn into a veritable competitor. This will force the universities to co-operate in a number of fields: exchange, curriculum development, research activities etc.

ITC is an ally of the new providers who are developing ICT-based distance education schemes, which are quite expensive in setting up and developing, but once established are extremely cheap to run. This is in sharp contrast with more classical ways of teaching where a lot of money is paid for staff organising contact classes. On the other hand, ICT can be an ally of the existing institution, since it is an easy means to start up projects in cyberspace, virtual universities and networks.

The conclusion must be that the university administrators and policy makers should show good husbandry by investing in transnational networking and by embracing all the opportunities and possibilities that are created by ICT.

Unique selling position and market positioning are concepts that will grow in importance.

Is Europeanisation the Same as Internationalisation?

In a word, no. It is clear that in Europe the EU was the engine, and still is, for the internationalisation process. It is true that the big universities were always involved internationally. But the new ones and the smaller units are now also in the position of taking part in this project. The

EU wishes to use this engine to create citizenship and European awareness, and it wishes to build up educational and research systems that can work for the people in the EU. We see that there is now a sizeable number of associated states in the regular programmes, and these programmes are branching out to Canada, the USA, Australia, China etc.

And it will not stop there. Europe has got a lot of knowledge on the other continents, legacy of the colonial era. Maybe the time has now come that Europe can help the former colonies to develop and/or further expand their higher education systems. Spain, for example, has still got very privileged contacts with Latin America. This could be used to great advantage for all partners involved.

The question can even be raised if there is not such a thing as a “global education market”. We now see that there are countries that are actually trying to sell their educational systems to other countries, either by setting up so-called off-shore campuses or by trying to get foreign students to come and study in Europe. The latter activity is based on the conviction that when a foreign student graduates he can do two things: either he stays in the country to work and live – which would offer a solution for the decreasing birth rates in Europe, or he returns to his country of origin, where he will have an own professional life, but where he will act as an ambassador of the country where he studied. E.g. the Netherlands is getting very active in that field; they send annual missions to Southeast Asia to recruit students and they offer nice grants and scholarships to lure prospective to come and study in the Netherlands at only a fraction of what it would cost them if they went to the USA.

Diversity or Uniformity?

Many people are afraid that our cultural diversity will be given up in favour of uniformity, a boring uniformity. It is becoming a real issue. Uniformity is as uniformity does. Again, policy makers must understand the advantages of uniformity, e.g. the transparency of the Bachelor-Master construction, but at the same time they should jealously guard their uniqueness, their own unique selling position. This is course and curriculum content, of course, but it is also culturally identified. All higher education in the same lingua franca, (basic – often bad) English, with the same textbooks written by Anglo-Saxon authors would be a very poor substitute for the diversity that still exists now.

We must specialise in diversity and embrace it. Again, this is a new challenge: how can one make it attractive for prospective students and staff to come and study or teach and research with us?

REFERENCES

- Aalykke, Peter "Bologna/Prague Declaration", ValenciaGlobal 2002, Universidad Polit3cnica de Valencia, 18-20th April 2002
- Joris, Michael, "Internationalisation At Home", ValenciaGlobal 2002, Universidad Polit3cnica de Valencia, 18-20th April 2002.