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(The full schedule of UPGRADE is available at our website)

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Towards A Real Change (or The Modification of Computer Engineering Studies through The Eyes of A Student)

Mikel Salazar-Peña

Published in newspaper "El País" on May 29, 2006.

The European higher education convergence process that Spain is currently immersed in along with the rest the Bologna Process signatory states provides us with an excellent opportunity to build a better university and train better professionals. In this article the author voices a number of concerns and identifies areas for improvement which need to be addressed if we are to achieve that goal. He also makes a plea for the social recognition of our profession and stresses the importance of the role it plays within the ICT (Information and Communications Technologies) sector.

Keywords: Bologna Process, Computer Science, Convergence, EHEA, Europe, Higher Education, Students, University.

"That Bologna business?". "That's all about the new four year courses". "ECTS?". "You just multiply the credits for the subject by 1.33 and there you go"... These are just some of the weird and wonderful theories that can be heard in the corridors of schools and faculties throughout the land. They are heard on the lips of students and teachers alike; no one is spared in the face of this great unknown quantity called *Convergence*. This is desperately depressing for those of us who are keeping more or less abreast of the *European Higher Education Area* (EHEA).

Since the beginning of the Bologna Process, the RITSI (*Spanish Association of Engineering and Technical Computer Engineering Students*), which represents 102,000 students of computer engineering, has been hard at work producing the White Book, holding meetings with sub-committees of the Universities Coordinating Council... We are trying as hard as we can to get our students' voice heard in EHEA forums.

Some months ago we expressed our dismay at the scepticism of a number of sectors that are not backing a real change in university education and are therefore jeopardizing the true spirit that sparked the reform process. The idea that the new qualifications are simply the present qualifications with some changes to curricula has only added to the confusion and slowed up the process even more.

Fortunately, since the Government made public its intentions regarding the length of degree courses (3+1), we are hearing fewer "me too" proposals and protestations of "if it's not broken, why fix it" or "let the rest of them change; we're all right". And so, relieved of many of the uncertainties that have accompanied us on this path to reform, and with the first batch of guidelines on the new qualifications already out, some pro-reformers are resting on their laurels. And they're making a big mistake: we have one leg of the

table in place, the legal framework. But the biggest job - involving the university community - is yet to come.

I will begin my overview with a look at the necessary but treacherous matter of funding. Such an academically and socially ambitious process as this requires equally ambitious funding. And there are still many issues to be addressed, such as the creation and improvement of infrastructure, and a major increase in investment in grants and scholarships, in terms of both the number awarded and their worth.

If we want a real change in teaching methods and if we wish to play a meaningful role in the European credit system, teachers must be given more recognition for their teaching skills and in particular for their efforts in incorporating innovation into their lessons. This is why universities need to promote the development of pilot schemes. Traveller, there is no path. You make the path by walking.

In terms of course content, we should be looking to improve permeability between university and society. The procedure to update the curricula of degree programmes is too slow and complex at present; we need to find a more flexible way of adjusting curricula to market trends. We should

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Mikel Salazar-Peña was President and Vice-President of RITSI (*Spanish Association of Engineering and Technical Computer Engineering Students*) between 2005 and 2006. During that time he focused his efforts on such issues as the future of informatics teaching in the framework of the Bologna Process, collaboration with other groups, entities, and enterprises, and the defence and regulation of the computer engineering profession. He also worked towards raising the visibility and social awareness of the profession's concerns through contributions in a number of national publications. He is currently completing his studies in Computer Engineering in the Computer Science Faculty of San Sebastián - *Universidad del País Vasco*, where he will graduate in September 2006. <mikel.salazar@yahoo.es>

not, however, confuse permeability with surrender; universities should continue to serve as the forge that produces participatory, critical, and committed citizens, not just manpower for a competitive market without any constructive purpose for society.

We students can do a lot to help. The participation of students in quality assessment processes, giving more weight to their opinions regarding the quality of teaching they receive, would help to build a better university. And we can help encourage student participation, something else that has fallen by the wayside on the road to a common higher education. We student representatives have made it loud and clear that students need to be informed about the process.

There are other, familiar, dangers. The spectre of the commercialization of universities will become a reality if bachelor degrees are allowed to be devalued at an academic and professional level or if master degrees are not offered at a price that is genuinely affordable to students (in addition to public). If bachelor degrees are to be socially recognizable and not devalued, they need to fully qualify gradu-

ates for their profession, leaving specialization and research to postgraduate studies.

In the case of computer engineering studies, this is the perfect moment to regulate our profession and close the current legal void with regard to professional competencies. It is hard to understand a society that, on the one hand, wishes to make progress, close the digital divide, and enter the so-called information society while, on the other, continues to fail to give informatics its due importance within the Spanish economy and the ICT sector.

In conclusion: the Bologna Process is the perfect excuse for the entire university community to set about building a better university; a university for everyone. We will need to be courageous and set aside self-interests, and instead think about the future and the new reality. It is our chance to take a look at the fabric of our system and try to put it right, without falling into the temptation of mimetic change. We have the best human capital to see this challenge through; let us all collaborate and create a fairer and renewed university system, ready to face the challenge of the new millennium.

Translation by *Steve Turpin*