

SOCIAL IMPACT OF THE RESEARCH ACTIVITY: LET'S TAKE SOME STEPS

On the 23rd of May 2017 a seminar conducted by Ikerbasque and Unibasq was held under the title "Social impact of the research activity: Let's take some steps". The seminar elapsed three sessions in which participants pondered on the impact of the research activities, based on the following questions:

- 1.- Personal Academic Career, with especial emphasis in the relationship between the research, training, and transference/divulgateion activities.
- 2.- Appraisal of the diffusion and transference considered to have had a bigger impact in society.
- 3.- General Consideration from their personal experience about the difficulties those activities have in the academic CV (recognition, management, etc.)
- 4.- Ideas on quantitative/qualitative measures that could be implemented as transference/divulgateion quality indicators in CVs.

After the presentation and inauguration of the seminar by the University Principal, Miren Artaraz, and the introduction of the hosts of the seminar, Eva Ferreira (Unibasq's Director) and Fernando Cossío (Ikerbasque Director), the first session commenced with the following participants:

- **Chairperson:**

- Dr. Fernando Cossío

- **Speakers:**

- Dr. Juan Ignacio Pérez, Physiology. Universidad del País Vasco/ Euskal Herriko Unibertsitatea. Faculty Headmaster of Scientific Culture of UPV/EHU.
- Dr. Helena Matute, Experimental Psychology Professor. Universidad de Deusto. Experimental Psychology Laboratory Headmaster of Universidad de Deusto.
- Dr. José María Mato, CIC BioGUNE y CIC BiomaGUNE Center Principal.

Speakers opened the session with a brief presentation of their Academic and Research career, and established their relationship with transference and divulgation, explaining the reasons why it is necessary to carry out these tasks.

The reasons to execute the transference are the most remarkable of the ideas brought up, what translates into social prestige, social responsibility, and transparency. These highly intertwined reasons are also related to the Universities' Missions (Teaching, research and extension-contribution to the social-economic development of the environment), and the need to justify the investments and social scientific literacy. It was also highlighted how necessary it is to know what is being done in other fields in the face of a lack of time, as it is usually the case that teaching and researching activities are prioritised. Additionally, it was pointed out that depending on the areas, transference is understood as a shift from the research activities to the business world, taking it as a more applied research activity, while in social sciences the shift is more orientated to society in general, referring to the changes in social behaviour. In the latter case, the exchange may not revert in a direct economic benefit, but it may favour a social change. Finally, they advocated for a reinforcement of the diffusion and transparency activities in the research field in order to make progress in knowledge acquisition.

Regarding the difficulties in evaluating these criteria in CVs, it was agreed that this becomes a tough issue, since it has never been done before. It was pointed out that in spite of the high regard in which transference to the business world is held, divulgation has not been valued in itself, and although there is a separate item in projects from the ministry, in the case of social sciences, it becomes even harder. Related to this topic and focusing on possible indicators that could be applied to quantifying the impact, the general conclusion is that measuring the impact, as it also the case in basic research, depends on the field, having a very clear need for publishing in relevant journals specialised in the field of Experimental Sciences, as an example of this. Additionally, the database "Altmetrics" appraises the general impact, and indicates the effect in social media, internet, and so on.

Partakers stressed that divulgation plays an important role as an academic social responsibility, and that the generated knowledge is more important than the number of publications per se. Furthermore, regarding patents, it is not the number of them itself that needs to be valued, but the number of transferred and exploited ones that counts. After all, what matters the most in research contracts is the knowledge they imply.

University as an institution must be the cutting-edge in research and this will have a positive impact in the rest of the aspects, as it happens with teaching. It is its duty to disclose and promote divulgation, without personal individual acknowledgement at heart, for it not to bring about perverse incentives. Once a developed research career is established, knowledge divulgation can be promoted, but not at the beginning of the academic career. Divulgation merit instead of research recognition, on a personal scale, could erroneously lead to activities which are not the main target.

It was proposed that a recognition of divulgation in teaching instead of in the field of research could be more appropriate.

As final conclusions, it was mentioned that young scientists should not be distracted from knowledge generation. Perverse scaling should be avoided. Social impact should create a feedback on teachers. It is necessary that in evaluating research we stand clear of absolute arbitrariness and un-subdued by scaling, promoting the existence of figure who can elect personnel, without having to stick to scaling systems, although it was also reminded by the audience that scaling systems not only help evaluate, but also justify, and avoid the prosecution of the system; that is to say, scaling systems can be helpful to protect the processes in the event of claims, appeals, and so on.

Second Session:

- **Chairperson:**

- Dr. Eva Ferreira García

- **Speakers:**

- Dr. Luis Norberto López de Lacalle, Mechanics Engineering Professor. Universidad del País Vasco/Euskal Herriko Unibertsitatea. Headperson at Advanced Aeronautics Constructions Centre (Centro de Fabricación Avanzada Aeronáutica (CFAA)), UPV/EHU.
- Dr. Goiuria Sagardui, Computing and Electronics Department Teacher at Mondragon Unibertsitatea. Coordinator of the Software and Systems Engineering Group.
- Dr. Luis Vega, Mathematics Department. Universidad del País Vasco/Euskal Herriko Unibertsitatea. Scientific Headperson at BCAM (Basque Center for Applied Mathematics).

The three speakers summarised their careers to set the background for their relation with knowledge transference, highlighting the close linkages between university and business in the field of engineering. As an instance, the Advanced Aeronautical Construction Centre (CFAA) is a new model of linkage of the university and business alliance. It is constituted as a mixed centre of the UPV/EHU and a Business Group aimed at working with a direct focus on the finalist applications, in addition to the generation of new knowledge in manufacturing advanced technologies. The works done in the centre are orientated towards working on and developing the 'Manufacturing Readiness Levels' 6-7, where validation tests on representative environments are necessary. As an outcome of the work done, Industrial Theses are

defended. Similarly, the great involvement of Mondragon Unibertsitatea with the business world was acknowledged. There is a direct link between teaching, researching and business involvement. A clear indicator of a good work development is the fact that companies cooperate with universities for years, creating a financial stability year after year. A clear knowledge transference between University and the business world is believed to exist. Finally, BCAM is the Applied Mathematics Research Centre that is supported by the Basque government, whose goal is to strengthen the Basque Net of Science and Technology through interdisciplinary research in the mathematics frontiers. Such a Centre cannot afford to not know what other research groups are doing. Mathematics can be of great use to other centres, quoted as an example in the Number creation. This is an example of how research can be applied to new everyday uses and come closer to society.

As for whether the transference sexennials measure what they should, it is believed that in the engineering field it is correctly executed. However, in some cases the game of JCR publications has been entered, with the intention of obtaining founding or gaining certain privileges. Regarding Industrial Doctorates, we must say it is not easy to publish at an Industrial level. A different kind of indicator and diffusion must be found for this sort of Doctorate Programmes. Divulcation is more focused on the presence in certain forums to make what is being done public. Many forums are not acknowledged. Being present at certain Fairs should be an indicator and considered as a divulgation act.

Accordingly, University should change its focus. We always think of laboratories when we speak about research, but workshops should begin to become more commonplace.

In the case of Engineering Studies, at Mondragon Unibertsitatea it was brought to attention that third year undergraduates follow their studies alternating University presence and Company work. We can take as an example an 86% of the students in the Degree in Computer Science. The same cooperation can be found amongst the teachers' profiles where we can find 20% of their forces teaching, 20% researching, and 60% in direct cooperation with the business world.

The impact of this University-Corporate cooperation process for society is in the hands of the corporate world, who decides whether or not to make the results public. Given this, a lack of impact can be found in the transference research CVs. Data remains within corporate knowledge, and it is only published if the companies so allow. Another added difficulty when measuring impact is that when analysing this impact in a product we need to give it a certain amount of time. Not all companies allow the publication of JCR, and the same can be said about being present at different Fairs and Forums. In other occasions projects are confidential, so they remain "ghost projects".

A great number of TFG and TFM is done in companies. In fact, some companies are recruiting students as early as in their second year. Something in great demand from companies is Technology education for their employees.

Along the same lines as in the previous session, Teaching and Research were considered to be the main priorities of the University. In the light of the indicators of transference and divulgation, it was concluded that it is best to not measure at all than to measure incorrectly, and rating should be handled cautiously.

Third session:

- Chairperson:
 - Dr. Miren Jasone Cenoz Iragui, Professor of Research Methodology and Education Diagnosis at Universidad del País Vasco/ Euskal Herriko Unibersitatea (from now on UPV/EHU).
- Speakers:
 - Dr. Agustín Azkarate, Archaeology Professor at UPV/EHU. UNESCO “Cultural and Heritage Landscapes” (“Paisajes Culturales y Patrimonio”). Faculty Director.
 - Dr. Sara de la Rica, Economics Professor at UPV/EHU. Basque Labour Report Director.
 - Dr. Itziar Laka, Linguistics and Basque Studies Professor at UPV/EHU. Head of the UPV/EHU “The Brilliant Mind” (“La mente brillante”) Research Group.

In the last session speakers highlighted the risk of living in a bubble that researchers suffer, being therefore unaware of the situation around them. It is necessary to know the environment and its reality. Research is not “neutral”. It entails a certain set of principles and values. The need for discriminating which topics are relevant for society was also underscored. In the same lines, the importance of social impact was stressed, as this social impact brings along social benefits. Nevertheless, it was remarked that analysing what is understood as transference and divulgation becomes of great difficulty.

The three speakers agreed divulgation means to value transference and social impact. To achieve this, it is important to consider what is to be evaluated and how the evaluation process is going to be implemented.

The question ‘How to evaluate Social Impact?’ was also brought to attention in this session. Previous experiences of a panel that in 2014 evaluated only the research activities of a group of Norwegian Universities and the British system was discussed, and together with this, the impact of this research was analysed and contrasted with evidences.

The general conclusion was that in order to complete a transference, there is a need for multidisciplinary in different research areas. The research teams must have a wide scope. Transference must see to complex issues and be linked to knowledge.

One more question that was laid on this table was 'How to carry out a knowledge-linked transference?'

Partakers believe that to execute a transference, trust and reliability are essential. Nonetheless, they are concerned about the risk of disparity in the evaluation processes to assess research activities. Divuligation amongst Universities and the increase of dissemination activities are appreciated.

In view of these thoughts, the following questions sprung up: How to assess research outcome? Should assessment be made individually or in groups? What criteria to follow when evaluating?

Despite not finding specific answers to these questions, speakers emphasised the importance of boosting work groups that promote transference. With this task in mind, we should start to clearly define what the transference and divulgation targets are.

As a conclusion, the following considerations were made:

- It is vital to seek and meet the social demands in order to be able to do research and subsequently transfer and publicise.
- Public service must be attended, and specific recipients sought after.