

# **Integrating the Stake of Rare Disciplines at the National and European Level**

**Summary Conclusions of the Exploratory Workshop**



## Table of Contents

<b>Summary .....</b>	<b>3</b>
<b>Towards a Common Definition for rare disciplines: do we need a definition? .....</b>	<b>4</b>
<b>The stakes of rare disciplines: can we afford to lose our knowledge?.....</b>	<b>5</b>
<b>Methodology: how to count everything that counts .....</b>	<b>6</b>
<b>Caring for rare disciplines: how to preserve and nourish them .....</b>	<b>7</b>
<b>European articulation in rare disciplines: we work better together.....</b>	<b>9</b>
<b>A proposal for an action plan by the European Universities .....</b>	<b>9</b>
<b>Annex 1 – List of participants .....</b>	<b>11</b>





## 1. Summary

Rare and emerging scientific disciplines are characterised by lacking critical mass. They are often excluded from funding programmes. However, these disciplines can offer scientific, economic and cultural solutions to today's society needs and represent, in some cases, an entire branch of knowledge.

On 9 September, a seminar organised in Brussels gathered a group of national rectors' conferences from several European countries (CPU, CRASP, HRK, MRK, VSNU), particularly involved and interested in rare disciplines and COST. The national rectors' conferences and the European University Association (EUA) have started to explore how such disciplines can be preserved at a European level. COST is open to all fields of science and technology and, therefore, offers the ideal platform for rare disciplines, promoting topics that are less or not in the scope of the EU framework programmes and initiatives. Emerging topics and future developments are important to the organization, and the event was an opportunity to further support the topic and hence the concerned research communities.

There were nearly fifty participants, including European university rectors, European Commission representatives and researchers. The challenge was to define and structure the European approach to rare disciplines.

This exploratory workshop represented an opportunity to grasp the role of rare disciplines and evaluate the existing differences at national level. The goal was to identify concrete actions that could be proposed at the national and European levels, in order to preserve and support the development of such disciplines.

The workshop enabled the participants to explore the need for national observatories of rare disciplines (and to define their potential role), as well as to foster European collaboration among these national observatories. This would establish a common observation framework and strengthen relations among key stakeholders dealing with rare disciplines in Europe as well as with European programmes. The specific objectives were:

- Presenting the results of a questionnaire to the National Rectors' Conferences
- Propose a common definition of rare and emerging disciplines
- Analysing the stakes of rare and emerging disciplines
- Presenting the current national initiatives and methodologies for identifying rare disciplines
- Discussing future perspectives on:
  - Sharing best practices among national rectors' conferences
  - How to promote rare disciplines
  - Coordination at the European level

The importance of these disciplines was reaffirmed, including their contribution on preserving knowledge and cultural identity. Although the problems and stakes of nourishing these disciplines concern primarily their local and national level, participants acknowledged the need for European cooperation in tackling these disciplines.

Other relevant documents on this workshop can be found on the COST website: [www.cost.eu/events/rare\\_disciplines](http://www.cost.eu/events/rare_disciplines).

- Programme
- Booklet containing a welcome note and short bios of speakers and moderators
- Presentations
- Short synthesis of the questionnaire results on the state of play of rare disciplines for the 5 co-organising national rectors' conferences.





## 2. Towards a common definition of rare disciplines: do we need a definition?

It has been suggested that in order to agree on a definition of rare and emerging discipline, we need to first define an academic discipline. This has long been debated. One of the reasons is the trend in interdisciplinary knowledge creation and the expansion in the currently created knowledge, making the boundaries of a discipline branch much more loose. Moreover, the diversity of the European national education and research systems - desirable as a factor of competitiveness for Europe - adds complexity to the task of agreeing on a common definition.

In fact, the ambition to create one definition of rare disciplines was considered counterproductive by the participants. **The original objective of having a single definition at European level was abandoned.**

If a common definition of rare disciplines at European level is too challenging, this does not imply that these disciplines do not exist and need special attention. In defining a rare discipline, we need to take into consideration several aspects:

### ■ The general dynamics in science and society

Science answers to societal challenges raised by current events and issues. That is why it is important to adapt the definition, methodology, and procedure to new needs.

### ■ The observed dynamics of a discipline

Rare disciplines have to be considered on a long-term perspective. More than the absolute number of professorships, international peer-reviewed publications produced or any other indicator we may choose to use to “measure” a discipline, it is important to look at the fluctuations of these indicators. Participants underlined the dynamics and the constant evolution of knowledge and disciplines.

Rare disciplines can be:

- Declining rare disciplines
  - Those disciplines where we can observe a decrease in the number of students, professorships or publications
- Emerging rare disciplines
  - Those disciplines where we observe an increasing trend, although their development needs to be supported at an early stage. Many of them are at the interdisciplinary frontier.
- Re-emerging rare disciplines
  - Those disciplines that, after a decreasing trend, start to increase again, mostly due to re-emerging societal needs to tackle crises and media events, or when a new technology has become available. It can also be the case of disciplines needed to further support industrial development.

### ■ The globalisation and geographic dimension

It is well-accepted that some disciplines have a European dimension and need to be protected. The different local and national interests, cultures and economic landscapes can also make some disciplines “rare” at these specific levels. The geographic differences and dimensions need to be taken into account. For example, many disciplines that can be considered rare at local and national levels are in fact not in danger at European level (e.g. some modern languages) and a Europe-wide concerted approach can compensate the lack of competences at local level.

### ■ The institutionalisation effect

The place that disciplines occupy in the institutional landscape has an effect on their standing and how they interact with other disciplines, but also impacts the organisation of the institution and the allocated budget. Moreover, participants emphasised that, in some cases, the knowledge at risk can refer to a





specific topic or research area in a well-established discipline, so attention should also be drawn to these subjects.

### ■ Examples of rare disciplines

We observed that the definition of 'rare disciplines' is linked to a quantitative approach with differences among the participating countries.

Most of the participants highlighted the importance of rare disciplines in humanities. For the Association of universities in the Netherlands (VSNU), the languages are particularly at stake. We find such example in the Conference of Rectors of Academic Schools in Poland (CRASP) presentation where Japanese studies are as well at stake. In the Netherlands, the tendency is therefore to broaden the Bachelor's programmes in order to include rare disciplines (certain languages) in a comprehensive programme. This raises the question of what the study of languages should consist of: linguistic and/or civilisation approach. It conditions the answer of preservation as well.

Even though humanities are highly concerned, rare disciplines cannot be reduced to only one field. Presentations, especially the ones of the Association of universities in the Netherlands (VSNU) and CRASP, showed that some traditional core disciplines (e.g. in the fields of chemistry or physics) are also becoming rare disciplines. For the Conference of University Presidents (Conférence des Présidents d'Université - CPU), rare disciplines, considered as an entire branch of knowledge and culture, may concern disciplines such as Egyptology, modern Greek, metallurgy or crystallography. The raw materials sector (mines, quarries, the production of cement and glass) faces great difficulty in finding the right skills to meet its requirements at every level, from technician to researcher. The reduction in the industrial investment and in the processing of mineral resources has led to a decreasing visibility of the corresponding professions among sixth-formers and students. It has also contributed to the disappearance of the related educational and training programmes (geosciences). Nowadays, there is an increasing demand, but the courses covering these themes have become all too rare. In Poland, astronomy, astrophysics and oceanography have also become rare. Nonetheless, they hold great significance in a context of multidisciplinary approach. Last but not least, emerging rare disciplines, such as web journalism or the emerging specialities in life sciences, are often difficult to identify but it is essential to anticipate them, both at national and European levels, by encouraging inter- and transdisciplinarity as a source of innovation.

### 3. The stakes of rare disciplines: can we afford to lose our knowledge?

All participants agreed to consider the high potential of rare disciplines. There was consensus on the fact that preserving the stock of knowledge is less expensive than ignorance. Furthermore, there was agreement on the fact that rare disciplines concern the society as a whole. Universities are the main stakeholders of rare disciplines and have the responsibility to lead their protection. However, the task needs to be shared with the entire society and public funding is needed. The main danger is that we reduce the stock of experts and of knowledge to a point of no return. It is important to remember that knowledge cannot be "created" only on demand. The participants agreed that if nothing is done and the risks are not identified, then many of these disciplines may disappear.

### ■ Rare disciplines are part of our cultural heritage

They sometimes represent an independent branch of knowledge. The participants referred to the added value of Coptic to understand the Ancient World and civilisation. If Latin disappears, knowledge, a mean for studying ancient civilisation and history will be lost. Its disappearance could be then disastrous from a scientific, cultural, economic and social point of view. Rare disciplines represent a European competitive factor. They are key tools to protect our capacity of understanding our cultural and intellectual history and thus supporting our diversity.





### ■ Rare disciplines can help us understand and address today's society challenges

The recent and ongoing refugee crisis and the events that took place early this year in France (Charlie Hebdo, the TGV attack) are the most visible examples on how rare disciplines are needed in order to understand and address today's society challenges. Europe needs experts on Islamic religion, culture studies and Arabic language in order to succeed. These skills are not common. Rare disciplines, which may have a long history, bring a methodology and added value. Considering this context, it is important to consider not only the societal impact, but also the economic consequence of rare disciplines' disappearance when making the case for their protection.

### ■ Rare disciplines are an opportunity for universities and countries

In science, cooperation among peers is critical for the advancement of knowledge. Due to their low numbers in rare disciplines, researchers and professors tend to work in international networks to achieve critical mass. Therefore, rare disciplines can drive the internationalisation of institutions and thereby contribute to building the profile of universities and countries, representing an opportunity that cannot be missed.

Rare disciplines are also undoubtedly linked to risky and blue skies research and the possible achievement of breakthrough scientific and technological research. Rare disciplines are unquestionably a pillar of the excellent European research.

### ■ Rare disciplines are threatened

#### *By societal pressure*

- Today's society tends to steer students to what is perceived as "practical and profitable" subjects. The vast majority of young students do not "choose" rare disciplines, since they are considered "old-fashioned" and having "low employability value". This negative vision on rare disciplines does not reflect reality and emerges many times in the secondary education.

#### *By demographics*

- Universities have to deal with the ageing of the academic staff in some of these rare disciplines. This raises an issue regarding sustainability, especially in the context of a reduced number of students assuring the continuation of the discipline.

#### *By Financial Constraints*

- Higher education has been the subject of an increased marketization, where the budget of the universities depends on the number of students. In such a context of financial constraints, the pressure for universities to suppress these disciplines is real, in particular for the research-intensive universities. There is a danger that the rationale of instant economic return may imply a medium-term irreparable loss.
- Another point referred to the temptation to focus resources on the most sought disciplines by students. This can be dangerous as it leaves the future of rare disciplines in teenagers' hands as well as our capacity of understanding ourselves. This point also stresses the importance of community-based choices and the need of decision makers to actively develop policies in support of these disciplines.

## 4. Methodology: how to count everything that counts

As mentioned above, a common definition of rare disciplines at European level was considered too challenging. However, in order to implement measures addressing the issue of rare disciplines, we need to be able to identify them and learn the status across different regions, countries and Europe-wide. Mapping exercises at different geographical levels were considered useful as they would allow for this identification. However, such exercises need to be framed under an evolving process to observe the trends.



### ■ Mapping exercises at national level

The national level seems the natural place to start mapping exercises. Some countries like Germany and the Netherlands are already well ahead. Others still need to start or consolidate their activities. The countries that have not yet started mapping rare disciplines shall start by defining their own indicators. For instance, Germany uses the number of chairs in a given discipline – since this number represents the institution's commitment. At the same time, the discipline has to be independent and has to perceive itself as an independent discipline – that is, having specific professorial chairs, specific qualification profiles, a specific scientific society and a specific scientific journal. Participants raised the necessity to integrate this rare disciplines mapping in a global mapping of all disciplines.

It was also considered that the Universities' Presidencies, as well as national conferences are well placed to act as the catalysers of this data collection, also providing input for policy development at national level.

### ■ The qualitative approach

Even though the importance of the quantitative approach was acknowledged, it is important to note it does not represent the only aspect in protecting rare disciplines.

A qualitative approach is needed – “not everything that can be counted counts, and not everything that counts can be counted”. It was noted that disciplines sharing the same “title” can have very different objectives and contents (e.g. Chinese studies: two areas - language and culture). Although under the same heading, these may represent different issues and need different decisions to support them.

### ■ European approach taking national diversities into consideration

Articulating national data Europe-wide was considered critical, given its importance in driving political choices in Europe. Participants restated the critical role that Universities' Presidents, and other stakeholders played in supporting the definition of policies at the European level.

After having accepted the diversity behind defining a rare discipline in Europe, participants agreed on the need to:

- Exchange information on all disciplines with a special focus on rare disciplines at European level;
- Have a standardised list and a joint analysis to support useful exchanges at European level;
- Take the qualitative approach into consideration
- Consider long-term trends for a historical perspective.

## 5. Caring for rare disciplines: how can we do it?

Participants welcomed the idea that we need to care for rare disciplines, not only to preserve and nourish them. Caring implies developing an integrated and holistic approach to identify the changing dynamics in different disciplines at different geographical levels, taking the appropriate measures when a rare discipline is identified. Participants identified several options and issues to consider for preserving and nourishing rare disciplines.

### ■ Communicating value to the society

Participants agreed that existing communication efforts on the importance of rare disciplines are not sufficient when it comes to reaching European institutions, some national decision makers and the society at large. It is important that all actors in rare disciplines are able to make high-level statements underlining the rare disciplines' value, while accepting that disciplines change and science needs to move forward. The latter was considered easier at European level than nationally.

Participants identified several communication points:

- The debate around protecting rare disciplines needs focus on protecting and creating knowledge;
- In today's highly competitive environment, where the utilitarian view of the education and research prevails, it is important to remind that innovation is not possible without investing in basic research;
- In an ever-changing world, it is critical to preserve European societal values. This cannot be happen without the ability to understand our history and cultural heritage;
- Researchers in rare disciplines play a critical role in communication and need to be ambassadors of the cause at all levels: governmental and societal, including the layman.

#### ■ Resource optimization

Universities are at the forefront of the issue of rare disciplines. In today's evolving environment, universities need to manage these changes while ensuring that their departments' portfolios have a large array of subjects and research topics.

With limited budgets, Universities' Presidents are faced with the need to decide whether to "protect a declining rare discipline" or "nourish a very promising emerging discipline".

Participants identified several possible measures:

- Cooperation with other universities in order to offer all students courses on rare disciplines
  - The President of the Portuguese Conferences mentioned the cooperation between his own university and a Spanish one.
- Participants also mentioned e-learning methodologies could establish inter-university cooperation;
- Developing new study programmes including rare disciplines, which are more attractive to students, also taking their future employability into consideration.
  - This was the case described by the Association of Universities in the Netherlands (VSNU), where rare disciplines have been integrated in much bigger Bachelor's modules - an approach targeting more attractive programmes.
- Focusing on multi/inter and transdisciplinary approaches as a way to maintain knowledge and competence in a given discipline/subject.
- Ensuring a pool of students (possibly Europe-wide) that can advance knowledge in the future. This pool also needs to be large enough to develop the future's most promising researchers and professors
  - On this point, The German Rectors' Conference (HRK) noted that any approach needs to consider the future of students choosing rare disciplines – more precisely, the employability of students not choosing an academic career.

#### ■ Securing research and education funding

It was well established that the universities are the main centres for protecting rare disciplines. However, as described above, stakeholders and the entire society need to be engaged. Participants stressed the need for public funding supporting both education and research in these disciplines.

They also identified a series of options and issues:

- Cooperating with research and education funding programs to inform programme managers about rare disciplines' specific needs
  - Participants admitted rare disciplines can hardly compete in the current funding schemes landscape. The recurrent use of impact factors identifying excellent research was an example where smaller areas were left out.
  - Participants acknowledged the need for niche management and calls addressing these topic. European Commission's Denis Crowley, the session moderator, considered that the existing, highly structured funding programmes such as the Marie Skłodowska-Curie actions and the European Research Council did not consider the needs of rare disciplines, despite there being 2-3 running Marie Curie projects focused on rare disciplines.





- Identifying other relevant stakeholders for cooperation
  - Governmental agencies and foreign affairs ministries are naturally interested in maintaining the ability of understanding cultures worldwide.

## 6. European articulation in rare disciplines: we work better together...

The abovementioned points show that action is necessary. It requires that scientific communities are both coordinated and self-organised. The starting point for discussion needs to be a regional/national level. Structures at this level are crucial for identifying risks and ensure that action is taken (e.g. promoting international networking within the relevant scientific communities in order to reduce risks).

These structures are also important in terms of political coordination with national governments and in establishing clear regional and national objectives. Germany's example and the Baden-Württemberg action show encouraging results.

However, participants considered European cooperation critical for a thorough approach of the issue. This will allow for a common language, optimized methodologies, and information exchange helping set European priorities. Participants proposed a European council for rare disciplines as a common Action. Additionally, this council would be in charge of communication with the European institutions on the need to include rare disciplines on their agenda.

## 7. A proposal for an action plan by the European Universities

**At the end of the workshop, rectors' conferences and EUA participants agreed on a proposal for a European Action Plan for rare disciplines.** What drove the Action Plan was their agreement on the role political coordination and priority setting play in an EU-wide strategy. This Action Plan is divided in different aspects as follows:

### Self-Organisation Activities

*At national level*

- Implementing a methodology for observation

*At European Level:*

- Creating a network of national observatories (= Rectors' Conferences)
- Opening the network to other countries that did not participate in this seminar
- Promoting the structuring of networks of lectures/researchers of rare disciplines in Europe
- Setting up an independent European Council aiming at:
  - Supporting harmonisation and exchange of information across Europe.
  - Making recommendations for institutions (NRC/ RPOs)

Here, COST support is considered both important and relevant, not only from the financial point of view but also as strutting the network. The rectors' conferences and EUA will approach the COST Association with the aim of creating a COST Targeted Network on rare disciplines

### Communication Plan

A communication plan will be developed to make the scientific community, policy makers, national and European institutions aware of the challenges behind rare disciplines and help them develop initiatives





supporting such disciplines. The mapping at national and European levels will provide important information for the communication.

### Follow-up activities

- Boosting information exchange between National observatories
  - Liaise with running COST Action TD1210 to support the development of the methodology.
- Identification of European funding opportunities for rare disciplines
  - Including the analysis of existing European funding (Erasmus +, ERC, H2020-SC's). How do these programmes support small disciplines? Is the European Research Area effective for small disciplines?
  - Checking opportunities in ERASMUS+ (Key Action 3, upcoming call for proposals which could support the field of rare disciplines). These calls are managed by EACEA and provide support for innovative policy reform. These are defined as 'prospective initiatives' supporting forward-looking cooperation projects focused on policy development and European policy experiments, led either by public authorities or NGOs.
- Taking action for more accurate European policies
  - Approach DG Research and Innovation to influence the work programme and include funding for rare disciplines.
  - European Commission's Directorate-General for Education and Culture is looking for new topics for their updated 'Modernisation Agenda' to be unveiled next year. There is a need to approach this DG to make sure rare disciplines are considered in this policy document.
  - Considering the Bologna Process for rare disciplines in order to ensure employability.



## ANNEX 1 – List of Participants

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