

U-Map



A University Profiling Tool
2011 Update Report

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U-Map has been developed by the Center for Higher Education Policy Studies (CHEPS) in partnership with other organisations and individual experts over the course of four European Commission supported projects. The previous three project reports can be found on the U-Map website (www.u-map.eu).

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U-Map: A university profiling tool

It is estimated that the global higher education landscape consists of more than 20,000 higher education institutions, all of them operating within the legal and administrative frameworks of their national or regional higher education systems. In Europe alone there are some four thousand institutions. These differ in terms of size, institutional form, orientation, specialisation and mission. A high level of institutional diversity is believed to be one of the key strengths of higher education systems – but there is a need for a better understanding of the variety of institutions and the diverse range of activities they are engaged in. This in turn highlights the need for transparency instruments that present information on the diversity of institutional activities in a meaningful and concise way.

U-Map was designed and developed to do just that. U-Map maps institutional diversity in the large and highly differentiated European higher education landscape. It does this by producing activity profiles for higher education institutions. To give a very quick introduction to the U-Map tool Figure 1 shows the activity profiles of two higher education institutions.

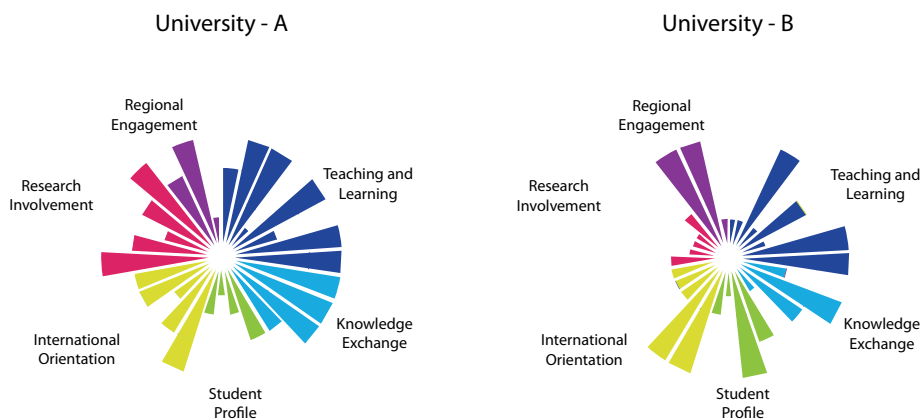


Figure 1: U-Map activity profiles of two institutions

The ‘sunburst charts’ give a snapshot of the extent to which the institutions are engaged in six key dimensions of university activity.* Institutional involvement in these activities is measured using a set of 29 indicators. When pictured side by side, the different aspects of the two institutions’ activity profiles can be compared. U-Map’s on-line database allows users to select the institutions to be compared and the activities to be explored in more depth.

* We take “universities” as a collective descriptor for all tertiary educational organisations -- such as research universities, universities of applied sciences, grandes écoles, Fachhochschulen, politechnicos, colleges, art schools, as well as other specialist training institutes.

The U-Map transparency instrument was created through an intense and interactive process involving many higher education stakeholders that began in 2005. A prototype of U-Map was piloted in 2009 and since then the instrument has been implemented in three countries: Estonia, the Netherlands and Portugal. Work is currently underway to include Flemish higher education and is scheduled to start in the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden)¹ later this year. U-Map was also incorporated into the European Commission funded U-Multirank study on the development of a global multi-dimensional university ranking (see www.u-multirank.eu). This involved over 150 institutions from 50 countries with one-third of the institutions located outside Europe. In total over 230 higher education institutions now have their institutional profiles in the U-Map database.

At the end of this fourth European Commission supported U-Map project we are pleased to issue this update report on the progress that has been made in implementing U-Map. Initial reactions to U-Map have been very promising; representatives of participating institutions and policy-makers have found that the institutional profiles it produces are useful in increasing transparency and in informing institutional and national policy-making. On a European scale, U-Map offers the promise of a better understanding of diversity as an important factor in the further development of the European higher education and research systems and the realisation of the goals of the Lisbon strategy, the Bologna process and the new European Commission Modernisation Agenda for Higher Education (September 2011)².

But first some more background for those new to U-Map.

1. Estonia, the Netherlands and Portugal were included as part of the EC Lifelong Learning project and the Netherlands through a project funded by the Dutch Ministry of Education, Culture and Science.

2. European Commission (2011), Supporting growth and jobs – an agenda for the modernisation of Europe's higher education systems. COM 2011 (567) Final.

Design principles

The principles that underlie the new transparency instrument were discussed at length with different stakeholders in the early phases of the U-Map project. The key design principles adopted are that U-Map is:

Based on empirical data

The activities of higher education institutions should be mapped on the basis of empirical data rather than on regulatory or policy distinctions.

Informed by a multi-stakeholder and multi-dimensional perspective

The various dimensions of university activity and the indicators used to measure these should reflect the interests and needs of different stakeholders.

User-driven

Different stakeholders should be able to compare institutions according to their own priorities.

Non-hierarchical

The activity profiles should be constructed with no hierarchy between dimensions or between the indicators within a dimension.

Applicable to all European higher education institutions

Provided that these are accredited (or otherwise nationally recognised).

Based on reliable and verifiable data

Institutional profiles should be developed from objective, verifiable and reliable data and not from subjective judgements (of peers, students, etc.).

Parsimonious regarding extra data collection

The cost and effort of extra data gathering should be kept to a minimum.

Institutional activity profiles

As a multi-dimensional higher education profiling tool, U-Map provides a series of lenses through which important similarities and differences between higher education institutions can be described and compared. U-Map does this by providing a framework for creating and analysing 'institutional activity profiles'. These U-Map profiles are based on empirical data for 29 key indicators grouped into six dimensions.

In U-Map a dimension reflects a characteristic of higher education institutions along which differences and similarities can be mapped. Each dimension highlights a different aspect of the activities of the higher education institutions. The dimensions *teaching and learning*, *research involvement* and *knowledge exchange* reflect the core functions of higher education institutions. The dimensions *international orientation* and *regional engagement* concern the extent to which these core functions are directed at international and regional audiences. The sixth dimension, *student profile*, focuses on various aspects of the institution's student body as well as its total student enrolment. U-Map's indicators and dimensions have been tested for validity, reliability and feasibility through a detailed process of stakeholder consultations and a pilot test of the U-Map prototype involving 70 institutions which confirmed that these indicators work and are able to capture the essence of what institutions actually do.

The diversity of each institution's activity is pictured in its sunburst chart, with its six colours representing the six dimensions of U-Map (see Figure 2). Each 'ray' represents an indicator – the length of the ray indicating the extent to which the institution is engaged in this activity.

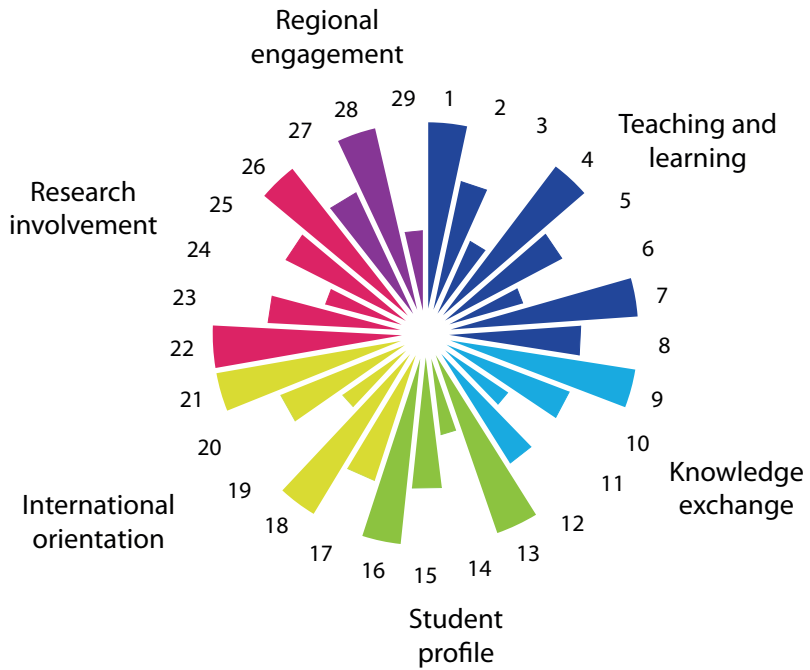


Figure 2: The U-Map activity profile



Teaching and learning

1. Doctorate degrees awarded
2. Master degrees awarded
3. Bachelor degrees awarded
4. Short first degrees awarded
5. Subject fields
6. Orientation on general formative degrees
7. Licensed/regulated professions and other career oriented
8. Expenditure on teaching



Knowledge exchange

9. Start-up firms *
10. Patent applications *
11. Cultural activities
12. Income from knowledge transfer



Student profile

13. Mature students
14. Part-time students
15. Distance education students
16. Total enrolment



International orientation

17. Incoming students in exchange programmes
18. Outgoing students in exchange programmes
19. Foreign degree seeking students
20. Non-national academic staff
21. Income from international sources



Research involvement

22. Peer reviewed academic publications *
23. Professional publications *
24. Other research output *
25. Doctorate production *
26. Expenditure on research



Regional engagement

27. Graduates working in the region
28. New entrants from the region
29. Importance of local/regional income sources

Notes

- The U-Map team reviews the indicators periodically as more institutions and countries participate. Alternatives to those indicators marked * are currently under consideration.
- Detailed descriptions of each indicator can be found on the U-Map website.

Data gathering

U-Map uses a data gathering methodology that has been piloted extensively to test the indicators in practice and to incorporate informed comment from participating institutions and potential users. U-Map's activity profiles are based primarily on data submitted by the institutions themselves. The main data-gathering instrument is the on-line U-Map questionnaire for higher education institutions. The questionnaire is organised in seven sections:

- General information
- Students
- Graduates
- Staff
- Income
- Expenditure
- Research and Knowledge Exchange.

An online Glossary and an interactive Frequently Asked Questions (FAQ) section as well as an email/telephonic Help Desk are provided to facilitate consistent and comparable data-collection across institutional and national settings. The FAQ also includes country-specific questions and answers.

U-Map also offers the facility to have the questionnaire partly pre-filled, using existing data from national databases provided by national statistical agencies or ministries of education. This reduces the institutional data collection burden and ensures the provision of comparable data.

In the countries that have already been included in U-Map the completion of the questionnaire by the institutions was preceded by a technical workshop where the U-Map team guided the representatives of the country's institutions through the questionnaire and discussed 'technical' questions regarding data elements and definitions. In addition, the results of the project (both in terms of the process and the resulting profiles) have been presented by the U-Map team in national seminars.

Institutional data is validated by the U-Map project team in consultation with individual institutions and, where possible, data is compared with existing national and international databases. Outlying responses, unexpected results and inconsistencies are discussed with the institutions.

Once the (re)submitted data are approved, the U-Map team creates the activity profiles of the higher education institutions. For this the data are used to calculate indicator scores: the position of the institutions on the indicators across the six dimensions is determined. Indicator scores are divided into four categories (typically *no*, *some*, *substantial* or *major* involvement in the activity in question). The boundaries between the categories are determined by cut-off points that depend on the distribution of the indicator scores across the European institutions in the U-Map database. At the moment quartile scores are used to establish the cut-off points. The category in which an indicator score is placed is reflected in the length of the corresponding ray in the sunburst chart. The activity profiles of the higher education institutions are published in the U-Map online tool on the U-Map website.

The Profile Finder and the Profile Viewer

Together with the underlying database, the key elements of the U-Map online system are two features that assist users to compare and analyse institutional activity profiles: the Profile Finder and the Profile Viewer. The Profile Finder identifies specific subsets of institutions from the entire set of institutions included in the U-Map database. Users are able to select a group of institutions to compare based on dimensions and indicators of particular interest to them. Only those institutions that match these user-defined selection criteria are included in the comparison. The Profile Viewer provides the opportunity to 'drill down' into the activity profiles of the selected group of institutions and to compare the dimensions and indicators of up to three institutional profiles simultaneously in an efficient and 'eye-catching' way.

Examples of the use of the Profile Finder and Profile Viewer can be found in Figures 3 and 4.

Suppose a user of U-Map is interested in comparing medium-sized institutions that are primarily providing Bachelor-level degrees and at the same time are receiving a substantial share of their revenues from knowledge exchange activity and regional sources. From the dimensions represented in U-Map's Finder (see Figure 3), she might then select the Degree Level Focus and Enrolment size that match her preferences, and she would click on the category 'substantial' in the sub-dimensions "Income from Knowledge Transfer" and "Income from the Region". The Finder then identifies 25 out of the 236 institutions included so far in U-Map that meet these criteria.

Using the Viewer (Figure 4) the user then can inspect more closely the activity profiles of two (or three) of the institutions found by the Finder. She may 'zoom in' on the individual indicator scores of the institutions – for instance comparing their activities in terms of generating income from the region and creating start-up firms.

The Profile Finder

Teaching and Learning

- Subject areas covered | comprehensive | broad | specialised | none
- Degree level focus | [vocational](#) | [bachelor](#) | [master](#) | [doctorate](#) | [other](#) | [short first](#) | [bachelor-short first](#)
- Qualifications of lecturers | general | from an other focus | licensed/regionalised | professional orientation | mixed focus
- Engagement on teaching | major | substantial | some | none

Student profile

- Mature students | major | substantial | some | none
- Part-time students | major | substantial | some | none
- Distance education students | major | substantial | some | none
- Total enrolment | very large | large | [medium sized](#) | small

Knowledge exchange

- Start-up firms | major | substantial | some | none
- Patent applications | major | substantial | some | none
- Cultural activities | major | substantial | some | none
- Income from knowledge transfer | major | [substantial](#) | some | none

International orientation

- Exchange students | incoming | major | substantial | some | none
- Exchange students | sent out | major | substantial | some | none
- Foreign degree seeking students | major | substantial | some | none
- Non-national academic staff | major | substantial | some | none
- Income from international sources | major | substantial | some | none

Research involvement

- Peer reviewed academic | major | substantial | some | none
- Doctorate awards | major | substantial | some | none
- Expert officers on research | major | substantial | some | none

Regional engagement

- Graduates in the region | major | substantial | some | none
- New entrants from the region | major | substantial | some | none
- Income from the region | major | [substantial](#) | some | none

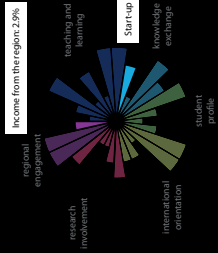
Found 25 of 236 universities



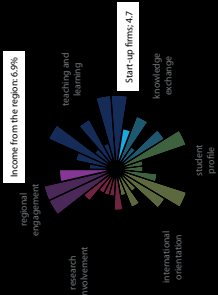
Figure 3

The Profile Viewer

Polytechnic Institute of B



Polytechnic Institute of S



Start-up firms: 9.6

Start-up firms: 4.7

Start-up firms: 4.7

Start-up firms: 4.7

Start-up firms: 4.7

Start-up firms: 4.7

Start-up firms: 4.7

Start-up firms: 4.7

Figure 4

What U-Map offers to different users

For higher education institutions the institutional activity profiles are important and useful instruments for institutional management. The profiles can contribute to internal strategy development, to external benchmarking, to developing inter-institutional cooperation, and to better communication about the profile of the institution.

Stakeholders (students, potential students, staff, business and industry, national and regional government etc.) can use the institutional activity profiles for their own specific purposes. They can use U-Map to compare different institutions on one or more dimensions - they are able to select the institutional profiles that best meet their needs and to identify the specific institutions that they are interested in. Stakeholders may decide to establish relationships with selected institutions, to enrol in their programmes, or to otherwise engage in their activities.

The implementation of U-Map

One of the limitations of U-Map to date is the restricted number of higher education institutions that it includes. By mid-October 2011, the U-Map database included data on 236 institutions. Figure 5 indicates the distribution of these institutions by country and region.

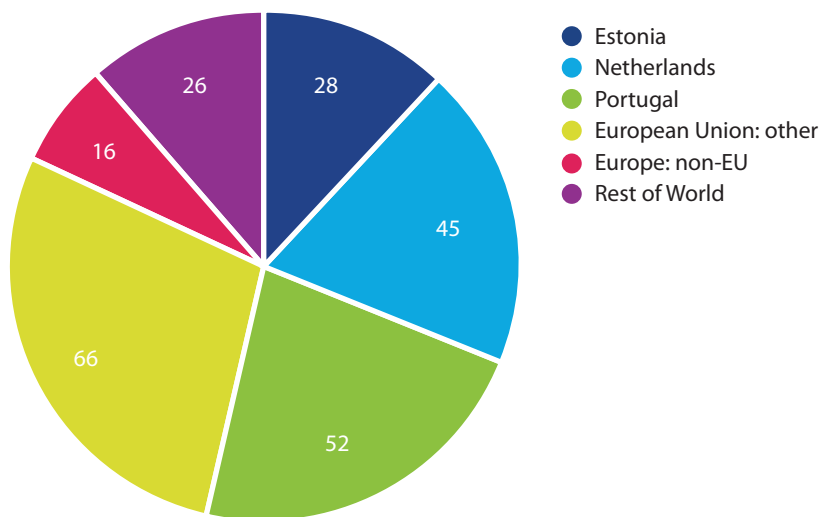


Figure: 5 Institutions included in U-Map (Mid-October 2011)

Currently the results of U-Map are visible only to the institutions that have submitted data and confirmed their activity profiles. The data-base is divided into four sections and institutions can only view the profiles of institutions in their section (Portugal, Estonia, the Netherlands, or the U-Multirank pilot study). Once the total number of participating institution is sufficient to establish stable and robust cut-off points, the “walls” between the different sections of the data-base will be removed and the U-Map tool will enter the public domain. Our target for achieving this is pre-summer 2012.

The work carried out in the three previous projects has produced an instrument that can be used to enhance the transparency of the European higher education area and potentially of higher education systems beyond Europe. U-Map has been presented to international audiences and it is seen as an innovative way to map the different activity profiles of higher education institutions. To fully realise this potential U-Map needs to include a substantial proportion of European higher education institutions. This fourth European Commission supported project has enabled us to extend the coverage of U-Map to Estonia and Portugal and to twenty other interested institutions. In parallel, separate projects have enabled (or will enable) the inclusion of Dutch, Flemish and Nordic institutions.

Two approaches have been used to date to recruit higher education institutions:

- A national approach in which one or more national organisations (be it the ministry of education, or a rectors conference) takes the initiative to contact the U-Map team (or are invited by the team) to discuss participation. Participation of individual institutions remains on a voluntary basis but the entry of a national group of institutions makes the analysis of national data bases for the purpose of pre-filling the questionnaire a viable option. It also makes tailoring data definitions to the national context and specific higher education terminology a much more efficient process. Finally, the inclusion of an entire (or most of a) national system provides the basis for seminars to explore and analyse the diversity of the national system as have already been held in Estonia and Portugal.
- An institutional approach in which individual institutions take the initiative to contact (or are contacted by) the U-Map team to discuss participation. This is (and remains) possible but entails the submission of the complete data set by the institution which increases the relative cost of contextualising the questionnaire as well as the help desk function. National seminars are also not possible within this approach until a significant number of institutions in the country have volunteered individually. For these reasons the U-Map team hopes to increase the European coverage of U-Map primarily via the national approach.

Future development perspectives for U-Map

In our third report we explored different organisational models for the institutionalisation of U-Map. We proposed the creation of a non-governmental and not-for-profit organisation that operates independently from its funding constituencies or stakeholders (or the use of an existing organisation of this nature). Funding could come from public or private sources as long as independence from these sources and sustainability is guaranteed. The operating organisation would have a board consisting of independent members and would be managed by a director supported by professional staff. The board of the organisation would be advised by a stakeholder advisory council and a scientific advisory committee.

CHEPS remains committed to this vision of an institutionalised U-Map but believes that to establish a new organisation at this stage would be premature for two reasons. Firstly, U-Map has still to reach the position where it includes a substantial proportion of European higher education institutions. Secondly, there are important developments taking place at the European level concerning transparency instruments. In the new Modernisation Agenda the Commission indicates that “evidence shows that a multi-dimensional ranking and information tool is feasible and widely supported by education stakeholders” and that “The EC will launch U-Multirank ... aiming to radically improve the transparency of the higher education sector, with first results in 2013”.

CHEPS was one of the lead partners in the CHERPA network that undertook the U-Multirank feasibility study and which suggested a similar organisational model for the institutionalisation of U-Multirank as we have done for U-Map. There are obvious potential synergies and we believe it is prudent to wait for greater clarity on the future of U-Multirank before establishing a new structure for U-Map.

In the meantime CHEPS will continue to ‘roll out’ U-Map across Europe (and potentially beyond) on a project basis and will continue conversations with national ministries, interested Foundations and the European Commission about potential ways of doing this. Our initial target is to have at least 1000 European higher education institutions included in a publicly accessible U-Map data-base by the end of 2013.

Interested readers are also referred to the book published on the basis of the U-Map project: Van Vught, F.A. (ed.) (2009), *Mapping the Higher Education Landscape: Towards a European Classification of Higher Education*. Dordrecht: Springer.

U-Map national seminar: Portugal
Aveiro, October 2011

Participants take a “fresh look” at diversity in Portuguese higher education with the help of anonymised U-Map institutional activity profiles printed as playing cards.



www.u-map.eu

