Co-funded by the
Erasmus+ Programme
of the European Union

codur

Creating an Online Dimension for University Rankings

PROJECT DELIVERABLE: IO2.A2

Analysis of the CODUR indicators

Date: September 2018

Universitat Oberta de Catalunya
The Open University
Consiglio Nazionale delle Ricerche
Istituto Tecnologie Didattiche

Contents

Introducing Online Education Indicators into University Rankings

The present deliverable considers the feasibility of incorporating the CODUR list of criteria and indicators on the quality of online education to an international ranking, as this is one of the main objectives of the project. The incorporation of the CODUR indicators in a ranking would also ensure the sustainability of the results of the project beyond its completion and increase their potential for social impact. More concretely, the availability of online education criteria and indicators in an EU-based ranking would open the door for the access of more European adults to online education, contributing to the achievement of the EU objectives of increasing the numbers of university graduates and lifelong learners. The incorporation of online indicators has also the potential of including citizens who have been traditionally left out of higher education by offering them a wider range of quality educational options.

The feasibility test has been conducted with the participation of an expert of the Centre for Higher Education Policy Studies (CHEPS), one of the institutions that developed the U-Multirank international ranking (UMR). This ranking has been chosen as an example because it has quickly become a referent in the EU higher education sphere thanks to the support of the European Commission. Likewise, it offers some functionalities that are yet missing from most league-table rankings. For instance, its multidimensional design invites the incorporation of further dimensions that may be of use for both students and institutions. An online education dimension is an obvious choice in the present information society and may encourage the incorporation of educational technology in the provision of higher education. Likewise, the user-friendly design of UMR makes it more attractive and useful for the large portions of potential students that still miss out of higher education due to the limited visibility of all the high quality educational choices.

The author of the feasibility test, Drs. Frans Kaiser, is a senior research associate of the Center for Higher Education Policy Studies at the University of Twente, The Netherlands. He has written extensively on education, the education system, and rankings, and participates in the CHEPS tasks at the U-Multirank Consortium. Besides contributing with a feasibility test on the UMR, Drs. Kaiser has also provided his expertise to the CODUR project as a member of the External Advisory Board. The communication between this expert and the CODUR team has been essential for the upcoming incorporation of more indicators on online education to a ranking and for the long term sustainability of the project. However, there are some differences in the consideration of online education and of quality indicators by the UMR expert and by the CODUR team. For instance, a more complex definition of online education has been provided by the CODUR team, based on the experience of the Universitat Oberta de Catalunya and The Open University, as well as on the expertise of the Istituto delle Tecnologie Didattiche. This definition can be read in the first deliverable of the project (IO1, A1, page 5). The tensions in the understanding and use of online education metrics by a plurality of stakeholders will be considered in more depth in the final section of the deliverable.

In what follows, Drs. Kaiser presents an assessment on the CODUR list of criteria and indicators, pointing out which indicators are similar to current U-Multirank indicators, which indicators could be incorporated in a near future, and which indicators would be more difficult to consider. First, Drs. Kaiser lays out the criteria and considerations used in his analysis. Second, he goes on to evaluate each indicator suggested by the CODUR project taking into account if it is similar to an existing UMR dimension, if it could be easily added to the UMR data collection process, its data source, its validity and its feasibility. Third, he considers the feasibility of adding an online dimension to UMR and recommends instead the inclusion of add-on indicators and/or of more indicators on the quality of teaching and learning that refer specifically to online HEIs. Drs. Kaiser's feasibility test is followed by a discussion on the different options for the inclusion of online education indicators to a ranking. Finally, the tensions in the use of metrics by different stakeholders are brought to discussion.

UOC team

Feasibility Study by Drs. Frans Kaiser

The CODUR project was set out to propose a set of criteria and indicators specifically devoted to the evaluation of online institutions that should be then integrated with already existing rankings systems, such as U-Multirank.

Within the context of the CODUR project, we analyse in the underlying report what indicators of the CODUR list of indicators could be considered similar to some currently existing at the U-Multirank project (UMR), what could be not so difficult to be considered by UMR in a short term (1-2 years), and what of them will be difficult to manage.

Before we present the results of that analysis, we shall elaborate on the criteria and considerations used in the analysis.

Basic considerations and starting points

Towards a fair comparison

The assumption of the CODUR project is that with the indicators of the CODUR-list the performance of online higher education institutions can be assessed and compared. It also assumes that the UMR list of indicators is not fully suited for that purpose. The UMR list either lacks detail and focus to describe adequately the performance of online higher education institutions or it comprises indicators that are not relevant for the online higher education institutions. Because of this it is felt that online higher education institutions are not compared fairly in UMR. To change that situation and get a fair comparison, the CODUR project proposes to introduce new indicators that can bring in the specific context of online higher education institutions and to tweak definitions of other indicators to make them more compatible within the context of online higher education. It is envisaged that these activities could lead to the introduction of a sixth dimension in UMR: the online dimension.

Online higher education institutions

The CODUR report shows that there is no clear-cut definition of what online higher education and online higher education institutions are. For our analysis we describe online higher education as programmes in which all teaching activities are provided in an online learning environment. So there should be no onsite, face to face contact between students and teachers and all communication is organized through online learning tools[1]. Online learning tools comprise synchronous tools (like Web conferencing, Voice-Over-IP, or Chat), asynchronous tools (like discussion forums, email, or Wikis) and mixed tools (like text messaging, Twitter, Facebook, Linkedin, etc.). If a programme comprises limited face-to-face contact outside teaching because it is required by national regulations (e.g. during examinations), the programme is still considered to be an online programme. An online higher education institution is a higher education institution in which all programmes are online programmes.

[1] It is interesting to observe that a number of traditional commercial online providers have started to introduce onsite classes in the programmes. Limiting online higher education to 100% online teaching may be challenged by these developments.

Online higher education institutions and the five dimensions

The way teaching and learning are provided (online versus onsite) is the characteristic that defines the identity of online higher education institutions; it distinguished them from the other higher education institutions. In the other activities a higher education institution performs (research and knowledge transfer) there is no such general characteristic distinguishes online higher education institutions from onsite higher education institutions. From the CODUR report there are no clear indications that research activities and knowledge transfer at online higher education institutions are organized differently than at onsite higher education institutions. Comparing online and onsite higher education institutions on the performance on these two dimensions therefore can be done using the standard U-Multirank set of indicators. That implies that CODUR indicators that are related to research and knowledge transfer do not need to be added to the UMR list of indicators unless the CODUR indicator is better than the existing UMR indicator. Better in terms of validity or feasibility. An example of the latter is the indicator on the number of publications per fte academic staff (which is conceptually better than the UMR indicator number of publications per 1000 students enrolled).

In addition to the dimensions related to the three primary tasks of higher education institutions, UMR has two dimensions that describe the performance on these three basic tasks from a particular perspective: international orientation and regional engagement. For the indicators related to the international orientation of research or knowledge transfer as well as the indicators related to the regional engagement character of research and knowledge transfer no special online indicators are needed. For the teaching related indicators special online indicators may be considered. However, the defining characteristic of online higher education (all teaching is done online), raises some doubts on the relevance of the CODUR indicators related to international orientation and regional engagement. If a programme is provided online why would it matter if it is provided 'abroad'? Student mobility assumes that students go abroad and learn from the different learning environment and social and cultural setting. It is not clear how that works if teaching is fully online. A similar issue arises regarding regional engagement. It is not immediately clear how an internship or service learning can be combined with the criterion of no onsite teaching.

Criteria

UMR-dimension

In the CODUR project eight criteria are used to organize the indicators. These criteria differ from the UMR dimensions. Here an assessment is made to what UMR dimension the indicators refers to. That way it can be assessed whether certain dimensions are over-or underrepresented.

Level

UMR is a multidimensional ranking as it covers both the institutional and the programme level. There is an overlap in indicators between the two levels but there are also indicators that are level-specific.

In UMR data collection

Here it is assessed whether the (assumed) underlying data elements are collected in the UMR data collection process.

Data source

UMR uses four data sources: the institutional survey, the department survey, the student survey and the WoS database. Other global rankings use additional data sources like teacher surveys and expert panels. These additional data sources UMR considers to be problematic as there are significant validity issues and feasibility issues in using these data sources.

Validity

Validity generally refers to the question whether the indicator actually describes the phenomenon or concept the indicator is referring to.

Relevance is another aspect of validity. Here it is assessed whether the indicator is relevant for the general user of UMR and whether it is relevant for online higher education institutions.

Feasibility

Can the indicator be integrated in the UMR data collection process? And if so when, at what cost/effort and under what conditions?

Assessment of the indicator list

Quality of teaching & learning

Student satisfaction of the overall learning experience	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	Yes
Data source	Student survey (UMR and CODUR)
Validity	No issue for online higher education institution
Feasibility	No issue for online higher education institution
Comment	Since this indicator is already in UMR data collection and UMR ranking this indicator is considered not problematic

Student satisfaction regarding adequacy of the adopted pedagogical approaches to the learning objectives	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	Yes
Data source	Student survey (UMR and CODUR)
Validity	No issue for online higher education institution
Feasibility	No issue for online higher education institution
Comment	Since this indicator is already in UMR data collection and UMR ranking this indicator is considered not problematic

Institutional support for learning design (in terms of tools, formats, etc.)	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	No
Data source	Institutional survey (CODUR)
Validity	No issue for online higher education institution
Feasibility	Inclusion in department questionnaire would require a clear definition
Comment	The description of the indicator is not very exact. It is not clear what is counted and what could be compared. This has to be elaborated before inclusion in UMR can be considered.

Percentage of courses that propose personalized paths to reach the learning objectives (for example offering different materials/activities depending on culture, learning style, background, etc.)	
UMR dimension	Teaching and Learning
Level	Not clear. Wording suggest programme level
In UMR data collection	No
Data source	(Department) survey or expert panel (CODUR)
Validity	No issue for online higher education institution
Feasibility	Inclusion in department questionnaire would require a clear definition. Use of expert panels for all participating higher education institutions would require substantial resources for organizing the panels. Issues regarding the comparability of panel views.
Comment	UMR does not consider using expert panels. When using department survey the indictor could be included in 2019/20 release

Student satisfaction regarding learning materials	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	Yes
Data source	Student survey (UMR and CODUR)
Validity	No issue for online higher education institution
Feasibility	No issue for online higher education institution
Comment	Since this indicator is already in UMR data collection and UMR ranking this indicator is considered not problematic

Percentage of courses/examinations that make use of diverse forms of assessment (quantitative and qualitative approaches, human-based and technology-based tools, etc.)	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	No
Data source	(Department) survey or expert panel (CODUR)
Validity	No issue for online higher education institution. The rationale for this indicator is not clear; will a high percentage contribute to a higher quality of teaching/learning?
Feasibility	Inclusion in department questionnaire would require a clear definition. Use of expert panels for all participating higher education institutions would require substantial resources for organizing the panels. Issues regarding the comparability of panel views.
Comment	UMR does not consider using expert panels. When using department survey the indicator could be included in 2019/20 release but rationale issue needs to be resolved.

Student and teacher satisfaction regarding performance reports	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	No
Data source	Student survey or teacher survey (CODUR)
Validity	No issue for online higher education institution
Feasibility	Inclusion in student questionnaire would require a clear definition. Use of teacher surveys for all participating higher education institutions would require substantial resources for organizing the survey.
Comment	UMR does not consider using teacher surveys. When using student survey the indicator could be included in 2019/20 release

Quality of teaching support

Student satisfaction regarding interactions with teachers/tutors	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	No, but there are questions regarding the teaching staff and organization of programmes that are related to these interactions
Data source	Student survey (CODUR)
Validity	No issue for online higher education institution
Feasibility	No issue
Comment	It is not clear why this indicator is in this criterion and not in the previous one. When using student survey the indicator could be included in 2019/20 release. Whether the existing questions can be used to construct the variable or new questions need to be added remains to be seen.

Student satisfaction with technology support (including Helpdesk, FAQ, wizards, support material and initial training)	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	No
Data source	Student survey (CODUR)
Validity	No issue for online higher education institution
Feasibility	No issue
Comment	When using student survey the indicator could be included in 2019/20 release

Quality of teacher support

Teacher/tutor satisfaction with technology support (including Help desk, FAQ, wizards, support material and initial training)	
UMR dimension	Teaching and Learning
Level	Programme level
In UMR data collection	No
Data source	Teacher survey (CODUR)
Validity	No issue for online higher education institution
Feasibility	Use of teacher surveys for all participating higher education institutions would require substantial resources for organizing the survey.
Comment	UMR does not consider using teacher surveys.

Number of hours of training devoted to teaching staff concerning online learning per year	
UMR dimension	Teaching and Learning
Level	Institutional level
In UMR data collection	No
Data source	Institutional survey (CODUR)
Validity	No issue for online higher education institution;
Feasibility	Since this information is not included in any existing ranking, it may be that higher education institutions have difficulty providing the information.
Comment	The definition should include some kind of size normalization to make the scores on the indicator more comparable. Piloting the question to test the definition, availability and comparability of data is needed. If results are positive inclusion in 2020 release could be considered.

Teacher/tutor satisfaction of training opportunities	
UMR dimension	Teaching and Learning
Level	Not clear
In UMR data collection	No
Data source	Teacher survey (CODUR)
Validity	No issue for online higher education institution
Feasibility	Use of teacher surveys for all participating higher education institutions would require substantial resources for organizing the survey.
Comment	UMR does not consider using teacher surveys.

Teacher/tutor satisfaction with feedback on higher education institution courses derived from students' surveys	
UMR dimension	Teaching and Learning
Level	Not clear
In UMR data collection	No
Data source	Teacher survey (CODUR)
Validity	No issue for online higher education institution
Feasibility	Use of teacher surveys for all participating higher education institutions would require substantial resources for organizing the survey.
Comment	UMR does not consider using teacher surveys.

Reputation/impact

Percentage of credits given in service-learning activities, in relation to total number of credits	
UMR dimension	Teaching and Learning
Level	Not specified; programme level most likely
In UMR data collection	No
Data source	Institutional/department survey (CODUR)
Validity	It is not clear to what extent there is a conflict between online learning and service learning. If service learning involves face to face instruction/contact it seems to be irrelevant for fully online higher education institutions.
Feasibility	No issue
Comment	Service Learning involves students in community service activities and applies the experience to personal and academic development. Service-learning takes place outside the HIGHER EDUCATION INSTITUTION.

Number of clicks/likes/shares/comments/followers/impressions on academic social networks, such as Academia.edu, ResearchGate etc.	
UMR dimension	Research
Level	institutional
In UMR data collection	No
Data source	Institutional survey (CODUR)
Validity	There are some issues on how these popularity statistics may indicate reputation. Validity in terms of impact may be higher.
Feasibility	Depends on how definition will be operationalized. Since this information may not be collected at the institutional level, it may take some resources to collect the information
Comment	This indicator would need extensive piloting. Alternative data sources (big data) might be considered to reduce the burden for institutions. All this implies that implementation in UMR will take some years.

Percentage of post-graduated actively engaged after graduation (data provided by the institution)	
UMR dimension	Teaching and Learning
Level	Institutional
In UMR data collection	No; information on labour market status is collected
Data source	Institutional survey (UMR and CODUR)
Validity	no issue for online higher education institution
Feasibility	Depends on definition of indicator. If it means 'active on the labour market' information may be available through graduate surveys. This information is already part of the institutional questionnaire. If it refers to a more general societal engagement, it will be very difficult to collect comparable data.
Comment	Depending on how 'engaged' is defined, this indicator is either already in or it will be problematic to include.

Percentage of former students employed in job sectors matching higher education institution degree	
UMR dimension	Teaching and Learning
Level	Institutional and programme
In UMR data collection	information on labour market status is collected
Data source	Institutional survey (UMR and CODUR); department survey (UMR)
Validity	no issue for online higher education institution
Feasibility	Depends on definition of indicator
Comment	At the institutional level, the match with degree level is not asked. At the department level this information is collected. 'Matching higher education institution degree' needs to be specified: whether it refers to the level of the degree or the discipline/field. 'former students' is not the same as graduates Timeframe needs to be specified (e.g. 18 months after graduation).

A composite measure taking into account the existence of joint/dual degree programmes, the inclusion of study periods abroad, the % of international (degree and exchange) students, the % of international academic staff (data provided by the institution)	
UMR dimension	International orientation
Level	Institutional
In UMR data collection	Most of the elements are collected
Data source	Institutional survey (UMR and CODUR)
Validity	Some elements (dual degree programmes, study periods abroad, exchange students) seem to make no sense for fully online higher education institutions. For other higher education institutions it makes sense.
Feasibility	No issue because all elements of the indicator are already included in the institutional questionnaire.
Comment	The rationale for creating a composite indicator is clearly the reduction of the number of indicators. The method used in calculating the composite score needs to be clear. It is not likely that UMR will change its existing indicators on international orientation (the existing composite indicator does not comprise staff information).

The number of student internships (total / per year)	
UMR dimension	Not clear; most likely knowledge transfer
Level	Institutional
In UMR data collection	information on internships is collected
Data source	Institutional survey (UMR and CODUR)
Validity	It is not clear to what extent there is a conflict between online learning and internships. If service learning involves face to face instruction/contact it seems to be irrelevant for fully online higher education institutions. Internships are mandatory for certain programmes, like nursing and teacher training. Comparing the number of internships is therefore likely to reflect differences in national regulations regarding the mandatory status of internships instead of the impact of the higher education institution.
Feasibility	No issue because it is already included in the institutional questionnaire.
Comment	In UMR internships is not an indicator as such. The UMR-indicator related it 'internships in the region (%)' which is in the regional engagement dimension. The indicator would require a size normalization.

	Technically the indicator can be implemented on short notice but the

The number of student mobility (total / per year) (data provided by the institution)	
UMR dimension	International orientation
Level	Institutional
In UMR data collection	Information on student exchange mobility is collected
Data source	Institutional survey (UMR and CODUR)
Validity	It is not clear how this could be compared with student mobility of students in face to face higher education institutions. Since online provision is not location related, the concept of mobility is quite different.
Feasibility	Depends on definition of indicator
Comment	This would require piloting how the concept of mobility can be compared between online higher education institutions and face to face higher education institutions.

The proportion of external research revenues - apart from government or local authority core/recurrent grants – that comes from regional sources (i.e. industry, private organisations, charities)	
UMR dimension	Regional engagement
Level	Institutional
In UMR data collection	2018/19
Data source	Institutional survey (UMR and CODUR)
Validity	No issue
Feasibility	No issue
Comment	Since this indicator is already in UMR ranking it is not considered to be problematic

Quality of research

Internal budget devoted to research on online learning and teaching per Full Time Equivalent (FTE) academic staff	
UMR Dimension	-
Level	Institutional
In UMR data collection	no
Data source	Institutional survey (CODUR);
Validity	It is not clear why this is an indicator for the quality of research. It may also be seen as an indication of priority given to the improvement of teaching and learning through research.
Feasibility	For fully online higher education institutions this may be off the shelf information but for other higher education institutions it is likely that data need to be generated
Comment	Given the validity issue and the feasibility issue it is not likely that this indicator will be included in UMR in the near future.

Percentage of Full Time Equivalent (FTE) staff involved in research on online learning and teaching	
UMR Dimension	-
Level	Institutional
In UMR data collection	no
Data source	Institutional survey (CODUR);
Validity	It is not clear why this is an indicator for the quality of research. It may also be seen as an indication of priority given to the improvement of teaching and learning through research.
Feasibility	For fully online higher education institutions this may be off the shelf information but for other higher education institutions it is likely that data need to be generated
Comment	Given the validity issue and the feasibility issue it is not likely that this indicator will be included in UMR in the near future.

Yearly average n. of publications on online teaching & learning per Full Time Equivalent (FTE) academic staff	
UMR Dimension	-
Level	Institutional
In UMR data collection	no
Data source	WoS or Scopus publications (CODUR);
Validity	It is not clear why this is an indicator for the quality of research. It may also be seen as an indication of priority given to the improvement of teaching and learning through research.
Feasibility	Special queries on the WoS databases will be needed to collect that information
Comment	Given the validity and feasibility issues it is not likely that this indicator will be included in UMR in the near future

Yearly average number of publications with authors from other countries per Full Time Equivalent (FTE) academic staff	
UMR Dimension	International orientation
Level	Institutional
In UMR data collection	No, but similar information is collected
Data source	WoS or Scopus publications (CODUR);
Validity	No issue
Feasibility	Special queries on the WoS databases will be needed to collect that information; quite similar query is already used for the overlapping UMR indicator
Comment	This indicator looks very similar to an existing UMR indicator. The difference is in the use of a one year period (instead of a multiple year period used in UMR) and the use of fte as normalizing entity. Since all citation based indicators use such a reference period it is not likely that this particular indicator will be changed.

Internal budget devoted to disciplinary research per Full Time Equivalent (FTE) academic staff	
UMR Dimension	Mapping
Level	Not clear: Institutional or department level
In UMR data collection	No, but similar information is collected
Data source	Institutional questionnaire (CODUR);
Validity	No issue
Feasibility	Depends on the exact definitions.
Comment	In UMR the question is on the breakdown of total expenditure by type of activity, research being one of them. The UMR experience is that in many cases this information is based in estimates and not on detailed calculations. If definitions can be aligned, this indicator could be included in UMR relatively fast.

Yearly average n. of publications per Full Time Equivalent (FTE) academic staff (WoS or Scopus publications)	
UMR Dimension	Research
Level	Institutional
In UMR data collection	Partly (total number of publications is collected, as is fte academic staff)
Data source	Institutional questionnaire (UMR and CODUR);
Validity	No issue
Feasibility	No issue
Comment	Since the information is already in the UMR questionnaire it is relatively easy to take this indicator in. UMR has a feasibility issue regarding collecting information on fte academic staff for one category of higher education institutions. Depending on how quickly this issue can be resolved. The publication output (size normalized by enrolment) has then to be deleted. The only issue remaining is the multi-annual reference period used in UMR.

Quality of organization

Percentage of student complaints or appeals solved/closed	
UMR Dimension	Relates to the teaching and learning dimension
Level	Institutional (although it may also be applied to programme/department level)
In UMR data collection	No
Data source	Institutional questionnaire (CODUR);
Validity	This is clearly a technical indicator on how the complaints process is organized. It is not an indicator on the quality of teaching and learning (the number of complaints could be seen as such an indicator).
Feasibility	Not an issue
Comment	It is not likely that this indicator will be included in UMR in the near future.

Number of full-time equivalents (FTEs) employed for non-instructional, non-technical support services (providing assistance for admission, financial issues, registration, enrolment, etc.) weighted by student satisfaction for the service	
UMR Dimension	- ; relates to the teaching and learning dimension
Level	Institutional
In UMR data collection	No
Data source	Institutional questionnaire (CODUR); student survey (CODUR)
Validity	The weighting by student satisfaction scores makes this indicator rather unusual. How to compare a low number and high satisfaction with a high number and high satisfaction? For online the physical availability of support staff may be less relevant than for face-to-face students.
Feasibility	Not an issue (although UMR does not have information on support staff at the institutional level)
Comment	Given the validity issues it is not likely that this indicator will be included in the near future

Student satisfaction for room, laboratory and library facilities	
UMR Dimension	Teaching and learning
Level	Department/ programme
In UMR data collection	Yes
Data source	Student survey (UMR and CODUR)
Validity	Not clear to what extent this indicator is relevant for online provision as physical presence in labs and rooms is by definition limited/non-existing
Feasibility	Not an issue
Comment	It is already in UMR data collection.

Student satisfaction for organisation	
UMR Dimension	Teaching and learning
Level	Department/ programme
In UMR data collection	Yes
Data source	Student survey (UMR and CODUR)
Validity	Not an issue if it is clear what aspects of organization are targeted.
Feasibility	Not an issue
Comment	It is already in UMR data collection.

Sustainability of institution

Availability of an Institutional Strategic Plan for Online Learning (online vision statement, online mission statement, online learning goals and action steps, ...)	
UMR Dimension	Teaching and learning
Level	institutional
In UMR data collection	yes
Data source	institutional survey (UMR and CODUR)
Validity	Not an issue
Feasibility	Not an issue
Comment	It was added to UMR data collection in 2018.

Percentage of curriculum changes resulting from an assessment of student learning (either formal or informal) within a fiscal year	
UMR Dimension	Teaching and learning
Level	Not clear; institutional or programme
In UMR data collection	No
Data source	institutional survey (CODUR)
Validity	The definition is rather complex. It looks as if the indicator is intended to show the responsiveness of the teaching organization. For comparability reasons it would be necessary to specify the type of assessment. The use of the fiscal year should be aligned with the reference period for other student related data.
Feasibility	It is likely that data need to be generated
Comment	Given the issues on validity and feasibility it is not likely that this indicator will be added in the near future

Percentage of total institutional expenditure dedicated to online programmes	
UMR Dimension	Teaching and learning
Level	Institutional
In UMR data collection	No
Data source	Institutional survey (CODUR)
Validity	It is not clear what a high percentage would mean. Does it signal a low research intensity? Does it indicate that a high proportion of expenditure on teaching is on online? Does it indicate that those programmes that are provided online are high cost programmes?
Feasibility	It is likely that data need to be generated
Comment	It is not likely that this indicator will be added in the near future, due to issues in validity en feasibility.

Quality of the technological infrastructure

Student satisfaction with the overall learning platform	
UMR Dimension	Teaching and learning
Level	Department/ programme
In UMR data collection	No
Data source	Student survey (CODUR)
Validity	No issue
Feasibility	Would have to be included in student questionnaire
Comment	It is clear that this is more relevant for online than face to face but given the growing importance of online support structures in face to face provision it may be worthwhile adding it in the near future to the UMR questionnaire.

Measure of compliance with the accessibility guidelines WCAG 2.0	
UMR Dimension	-
Level	Institutional
In UMR data collection	No
Data source	Institutional survey (CODUR)
Validity	No issue
Feasibility	Would have to be included in institutional questionnaire
Comment	This indicator is too technical to include in the UMR questionnaire; relevance for the users of U-Multirank is questionable.

Measure of interoperability (Interoperability with external open sites (e.g., social media, DropBox, Google Drive), interoperability between LMSs (Learning Management Systems), information and teaching/learning materials exchange (LTI, SCORM, ...), Single sign-on (SSO) access control, etc.	
UMR Dimension	-
Level	Institutional
In UMR datacollection	No
Datasource	Institutional survey (CODUR)
Validity	No issue
Feasibility	Would have to be included in institutional questionnaire
Comment	Relevance for the general users is problematic. The indicator is too technical and complex to include in the UMR questionnaire

CODUR indicators sorted by UMR integration status

Table 1: Indicators that are already in UMR ranking

Indicator	criterion	Comment
Student satisfaction of the overall learning experience	Quality of teaching and learning	Teaching and learning
Student satisfaction regarding adequacy of the adopted pedagogical approaches to the learning objectives	Quality of teaching and learning	Teaching and learning
Student satisfaction regarding learning materials	Quality of teaching and learning	Teaching and learning
Percentage of post-graduated actively engaged after graduation	Reputation/impact	Only if 'actively engaged' is similar to 'unemployed'
The proportion of external research revenues that come from regional sources	Reputation/impact	Regional engagement
Yearly average number of publications with authors from other countries per fte academic staff	Quality of research	The indicator included in UMR has a slightly different definition. If the CODUR definition will be adapted the indicator is already in. If the definition will not be changed, it is not likely that UMR will include the CODUR indicator.
Student satisfaction for room, laboratory and library facilities	Quality of organisation	Validity issue for online?
Availability of institutional strategic plan for online learning	Sustainability of institution	Added in 2018 data collection

Table 2: Indicators that may be included in UMR soon (underlying data-elements are already collected)

Indicator	criterion	Main reason why in this category
The number of student internships	Reputation/impact	Validity issues need to be resolved
Internal budget devoted to disciplinary research per fte academic staff	Quality of research	Definition needs some minor clarifications ('disciplinary' research) and adjustments ('budget devoted' versus expenditure; 'per fte academic staff' versus percentage)
Yearly average number of publications per fte academic staff	Quality of research	Definition needs some minor adjustments ('yearly average' ;'per fte academic staff')

Table 3: Indicators that may be included in UMR in the (near) future (new data need to be collected)

Indicator	criterion	Main reason why in this category
Institutional support for learning design	Quality of teaching and learning	Better definition needed
Percentage of courses that propose personalized paths to reach the learning objectives	Quality of teaching and learning	If collected through department questionnaire a clear definition needs to be provided
Percentage of courses that make use of diverse forms of assessment	Quality of teaching and learning	If collected through department questionnaire a clear definition needs to be provided; validity issue needs to be resolved
Student and teacher satisfaction regarding performance reports	Quality of teaching and learning	If collected through student survey a clear definition needs to be provided;
Number of hours of training devoted to teaching staff concerning online learning per year	Quality of teacher support	Feasibility issue and need for clear definition
Percentage of credits given in service-learning activities	Reputation/impact	validity issue needs to be resolved and need for clear definition
Number of clicks etc on academic social networks	Reputation/impact	validity issue needs to be resolved and need for clear definitions

Percentage of post-graduated actively engaged after graduation	Reputation/impact	If 'actively engaged' is not 'unemployed': need for clear definition of 'actively engaged'
Percentage of former students employed in job sectors matching thigher education institutionr degree	Quality of teaching and learning	need for clear definitions
The number of student mobility	Reputation/impact	Validity issues need to be resolved; definitions need to be specified
Yearly average of number of publications on online teaching and learning per fte academic staff	Quality of research	Feasibility issue
Student satisfaction for organisation	Quality of organisation	Definition needs to be specified
Student satisfaction with the overall learning platform	Quality of technological infrastructure	Definition needs to be further specified

Table 4: Indicators that are not likely to be included

Indicator	criterion	Main reason why in this category
Institutional support for learning design	Quality of teaching and learning	Use of teacher survey
Percentage of courses that propose personalized paths to reach the learning objectives	Quality of teaching and learning	If data collected through teacher survey
Student and teacher satisfaction regarding performance reports	Quality of teaching and learning	If data collected through teacher survey
Teacher/tutor satisfaction with technology support	Quality of teacher support	Use of teacher survey
Teacher/tutor satisfaction of training opportunities	Quality of teacher support	Use of teacher survey
Teacher/tutor satisfaction with feedback on thigher education institutionr courses derived from students' surveys	Quality of teacher support	Use of teacher survey
A composite measure taking into account the existence of joint/dual degree programmes etc.	Reputation/impact	UMR already has a composite indicator on international student mobility but that is less comprehensive (no staff, no foreign degree students)

Internal budget devoted to research on online learning and teaching per fte academic staff	Quality of research	Validity and feasibility issue
Percentage of fte staff involved in research on online learning	Quality of research	Validity and feasibility issue
Percentage of student complaints or appeals solved	Quality of organisation	Validity issue
Number of fte support staff weighted by student satisfaction for services	Quality of organisation	Validity issue
Percentage of curriculum changes resulting from an assessment of student learning	Sustainability of institution	Validity and feasibility issues
Percentage of total institutional expenditure dedicated to online programmes	Sustainability of institution	Validity issues
Measure of compliance with accessibility guidelines	Sustainability of institution	Relevance
Measure of interoperability	Sustainability of institution	Relevance

Suggestions on how to proceed with the indicators in the various lists

In current ranking

A number of indicators of the CODUR list is already part of this' year data collection. Most of them are the same as corresponding general indicators. There are two exceptions. The first is the question on online learning in institutional plans and the second is the question on the number of online programmes. This information will be used for descriptive purposes but it also is essential for identifying online universities, as well as universities that have a relatively high proportion of programmes offered online. This information is therefore an important element in the mapping step (comparing like with like) of the U-Multirank ranking process. Whether these indicators will suffice to characterize higher education institutions as online providers will show at the release of UMR.

Pilots

The list of indicators that could be included soon comprises a substantial number of indicators. For those indicators that have feasibility issues, a pilot project could be envisaged in which

data on those indicators are collected. Based on the results of that pilot indicators may be added. For those indicators that are on that list due to validity issues a pilot could also help to find out whether the questions (underlying the modified definitions) lead to consistent and plausible responses.

Indicators for ranking or indicators for quality assurance

The context for the selection of indicators was limited to the ranking context. Because of this the focus has been on the comparison of the institutional (or programme) performance with other institutions/ programmes. A number of indicators of the list, in particular those that focus on the quality of support structures, lack the output orientation and are much more focused on the processes. This does not fit very well within a ranking context but it would fit in more in a quality assurance context.

Reflection and discussion

For the indicators on the list of indicators that are not likely to be included in the UMR questionnaire and ranking schemes, another round of reflection and discussion on the relevance, validity and feasibility is needed. An important issue in those discussions could be the use of teacher surveys and expert panels. As it is now, the use of such data sources would create major feasibility issues as well as validity issues. Further discussion is needed to find alternative ways to bring in the teacher perspective.

A sixth dimension or other options?

In the CODUR report a new UMR dimension is envisaged as a way to present online higher education institutions. However, adding a new dimension to the ranking is not a preferred option in the UMR project. The main reason for this is that adding a dimension adds to the complexity of the university performance profiles and the webtool. Since the coverage of that new (special interest) dimension would be rather limited, both in terms of higher education institutions covered and relevant activities (mainly teaching and learning) such an increase in complexity is not wanted.

An alternative to adding a dimension could be the introduction of add-on indicators. The idea of add-on indicators is that we could add indicators that are highly relevant to a specific group of higher education institutions but not to the rest of the higher education institutions. Data on these add-on indicators will be collected for the higher education institutions in the special interest group only. Scores on those indicators will be calculated for the within group higher education institutions only. Comparison with other higher education institutions will not be using these add-on indicators and be based on the user selection of the standard set of performance indicators. For comparison within the special interest group, the add-on indicators can be added. This alternative has already been piloted for music schools. Add-on indicators were developed and data were collected but participation of this specific special interest group was too limited to implement the add-on features in the webtool. Special interest groups may comprise online universities as well as universities in a certain geographical region or with a specific disciplinary focus (like the music schools).

A third option for integrating the online 'dimension' is by adding indicators to the teaching and learning mapping dimension. The most obvious way would be by introducing an indicator on

the size of online provision (e.g. based on the percentage of programmes offered fully online). Other online related indicators may be considered as well.

Discussion on the Incorporation of Online Education Indicators into University Rankings

The present report introduces a feasibility study for the incorporation of the CODUR list of indicators and criteria on the quality of online higher education institutions to international higher education rankings. More concretely, the U-Multirank ranking (UMR) is taken as an example and some conclusions are drawn that can be useful for other international rankings interested in including an online education dimension or online education indicators.

In the feasibility study, Drs. Frans Kaiser, senior researcher at the Centre for Higher Education Policy Studies (CHEPS) and member of the U-Multirank ranking (UMR) consortium, offers a thorough analysis that takes into account different conditions that enable or prevent the inclusion of the CODUR indicators in UMR. These conditions are the UMR dimension that each indicator refers to, the level (institutional or programme) that the indicators refer to, whether the data requested by each indicator is already part of the UMR data collection process, the data source for each piece of information, the validity of each indicator, and whether the indicators could be easily incorporated to the UMR and how much work that would take. These criteria and conditions are very similar to the ones suggested in the CODUR toolbox (Intellectual Output 2- Deliverable 1) and Drs. Kaiser's analysis can, therefore, be read as a second check on the CODUR list of indicators.

The results of the report are satisfactory. Drs. Kaiser highlights the interest and value of many indicators and suggests the possibility of incorporating some of them to the UMR in a near future. More concretely, he points out to the fact that eight indicators are already included in the UMR for their central importance to all higher education institutions (HEIs). Likewise, sixteen of the CODUR indicators referring to a variety of criteria are considered suitable for the UMR in the near future and their interest is praised. Drs. Kaiser specifies that some more precise definitions may be required by the UMR team to include these elements in their questionnaires to universities. Finally, fifteen indicators are considered difficult to manage.

Three main problems are identified that prevent these otherwise very interesting indicators from being incorporated. Firstly, the UMR has difficulties incorporating indicators that refer to teacher support, teachers' preferences and teachers' perceptions since their data collection process does not include teacher surveys. Secondly, some relevant indicators on quality have had to be discarded (for now) because they refer to information that is off the shelf for many organization, such as the proportion of their budget that they use for different areas. Thirdly, some central indicators regarding the quality of the teaching institution had to be overlooked since UMR focuses mainly on the quality and reputation of programmes and it does not measure the quality of institutions or processes equally well. Nevertheless, Drs. Kaiser acknowledged the importance of all CODUR indicators and suggested that they should be used for quality assessment beyond university rankings. A prove of this position is the UMR future incorporation of an online provision indicator. Drs. Kaiser concludes the feasibility study recommending the incorporation of more indicators on the quality of teaching and learning and of add-on indicator that would refer more exclusively to online HEIs.

Options for the Incorporation of Online Education Indicators in University Rankings

The feasibility study on our example ranking, UMR, shows the interest and feasibility of including the CODUR criteria and indicators on the quality of online education into university rankings. This would award online higher education institutions more visibility and would open the door for European students to high quality educational choices that have not been traditionally reflected on rankings. In the incorporation of online education indicators several options must be considered: a full new online education dimension, some indicators on online

education in already existing dimensions that are relevant for all institutions, and add-on indicators only for online higher education institutions. The option of creating a new online education dimension is the preferred by the CODUR team and the most useful for European students and stakeholders. This option has already been discussed at length in previous deliverables.

A second option is the incorporation of some indicators on online education, rather than a whole dimension, that have to be addressed by all universities participating in a ranking, including traditional face-to-face providers. This option advances in the direction of incorporating a full online education dimension and can also be used by rankings that are not multidimensional. It is also a good solution for fast, short term results. The incorporation of this option by rankings would capture the movement of traditional higher education institutions towards online learning and towards the use of educational technologies. In 2018, UMR has incorporated an indicator regarding the existence in HEIs of a plan for online education provision and the CODUR project will motivate the incorporation of more indicators on online education. This option also allows the project team to achieve one of the main goals of the project and to ensure its long-term sustainability. Likewise, it could motivate more rankings to take into account high quality providers that have traditionally been excluded.

A third option is the incorporation to rankings of add-on indicators on online education that are to be used only by online HEIs. This would allow students and other stakeholders to distinguish the best online education providers but it would segregate online HEIs from traditional universities, further contributing to their present marginalization in rankings. For this reason, this option is discarded by the CODUR team.

A fourth option that is not considered in the feasibility study but that could be of interest for the European Commission is the development of a new EC-funded ranking, with another design and functioning than UMR. The CODUR team recommendation is that, in any case, the ranking should not be exclusively for online HEIs and that these institutions should always be able to compete with traditional universities in relevant indicators. The CODUR project has already demonstrated that online education indicators are increasingly of relevance for all HEIs, including traditional HEIs, as education is moving towards a greater online provision.

Tensions in the Use of Online Education Metrics

The CODUR list of criteria and indicators on the quality of online education, although initially developed for the creation of an online dimension for university rankings, can be of great advantage to a variety of stakeholders: universities, students, national quality assurance agencies, digital knowledge industries, higher education networks, etc. However, a series of tensions arise from the use of metrics by different stakeholders. These tensions have to be considered in order for the application of the CODUR indicators to be effective.

A tension to be taken into account is the different use of the metrics by university rankings and by universities. Peters (2017:7) has suggested some of the limitations of the use of rankings (and their terrible effects on universities) that cannot be overcome through the improvement of indicators:

> "*the continued emphasis on the elite universities obscure questions of the overall economic and cultural contributions of universities; there is a relative neglect of the arts, humanities, education, and social sciences that gives a grossly inaccurate representation of world knowledge; there is little recognition of cultural and indigenous knowledges that are specific to local or regional conditions; there is the almost complete dominance of English-language publications that extends the old imperial and colonial logics rather challenging them; the new information products and services derived from the rankings reveals a global industry more concerned with easy profits*

than the responsible development of the sector; growing impact of rankings and their use strategically to restructure higher education systems to increase global competitiveness has led to a 'reputation race' and to university cultures of collective anxiety".

Peters (2017) also mentions the paradox where a private sector, the ranking industry, controls the public sector, universities. In the same line, Stack (2016) shows how universities actively participate in rankings and, therefore, contribute themselves to perpetuating a form of measuring institutions that is prejudicial to the university practice. Likewise, Hazelkorn (2017) suggests that rankings force universities to put an overemphasis on performance. Although these deficiencies in the use of metrics by rankings do not refer uniquely to online education indicators, they illustrate a difficult landscape for the incorporation of a new dimension by a minority of HEIs, online universities.

In contrast, the assessment of quality on online education provision in universities takes into account factors such as the strategic position and the strategic management of the degree programme, the institutional and technological support for learners, the available support for staff, faculty and students, the courses structure and the curriculum design. A thorough presentation and comparison of online education assessment tools can be found in the second deliverable of the CODUR project (IO1, A2), which presents criteria obtained from eight main assessment tools and systems. Two of these references are particularly worth mentioning: the "External Assessment Guide for E-learning Courses" of the Agency for the Quality of the Catalan University System (AQU) and the state of the art of quality models in online and open education by Ossiannilsson, Williams, Camilleri, and Brown.[2]

The previous feasibility study offers the possibility of illustrating the tension in the different use of online higher education metrics by universities and by rankings. The availability of online education indicators for the UMR has been compared with their availability for a suite of online higher education institutions and some relevant differences in the use of the metrics stand out. Although both the UMR and online HEIs gather information and use indicators on the quality of teaching and learning, online HEIs use a greater variety of indicators and they are more precise. This difference could be resolved in the future if university rankings incorporate an online education dimension or more CODUR indicators. The tension in the use of metrics becomes clearer when we take into account indicators regarding the quality of student and of teacher support. While these indicators are essential for online HEIs and they already collect data for all CODUR indicators in these areas, the UMR does not have any indicator on these topics. We have mentioned above this ranking inability to include teachers' preferences and perceptions. UMR has expressed nevertheless interest on considering students' satisfaction regarding interactions with teachers and tutors and students' satisfaction with the technological support.

As for indicators referring to the reputation and impact of universities, online HEIs count with many specific indicators, whereas UMR only considers two indicators. This is due to the fact that rankings consider impact/reputation as the result of other indicators whereas universities make more active efforts to improve them and to, therefore, fare better in rankings. Drs. Frans Kaiser indicates the interest of some indicators, for instance the "Number of clicks/likes/shares/comments/followers/impressions on academic social network". However, he expresses the impossibility of incorporating such an indicator in the ranking as the data for it would be incredibly hard to gather. Universities are already using this indicator based on the metrics of their institutional websites and social media accounts.

The tension in the use of metrics by rankings and universities is evident when it comes to indicators that refer to the quality of an organization rather than a programme. More

[2] Ossiannilsson, E., Williams, K., Camilleri, A. F., & Brown, M. (2015). *Quality Models in Online and Open Education around the Globe: State of the Art and Recommendations*. Oslo: International Council for Open and Distance Education (ICDE).

concretely, the UMR barely incorporates any indicator regarding the quality of research, the quality of the organization, the sustainability of the institution, and the quality of the technological infrastructure. Actually, only three indicators in this area are incorporated into the ranking whereas universities count with seven different indicators. This is due to the fact that these indicators are essential for the everyday activity of the institution. Some examples of these indicators that are essential for universities and that are not present at rankings are the "percentage of students complains or appeals solved/closed" and the "students' satisfaction with the organization". The CODUR project resolves that the consideration of many of these indicators by university rankings would be of great utility for students. Some indicators, however, are too hard to consider and manage at the ranking level and can be used as quality assurance metrics by universities and national quality assurance agencies. The usefulness of the CODUR indicators regardless of the ability of university rankings to include them has been highlighted by Drs. Kaiser himself in the feasibility report.

UOC team

References

Hazelkorn, H. (Ed.). (2017). *Global rankings and the geopolitics of higher education: Understanding the influence and impact of rankings on higher education, policy and society*. Oxford: Routledge.

Peters, M. A. (2017). Global university rankings: Metrics, performance, governance. *Educational Philosophy and Theory.* https://doi.org/10.1080/00131857.2017.1381472

Stack, M. (2016). *Global university rankings and the mediatization of higher education*. London: Palgrave Macmillan UK.