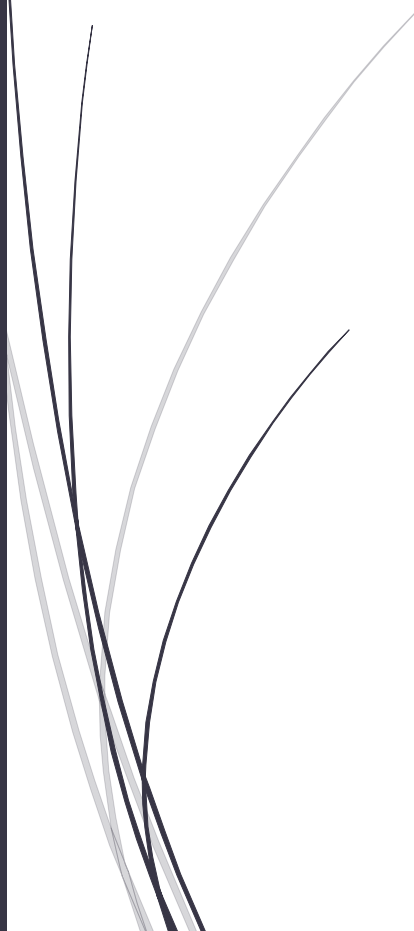


15-11-2022

Guidelines for Developing Effective Teaching & Learning Indicators at Higher Education Institutions

*How to develop relevant and internationally
comparable indicators?*



PREFACE

Between 2020 and 2022, the U-Multirank team held discussions with a diverse group of higher education stakeholders to identify promising effective teaching and learning indicators for the following U-Multirank editions. As a result of these discussions, a clear need emerged to develop guidelines for effective teaching and learning indicators at the institutional level. Such guidelines would not aim to propose specific indicators but rather find common ground across a diverse group of stakeholders and bring challenges associated with indicator development and operationalisation to the forefront. The experts and stakeholders consulted included policymakers, practitioners, and student representatives. Their qualitative feedback was complemented by insights from a survey sent to U-Multirank participants to assess the feasibility of the most promising indicators. These insights are used to develop the guidelines presented in this document. The guidelines highlight some dilemmas and potential solutions when developing effective teaching and learning indicators. We hope that information contained here can support stakeholders in the higher education sector responsible for developing, researching and evaluating such indicators. The insights were collected and integrated by Frans Kaiser and Anete Veidemane.

The following experts have contributed to this paper:

Name of the expert	Affiliation
Liviu Andreescu	University of Bucharest
Sharon Flynn	Irish Universities Association
Kristel Jakobson	European Student Union
Ruben Janssens	European Student Union
Frans Kaiser	University of Twente, Center for Higher Education Policy Studies
Camille Kandiko Howson	Imperial College London
Agata Lambrechts	Università della Svizzera italiana
Terry Maguire	National Forum for the enhancement of Teaching and Learning in Higher Education in Ireland
Manfred Paier	Austrian Institute of Technology
Horia Onița	European Student Union
Auður Pálsdóttir	University of Iceland
Kirsi Pyhältö	Helsinki University
Auli Toom	Helsinki University
Eduard Vallory	CATESCO & Barcelona Institute of Science and Technology (BIST)
Anete Veidemane	University of Twente, Center for Higher Education Policy Studies

Table 1: List of co-authors and contributors

To cite this report: Kaiser, F., Veidemane, A., Andreescu, L., Flynn, S., Jakobson, K., Janssens, R., Kandiko Howson, C., Lambrechts, A., Maguire, T., Paier, M., Onița, H., Pálsdóttir, A., Pyhältö, K., Toom, A., Vallory, E. (2022). *Guidelines for developing effective teaching & learning indicators at higher education institutions: how to develop relevant and internationally comparable indicators?* U-Multirank.

1. INTRODUCTION

Rationale

Higher education institutions can make substantial and meaningful progress towards attaining knowledgeable and innovative societies by utilising effective teaching & learning methods and leveraging digital advancements. Internationally comparable yet locally relevant indicators of effective teaching can support this progress by helping HEIs to

- (i) establish a baseline and measure progress over time
- (ii) provide a comparison with other institutions in a contextualised manner
- (iii) identify institutional policies that promote effective teaching & learning
- (iv) discover the blind spots in effective teaching and learning monitoring mechanisms

We¹ see indicator development as an aspect of the formulation, implementation, and evaluation of evidence-based policies promoting effective teaching and smart digital investments in the higher education sector. Hence, the rationale for developing indicators should focus on (i) improvement and institutional learning while (ii) enabling a fair and contextualised comparison. On the contrary, stimulating competition is not a very productive rationale. Building on stakeholder consultations, we have provided suggestions for developing such indicators. Since indicator construction is inherently value-based, the indicator development process requires shared meaning-making amongst stakeholders.

These guidelines recognise teaching & learning as effective if it is (i) *fit for purpose*² and (ii) follows the *constructive alignment*³ principle, namely, learning objectives, activities, and assessments are aligned. In some cases, ‘fit for purpose’ education may adopt traditional teaching methods such as lecturing. In other cases, when competence development is important, more innovative approaches are a better fit. Such approaches might include project-based learning (PBL), problem-based learning (PBL), challenge-based learning (CBL), and education for sustainable development (ESD). Irrespective of the selected methods, student-centred learning should be a core principle of effective teaching & learning. Lastly, to ensure that teaching & learning remains effective, aligned, and fit for purpose, (iii) *feedback* needs to be collected from relevant stakeholders on an ongoing basis.

When discussing micro-credentials, we align with the definition proposed by the EC⁴, where “*a micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience [...] assessed against transparent standards*” (p.10).

¹ The U-Multirank project in collaboration with experts (see Table 1)

² Harvey, L., & Green, D. (1993). Defining quality. *Assessment & evaluation in higher education*, 18(1), 9-34.

³ Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher education*, 32(3), 347-364.

⁴ European Commission, Directorate-General for Education, Youth, Sport and Culture, Andersen, T., Shapiro Futures, H., Nedergaard Larsen, K., *A European approach to micro-credentials: output of the micro-credentials higher education consultation group : final report*, Publications Office, 2021, <https://data.europa.eu/doi/10.2766/30863>

2. GUIDELINES

Focus on effective rather than innovative teaching

- I. **Indicators on effective teaching & learning should assess the alignment of the teaching methods with the learning objectives rather than focusing on specific, innovative methods.**
 - Learning objectives and participants' prior knowledge should determine the type of teaching methods used in the classroom. There is a place for both traditional and innovative teaching methods, but the approach needs to be 'fit for purpose'. Indicators can assess the (i) number of courses or programs where learning objectives and teaching methods are aligned or (ii) availability of formal processes or structures that ensure the alignment.
 - Since the emphasis on graduate competencies is increasingly demanded, indicators should also assess the availability of competence-enhancing education such as project-based learning (PBL), challenge-based learning (CBL), and education for sustainable development (ESD). Indicators may include the (ii) share of programs that contain components of innovative teaching & learning or the (iii) share of graduates who have taken a certain number of courses with an innovative learning component.

- II. **Indicators of effective teaching and learning should ensure proper feedback mechanisms and stakeholder involvement**
 - Internal quality assurance mechanisms that incorporate both staff and student feedback are essential to improve the quality of teaching and learning. Indicators may assess the existence of such processes at the central, faculty or program level.
 - Students and staff should be involved in institutional decision-making regarding effective teaching and learning (e.g., program development, digital investments, and data privacy). Indicators may assess different degrees of involvement of various stakeholders in the decision-making processes.

- III. **Indicators on effective teaching & learning should reflect the pedagogical training of educators and the context of available resources.⁵**
 - Transitioning to more innovative teaching methods entails a lot of risks. Proper preparation of academic staff, including prior pedagogical training or opportunities for continuing professional development (CPD), should be reflected in the indicators.
 - Indicators may further assess educators' ability to experiment with diverse teaching methods in the classroom setting to promote innovative teaching & learning.
 - Some systems/countries may have fewer resources (time, money, staff) to develop and implement innovative teaching methods. To avoid prioritising better-resourced institutions, indicators may reflect institutional investment in innovative teaching methods normalised by total resources available to the institution.

⁵ U-Multirank has introduced a new indicator on share of pedagogically skilled staff with teaching duties, and requirements of staff to obtain certification in order to teach.

Support smart investment in the digitalisation of teaching and learning

IV. Indicators on the digitalisation of teaching and learning should measure investments in both (i) infrastructure and (ii) capacity building. The ultimate goal of digitalisation is to enhance the quality of education.

- Investment in technology and infrastructure should support the institution's educational strategy rather than follow technological trends in the market. Therefore, indicators on digital investments should be (i) coupled with a clear plan for teacher and student training, (ii) assess the direct impact of digital infrastructure on teaching and learning, and (iii) address ethical aspects of data privacy and student surveillance.

V. Indicators on data privacy policies and practices should supplement indicators measuring the digitalisation of teaching and learning.

- HEIs should develop clear data privacy policies and practices and only use data from digital tools (e.g., learning analytics) after obtaining permission from students and staff.
- Indicators on data privacy may assess the existence of policy plans and practices for addressing data privacy in the context of education.

VI. Educators' and students' ability to access various digital tools and related training can help to enhance the quality of teaching and learning.

- To promote innovation, both educators and students should have sufficient access and flexibility to experiment with various digital tools and select the tools best suited for their teaching and learning needs.
- Policies should be enacted at the programme or institutional level to mitigate the risks of overburdening educators and students with too many platforms and tools.
- To avoid that experimentation with tools conflicts with student data privacy (e.g., by experimenting with third-party software), HEIs can create environments for educators where safe experimentation is possible. Indicators may assess if HEIs offer educators CPD opportunities in selecting and using digital tools to enhance teaching and learning.

Recognise micro-credentials⁶ both in degree programs and life-long learning

VII. Micro-credentials are a promising supplement to traditional degree programs, particularly in the context of lifelong learning. Micro-credentials provide a good alternative to updating knowledge in a timely manner.

- Students, who have already obtained a traditional degree or follow an alternative learning pathway, may want to update skills next to their work or while transitioning to a new role. These skills may be diverse and include technical and programming skills, industry knowledge, social skills, and competencies.
- Indicators can be developed to assess the (i) number of life-long-learning courses offered to students and (ii) number of students who benefit from life-long learning courses by obtaining micro-credentials.

VIII. Micro-credentials may not replace traditional degrees but can provide opportunities to customise traditional degree programs.

- Foundational knowledge through bachelor's and master's programs is still needed, and micro-credentials cannot fully substitute traditional degrees. Students, particularly in the first-cycle programs (e.g., bachelor's degree), might not be sufficiently autonomous to design their own study programs, and the micro-credentials may not provide the learning environment necessary for students in the first cycle. Yet micro-credentials can be helpful in customising a part of the degree program if accessible to students as the degree programs. A catalogue with an overview of available micro-credentials and available learning pathways should be provided to enhance the learning experience.
- Indicators can be developed to assess the (i) number of quality assured micro-credential courses offered to students and (ii) the number of students who benefit from micro-credential courses when graduating from their degrees.

⁶ "A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards. The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are underpinned by quality assurance following agreed standards" (p.10).

Source: European Commission, Directorate-General for Education, Youth, Sport and Culture, Andersen, T., Shapiro Futures, H., Nedergaard Larsen, K., A European approach to micro-credentials: output of the micro-credentials higher education consultation group: final report, Publications Office, 2021, <https://data.europa.eu/doi/10.2766/30863>