Demonstrating Engineering Schools' commitment to the achievement of the SDGs: The ALCAEUS Evaluation Program / 2030 Agenda. A case study

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ABSTRACT

ALCAEUS is a voluntary evaluation scheme developed by the Spanish agency ACPUA, designed to provide visibility to institutions and centers that demonstrate commitment and contribute to the achievement of the UN Sustainable Development Goals (SDGs) / 2030 Agenda. It is a pioneering international external evaluation program within the European Higher Education Area, open to faculties and schools that have successfully undergone an IQAS certification review (institutional accreditation). The ALCAEUS pilot program was carried out last year and two Engineering Schools (Escuela de Ingeniería y Arquitectura and Escuela Politécnica Superior) of the University of Zaragoza (Spain) participated in it. The evaluation was based on a site visit conducted by an international review team. The two schools demonstrated a firm commitment to SDGs and were awarded a 2030 Agenda quality label valid for 6 years.

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1. INTRODUCTION

1.1 Origins of the ALCAEUS program: INQAAHE project

The program ALCAEUS arises from the participation of the Aragon Agency for Quality Assurance and Strategic Foresight in Higher Education (*Agencia de Calidad y Prospectiva Universitaria de Aragón*, ACPUA) –full member of ENQA and registered in EQAR– in the project 'Making connections between the Institutional Evaluation and the Sustainable Development Goals. Empowering stakeholders for quality enhancement'. This capacity-building project was awarded by the International Network for Quality Assurance Agencies in Higher Education (INQAAHE) and coordinated by the Higher Education Quality Agency of Andorra (*Agència de Qualitat de l´ensenyament superior d'Andorra* AQUA). It lasted one year (until May 2019) and involved the main stakeholders in higher education and sustainability in Andorra and Aragón.

The main objective of the project was to align quality assurance in higher education with the SDGs and to empower stakeholders in university systems. Through participatory processes of joint reflection and diagnostic analysis, a 'Proposal of indicators to embed the Sustainable Development Goals into Institutional Quality Assessment' was published in 2019 [1].

1.2 Aim of the ALCAEUS program

The main objective of the 2030 certification of centers and/or universities awarded through the ALCAEUS program is to give visibility to the efforts that institutions are making to meet the SDGs set out in the United Nations 2030 Agenda.

The ALCAEUS program contains an international assessment protocol that measures the degree of commitment to the SDGs, approved by ACPUA's Commission for Assessment, Certification, and Accreditation (CECA) on 17th July 2020. The process involves a verification and review process and awards points that correspond to four possible levels of certification [2].

2. METHODOLOGY

2.1 Program schedule

The ALCAEUS Programme was launched during the academic year 2020/2021 on a pilot basis. Those centers of the University System of Aragon that had obtained institutional accreditation during the academic year 2018/2019 voluntarily applied for this program. For this purpose, the announcement of 9th October 2020 was published by the Director of the ACPUA, which called upon the centers of the Aragon University System to participate in the pilot assessment for the certification of their degree of commitment to the SDGs.

After the deadline for submission of applications, no further 2030 certification processes of centers and universities under the ALCAEUS program were allowed to be launched until the pilot evaluation was completed and a meta-evaluation process

of the pilot program was carried out, which included the results of the evaluation, as well as the opinion of the participants in the process (evaluated and evaluators).

Following the ALCAEUS evaluation protocol, at the proposal of the CECA, the Director of the ACPUA appointed on 14th December 2020 the expert evaluators of the visiting panel, who carried out online visits (due to the situation created by the COVID-19 pandemic) to both the Escuela Politécnica Superior (EPS) –on 17th and 18th December 2020– and the Escuela de Ingeniería y Arquitectura (EINA) –on 11th and 12th March 2021–. Both centers belong to the University of Zaragoza and base their strategy on the 2030 Agenda, taking as a starting point the recommendations of the UN Sustainable Development Solutions Network [3].

The panel of experts issued the relevant visit report which, together with the evaluation documentation, was submitted to ACPUA's Subcommittee for Thematic Evaluations (SETE) and Subcommittee for the Evaluation of Centres (SEC). The latter committee issued the corresponding report proposal, which was sent to the centers so that they could make any allegations regarding the content of the report and any proposals for improvement of the program that they considered appropriate.

In their letters of allegations, the centers, properly understanding the characteristics and objectives of a pilot program such as this one, included and integrated reasoned contributions for the interpretation and improvement of the ALCAEUS program. For this reason, the aforementioned letters were sent to the ECSC (the technical committee responsible for ACPUA's evaluation methodologies and programs), which unanimously approved the final reports.

2.2 Evaluation protocol

The evaluation is based on several criteria, which are structured in six dimensions referred to aspects such as the strategy of the center, resources, transparency, Internal Quality Assurance System, teaching programs, and staff. Each dimension includes several criteria, which in turn, are broken down into several guidelines. For each guideline, criterion, and dimension a maximum score can be obtained, in such a way that the maximum total score adds up to 100. Table 1 shows all the dimensions and their criteria.

Table 1. Dimensions and evaluation criteria

Dimension	%	Criterion	%
1. Strategy, partnerships and recognition	20	1.1. Commitment and strategy of the centre	40
		1.2. Partnerships	40
		1.3. Internal and external recognition	20
2. Transparency and accountability	20	2.1. Public information	100
3. Internal Quality Assurance System	15	3.1. Processes and quality strategy	50
		3.2. Staff responsible for the Internal Quality Assurance System	50
4a. Programmes (for faculties, schools and	25	4.a.1. Development of policy frameworks	10
		4.a.2. Student-centered learning. Competencies	30

educational establishments)		4.a.3. Student-centered learning. Theoretical learning opportunities	30
		4.a.4. Student-centred learning. Practical learning opportunities	30
4b. Research projects	25	4.b.1. Objectives	40
		4.b.2. Planning of activities	30
		4.b.3. Outcomes	30
5. Staff	15	5.1. Heads of teaching provision/research activity	34
		5.2. Teaching and research staff	33
		5.3. Administrative and support staff	33
6. Founding and Resources	15	6.1. Administrative and support staff	60
		6.2. Resources	40

Before the visit of the external evaluation panel, each participant center prepares a self-assessment report about all of these dimensions/criteria and guidelines, providing evidence and setting a range of four levels for each criterion: A (fully implemented), B (sufficiently implemented), C (insufficiently implemented), and D (not implemented).

The final score obtained by each center leads to a final Certification level for teaching or research centers:

- Level 0 – No certificate. Score: 0-24 → Emerging commitment to 2030 Agenda.
- Level 1 – BRONZE. Score: 25-49 → On route to the 2030 Agenda
- Level 2 – SILVER. Score: 50-74 → Strong commitment to the 2030 Agenda
- Level 3 – GOLD. Score: 75-100 → Flagship and international reference center.

3.   RESULTS

The ALCAEUS program is intended to enhance the motivation of university centers to implement the 2030 Agenda in all their activities. For this reason, at this stage of development of the program, the main results to be shown here are not so much those related to the level obtained by each center, but rather the strengths and weaknesses of the certification program concerning the aforementioned goal that have been identified in the pilot program.

The preparation of the self-report and the development of the visit of the external evaluation panel by the centers required them to develop a reflective and contextualization process about the multiple activities carried out, which in turn allowed them to identify points of improvement and to discover areas of untapped work. Both centers, when issuing their report on allegations and suggestions for the meta-evaluation, indicated that –although the certification mostly included dimensions, criteria, and guidelines appropriate for its purpose– some criteria and guidelines related to aspects on which centers lacked autonomy of action did not allow an adequate assessment of their true commitment to the SDGs.

Both centers also drew attention to the fact that a center's commitment to the SDGs does not reside solely in its teaching or quality areas, but rather that it must constitute an indispensable part of its own "metabolism", extending to its activity and the management of its infrastructures. This rationale implied that the actions of the centers aimed at reducing their environmental impact and activities aimed at a healthier campus, which directly affect several SDGs (viz. SDGs #3, #6, #7, #12, #13, #14, and #15), should also be taken into consideration. Hence, both centers suggested that the environmental management of the center/campus and the actions aimed at improving the quality of life on campus should be incorporated into the certificate as additional dimensions to be assessed.

After the contributions of the centers, the meta-analysis was carried out through different forums, among which the meeting conducted on 11th March 2022 may be highlighted. Various stakeholders, including the Director and technicians of ACPUA, Directors and Deputy Directors of Quality and Sustainability of the two centers involved (EINA and EPS), the external evaluation panel, as well as the Vice-Chancellors of Academic Policy and Infrastructures and Sustainability of the University of Zaragoza, in addition to various Secretarial Directors of those Vice-Chancellors, participated in the session.

Finally, it should be noted that both University of Zaragoza centers (EINA and EPS) obtained the 'Level 2' certificate, accrediting their "Strong commitment to the 2030 Agenda".

Fig. 1. ALCAEUS seal

This ALCAEUS as an evaluation protocol of the Agenda 2030 is a pioneering programme in the field of quality assurance within the European Higher Education Area, as recognised by ENQA: "The planel commends ACPUA for developing ALCAEUS as a pioneering evaluation scheme focused on the UN Sustainable Development Goals, which aims to enhance the social dimension of higher education in Aragon" [4]

4.   SUMMARY AND ACKNOWLEDGMENTS

The ALCAEUS pilot program proposed by ACPUA to certify and make visible the degree of commitment of university centers to the 2030 Agenda and the SDGs has been developed with the participation of two centers of the University of Zaragoza. The process, based on the contributions of both parties (evaluated centers –EINA and EPS– and the Agency –ACPUA–) has resulted in the final configuration of a certification that may be regarded as a powerful tool to encourage university centers to implement a strong and effective commitment to sustainability.

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