ISSN: 1696-4713

REICE. Ibero-American Journal on Quality, Effectiveness, and Change in Education
2025, 23(1).
https://doi.org/10.15366/reice2025.23.1.002

Matrix of Indicators for the Design and Evaluation of Good University Service-Learning Practices

Matrix of Indicators for the Design and Evaluation of Good University Service-Learning Practices

Mª Luisa Santos-Pastor [*, 1], Ignacio Garoz-Puerta [1], Jonatan Frutos de Miguel [2], and Higinio F. Arribas-Cubero [3]

[1] *Autonomous University of Madrid, Spain*
[2] *University of the Mid-Atlantic, Spain*
[3] *University of Valladolid, Spain*

KEYWORDS:

Service-learning
University Higher education Evaluation
Indicators

ABSTRACT:

University Service-Learning (ApSU) has established itself as a pedagogical approach with significant educational potential. The proliferation of innovative experiences in higher education has been documented in various forums, as has evidence of their impact on research. However, the tools available for assessing the quality of ApSU projects are limited. This article presents the development and validation of a tool for evaluating the quality of these projects, with the aim of guiding their design, implementation, and evaluation. The methodological process followed for its development focused on consulting experts using the Delphi method and subsequent pilot testing. The final result obtained is a matrix with a grid structure in which its components (dimensions and indicators) are interrelated. It serves a dual purpose: on the one hand, to guide the development of ApSU projects, and on the other, to evaluate their suitability and quality. Furthermore, it provides keys for fostering dialogue with the stakeholders involved and enables critical reflection, transformative learning, and conscious practice. The limitations encountered are related to the diversity of practical approaches within ApSU, the intrinsic complexity of applying the methodology itself, as well as the contextual diversity and variety of groups that may participate.

KEYWORDS:

Service-learning,
University,
Higher education,
Evaluation,
Indicators

ABSTRACT:

University Service-Learning (USL) is establishing itself as a pedagogical approach with significant educational potential. The proliferation of innovative initiatives in higher education has been highlighted in various forums, as has the evidence of their impact on research. However, the tools available to assess the quality of USL projects are limited. This article presents the development and validation of a tool for assessing the quality of these projects, which will serve to guide their design, implementation, and evaluation. The methodological process followed focused on expert consultation using the Delphi method and subsequent pilot testing. The result obtained is a matrix with a reticular structure in which its components (dimensions and indicators) are interrelated, whose function is to guide the development of USL projects and evaluate their quality. This leads to the creation of shared spaces among stakeholders, based on critical reflection as transformative learning and conscious practice. The limitations encountered are related to the diversity of approaches to USL, the intrinsic complexity of the
the methodology itself, as well as the contextual diversity and variety of groups that can participate.

HOW TO CITE:
Santos-Pastor, M. L., Garoz-Puerta, I., Frutos de Miguel, J., & Arribas-Cubero, H. F. (2025). Matrix of indicators for the design and evaluation of best practices in university service-learning. *REICE. Ibero-American Journal on Quality, Effectiveness, and Change in Education, 23*(1). https://doi.org/10.15366/reice2025.23.1.002

*Contact:marisa.santos@uam.es ISSN: 1696-4713
revistas.uam.es/reice

Received: September 15, 2023
1st Review: December 17, 2024
2nd Review: April 12, 2024
Accepted: June 15, 2024

1. Introduction

University Service-Learning (hereinafter ApSU) is a pedagogical approach that enables students to develop into socially responsible and active citizens. It also allows them to collaborate with disadvantaged members of the community (Garger et al., 2020). This approach is grounded in the principles of social justice and reciprocity, experiential learning, and its potential to empower the community and address social issues (Santos-Rego et al., 2021). The understanding of theoretical knowledge, through shared service experiences and reflection on them, fosters curricular, social, and personal development (Batlle, 2009).

The proliferation of studies on ApSU experiences is evidence of the progressive systematization and dissemination of this pedagogical approach (Redondo-Corcobado and Fuentes, 2020). However, as Rodríguez-Izquierdo (2020) points out, its scope, focus, and institutionalization within the international university landscape vary greatly. Thus, in some regions, it refers to solidarity or volunteer work with vulnerable populations, such as in Latin America; whereas in the Philippines, its implementation has focused on transforming university management policies. In contrast, in some countries, such as India, it has been promoted in the wake of the COVID-19 pandemic to address the complex global health crisis it caused. In contrast, in the U.S., it is fully integrated into university education as a mandatory practice. This diversity of practical approaches to ApS is also reflected in international research on the topic (Chiva-Bartoll et al., 2021; Drewery and Lollar, 2024; García-Rico et al., 2020; Salam et al., 2019). Furthermore, the emphasis in research on the emergence of initiatives in initial teacher education has complicated the establishment of unified criteria regarding the state of the field and the methodological processes needed to develop high-quality ApSU projects. Furthermore, for the most part, these studies focus their attention on teachers or students, overlooking community members (their roles, involvement, interests, needs, etc.), as well as the implications of their participation in the projects (Arribas-Cubero et al., 2022; García-Rico et al., 2020).

For his part, Paz-Lourido (2017) emphasized the need to take into account the perspectives of all stakeholders throughout the various phases and activities, based on a thorough analysis of the situation. In fact, a clear and shared understanding of the identified needs—related to both the university curriculum and the members of the community—will help foster civic engagement.

In this context, student preparation is key to the design and implementation of initiatives, which requires the development of competencies (skills, empathy, and autonomy), as well as processes of reflection on the initiative and its impact on the community (Camus et al., 2021). In fact, interaction with the community must be based on collaborative work grounded in critical reflection and reciprocity among those involved. Reflective processes enhance students' learning and competencies, enabling a shift in perspective toward the community and toward the people receiving the service (Santos-Pastor et al., 2021). Therefore, shared reflection among stakeholders is essential for fostering reciprocal relationships among co-participants and challenging established practices (Sanders et al., 2016).

These arguments underscore the need to replace the term "target audience" when referring to members of the community and to include them as co-participants alongside students and staff from institutions and organizations. Therefore, it is essential

It is important to view relationships among participants as horizontal, mutually accountable, and collaborative in order to understand the diversity of the social world and the pursuit of equity in these processes (García-Romero and Lalueza, 2019). Furthermore, it is necessary to avoid hierarchies among the people involved (who provides and who receives the service) and to avoid promoting paternalistic or welfare-oriented attitudes (Clark-Taylor, 2017).

In this regard, it would be more accurate to refer to "Community-Based Learning" projects rather than the commonly used term "Service-Learning" projects. The educational experience of developing a program with the community is a personal one for students, whose greatest challenge is none other than knowing they are capable (self-efficacy motivation) of putting their theoretical knowledge into practice in connection with civic engagement. Thus, Cleveland and Peterson (2022) show how ApSU has been linked to positive academic outcomes and gains in various forms of self-efficacy.

2. Literature Review

Based on these considerations, designing an evaluation protocol for ApSU projects will involve including indicators related to both the academic and professional development of participants, as well as their personal and social development (Mtawa et al., 2021; Roe, 2022). Likewise, from a broader perspective, one must consider the project's contribution to community development, as well as its level of impact on achieving objectives and addressing the needs of community members (Redondo-Corcobado and Fuentes, 2020). In this way, the multifaceted relationship between student learning and service to community members will shape the identity of the ApSU methodology with a critical approach, rather than a welfare-oriented one (Yoong et al., 2022).

In this regard, since the service (understood as a program with the community) is part of a coordinated and agreed-upon plan (co-participants), its implementation must include opportunities for cooperation and shared leadership among those involved (Lorenzo-Moledo et al., 2021). Therefore, the various aspects related to learning (activities, curriculum content, and assessment) and service (need, target audience, assessment, objectives, and outcomes) are essential for developing a coherent pedagogical approach that is aligned with the needs of those involved (Santos-Rego and Lozano, 2018).

Consequently, the development of ApSU projects must ensure mutual benefit for all groups involved (Ruiz-Bejarano, 2020). Furthermore, it must be problem-solving oriented and provide opportunities for students to construct their own knowledge, resulting from the interaction between students and their environment (Yoong et al., 2022). Reflection on action and experience generates meaningful and valuable learning through inquiry, the nature of interaction with the community, and the development of democracy and citizenship (Lorenzo-Modelo et al., 2021). This reflection must be grounded in four conceptual domains: (1) transformative learning; (2) conscious practice; (3) the practice of evaluation; and (4) articulated thinking (Camus et al., 2021). These constitute the essential guides and beacons in the work presented here.

On the other hand, the complexity of an ApSU project requires adapting to the conditions and uncertainties of the community's social and personal contexts. Thus, Álvarez-Castillo et al. (2017) argue that the proactive, problem-posing, relational, reflective, and transformative nature of ApSU implies that the

evaluation of ApSU must be conducted from a flexible and dynamic perspective, so that the initial proposal can be modified and reformulated. In this way, the analysis of the project's implementation must capture both what was planned and any possible reformulations that arise from adapting to the teaching-learning processes generated (Chika-James, 2020).

In summary, establishing a procedure for evaluating ApSU projects requires taking into account: (1) previous research on past experiences; (2) adaptation to the diversity of contexts and the needs of community members; (3) the methodological processes inherent to the pedagogical approach underpinning ApSU; and (4) the voices of those involved or co-participating: students, faculty, groups with different social needs, and socio-educational organizations. Likewise, the continuous training of university faculty is key to promoting the creation of coherent tools for the implementation, evaluation, and reformulation of projects (Resch et al., 2023).

Based on these considerations, the objective of this study is to demonstrate the development and applicability of an Indicator Matrix for the Evaluation of ApSU Projects, referred to as [MI_ApSU]. Its focus is on defining the basic and complementary criteria for implementing best practices in ApSU within the university setting, thereby establishing a protocol for their evaluation. To this end, the indicators related to the phases of a project (design, implementation, and evaluation) will be defined, as well as those related to the people involved or stakeholders. In this way, this article provides guidance for implementing ApSU projects based on the specific characteristics of each context.

3. Method

To address the study's objective, which focuses on determining the quality indicators of ApSU projects, an evaluation tool called the ApSU Matrix was developed.

The development of the Matrix was carried out in several phases: (1) Initial design of its structure and components based on a review of the literature, and internal validation of its content by the research group; (2) Consultation with experts (Delphi Method); (3) Pilot application to verify its suitability in practice; and (4) Analysis and discussion among the research team to adjust the Matrix's components based on the information gathered during its application.

3.1. Phase 1: Initial Development of the ApSU Matrix Structure

The process of developing the tool began with a literature review. To this end, a search was conducted in indexed databases (WOS and Scopus) using the terms (in both Spanish and English) "Service-Learning," "Service-Learning and University," and "Service-Learning and Initial Training," covering the years 2010 and 2021. After filtering out invalid references, 272 valid records were obtained. To process these references, a project was created in the Mendeley database and subsequently analyzed using N-Vivo v.18.

Thus, based on the selection, classification, and analysis of references related to the ApSU, an initial structure for the Matrix was developed, organized into dimensions and indicators. The dimensions served as the main criteria for evaluating

of ApSU projects. Subsequently, the indicators that define the nature, content, conditions, etc., of each dimension were specified.

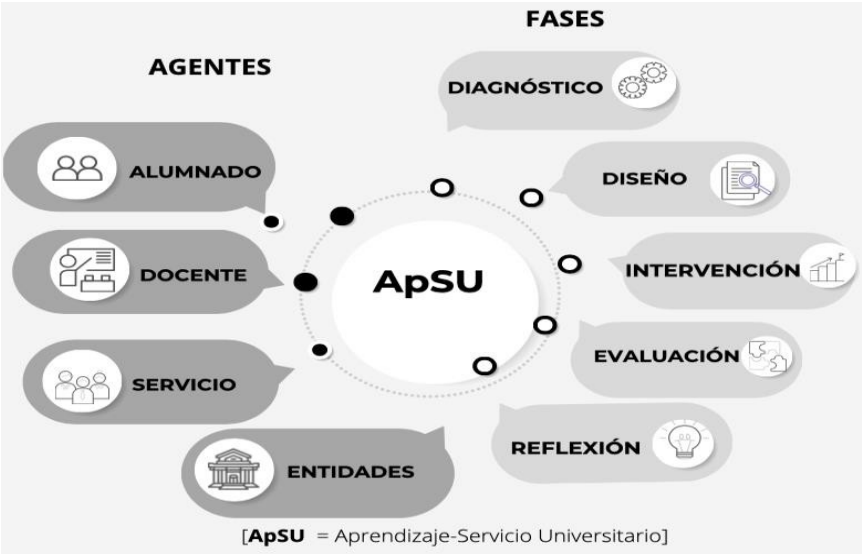
Thus, following a process of analysis and discussion within the research team, nine dimensions were proposed for the Matrix. These are as follows: (1) Phases of an ApSU project—diagnosis, design, implementation, reflection, and evaluation—; and (2) Stakeholders or individuals involved in the projects—students, faculty, organization leaders, and people in need who receive the service or face the social challenge to be addressed (Figure 1).

Subsequently, the indicators that would define the meaning and scope of each dimension were identified and developed. During this initial process of constructing the Matrix, the research group reached a consensus on their selection and description, focusing on the quality characteristics of a training project (process) rather than its impact. Thus, each indicator was described precisely, explaining it in detail through quantitative and/or qualitative assessment. In this way, a first version of the tool was obtained, which was discussed and refined by the research group, based on the database created in Mendeley.

A research group consisting of 13 people participated in this phase. The project lasted three months (September–December 2021).

Figure 1

Initial Dimensions of the Matrix



3.2. Phase 2: Consultation with experts using the Delphi Method

Based on this first version of the Matrix, validation was conducted with experts using the Delphi method (López-de Arana et al., 2023). This method involves forming a group of experts on a specific topic or field to review the instrument in successive rounds and provide their assessment of the appropriateness of all proposed items (indicators and dimensions). For the selection of experts, specific inclusion criteria were established (López-Gómez, 2018): background and experience with the ApSU, and availability to participate in the process. Following this recruitment period, 14 individuals ultimately participated. Similarly, the number of consultations was determined by the consensus reached in defining the Matrix.

A one-week response period was set for each round. The response process involved rating the relevance and clarity of each proposed item (indicators/dimensions) on a Likert scale (0 to 4); an open-ended space was also provided for any necessary comments. Subsequently, the research group analyzed (quantitatively and qualitatively) the collected results and prepared a final report to serve as the basis for the next round of consultation. Ultimately, a total of three rounds of consultation were conducted. A research group consisting of five people participated in this phase. This work spanned four months (January–April 2022).

3.3. Phase 3: Pilot Implementation of the ApSU Matrix

The purpose of this phase was to verify the suitability and relevance of the ApSU Matrix in a real-world application of ApSU experiences. Thus, two projects were selected that met the previously established criteria: (1) having a proven track record of at least two cycles of implementation and reevaluation; (2) being ongoing during the validation period (April to September 2022); and (3) being available and accessible during the established timeframe. The projects on which the Matrix was piloted had the following characteristics (Table 1).

This piloting process involved assessing the extent to which the designed ApSU Matrix was appropriate and relevant for evaluating the quality of a project. Each project underwent a separate piloting process, although it followed the same procedure, with the necessary adaptations to the specific context. The fieldwork focused on gathering information about the phases and the stakeholders involved (students, faculty, organizations, and groups). Various techniques and tools were used to observe the processes and capture the perspectives of the participants. Thus, observations, interviews, focus groups, and reviews of project-related documents (curriculum, tasks, reflections, etc.) were conducted (see Table 2). To collect the information, a data collection form was designed for each dimension and indicator to address the following questions: What information is collected? What problems are identified? What improvements are suggested?

Each project had a working group with a variety of responsibilities: observing, recording information, analyzing it using N-Vivo, and preparing a final report. Given the specific nature of the projects, these processes of data collection, analysis, and reflection were carried out by all those involved (students, participating groups, the organization's coordinators, and faculty; Table 2).

Table 1

Characteristics of the ApS projects where the ApSU Matrix was piloted

University	University of Valladolid	Autonomous University of Madrid
Degree Program	Bachelor's Degree in Social Education	Bachelor's Degree in Elementary Education (with a concentration in Physical Education) Bachelor's Degree in Physical Activity and Sports Sciences
Course	Physical Education Adapted to Different Groups / Fourth Year	Introduction to Sports / Fourth Year Body Expression / First Year Fundamentals of Team Sports: and Their Pedagogy – I (Hockey) / First year Fundamentals of Individual Sports and Their Teaching II (Gymnastic Skills / Second year Physical and Sports Activities in the Natural Environment / Second year Physical Education, School Health, and First Aid / Fourth Year
Project Title	Climbing to Connect	Service-Learning in Physical Activity and Sports for Disadvantaged Groups: PROMENTOR-UAM
Participating organization	Intras Foundation	PROMENTOR Program (PRODIS Foundation)
Participants (students, faculty, group)	6 students and 1 graduate 1 teacher and 2 external observers 3 users of the Intras Foundation with mental health issues 2 educators from the Intras Foundation	24 students 8 teachers 30 students with intellectual disabilities from the two grades of the Promentor Program (15 from 1st grade + 15 from 2nd grade) 4 Promentor Program coordinators

Table 2

Tools used in the project pilots.

Climbing to Connect Project	Promentor-UAM Project
Action research journal (University Professor and Educator from the organization) Non-participant observation (10 sessions) Student reports (6 students) Focus group (2 students, educator from the organization, and university professor) 3 interviews with participants from Fundación Intras Collaborative narratives in each session (Faculty, educators, and students, during the 10 sessions)	Document analysis (Project Guidelines, Portfolio, Assessment Rubric, and Reflective Journal) Non-participant observation (8 sessions) 2 questionnaires for teachers (1 teacher and 1 teacher) 2 group interviews with students (4 male students and 5 female students) 4 group interviews with Promentor co-participants 1 interview with the Promentor Program coordinator

A research group consisting of seven people participated in this phase. This work lasted three months (April–July 2022).

3.4. Phase 4: Review of the pilot project reports

Subsequently, following the piloting process, a Research Group (RG) was formed, composed of the participants in both projects and their contexts of

reference (organizations and universities). The analysis and discussion conducted within the GI allowed for a joint evaluation of the results obtained from the application of the Matrix. Seven people participated in this phase. Six working sessions were held, recorded in a folder, and assigned a code (RGIX, where X is the number of the team's working session). This work lasted two months (September to November 2022). The results obtained following this final phase have led to the final ApSU Matrix.

3.5. Research rigor criteria

Finally, it should be noted that the following criteria for research rigor and quality (Smith and Sparkes, 2019) were taken into account throughout the various phases of this study: credibility of the results, generalizability of the study, consistency, and confirmability. Furthermore, this research has adhered to the ethical and data handling procedures approved by the Ethics Committee of the Autonomous University of Madrid (CEI 126 2608).

4. Results

The results of this research are based on the pillars that have structured the Matrix from the outset: dimensions and indicators, which are adjusted and redefined as a result of the construction and validation process. The results obtained are the outcome of an analysis of reality, discussions among different participants, and shared reflection within the research team.

First, the dimensions (the initial reference points of a project) and indicators (the specific characteristics of each dimension) were identified as key factors in defining the quality of an ApSU project. Thus, as explained in the methodology, the dimensions were defined following a process of analysis and literature review. On the one hand, those related to the agents or individuals involved in ApSU projects (students, faculty, organization leaders, and service recipients or target groups) were established; on the other hand, those related to the phases of an ApSU project (diagnosis, design, implementation, reflection, and evaluation; Figure 1) were established.

Thus, following this initial process, nine dimensions were identified that remained stable throughout the validation and piloting phases, unlike the indicators, which underwent significant adjustments until the final stage of their development. Once the dimensions were established, work began on defining the indicators that would guide the specification of each dimension. The following section specifies the indicators for the project phase dimensions and those for the agents that structured the first version of the Matrix (nine dimensions and 58 indicators, Figure 2).

Figure 2

First Version of the Matrix. Phase 1

DIMENSIONS	INDICATORS									
Phases										
Diagnosis	Systematic	Participatory	Realistic	Reflective						
Design	Objective	Dialog-based	Planned	Sustainable	Curricular Integration					
Intervention	Defined	Coherent	Reciprocal	Transfer	Planned	Committed	Flexible			
Evaluation	Planned	Participatory	Aligned	Summative	Diagnostic	Integrated	Formative	Sustainable	Competency-based	Inclusive
Reflection	Systematic	Committed and critical	Needs-oriented	Learning-oriented	Connected (Needs-Learning)	Shared				
Stakeholders										
Student	Willingness	Cooperation	Social empathy	Critical thinking	Proactive and solution-oriented behavior	Commitment				
Teacher	Reflection	Initiative and autonomy	Support	Institutional coordination	Civic-prosocial	Curricular connection	Networking			
Service	Need	Planned	Altruistic	Recognition	Reciprocal	Mobilization	Relevant			
Entities	Partnerships	Responsibility	Collaboration	Commitment	Appreciation	Interdependence				

4.1. First version of the matrix. Consultation with experts

The version of the Matrix resulting from the expert consultation process is structured around nine dimensions and 43 indicators (Figure 3). The restructuring is based on the project phases and the people or stakeholders involved.

4.1.1. Indicators for the "project phases" dimension

- The initial diagnostic phase is a systematic process that encourages the participation of all stakeholders, adapts to the specific conditions and characteristics of the situation, and views reflection as a key element in preparing the project.
- The design must be tailored to the context, developed through dialogue with the people involved, planned in advance, adapted to and aligned with available resources (sustainable), and connected to the educational curriculum and students' competencies.
- The intervention must be defined and aligned with the educational program and consistent with the identified needs (reciprocal), planned in advance, flexible to changes, committed to transformation (sensitization and awareness-raising), and transferable to the daily lives of the people participating in the program.
- Assessment must be planned, encourage the participation of those involved, and be aligned with the intended objectives and planned actions; it must provide information before, during, and at the end of the process to adjust those actions; it must be integrated into the process, consistent with available resources, and focused on students' skill development and the inclusion of individuals facing inequality.
- Planned and organized (systematic), focused, and connected reflection on needs and learning, shared by participants, committed to and grounded in reality from a critical, transformative perspective.

4.1.2. Indicators of the "agents" dimension

- The service (a program carried out with the participating group) must be based on the needs of community members, incorporate these needs into its planning, foster mutual recognition and reciprocity among those involved, promote altruistic behavior, and value mobilization, agency, and care among people.
- Social and educational entities involved (associations, NGOs, foundations, social services, schools, etc.) that promote partnerships or agreements with participating institutions (universities), based on an attitude of interdependence, a genuine commitment, and a responsibility to ensure the quality of the project, actively participating in providing feedback or evaluating the actions.
- Teachers, as committed individuals who guide, support, and mentor students, foster their autonomy and initiative as well as the development of their civic and prosocial skills; they ensure alignment with the curriculum and promote

networking, coordinating with institutions and organizations, and drawing on reflective practice.

- Students as the project's protagonists, who approach it with social empathy and a willingness to cooperate in carrying out the activities, engaged with reality through proactive and solution-oriented behavior and critical thinking.

4.2. Second version of the matrix. Pilot implementation

The version of the matrix resulting from the expert validation process (Figure 3) was applied to the actual ApSU projects. This process, which was the result of the research group's analysis, discussion, and consensus-building, led to significant modifications aimed at improving the tool's suitability and relevance.

The matrix resulting from the pilot implementation was defined by nine dimensions and 30 indicators, and its validity in assessing the quality of ApSU projects was verified. Thus, as a result of this piloting process, some general considerations regarding the structure and format of the tool were drawn from discussions among the research team members involved in the process, leading to the final version of the ApSU Matrix (Figure 4).

The first version of the Matrix was significantly refined and revised following a consultation process with experts (the Delphi method). This analysis process involved modifying the order of the phases, changing the names of some dimensions, eliminating some indicators, reorienting others, and including two new indicators (transformation, in the Social Challenge/Target Group dimension, and collaboration, in the Organizations dimension; Figure 3). Thus, as a result of this validation process, a second version of the ApS Matrix was produced, comprising nine dimensions and 43 indicators.

For its part, consultation with experts led to a change in the order of the phases in the Matrix. Thus, the stakeholders involved in the projects were moved to the first level, while the phases were placed on the second level. The main argument put forward for this change is the prominent role played by the program's participants, including both students and community members. Likewise, the dimension of the agents was prioritized over that of the phases.

In the "Actors" dimension, "Service" was changed to "Target Group/Social Challenge" to refer to the community members participating in the projects rather than the specific activities in which they are involved. In addition, "Social Challenge" was included, as there may be other types of ApSU projects that do not involve direct intervention and are aimed at raising awareness of local or global social issues (for example, gender-based violence).

Furthermore, indicators that the experts believed were already included in the set were removed. Thus, it was determined that the Social Challenge/Target Group should be based on a relevant need of the people or the environment, be feasible for planning actions, and have the potential to contribute to its transformation or improvement.

Figure 3

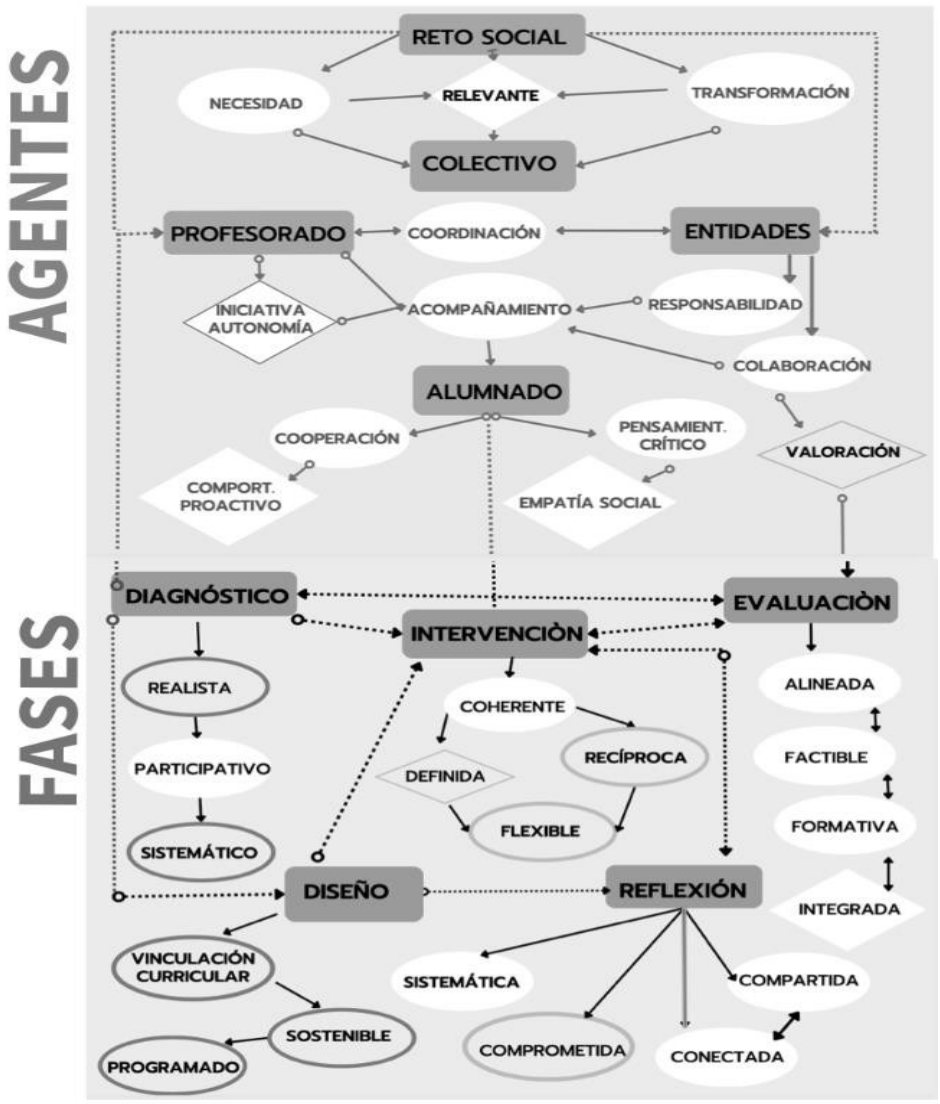
Delphi Method Matrix Version. Phase 2

DIMENSIONS	INDICATORS					
Agents						
Target group /Social challenge	Need	Planned	Transformation	Relevant		
Entities	Partnerships	Responsibility	Collaboration	Evaluation		
Faculty	Initiative and autonomy	Support	Institutional coordination	Civic-prosocial	Curricular connection	Networking
Student Body	Attitude	Cooperation	Social empathy	Critical thinking	Proactive and solution-oriented behavior	Commitment
Project phases						
Diagnosis	Systematic	Participatory	Realistic			
Design	Programmed	Sustainable	Curricular integration			
Intervention	Defined	Coherent	Reciprocal	Transfer	Planned	Flexible
Evaluation	Planned	Aligned	Sustainable	Integrated	Formative	
Reflection	Systematic	Committed and critical	Needs-oriented	Learning-oriented	Connected (needs-learning)	Shared

With regard to the "organizations" dimension, the indicators for partnerships and accountability remain unchanged, while the rest have been redesigned to align with the role these organizations play in ApSU projects, taking into account their collaboration and participation in the evaluation of the actions implemented in the project. The student dimension kept the indicators unchanged. The teaching dimension was changed to faculty to ensure inclusive language. Additionally, the "reflection" indicator was removed because it was already included in one of the phases and applies to all participants and all actions within a project.

Figure 4

Matrix Structure. Relationship Between Indicators



With regard to the indicators for the phases, "reflection" is removed from the diagnostic dimension, as it is cross-cutting across all of them. In the design phase, the objective and dialog-based indicators are removed, as they are not characteristics specific to the actions of this phase, but rather starting conditions for the development of ApSU projects, according to the expert group. That is, actions must be consistently aligned with the reality in which they are contextualized, in addition to involving agreements

dialogues among the participants. For its part, assessment was one of the most difficult aspects to define. Initially, the aim was to define it precisely and recognize its importance in these training processes.

However, during the validation phase, several indicators (participatory, summative, diagnostic, competency-based, and inclusive) were removed because, according to the experts, they were already covered. Finally, the reflection phase—which the experts considered to be of great importance and to have a cross-cutting impact on the projects—remained unchanged, thus retaining the initial indicators.

5. Discussion

After the initial structure of the Matrix was developed, the verification process began, which led to a complex analysis and extensive debate within the working group. This prompted a reevaluation of the tool—not only in form but also in substance—in light of the epistemological, pedagogical, and social principles that underpin and give meaning to the Matrix.

As a result of this GI analysis process, the points of discussion, the adjustments that resulted from it, as well as the decisions made and their rationale were presented. Hence, in essence, in addition to a tool for analyzing the quality of ApS projects, a critical and transformative approach to ApS as a formative pedagogy in higher education is provided (Santos-Rego et al., 2021).

5.1. Basic and complementary components of the quality of an ApSU project

The process that led to the restructuring of the Matrix—to refine its components and simplify its use—was based on various decisions (adapting the content, ensuring a comprehensive understanding of the tool, and making adjustments to improve consistency with the principles of Service-Learning).

Initially, it was deemed necessary to remove indicators that appeared in multiple dimensions. This consideration led to a departure from the linear structure and a shift toward representing the indicators in an interconnected manner. Specifically, in the Social Challenge dimension, the planned indicator was removed because it was also present in Design (programmed), Intervention, and Evaluation (planned) (Kruiper et al., 2021). As for the Entities dimension, "alliances" and "willingness" were removed, as it was considered that these characteristics were already addressed in the other indicators within the dimension (for example, "collaboration" or "accountability").

In the student dimension, "decisiveness" and "commitment" were removed, with these conditions being integrated into "proactive behavior" or "critical thinking" (Bringle and Clayton, 2021). In the intervention phase, "transfer" was removed because it was considered the outcome of a project. In the evaluation phase, the "sustainable" indicator was replaced with "feasible" to align its meaning with the concept of an evaluation that is both possible and tailored to available resources (Albó et al., 2020). In the reflection phase, the indicator focused on needs and learning was removed, as it is already covered by the "connected" indicator (needs-learning).

It was also deemed necessary to distinguish between indicators related to the design—because they are of a preliminary nature (e.g., systematic)—and those related to implementation or actions taken during the process (e.g., flexible).

In addition, it was observed that certain indicators did not fit into this classification. These were cross-cutting indicators—present throughout the entire project process and actions—that were common to various dimensions and indicators. For example, the coordination indicator, a process that must be constantly present in all phases, actions, and among all individuals involved (Bullock, 2017). In this regard, it was understood that certain characteristics of a project should be mandatory (Clark-Taylor, 2017), while others were complementary or ancillary.

Generally speaking, these secondary indicators contribute to quality, but they do not need to be met in every project. For example, the "social empathy" indicator in the student dimension does not need to be present to define an ApSU experience, although if it is met, it will enhance quality and educational value (Maples et al., 2022). In other words, minimum standards are established for ensuring project quality, specifying the essential indicators; and maximum standards are set, defining secondary indicators that are not mandatory but add extra quality to the ApSU project.

In this regard, modifications and adaptations to the components of the Matrix will allow us to evaluate projects from a diverse, holistic, and context-specific perspective, in line with the unique characteristics of the ApSU (López-de Arana et al., 2023).

5.2. The importance of considering the specific context of ApSU projects

The fact that ApSU projects are developed within the context of real-world situations in collaboration with the people involved—in line with the training programs in which they are embedded and aligned with identified needs (Sanders et al., 2016)—requires a degree of flexibility and adaptability. Therefore, the unique nature of ApSU projects calls for flexible tools to assess their quality across diverse contexts of action.

Following the pilot phase, it became clear that the Matrix's linear structure needed to be rethought. The final structure took the form of a rigid tool with a linear logic and fixed relationships between dimensions and indicators, making it difficult to apply in practice. Based on these arguments and on the experience gained from applying the Matrix, we reflected on its representation and on how to overcome its apparent fragmentation. Consequently, we determined that its format needed to be modified to create a networked structure in which its various elements could interrelate through multifaceted connections with one another.

In addition, minimum standards for project quality compliance were established (Albó et al., 2020), distinguishing essential indicators from secondary indicators, which are not mandatory. Thus, this tool will guide the development of ApSU projects and identify areas for improvement.

5.3. Diversity of Approaches and Foundations of ApSU

The main controversy that has shaped the development of this Matrix and influenced its final version has stemmed from the tension and debate surrounding the orientation and both educational and social value of ApSU (Batlle, 2009; Yoong et al., 2022).

Indeed, as noted in various studies, several approaches currently coexist under the term ApSU (Salam et al., 2019). Specifically, one can

We can identify two major trends: one that is traditional and welfare-oriented, and another that is transformative and critical, although we recognize that there may be many approaches that fall between these two categories. Although these two approaches overlap in many respects, some differences are clear and have a significant impact on the direction and purpose of project activities.

Thus, the approach we advocate moves away from a welfare-oriented approach or volunteer practices (Butin, 2006; Clark-Taylor, 2017) to align it with the principles of critical transformative ApSU (Fitzpatrick and Enright, 2017). In this regard, when constructing the Matrix, we identified the need to integrate this critical-transformative orientation with the key elements of ApSU, understood as a systematic methodological process consisting of well-defined phases and actions (Santos-Pastor, Ruiz-Montero et al., 2021). Therefore, based on the key insights emerging from these arguments, ApSU should focus more on its potential to contribute to social change and the overcoming of social injustices (Rice and Pollack, 2000). This implies, among other things, identifying existing needs in order to address them, establishing collaborative ties among participants (students and co-participants), building horizontal, non-hierarchical relationships, and valuing differences as an opportunity for joint learning (Bringle and Clayton, 2021).

In this context, one of the most significant changes is the use of the term "Recipient Group" to refer to community members and recognize them as co-participants, thereby eliminating the term's welfare-oriented connotation, affirming their central role, fostering authentic relationships among participants, and promoting inclusion (Mitchell, 2008). Based on these positions, technical modifications are made to the tool that will help adjust the structure and components of the Matrix.

5.4. The purpose of the Matrix as a tool for evaluating the quality of an ApSU project

In this context, Figure 4 illustrates the various components of an ApSU project and their interrelationships. Thus, in the Agents section, it is essential that the social challenge be defined in terms of needs (or problems) and guide potential transformations (or improvements), based on the input from the community members, without losing sight of the importance of improving the quality of life for people and the planet (García-Rico et al., 2020).

This social challenge must be aligned with the efforts of teachers and organizations that, in a responsible and collaborative manner, can coordinate with one another to support students, fostering their initiative and autonomy. It is also important to assess their progress through an evaluation process that is aligned, feasible, formative, and integrated (Boud and Bearman, 2022). For their part, students, through a cooperative attitude and critical thinking, develop proactive behavior and social empathy.

In addition, the project phases are outlined, beginning with a particularly realistic, systematic, and participatory assessment aimed at developing a design that is curriculum-linked, sustainable, and well-planned. It also calls for a coherent, reciprocal, well-defined, and flexible approach that fosters systematic, committed, connected, and shared reflection.

5.5. Protocol for the Application of the ApSU Matrix

Finally, general guidelines for the application of the Matrix are established, and possible processes for data collection are outlined, always adapted to the

specific circumstances of the projects. The use of various techniques and tools is proposed: (1) interviews; (2) focus groups (with students, faculty, and representatives of the organizations and groups involved);
(3) review of project documents; and (4) observations of project implementation, etc. Finally, it will be necessary to take into account the ethical processes established with the participating individuals and organizations.

5.6. Web application of the matrix

To implement the Matrix, a web-based tool has been developed to facilitate its management and actively engage project participants. The final output of its application[1]is a formative report that details the project's quality and includes recommendations for improvement.

6. Conclusions

The final version of the ApSU Matrix specifies the dimensions related to stakeholders or individuals involved in the ApSU project, outlining for each the indicators that guide and define their participation in the project; next, it identifies the dimensions that comprise the phases of a project; and, finally, it specifies a set of questions intended to guide reflection during the design or implementation of a project[2] . In this regard, it should be noted that the Matrix is intended to serve as a guide for the development of ApSU projects and for evaluating their quality. It provides a flexible tool adapted to the realities of both training programs and the needs of the community involved.

The development of this tool is the result of shared analysis and discussion among those participating in ApSU projects, giving meaning to the role and experiences of each individual (Yoong et al., 2022). The shared responsibility and horizontal structure that must permeate these community-based learning experiences must stem from the needs identified in the immediate environment or highlight existing social and educational injustices (Puig-Rovira, 2022). The potential of ApSU lies in what students can contribute to transform their immediate reality and collaborate with people facing social inequality to promote their inclusion, develop their skills for self-empowerment, and improve their quality of life (Garger et al., 2020), while seeking a balance between its educational and social value (Yoong et al., 2022).

This process requires a systematic approach and the active engagement of all stakeholders, with the explicit and implicit aim of breaking down the typical hierarchies associated with educational processes (which prioritize university-based learning) in order to foster learning within and alongside the community, where all participants contribute and benefit (Santos-Rego et al., 2021).

It is suggested that shared spaces be created among stakeholders, based on critical reflection as transformative learning, conscious practice, and the exercise of evaluation (Camus et al., 2021) and on reciprocity, challenging hegemonic practices (Sanders et al., 2016).

[1] Available at www.riadis.es

[2] https://view.genial.ly/63e2898b929e680012533608/guide-matriz-de-apsu

The Matrix is a tool for evaluating ApSU projects that serves as a guide, directing their actions according to quality criteria (Albó et al., 2020). Far from jumping on methodological bandwagons, we must be aware of the demands, responsibility, and commitment involved in a social project that aims to transform and improve social reality, both locally and globally, by synergistically and harmoniously combining personal and social development with academic and professional development (Roe, 2022).

Co-participation fosters the agency of those involved, enabling them to break free from situations of disadvantage or inequality (Fitzpatrick and Enright, 2017). This must be the true purpose to which the ApSU should aspire.

In light of the arguments presented, we must move beyond the paternalistic and hierarchical connotations with which the term "Service-Learning" can be interpreted; therefore, we recommend referring to it as "Learning with the Community." Consequently, Service-Learning as an educational approach must go beyond a simple methodology that connects the educational program with the needs of communities. The primary purpose of Service-Learning is its potential to raise awareness and foster sensitivity within the university community regarding the challenges and needs of the planet (both locally and globally) and to actively engage (as individuals and professionals within a field of knowledge) in its transformation and improvement. These premises define ApS and radically distinguish it from other "relatively" similar practices or methods, such as volunteer work or university outreach programs (Leary and Sherlock, 2020).

In this regard, from an international perspective, ApS—setting aside contextual, cultural, and social differences—proposes moving away from charitable or welfare-based approaches in order to foster a transformative perspective that prioritizes activism and the empowerment of individuals within the community (Nikolskiy, 2023).

Finally, it should be noted that the methodological process followed in constructing the Matrix across its various phases can open up new avenues for analyzing social and educational realities based on dialogue, consensus, and the participation of those involved in the research, each bringing their own perspectives and sensibilities. If Service-Learning is grounded in Community-Based Learning, we could not conduct research isolated from social and educational reality that gives a voice and a leading role to the people participating in it.

Acknowledgments

This study was conducted as part of the R&D&I project "University Service-Learning in Physical Activity and Sport: An Opportunity for Social Inclusion." Calls for "R&D&I Projects" under the State Programs for Knowledge Generation and Scientific and Technological Strengthening of the R&D&I System Aimed at Societal Challenges, within the 2017–2020 State Plan for Scientific and Technical Research and Innovation. Reference PID2019-105916RB-I00/AEI/10.13039/501100011033. Duration: 4 years (2020–2024). Approved by the Ethics Committee of the Autonomous University of Madrid, reference CEI 126.2608.

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Brief CVs of the authors

Mª Luisa Santos-Pastor

Bachelor's and Doctorate degrees in Physical Education. Bachelor's degree in Social Education. Tenured professor in the Department of Physical Education, Sport, and Human Movement at the Autonomous University of Madrid. Coordinator of the Innovation Area at the UNESCO Chair in Education for Social Justice at the UAM. Coordinator of the UAM Research Group on Teaching and Assessment of Physical Activity and Sport. Coordinator of the Research Network on Service-Learning in Physical Activity and Sport for Social Inclusion. Principal Investigator. R&D Project "University Service-Learning in Physical Activity and Sport: An Opportunity for Social Inclusion." (Ref. PID2019-105916RB-100). Coordinator of the "Innovation and Community Development" Research Line at the UNESCO Chair in Education for Social Justice at the UAM. Main research areas: Service-Learning in Physical Activity and

Sports; Outdoor Physical Activities; Formative and Collaborative Assessment in Higher Education; Active Methodologies in Physical Education. Email: marisa.santos@uam.es

ORCID ID: https://orcid.org/0000-0002-4985-0810

Ignacio Garoz-Puerta

Adjunct Professor in the Department of Physical Education, Sports, and Human Movement. Bachelor's degree in Physical Activity and Sports Sciences and Ph.D. in Psychology. Member of the UAM Research Group on Teaching and Assessment of Physical Activity and Sports. Member of the Research Network on Service-Learning in Physical Activity and Sport for Social Inclusion. Member of the research team for the R&D Project "University Service-Learning in Physical Activity and Sport: An Opportunity for Social Inclusion." (Ref. PID2019-105916RB-100). Main research areas: Service-Learning in Physical Activity and Sport; play and social behavior. Email: nacho.garoz@uam.es

ORCID ID: https://orcid.org/0000-0001-8353-6158

Jonatan Frutos de Miguel

Professor in the School of Education and Psychology at the Universidad del Atlántico Medio. He holds a Ph.D. in Transdisciplinary Research in Education and teaches in the Department of Research Methods and Educational Assessment. In addition, he collaborates with educational and research networks such as REEFNAT and RIADIS. His research focuses on issues related to child development, ADHD, self-concept, resilience, and Service-Learning (ApS), as well as personal well-being, mental health, and their effects on learning. All of this is approached from a perspective aimed at improving quality of life. She also actively participates in innovation projects focused on social inclusion and in projects that use the natural environment as a universal learning classroom. Email: jonatan.frutos@pdi.atlanticomedio.es

ORCID ID: https://orcid.org/0000-0002-0990-4386

Higinio F. Arribas-Cubero

Full Professor at the University of Valladolid, Department of Music, Visual Arts, and Movement Education, Faculty of Education and Social Work. Bachelor's degree in Physical Education (Faculty of Physical Activity and Sports Sciences, University of León, 1993) and Ph.D. from the University of Valladolid. April 2008. Member of RIADIS (Research Network on Service-Learning in Physical Activity and Sport for Social Inclusion) and REEFNAT (National Network for Physical Education in Nature). His lines of research and socio-educational action are related to training in Physical Activity in the Natural Environment, ubiquitous learning, inclusive Physical Education, and Service-Learning, having participated in 9 competitive projects and published 15 articles in indexed journals. Email: higiniofrancisco.arribas@uva.es

ORCID ID: https://orcid.org/0000-0002-2759-895X