

Evidence Based Adaptations of an Interdisciplinary Service-learning Practice

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Abstract

Service-learning (SL) intertwines community service with academic instruction, fostering civic engagement and social consciousness, while reinforcing academic principles. A review of literature shows the standards for quality SL experiences, including clear goals, reflection, community engagement, and academic rigor. The IUDC offers practical opportunities for SL and community development. The IUDC model follows Participatory action research (PAR) principles, emphasizing collaboration, participatory decision-making and action-oriented research to address community needs. This study assesses the effectivity of the IUDC model based in its adherence to best practices for SL, Student Learning objectives (SLO's) and PAR. It also assess student knowledge and attitude change informed by final written reports. Results reveal strengths in compliance with best practices for SL and SLO's, student adherence to program requirements and participation in learning experiences. The evaluation highlights challenges such as the development of activities not aligned with PAR principles, and need for clear instructions in the manual. Recommendations include refining instructional materials, enhancing student understanding of PAR, and establishing robust assessment protocols to measure effectiveness of service-learning initiatives. The evaluation process is continuous, with plans for the development of a comprehensive manual and the implementation of assessment tools for ongoing improvement and adaptation to changing circumstances.

Introduction

Service learning has a rich history dating back to the nineteenth century, championed by educators like John Dewey who saw its potential in enhancing student learning and citizenship. However, it was not until the 1970s that it gained educational traction. Cognitive psychologists like Lev Vygotsky and Jerome Bruner highlighted its ability to create meaning in learning. In the 1990s, legislative support through acts like The National and Community Service Act of 1990 and programs like AmeriCorps significantly bolstered service learning. Throughout the 2000s, it became increasingly widespread, with states mandating it for all students. In 2008 a national emphasis on service-learning policies was encouraged. Despite this growth, confusion remains about what service-learning entails and its optimal benefits for students. (Farber, 2011). It is often confused with community service or volunteer experiences that align more with *Social Action* and that are not specifically connected to course content or academic activity (Pawlowski, 2018).

Social action typically involves one-way assistance determined externally, fragmented activities, and a hierarchical approach. In this method the community acts as a passive receptor (Asunción, 2017, p. 686). Such vertical interventions, align with neoliberal interventions that, as Brady, Schoneman, and Sawyer (2014) argue, sideline non-professionals from community organization and practice. In contrast to social action, service learning embodies reciprocal engagement of the community and professionals, focusing on both service and learning. It emphasizes collaboration, equality, and active community involvement.

What is Service-Learning?

Service-learning is a method that fosters students' awareness of their social responsibilities, encouraging them to act with integrity (Asunción, 2017). It serves as an educational method that intertwines community service with academic instruction (Farber, 2011). This approach entails students' active participation in community endeavors as part of their educational journey. The core aim is for students to acquire and enhance skills through hands-on experiences while positively affecting their community. By integrating service with academics, this approach cultivates civic engagement, social consciousness, and a dedication to serving others, all while reinforcing academic principles (Asunción, 2017). In this way, the model allows educational institutions to respond in an integrated manner to three dimensions: the academic dimension related to knowledge, another related to the development of attitudes and values through structured reflection on experience, and finally, the dimension of real contribution to community issues (Maldonado-Rojas, 2020). Steinke and Fitch, (2007) also argue that SL can be a solution to the criticisms received by higher education for not being able to focus on the skills of critical thinking, real world problem solving and transferring what they learn in one course to other courses or to the outside world.

The literature on Service Learning informs that there are several standards to the quality of the SL experience. We considered three authors that have listed the best practices for Service learning during this investigation: Honnet & Pulson, 1989; Howard, 2001; and Pawlowski, 2018. In their seminal work, Honnet & Poulson (1989) delineate a comprehensive framework comprising ten essential practices for effective community engagement. These practices include fostering active participation in initiatives geared towards the common good, providing structured platforms for individuals to critically reflect on their service experiences, and articulating clear goals encompassing both service provision and learning outcomes. Moreover, the framework emphasizes the importance of empowering community members to define their own needs, clarifying the responsibilities of all involved parties, and flexibly matching service providers with the specific needs of the community. Organizational commitment is deemed crucial, with expectations for comprehensive support mechanisms and ongoing evaluation. Additionally, the framework acknowledges the dynamic nature of community needs and advocates for a flexible time commitment tailored to meet evolving requirements. Furthermore, it underscores the participatory nature of community engagement, promoting collaborative decision-making and active involvement of community members in program development. Together, these practices form a robust foundation for fostering inclusive, responsive, and mutually beneficial community engagement initiatives.

Howard (2001) presents several best practices for Service-Learning (SL), advocating for a pedagogical approach that prioritizes learning outcomes over mere service provision. Key principles include ensuring that students earn credit for their learning rather than simply for their service, maintaining academic rigor throughout the experience, and establishing clear learning objectives and placement criteria. Moreover, the author emphasizes the importance of incorporating educationally sound learning strategies, preparing students for meaningful engagement with the community, and minimizing the distinction between classroom and community learning roles. Additionally, the role of faculty as collaborators is highlighted, emphasizing the need for flexibility in navigating variations and potential loss of control over Service-Learning outcomes (SLOs). Finally, the author points to the significance of maximizing the community responsibility orientation of the course, aligning with broader objectives of community engagement and social responsibility.

After reviewing the literature about the best practices of SL, Pawlowsky (2018), advocates for different approaches. The professors should develop the structure of the service-learning opportunity in the course, link the service-learning opportunity to course learning outcomes, create community partnerships before the start of the semester, work through logistics with community partners, and keep communication open with partners during and after the SL experience. They also have to prepare students for the service-learning experience, create purposeful reflection assignments that address learning outcomes, handle challenging issues through open dialogue, and give credit for the learning and not the service. Finally, they should assess service learning for academic, personal, and professional outcomes.

Assessment has a growing role in shaping curricula, they must demonstrate that local service-learning efforts follow the best practices and enhance specific student learning outcomes. This evidence can help service-learning in gaining the influence it needs to transform the curriculum. Systematic assessments of service-learning provide opportunities to demonstrate the impact that this pedagogy can have on student learning in a way that can convince faculty members and administrators. Better assessment also provides a way of improving the learning experience students receive by participating in this practice. One of the purposes of this study was to evaluate to what extent the Service-Learning model of the University Institute for Community Development aligns with the principles presented by these three authors.

The Service- Learning Model at the University Institute for Community Development

The University Institute for Community Development (IUDC) at the University of Puerto Rico - Mayagüez (UPRM) exists since 2003 with the purpose of creating a bridge between the University and the surrounding communities. Its mission is to "actively link the university community of Puerto Rico with the communities of our archipelago, serving as a model and valuing the knowledge, strengths, and skills of its residents" (Seijo Maldonado & Canals Silander, 2017). As part of its services, it offers practical opportunities to students, using a model that meets the criteria to be considered a service-learning activity (Rodríguez & Rosado, 2023). The service-learning experience at IUDC involves professors, students, student mentors, and community members in diagnosing the needs of vulnerable population sectors and seeking strategies to meet those needs.

What characterizes the practice at IUDC, is its flexible identity because students can get involved in three ways: voluntarily, as an activity within a course requiring this type of practical experience, and by enrolling in an INTD course equivalent to one credit. Regardless of each student's style and level of participation, this experience functions as a practical class that includes a protocol (like an extended syllabus), a working model, teaching strategies, assessment techniques, and assessment tools guided under a professor's supervision.

SL at IUDC promotes fieldwork-related research through the Participatory Action Research (PAR) methodology, which integrates scientific methodology with the ethical experience of action towards finding solutions (Nelson, 2015). The PAR perspective relates to the history of popular movements due to its commitment to legitimizing local knowledge over elitist and exclusive trends. This model gained legitimacy and recognition during the 1980s with the liberation movements in Latin America and has been contemporarily resumed by government structures and developed countries as it became evident that traditional forms of knowledge proposing external solutions without sensitivity to the context, failed, leaving no option but to resort to participatory strategies (Cornish, et al., 2023).

The IUDC model consists of five principles regarding community work and development: (1) All community work must respond to a legitimate and expressed community need; (2) All community work will be carried out together with the community, aiming to contribute to the continuous development of the human capacities of its various sectors; (3) All community work will strengthen community ties, allowing for occasions of dialogue and feedback among its different sectors; (4) All community work will take into account the well-being of the most vulnerable members of the community; and (5) All community work will seek to preserve, restore, and enhance the natural capital of the community and the country (Seijo Maldonado & Canals Silander, 2017).

The practice at IUDC includes a protocol or Manual (equivalent to an expanded curriculum) outlining the mission, vision, objectives, values, theoretical concepts, and methodology. It also includes evaluation tools for the experience along with templates for the report and final poster preparation. The focus is on the functional model based on Participatory Action Research and service-learning specific to the IUDC experience. It employs various teaching methods that integrate community experience into the student's course. It also relies on interdisciplinary experiences where both teachers and students integrate information related to various knowledge areas and collaborate with communities. The model provides different evaluation instruments directed towards measuring student learning (ej.. evaluation by faculty, self-evaluation, peer evaluation, community evaluation, mentor evaluation, and group evaluation). At the end of the semester, adjunct professors at IUDC evaluate the fulfillment of the community work experience through a poster session and an oral presentation.

The IUDC model presents the following postulates of Participatory Action Research (Seijo Maldonado & Canals Silander, 2017): (1) Requires conscious attention and respect for human diversity; (2) The problems and difficulties faced by people in communities are easier to understand and solve through observing and sharing with people within their social, cultural, economic, and historical context; (3) It is a process of participatory collaboration among the community, the university, and personnel obligated to serve the communities; (4) It is

based on respect and appreciation for popular knowledge, as well as the great human capacity to develop collective knowledge. (Collective knowledge is only possible with democratic and participatory structures); (5) It is necessary at all levels: in identifying the problem to solve, identifying resources, data analysis, implementing possible solutions, and evaluation; and (6) Seeks to drive the human sciences to promote the well-being of humans and their communities in a committed and effective manner.

Based on university experience, the Participatory Action Research (PAR) process should commence with community immersion. Given that most participating students do not reside in the community, it is recommended that, as part of their engagement, they initiate street observations from vehicles and engage in casual conversations with community members. Street observations enable students to visually survey the community, identifying pertinent aspects for future interventions, facilitating spatial analysis, and aiding in the formation of a mental or geographical map of the community. Moreover, informal interviews assist students in acquainting themselves with community members and integrating more seamlessly, thereby fostering trust in the process. An indispensable skill to cultivate in the PAR process is active listening and understanding of the community, which remains critical throughout the research journey. It is imperative for students to document the challenges, issues, and needs encountered by the communities, necessitating adeptness in dialogue engagement. As students progress through experiential learning in community service, they must reflect on their observations, informal interviews, and community meetings. During the latter, community members and students establish working committees, incorporating individuals keen on devising solutions to community challenges. It is worth noting that the IUDC Model and PAR are flexible frameworks that allow for adaptations and refinements throughout the process.

Students participating in the community service-learning experience under the IUDC Model follow several phases. First, students attend a seminar on the IUDC Model, which includes an explanation of the model and the PAR methodology. They also receive training in techniques and methods for approaching the community and collecting data. The workshops also include themes like ethics in community work to safeguard best practices, and conceptual tools to understand poverty and inequality in depth. Additionally, they receive training on leadership in community work. After the seminar, the faculty assigns students to participating communities, where they are paired with a mentor and a community teacher. Students meet with their mentor and fellow students from different departments to establish a mission, vision, and goal for the project. Afterwards the use secondary data to acquire knowledge of the community and recollect primary data. Students and mentors collaborate with community leaders to interpret the results and create a work plan addressing community needs. Finally, they prepare an activity that responds to community needs. The final document of the experience is presented in a community assembly at the University.

Purpose of This Research

Salam and Collaborators (2019) assert that high-quality service-learning enhances student learning. However, with the increasing emphasis on evidence in education following the evidence-based movement, service-learning researchers and practitioners are now positioned to offer compelling evidence of the benefits and

outcomes of SL in higher education (Cook, Smith, & Tankersley, 2012). For service-learning to gain recognition in this capacity, it must be fully integrated into departmental and general education assessment processes at colleges and universities.

In this study, we assess the IUDC program by examining its alignment with best practices for service learning, general education student learning objectives, and participatory action research, ensuring that activities conducted resonate with the expressed needs of the community. Additionally, we evaluate students' adherence to program requirements and the quality of the manual. Our objective is to develop a new manual integrating the historical foundations of our practice and insights gleaned from our study. This manual will feature an appendix with assessment tools to facilitate future evaluations of articulated learning, critical thinking, problem-solving, diversity knowledge, and other measures consistent with the learning objectives for general education.

This toolkit will support ongoing evaluation of the service-learning experience, assessing whether the program effectively serves the target student group, refining program delivery, identifying any ongoing concerns, and providing evidence and justification for continued program support, thereby enabling evidence-informed educational practice. Chan (2023) underscores the importance of research in providing the foundations and justifications for the effectiveness, efficiency, and ongoing support of service learning in higher education, particularly in the face of obstacles to its acceptance.

Method

With the aim of initiating the assessment of the Service-Learning model at IUDC, the authors began by evaluating the end-of-course reports submitted by the students. These reports contain an executive summary, secondary data, a literature review corresponding to the community, a description of community engagement and data collection methods, the results of the needs assessment, community plans and activities, a reflection on the process, and a self-reflection on attitude and knowledge change after undergoing the experience known as "letter from me to myself." It also includes an appendix with tools for assessing the quality of the service provided and student accountability. These reports would provide information about the type of activities carried out and how well they align with the Participatory Action Research model. They also provided information on students' adherence to the manual instructions. This adherence was important as it could inform whether having the information contained in the manual is sufficient for students to carry out the required activities or if additional explanation is needed. Additionally, besides reviewing the reports, the working manual was reviewed to determine categories within the manual and how these aligned with classical service-learning best practices (Honnet & Poulson, 1989; Howard, 2001) and more recent practices (Pawlowski, 2018). Information from the manual evaluation conducted by a group of student mentors was also obtained, and their recommendations were considered.

To assess whether the practices in the community showed evidence that the students learned the model, a comparison was made between the number of practices based on community needs versus practices based on student initiative at three points in time: before the COVID-19 pandemic lockdown, during the lockdown, and

after the lockdown. T-tests were conducted to determine if there were significant differences between the two types of interventions and if there was a difference in the number of interventions per period. These preliminary results informed the design of subsequent research aimed at continuing the evaluation process, which had not occurred in the 20-year history of the Model.

Results

The evaluation findings presented here provide an analysis of the compliance of the Service-Learning model at the University Institute for Community Development (IUDC) with established best practices and Student Learning Objectives (SLOs), as well as its alignment with Participatory Action Research (PAR) principles. Additionally, the evaluation examines students' adherence to program requirements and assesses the quality of the program manual.

Compliance with the Best Practices of Service Learning and SLO's

The assessment indicates that the Service-Learning model at IUDC demonstrates compliance with the majority of Best Practices in Service Learning outlined by Honnet and Poulson (1989), Howard (2001) and Pawlowski (2018). However, there are exceptions noted regarding certain best practices: Assess Service-Learning for Academic, Personal, and Professional Outcomes, Handle Challenging Issues Through Open Dialogue, Work Through Logistics With Community Partners (Pawlowski, 2018) and several Student Learning Objectives (SLOs) outlined by the Arts and Sciences College at The University of Puerto Rico, Mayagüez Campus. Notably, aspects such as engagement in lifelong and multi/interdisciplinary learning, appreciation for humanities, arts, and sciences, and knowledge about Puerto Rican heritage and culture may vary depending on the specific project. Additionally, the demonstration of respect for nature and the environment, particularly in Puerto Rico, is also contingent upon the nature of the project. The following table (Table 1) presents the details of the qualitative assessment.

Table 1. Compliance with the Best Practices of Service Learning and SLO's

Manual Analysis	Best Practices	SLO's
There is a Manual that specifies minimum number of visits (lecturas de calle) and interviews.	Develop the Structure of the Service-Learning Opportunity in Your Course (Pawlowski, 2018)	
Workshops on participatory action research methodology, ethics in community work, interdisciplinary work, group work, data collection techniques, databases, and diversity.	Training, supervision, monitoring, support, and evaluation to meet service and learning objectives (Hornet & Poulson, 1989). Preparing students to learn in community settings (Howard, 2001). Prepare Students for the Service-Learning	Recognize the ethical implications of different actions and integrate ethical standards or codes into responsible decision-making and implementation (5), Demonstrate respect for human

Manual Analysis	Best Practices	SLO's
	Experience (Pawlowski, 2018)	diversity in all its dimensions (10),), Engage in teamwork (13)
Development of a mission, vision, and objectives for each workgroup	Articulate service goals for all involved parties (Hornet & Poulson, 1989).	Communicate effectively orally and in writing, in both Spanish and English, particularly in their major area (1), Appreciate the essential values of a democratic society and the role of the individual in such a society (8), Be committed to improve the quality of life at both the personal and the community level (12) Engage in teamwork (13)
Ongoing supervision by mentors and professors	Includes training, supervision, monitoring... (Hornet & Poulson, 1989) Keep Communication Open With Partners During and After the Service-Learning Experience (Pawlowski, 2018)	Develop knowledge and skills related to their field of study and apply them to the identification and solution of problems (3)
Community work experiences with flexible schedules, close to the communities where the students reside. Communities are previously selected by IUDC	Ensure that the time commitment for service and learning is flexible, appropriate, and in the best interest of all. (Hornet & Poulson, 1989) Create Community Partnerships Before the Start of the Semester (Pawlowski, 2018)	
The PAR method promotes community involvement in all phases of the research work.	Allow those with needs to define those needs. (Hornet & Poulson, 1989)	Appreciate the essential values of a democratic society and the role of the individual in such a society (8), Demonstrate respect for human diversity in all its dimensions (10), Be committed to improve the quality of life at both the personal and the community level (12), Engage in teamwork

Manual Analysis	Best Practices	SLO's
		(13)
Multidisciplinary groups - interdisciplinary collaboration	Curricula with multidisciplinary service-based experiences (Jones & Abes, 2013)	Develop knowledge and skills related to their field of study and apply them to the identification and solution of problems (3), Engage in teamwork (13)
Development of reflective journals about the experience	Provides structured opportunities for individuals to critically reflect on their service experience. (Hornet y Poulson, 1989) Link the Service-Learning Opportunity to Course Learning Outcomes (Pawlowski, 2018) Create Purposeful Reflection Assignments That Address Learning Outcomes (Pawlowski, 2018)	Communicate effectively orally and in writing, in both Spanish and English, particularly in their major area (1), Think critically (2), Recognize the ethical implications of different actions, and integrate ethical standards or codes into responsible decision-making and implementation (5), Be committed to improve the quality of life at both the personal and the community level (12)
A letter from me to myself comparing the ideas and vision before starting the project and after having completed it	Provides structured opportunities for individuals to critically reflect on their service experience. (Hornet y Poulson, 1989) Create Purposeful Reflection Assignments That Address Learning Outcomes (Pawlowski, 2018)	Communicate effectively orally and in writing, in both Spanish and English, particularly in their major area (1), Think critically (2)
There are instruments for the community, peers, mentors, and teachers to evaluate student performance.	Includes training, supervision, monitoring, support, recognition, and evaluation to meet service and learning objectives (Hornet & Poulson, 1989).	Appreciate the essential values of a democratic society and the role of the individual in such a society (8), Engage in teamwork (13)
Review of literature on the communities to be impacted	Providing solid educational mechanisms for community learning (Howard, J., 2001)	Think critically (2), Understand contemporary social, political, and economic issues in a local and global context (9)
Development of community maps, and other data collection	Providing solid educational mechanisms for community learning	Think critically (2), Apply mathematical reasoning, the

Manual Analysis	Best Practices	SLO's
techniques	(Howard, J., 2001)	scientific method, research designs, and information technologies (4)
The IUDC students are encouraged to complete the project they have started through the establishment of an initial commitment and motivation by the faculty.	It expects genuine, active, and sustained organizational commitment. (Hornet & Poulson, 1989)	
There is a manual that explains and clarifies the roles of each of the groups involved in the process.	Clarify the responsibilities of each person and organization involved. (Hornet & Poulson, 1989) Develop the Structure of the Service-Learning Opportunity in Your Course (Pawlowski, 2018)	
Students are required to present a poster, a written report, and an oral report demonstrating their performance in the community project. It should include the steps of the research carried out.	Credits are given for academic learning, not for carrying out service (Pawlowski, 2018; Howard, 2001)	Communicate effectively orally and in writing, in both Spanish and English, particularly in their major area (1), Think critically (2), Apply mathematical reasoning, the scientific method, research designs, and information technologies (4), Understand contemporary social, political, and economic issues in a local and global context (9), Be committed to improve the quality of life at both the personal and the community level (12), Engage in teamwork (13)

Compliance of the Project with PAR

The evaluation highlights a discrepancy in the alignment of project activities with the principles of Participatory Action Research (PAR). It has been observed that only half of the activities conducted in the community address the expressed needs of the residents. This suggests a deviation from the PAR model in terms of participatory decision-making and the development of activities guided by community needs. Furthermore, the analysis

reveals a notable impact of the COVID-19 pandemic and associated lockdown measures on the frequency and nature of community activities, indicating a need for further adaptation and recovery efforts. The following table presents the number of congruent activities vs non congruent with the community needs showing that half of the activities were not congruent and showing no significant differences between the congruent vs incongruent activities.

Table 2. Compliance of the Project with PAR in terms of Ensuring that Activities conducted are Consistent with the Needs Expressed by the Community

Period of interventions	Media of Congruent activities	Media of Incongruent activities	Student T	P
Pre COVID 19 lockdown (N 62)	.9838	.9032	.0032	P>.05
During COVID 19 lockdown (N 85)	.2857	.33	.3289	p>.05
Post COVID 19 lock down (N 26)	.37	.37	0.0	p>.05

Students' Compliance with Program Requirements:

The evaluation examines students' adherence to program requirements, revealing an average compliance rate of 83%. This percentage falls below the acceptable threshold, suggesting that there is room for improvement in student adherence to program expectations. Particularly concerning is the finding that at least 20% of the evaluated student reports do not comply with the practice of activities such as community mapping, conducting interviews, and engaging in reflection exercises. Details of the assessment are presented in Table 3.

Table 3. Students' Compliance with Program Requirements

Manual Analysis	Compliance by students
Workshops on participatory action research methodology, ethics in community work, interdisciplinary work, group work, data collection techniques, databases, and diversity.	All participants go to at least one of the Seminars offered at the beginning of the Semester
Development of a mission, vision, and objectives for each working group.	100% of Reports
Multidisciplinary groups - interdisciplinary collaboration.	100% of the participating students
Literature review on the communities to be impacted.	Unaccounted for
Development of community maps and other data collection techniques.	83% - develops street reading skills, 72% - interview skills, 66% - use of community maps.
Ongoing supervision by mentors and	Unaccounted for

Manual Analysis	Compliance by students
professors.	
Experiences of working with flexible schedules near the communities where students reside.	Unaccounted for
The PAR method promotes community participation in all phases of the research work.	Only half of the activities are congruent with community needs (Rodríguez, Rosado y Seijo, 2022, 2023)
Development of reflective journals about the experience.	77% reflects on the process through reflective journals and a reflective letter from me to myself. (Consistent with the literature suggesting that a change in perspective occurs through a series of phases facilitated by continuous reflection on experience, Scott, 2013)
A letter from me to myself comparing the ideas and vision before starting the project and after completing it.	The 77% reflects on the process through the inclusion of reflective journals and a reflective letter from me to myself.
There are tools for the community, peers, mentors, and professors to evaluate student performance.	Unaccounted for
Students at IUDC are encouraged to complete the project they have started through the establishment of an initial commitment motivated by the faculty.	77% of students - attend weekly IAP team meetings (attendance, contribution of ideas, commitment to teamwork, and availability). They submit the required documents by the assigned dates.
There is a manual that explains and clarifies the roles of each of the groups involved in the process.	Unaccounted for
Students must present a poster, a written report, and an oral report demonstrating the execution of the community project.	89% of the assignments demonstrate excellence in terms of content, spelling, and syntax, and 94% of students participate in writing.

Quality of Manual

Student participation in the program evaluation process is noted as synchronous, voluntary, and initiated by the students themselves. A group of students conducted the evaluation of the program manual, engaging with teachers, mentors, and staff to provide feedback and committing to producing a written report. Notably, the evaluation process was not supervised by IUDC staff, highlighting a student-driven approach to quality assessment and improvement initiatives. Due to circumstances related to the status of volunteer students, which were beyond the control of the researchers, the report was not submitted. However, the students held a meeting with the staff of the IUDC in which they offered the following recommendations:

1. Rewrite the manual to provide clearer instructions.
2. Avoid repetition and explain each data collection technique thoroughly.
3. Write the manual in a step-by-step style.

4. Include links to videos for students who find auditory learning more accessible.
5. Convert the compulsory end-of-semester activity into an optional exercise, dependent on the phase of community work and community needs.
6. Seek alternatives to ensure continuity of the project with the communities across semesters.
7. Improve the quality of student's assessment tools.

Discussion

The evaluation of the Service-Learning model at the University Institute for Community Development (IUDC) reveals a mixed picture of compliance with established best practices and Student Learning Objectives (SLOs). On one hand, the model demonstrates adherence to all identified Best Practices in Service Learning, as outlined by Hornet and Poulson (1989), Howard (2001) and Pawlowski (2018). It also aligns with 10 of the 14 Student Learning Objectives of the Arts and Sciences College at The University of Puerto Rico, Mayagüez Campus. There are four exceptions which include aspects such as lifelong learning, appreciation for humanities, arts, and sciences, knowledge about Puerto Rican heritage and culture, and respect for nature and the environment. All of them may vary depending on the specific project undertaken. The fact that these two SLOs are not met should not be of major concern, as traditionally courses meet an average of two to four SLOs. (Ventura-College).

On the other hand, the evaluation identifies areas of concern regarding the project's compliance with Participatory Action Research (PAR) principles. It is noted that only half of the activities conducted in the community effectively address the expressed needs of residents. This deviation from the PAR model suggests shortcomings in participatory decision-making and the development of activities guided by community needs. Additionally, the analysis highlights the impact of the COVID-19 pandemic and associated lockdown measures on community engagement, with activity levels affected and no evident recovery observed yet. Several reasons were given in an article by Rodríguez-Ramos, Rosado-Silva and Seijo-Maldonado (2021). They explain the decrease in activities carried out in the communities but do not explain why half of the activities are directed by the students and not by the needs of the community. This is another factor to consider for future research. The observation that approximately 50% of activities are not directed by the community raises concerns regarding the internalization of the Participatory Action Research (PAR) paradigm by students and the clarity of instructions in the manual. This suggests a potential gap in understanding or implementation of the collaborative decision-making process outlined in PAR. Furthermore, students' express agreement regarding the lack of clarity in the manual, indicating a need for improved guidance and instruction.

Lastly, the evaluation assesses students' compliance with program requirements, revealing an average compliance rate of 83%, equivalent to a B- grade. While this indicates a generally satisfactory level of adherence to program expectations, there is room for improvement in meeting these requirements. Astin, Vogelgesang, Ikeda and Yee (2000) state that the single most important factor associated with positive course outcomes appears to be the student's degree of interest in the subject matter (see Table 14). This variable appears to be an especially important determinant of (1) how useful the service experience is in enhancing understanding of the "academic" course material; and (2) the extent to which the service is viewed as a learning

experience. Among other things, these findings provide strong support for the notion that service learning should be included in the student's major field. These conclusions raise the question of whether there is a correlation between the course in which the student carried out the service learning (whether it was a general course or one in their concentration) and their level of interest in involvement in it. Other studies (Levesque-Bristol, Knapp, & Fisher, 2011) found that when service-learning contributes to an enhancement of the positivity of the learning climate, then positive forms of motivation (among other skills) increased over the course of the semester. This provides for questioning the psychological atmosphere in which the service learning is conducted. Results also showed that type of involvement, amount of in-class discussion, and reflections are important factors contributing to the effectiveness of the service-learning involvement. Delving into the topic of active learning, it has been found that when the instructors take time to explain why they are using active learning, provide clear instructions for the activities, and engage with students during activities to encourage participation they see more positive student responses related to participation, value, positivity, and evaluation (Andrews, 2022). It is necessary to study if this applies to Service learning as well.

The students question the lack of integration in interventions from one semester to another, suggesting a need for greater continuity and coherence in project planning and execution across academic terms. These findings underscore the importance of refining instructional materials, enhancing student understanding of PAR principles, and establishing robust assessment protocols to support the effectiveness and sustainability of service-learning initiatives. Overall, the evaluation findings also indicate the importance of ongoing monitoring and adaptation to ensure that the Service-Learning model at IUDC continues to effectively serve both students and communities alike.

Conclusions

This research has provided information about the strengths of the IUDC model showing us that it is an important resource in Service learning and needs to be included in the Core courses needed to comply with the student learning outcomes of our College for Arts and Sciences. The result of the assessments also provides guides to determine which areas need to be enhanced to have a better Service-learning experience that satisfies the needs of our changing student body and communities. This preliminary report informs future assessment and the creation of a manual for implementation that can be used to replicate the model in other centers for Education. We can't forget that the assessment exercise is a continuous one and the Manual as a result will be a living document. This evaluation process enriches the IUDC model, adapting it to the new challenges that have emerged after hurricanes, earthquakes, pandemics, and their consequences on migration, displacement, dismantling of public institutions, and their effects on poverty and inequality in Puerto Rico.

Recommendations

Continuing to study service-learning experiences while considering diversity from a decolonizing perspective is necessary. Some follow up research will be directed towards the development of a tool to assess the quality of the manual that includes clarity, organization, step by step instructions and suitability; conducting focal group

with students with emphasis in areas to improve. We also plan to add three student assessment instruments to the manual after conducting a content validation analysis: Assessment Instrument 1 (Degree to which the work meets the Expectations and Commitments of IAP Projects in Communities), Assessment Instrument 2 (Compliance with the PAR Methodology), and Assessment Instrument 3 (Quality of the Executive Report). To provide course level continuing assessments, the authors will validate two instruments: Assessment Instrument 4 (Subjective Learning Experience), and Assessment Instrument 5 (Evaluation Summary of Students by Mentor and Community teacher). We will also make the following change to the manual to have a tool for implementing and evaluating changes in the IUDC service-learning experience: Add an Introduction to the model Chapter with links to training videos. We will also provide explanation of the PAR paradigm with links to training videos and examples and will clarify the evaluation criteria for the students. After the evaluation of the implemented changes, the results of the quality of manual assessment and focal groups will be used to edit the different sections of the manual. Further studies should be directed towards the assessment of program continuity within the communities, the best participatory practices through student learning activities within the communities and producing ground theory for the Student Learning participatory research within the colonial context.

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