



Implementation and evaluation of service learning at higher education institutions

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ABSTRACT

Service learning courses enable students and lecturers at higher education institutions to take on social responsibility by collaborating with community partners. In this literature review that is complemented by empirical examples, we present advantages and challenges of this teaching approach as well as guidelines for developing concepts for a university-wide implementation and evaluation of service learning. Our article is informed by higher education, implementation and evaluation research and findings from the Third Mission project of the University of Vienna, Austria. Within the scope of the project, we conducted a multi-stakeholder workshop and an interview study with representatives from seven universities. We illustrate the service learning approach with two course examples from the University of Vienna's psychology master's programme. Then, we discuss how service learning can be systematically implemented at the university level using frameworks from implementation science and findings from an interview study. Results indicate that successful implementation of service learning at the university level is supported by long-term collaboration between the university and community partners and an institutional culture that visibly values students' and lecturers' additional efforts. Finally, we seek to advance the evaluation of higher education by presenting a comprehensive participatory approach to service learning assessment that actively involves diverse stakeholders, including students, faculty, and community partners and that can be applied across various disciplines. By integrating multiple perspectives, we offer a framework for capturing the multidimensional impacts of service learning on educational outcomes and community engagement.

1. Introduction

Service learning is a special course format in higher education curricula, where a group of students collaborates with a community partner on a specific project over the course of one or two semesters. Service learning courses combine an engagement for society ("service") with enhancing the participating students' professional, methodological and social competencies ("learning"). The project work is led and supervised by a lecturer, who also provides theoretical and methodological knowledge to the students. By targeting current community problems,

students learn directly how to apply their academic knowledge to community needs (Shek, Yang, Ma, & Chai, 2021).

Accordingly, service learning courses go beyond traditional course formats by enabling "personal reflection, experiential activities, action in the community, and examination of values and attitudes" (Motoike, 2017, p. 133). Altogether, service learning can be defined as a "credit-bearing educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic

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responsibility” (Bringle & Hatcher, 1996, p. 222).

Service learning can take on many different forms and can be a part of curricula of various disciplines. For example, Civitelli and colleagues (2021) describe an approach where medical students volunteered in healthcare facilities for marginalised patient groups and engaged in social work with patients experiencing homelessness. In a different service learning course, business students collaborated with military veterans who were developing their own business ventures (Manegold, Schaffer, Arseneau, & Kauanui, 2020). Service learning courses can also be conducted in a virtual format, which became especially relevant during the Covid-19 pandemic (García-Gutiérrez, Ruiz-Corbella, & Manjarrés Riesco, 2021).

Service learning provides an opportunity for universities to take on social responsibility by creating a space where universities and community partners can learn from each other and by empowering participating students (Coelho & Menezes, 2021). In addition to discipline-specific competencies, service learning puts an emphasis on improving students’ cross-sectional competencies (Santos Rego, Mella Núñez, Naval, & Vázquez Verdura, 2021). For example, for students’ professional development, collaboration competencies are seen as crucial in various disciplines, yet they are difficult to address in classical teaching formats (Schultes, Aijaz, Klug, & Fixsen, 2021). Collaborating with partners outside the university in service learning can improve students’ interpersonal skills in terms of clearer communication and building positive relationships with collaboration partners (Warner, 2020). Moreover, applying the theoretical contents from their field of study in real-world contexts can increase their academic self-efficacy (Schmidt et al., 2020), i.e., their beliefs in their own academic competencies.

Being a diversified teaching format that provides insights into various practice settings, service learning also offers a great range of learning experiences to lecturers. Accordingly, lecturers who are interested in gaining knowledge on a variety of practical fields particularly enjoy teaching service learning classes (Resch & Schrittmesser, 2021). Also, participating community partners can gain new information, insights and strategies through their collaboration with the university (Vizenor, Souza, & Ertmer, 2017). Moreover, participating students provide highly skilled, yet free support to their services, which sometimes evolves into an internship or employment (Blouin & Perry, 2009).

A challenge of service learning classes is that they often require more time and effort from both the students’ and the lecturers’ account than traditional teaching formats (Spiel, Graf, Stempfer, Schultes, & Schober, 2020). This can discourage faculty from engaging in service learning, especially if they perceive that their institution does not value their additional teaching efforts as opposed to a higher investment in research (Borkoski & Prosser, 2020). Moreover, the semester schedule usually has a higher degree of unpredictability than most other course formats, which demands higher flexibility from students and lecturers. However, this can also be seen as a chance for students to learn how to adapt project schedules to changing real-life circumstances.

For students, service learning imposes the risk of precarious work relationships when their engagement highly exceeds the usual workload of the respective course format. From the perspective of community partners, it can be challenging when the effort of preparing and supervising students at a practice site is not followed by a direct return on investment. This can be a risk especially when the course structure does not match the partner organisation’s needs or when students show low commitment to the collaboration project (Blouin & Perry, 2009). Hence, it is important to discuss the community partners’ expectations from the very beginning of the partnership and to set realistic expectations in terms of the students’ resources.

1.1. Examples of service learning courses

In order to illustrate specific collaboration projects between universities and community partners, we present two service learning

courses that were taught by the first author in the academic year 2018/19 for master’s students in psychology at the University of Vienna. Both courses occurred in the context of the so-called “applied seminar” that focuses on the transfer of theoretical contents to practice, takes place over one semester and has a maximum of 20 participants.

The first course, “Social Entrepreneurship”, focused on the collaboration with a start-up that connects elderly people, who offer spare rooms in their apartments, and people who are looking for affordable housing in Vienna. The collaboration was initiated by the research services unit of the University of Vienna and prepared in meetings between the lecturer and one of the start-up founders. In a one-day kick-off meeting, the students learned about social entrepreneurship and the work of the collaborating start-up. Together with the start-up founder, they mapped out specific goals of the collaboration in a design-thinking process. They agreed on the following course assignments: The students assessed the needs of the start-up’s target group and developed efficient tools for collecting data from potential clients on their website as well as an algorithm for matching interested clients who are seeking and offering housing. Over the course of the semester, the students acquired theoretical knowledge for successfully accomplishing the tasks and directly applied that knowledge to their project work. The students received continuous feedback from the community partner (i.e., the start-up), who also used the results for further developing their business. The results were presented in a half-day closing meeting at a community hub for start-ups in Vienna.

In the second course, “Evaluation in practice”, students evaluated the low-threshold science communication services of an association that creates venues in Vienna, where visitors from diverse groups can gain experiences with science, for example by conducting small scientific experiments. The collaboration originated from a meeting between the association’s director and the lecturer at a conference. At the beginning of the course, the students acquired knowledge about the foundations of evaluation research and prepared an evaluation workshop. In the workshop, the goals of the evaluation study were developed together with the collaborating association’s director and staff members from the science communication venues. Based on corresponding theoretical inputs, constant supervision by the lecturer and feedback from the community partner, the students developed evaluation instruments for a survey and observation study and collected data at the venue. Furthermore, they developed self-evaluation instruments that the association could continuously use in the future. At the end of the course, the students presented the results of the evaluation study to the association’s steering committee and interested faculty members of the university’s psychology department.

For an evaluation of the courses, the students completed online surveys where they assessed both their learning progress in the specific course and the advantages and challenges of the service learning approach. In their open comments, students emphasised their acquisition of relevant practical competencies for their later professional life, such as project management, communication with clients and presentation techniques for professional settings outside the university. Moreover, several students mentioned that engaging in a societal meaningful project had strengthened their motivation and self-efficacy.

Community partners especially complimented the service learning approach as an opportunity to get new perspectives on their business or association and to gain scientifically sound data for their further development and presentations to funding partners. From the teaching perspective, presenting theoretical knowledge on the background of specific practical contexts was a rewarding experience since it highly contributed to the lecturers’ own learning. However, both the students and lecturer viewed the low predictability of the collaboration projects and the higher workload in comparison to traditional courses as a challenge. In particular, the courses demanded high flexibility, which was partly caused by the concrete goals of the collaboration being defined just after the beginning of both courses. Moreover, for the lecturer, the administrative efforts of managing an entire project within

a course was added to the usual workload of teaching administration.

2. University-wide implementation of service learning

Considering the administrative challenges of service learning despite its many benefits, institutional support structures can prove beneficial in motivating lecturers and students to engage in this teaching format. Moreover, institutionalising service learning contributes to universities' commitment to prioritising their communities' needs and sustainable development (Santos Rego & Lorenzo Moledo, 2018). A systematic implementation of service learning courses into curricula of higher education institutions requires structures that support lecturers and facilitate sustainable partnerships between the university and community partners. Depending on characteristics of the university and the surrounding community's needs, these structures will differ between universities. For establishing suitable support structures, it is crucial to consider multiple perspectives on course and curriculum management, which can be realised by building an implementation team (Aijaz, Fixsen, Schultes, & Van Dyke, 2021).

Members of the implementation team can include representatives from the university management, curricular commission, quality management department, lecturers, and students (Bergsmann, Schultes, Winter, Schober, & Spiel, 2015). Team diversity concerning organisational levels and roles not only benefits the knowledge and skills available in the team to effectively implement support structures, but also supports gaining buy-in to administrative changes from diverse stakeholder groups (Metz & Bartley, 2020). In addition, the perspectives of community partners, which are often underrepresented in respective processes (Chmelka et al., 2020), can be included by discussing the implementation plan with external stakeholders who have previously been involved in service learning courses.

Theoretical methods and frameworks from implementation science (for an overview see, e.g., Moullin, Sabater-Hernández, Fernandez-Llimos, & Benrimoj, 2015; Nilsen, 2015) include helpful reference points in terms of what factors to consider when developing an implementation plan for service learning at higher education institutions. These can be discussed in the implementation team and build a basis for the development of implementation strategies. For example, the *Implementation Mapping* methodology (Fernandez et al., 2019; Schultes, Albers, Caci, Nyantakyi, & Clack, 2022) provides step-by-step guidance for the systematic implementation of innovations in organisations using a participatory approach. Here, discussions in the implementation team about determinants that potentially impact implementation efforts play an important part. An overview of such determinants can be found in the *Consolidated Framework for Implementation Research* (CFIR, Damschroder et al., 2009; Damschroder, Reardon, Widerquist, & Lowery, 2022) that describes potential barriers and facilitators to implementation at multiple levels: Involved individuals, the inner and outer setting, the innovation itself and the implementation process.

When applying the CFIR framework to the implementation of service learning, important determinants at the *individual level* are, for example, knowledge about service learning among involved stakeholders, lecturers' skills in conducting respective courses and attitudes toward service learning among students, lecturers, and the university management. At the *inner setting*, i.e., the university, the prevailing academic culture and climate impact the implementation of service learning, for example, in terms of how special efforts in teaching benefit faculty in receiving promotion and tenure (Forbes, Wasburn, Crispo, & Vandevier, 2008). At the *outer setting*, the organisation's cosmopolitanism, which describes the university's network with external organisations from the community, is a key factor for establishing partnerships for service learning courses. A relevant *innovation characteristic* is the cost in terms of financial resources, time and effort that it takes to both conduct service learning courses and to implement them as a new teaching format in curricula. In terms of a successful implementation process, engaging role

models from the teaching staff who function as champions for the service learning approach helps motivating other interested lecturers to start a similar course.

As soon as the implementation team has identified barriers and facilitators for implementing service learning at the higher education institution, the team can define implementation strategies (Powell et al., 2015; Waltz et al., 2015). For example, a strategy to improve lecturers' service learning skills is to provide opportunities for peer-assisted learning (Cook, Lyon, Locke, Waltz, & Powell, 2019). Especially lecturers who are new to this teaching approach might benefit from a platform where they can consult experienced lecturers. Further implementation strategies include the development of a quality monitoring system, such as course evaluation specifically designed for service learning and monitoring the progress of implementation efforts (Cook et al., 2019). Hence, continuously evaluating not only the teaching efforts but also the success of implementation strategies at the university level is an important part of institutionalising service learning at higher education institutions (Schultes et al., 2019).

2.1. Examples for promotional activities at the university level

The University of Vienna promotes service learning as part of its Third Mission strategy, which has been developed in the university-wide Third Mission project (Spiel et al., 2020). Implementation strategies applied in the project include a university-wide call where lecturers were invited to describe their service learning courses using a template. Those courses that fulfilled the criteria of service learning (e.g., societal engagement, collaboration with a practice partner) are presented as good practice examples on the project website.¹ In this vein, role models from the teaching staff are introduced, their courses gain higher visibility and interested lecturers can get an idea of service learning in different disciplines, such as psychology, law, and teacher education.

In a workshop, the Third Mission project team discussed determinants that would facilitate the implementation of service learning at the University of Vienna. To include perspectives from multiple levels of the university system, lecturers, researchers, and the directorates of different study programmes were invited as participants. A discussion result was that offering special training opportunities for lecturers would draw their attention to the topic and help improving their corresponding teaching skills. The attendees also mentioned that creating networking opportunities among lecturers of different study programmes could facilitate interdisciplinary service learning courses that would benefit not only the students' competencies, but also the knowledge and skills that are offered to community partners. Moreover, teaching administration experts at a dedicated contact point could help with challenges that emerge during courses and respond to questions, for example regarding legal issues of students' voluntary work for community partners.

Furthermore, the workshop participants discussed that the time and effort needed to complete service learning projects, both from the lecturers' and students' side, should be acknowledged. While students could be rewarded with extra credit points, lecturers could receive administrative support. In line with this workshop result, lecturers from all faculties were invited to apply for a grant that aimed at supporting the realisation of their service learning ideas. Most of the applications included a request for tutors who could support lecturers and students with the additional workload, such as project administration.

Since most lecturers highly benefit from assistance in arranging community partnerships for service learning courses (Forbes et al., 2008), a feature of leading universities in the field are central offices that support lecturers with respect to course design and communication with community partners. By providing this service, lecturers can focus on conceptualisation and teaching, while the central office takes care of the

¹ <https://thirdmission.univie.ac.at/service-learning/>

administrative work. Examples of these central offices include the UNIAKTIV platform at the University of Duisburg Essen (Miller, Ruda, & Stark, 2016) and the University Participation and Integration Service (SEPIU) at the University of Santiago de Compostela (Santos Rego & Lorenzo Moledo, 2018).

2.2. Interview study on institutionalising service learning

To learn from other higher education institutions' efforts of implementing service learning, we conducted an interview study with seven representatives from universities in German speaking countries that have a well-established Third Mission strategy. We employed a rapid qualitative approach (Nevedal et al., 2021; Vindrola-Padros & Johnson, 2020), including a purposive sampling strategy (Palinkas et al., 2015), to obtain relevant information with a relatively small sample size. Interview partners included members of the rectorate and the heads of the universities' research transfer units. One representative per university took part in the interviews, which were held by the first author via phone between November 2018 and January 2019. The interview topics were sent to the participants beforehand via email. After having received the participants' consent, the interviews were recorded and fully transcribed. We analysed the data using inductive qualitative content analysis (Forman & Damschroder, 2007) in Maxqda.

The results showed that especially those universities that had managed to hold a long-term collaboration with local partners in industry and social welfare could also sustainably establish service learning as a teaching method. Advanced service learning concepts included interdisciplinary student teams that worked on assignments from external companies and master theses that were executed in the form of research projects with industry partners. Universities that stood out in their successful implementation of service learning also showed a special appreciation for their faculty's teaching efforts. This manifested, for example, in sabbaticals that are dedicated to the development of high-quality teaching concepts and awards that are granted for innovative course formats.

3. Evaluation of service learning from multiple perspectives

Course evaluations are an essential guiding tool that provides information on whether service learning courses meet desired goals. These goals not only concern students' learning, but also the course process, for example, in terms of the collaboration between the university and the community partners. For that purpose, it is important to evaluate service learning courses from the students', lecturers' and community partners' perspectives. However, most evaluation studies focusing on service learning have only incorporated the students' perspective so far.

When following a multi-perspective approach, lecturers might reflect on whether their courses' activities could achieve both the goals of the collaboration agreement and the students' academic development goals. Students can rate their learning progress in terms of professional, methodological, and social competencies. For this purpose, it is beneficial to combine qualitative and quantitative methods (see, e.g., Leary & Sherlock, 2020). Learning outcomes, such as enhanced self-efficacy, can be assessed with validated scales (e.g., Bai & Stewart, 2010), while diaries or logbooks add in-depth information to the evaluation of the learning process (Resch, 2018). Other methods that have been used for evaluating service learning from the students' perspective include interviews, written project reports, as well as oral and poster presentations (Queiruga-Dios, Santos Sánchez, Queiruga-Dios, Acosta Castellanos, & Queiruga-Dios, 2021). For community partners, key evaluation themes are their experiences with collaborating with a higher education institution and applying scientific knowledge in practice settings.

To a higher extent than in classic course evaluations, quality monitoring in service learning can be guided by the principles of participatory evaluation (Cousins & Chouinard, 2012). This approach implies that groups who take part in the evaluation are also involved in decisions

concerning the evaluation process. Advantages are that stakeholders develop more positive attitudes toward the evaluation process (Schultes, Kollmayer, Mejeh, & Spiel, 2018) and are more likely to use evaluation results as a guide for change processes (Roseland, Lawrenz, & Thao, 2015). When following a participatory approach in service learning, students, lecturers, and community partners are included in the explication of goals for the respective course. In addition, their perspectives can be included in the development of evaluation instruments. In this vein, both students and community partners acquire evaluation knowledge and skills that can be maintained beyond the service learning project, similar to the approach of empowerment evaluation (Fetterman & Wandersman, 2007).

Within the objectives of a service learning course, there is a difference between objectives that are specifically linked to the content of the respective course (i.e., content-specific objectives) and objectives that are related to the format of service learning (i.e., format-specific objectives). Regarding content-specific objectives, students could, for example, benefit from the improvement of their subject-specific knowledge. With regard to format-specific objectives, students could also acquire competencies that strengthen their general skills (e.g., problem-solving skills) and, in the long term, change their beliefs (e.g., self-efficacy) and behaviour (Celio, Durlak, & Dymnicki, 2011; Giles & Elyer, 1994).

Lecturers, however, act as an interface between students and community partners. On the one hand, they must meet the service concept and, therefore, the community partner's needs, and on the other hand, they have to implement content- and format-specific teaching objectives. Finally, community partners expect support in achieving specific corporate goals. Nevertheless, they also share responsibility for a constructive collaboration process. For example, a lack of communication between the lecturer and the community partner is often cited as an obstacle to ensuring successful collaboration (Blouin & Perry, 2009).

A participatory course-related goal explication with students, lecturers and community partners greatly facilitates a constructive collaboration process. The procedure promotes reflection on one's own goals and expectations associated with the participation in (student), teaching of (lecturer) or collaboration with (community partner) a service-learning course. Moreover, utilising a pre-post-design, it can provide valuable information about which goals that have been defined at the beginning have actually been achieved. In addition, it can be determined how support can be provided to achieve the unmet goals in the future.

3.1. An example for the development of a multi-perspective evaluation instrument

Developing a university-wide evaluation concept for service-learning courses that applies to individual projects and includes different perspectives can be challenging. For example, the University of Vienna hosts a variety of heterogeneous disciplines within 15 faculties and four centres (Brandt, Schober, Schultes, Somoza, & Spiel, 2018). Accordingly, the subject areas of service learning courses are diverse and their objectives not only vary between the involved groups (students, lecturers, community partners), but also between different disciplines. This variety might be similar at other universities that seek to develop evaluation concepts for service learning. To capture both the different objectives of involved groups and courses from different disciplines, we suggest a two-step approach for the development of evaluation instruments.

In a first step, lecturers, students, and community partners who are involved in service learning can be invited to take part in a mixed-methods pilot study. At the beginning of the semester, the stakeholders' goals can be assessed with open questions to derive categories for a quantitative survey. In addition, the survey should include a post-test at the end of the semester assessing the achievement of these goals and possible challenges as well as proposed solutions to these challenges

from all three perspectives. Furthermore, closed questions, for example concerning students' academic self-efficacy, can be piloted in the initial survey.

In a second step, the information obtained can be used to develop a quantitative tool that is economically applicable and records the identified most important goals and their fulfilment across disciplines and for each perspective. In addition, data from the pilot survey can inform the development of support structures for lecturers at the university level. Moreover, both the results from the pilot survey and future evaluation results can be used to derive recommendations for improving service learning courses and institutional support structures beyond the respective university. Table 1 presents an example for a pilot survey that can serve as the basis for developing the quantitative evaluation instrument.

4. Conclusion

Service learning can generate a positive impact on students, lecturers, and community partners in terms of an improvement of various competencies and processes. For example, students can improve their cross-sectional competencies (Santos Rego et al., 2021) and academic self-efficacy (Schmidt et al., 2020), while lecturers and community partners exchange insights between academia and practice settings. At the same time, these courses imply certain challenges, such as a higher effort and uncertainty than most traditional university teaching formats. In this regard, students risk getting involved in precarious work relationships and lecturers are often not rewarded for their additional teaching efforts. For community partners, service learning projects can be disappointing if the output does not match their expectations. Ultimately, it should be recognised that students are not (yet) professionals, but in many cases may be applying their theoretical knowledge in practice for the first time. In this respect, the community partners are not in a pure recipient role, but also have a part to play in accompanying students in their professionalisation. This special situation should be openly reflected upon with all stakeholders involved in service learning activities.

5. Lessons learned

Higher education institutions seeking to institutionalise service learning can benefit from implementation plans that are created by implementation teams representing diverse stakeholders. Informed by methods and frameworks from implementation science, the team can identify potential challenges and facilitators and formulate implementation strategies. Results from our interview study indicate that long-term collaborations between the higher education institution and community partners support the successful implementation of service learning. These can be supported by service institutions at the university that facilitate communication between lecturers and community partners. Moreover, lecturers and students can be motivated for engaging in service learning by rewarding their special efforts and by openly declaring that the university values socially responsible teaching. Further studies including a larger, more diverse sample can complement the findings of our rapid qualitative study by providing a more comprehensive picture of challenges and facilitators for the institutional support of service learning.

A course evaluation system that incorporates the special characteristics of service learning facilitates quality management and helps managing the challenges of this teaching format by learning from past experiences. For this purpose, it is essential to include the perspectives of students, lecturers, and community partners in evaluation and to explicate the objectives of the collaboration project in a participatory process with all involved groups. The potentials and challenges expressed by all involved stakeholders can be used to advance the contents and structure of specific courses and to improve institutional support structures for service learning.

Table 1

Pilot survey for the development of a service learning evaluation instrument.

	Pre-test	Post-test
Students		
Goals and expectations (open)	What are your goals for this course?*	At the beginning of the semester, you were asked what your goals for this course were. Which of these goals could you achieve from your point of view?*** Which of these goals could you <u>not</u> achieve from your point of view? What would be helpful in the future to achieve the unfulfilled goals?*
	What are your expectations for the organisational process of this course?*	At the beginning of the semester, you were asked what your expectations for the organisational process of the course were. Which of these expectations could be fulfilled?*** Which of these expectations could <u>not</u> be fulfilled from your point of view? What would be helpful to ensure that the unfulfilled expectations are met in the future?*** Based on your experience with this service learning course: What aspects would speak in favour of taking part in a service learning course again? Based on your experience of this service learning course: What aspects would argue for <u>not</u> participating in a service learning course again?
Competencies	I expect from the course***: ...that I get to know a practical field ...that I will be prepared for my future profession ...that I can act on my own responsibility ...that I can participate in decision-making processes ...that I can make a contribution to society ...that I get to know new perspectives Please now think of challenges during your studies** ... I can rely on my skills in difficult situations during my studies ... I can cope well with most of the problems I encounter in the course of my studies ... I can usually solve even strenuous and complicated tasks in my studies	In/through the course***: ...I got to know a practical field ...I feel more prepared for my future profession ...I could act on my own responsibility ...I could participate in decision-making processes ...I could make a contribution to society ...I got to know new perspectives Please now think of challenges during your studies** ... I can rely on my skills in difficult situations during my studies ... I can cope well with most of the problems I encounter in the course of my studies ... I can usually solve even strenuous and complicated tasks in my studies
Lecturers		
Goals and expectations (open)	What are the learning objectives for your students in this course?*	At the beginning of the semester, you were asked about the learning objectives of this course. Which of these goals were achieved from your point of view?*** Which of these goals do you think have not been achieved? What would be helpful to achieve the unmet learning objectives in the future?***

(continued on next page)

Table 1 (continued)

	Pre-test	Post-test
	What strategies/methods would you like to use to support the achievement of these learning objectives?*	At the beginning of the semester, you were asked which strategies/methods you would like to use to support the achievement of the learning objectives. Which of these strategies/methods did you actually use? How would you rate the effectiveness of the strategies you used? Please name reasons for your assessment.** Which of these planned strategies/methods did you ultimately <u>not</u> use? Please name reasons for your decision or the circumstances that led to not using them.** At the beginning of the semester, you were asked what goals you would like to achieve together with your community partner. Which of these goals do you think have been achieved?*** Which of these goals do you think have <u>not</u> been achieved? What would be helpful to achieve the unmet goals in the future?***
	Please develop with your community partner those goals that they would like to achieve and indicate them here.*	Are you planning more service learning courses in the future? Please indicate whether you plan to repeat this service learning course. Please indicate whether you plan to teach any other service learning courses in the future (if yes, please describe your plans).
Competencies	Please now think of challenges you face as a lecturer.*** ... I can rely on my skills in difficult teaching situations. ... I can cope well with most of the problems I encounter as a lecturer on my own. ... I can usually solve even strenuous and complicated tasks that I am confronted with as a lecturer.	Please now think of challenges you face as a lecturer.*** ... I can rely on my skills in difficult teaching situations. ... I can cope well with most of the problems I encounter as a lecturer on my own. ... I can usually solve even strenuous and complicated tasks that I am confronted with as a lecturer.
Community partners		
Goals and expectations (open)	What goals were developed together with the lecturer and the students?*	At the beginning of the semester, you were asked about the goals that were developed together with the lecturer and the students. From your point of view, which of these goals were implemented?*** In your opinion, which of these goals have not been implemented? What would be helpful to fulfil the implementation of these goals in the future?*** At the beginning of the semester, you were asked about your expectations with regard to the organisational process of the collaboration. Which of these expectations were fulfilled?***
	What are your expectations for the organisational process of this course?*	

Table 1 (continued)

	Pre-test	Post-test
Challenges and benefits	What particular challenges do you think might arise during this collaboration? What motivated you to cooperate with this service learning course? In your opinion, what are the fundamental advantages of collaborating with the [name of university] (within the framework of a service learning course)?	Which of these expectations do you think have <u>not</u> been met? What would be helpful to fulfil these expectations in the future?*** In your view, what particular challenges have arisen during this collaboration? How could the collaboration be improved? Based on your experience with this collaboration: What aspects would speak in favour of cooperating with [name of university] again (in the context of a service learning course)? Based on your experience with this collaboration: What aspects would speak in favour of <u>not</u> cooperating with [name of university] again (in the context of a service learning course)?

*The participants are asked to document their answers for later use at the post-test with the following addition: "Please make notes on this answer. Alternatively, you can also save them in a word document or take a picture. You will need the answer again at the end of the semester".

** Participants are reminded to refer to their notes from the first survey with the following addition: "At the beginning of the semester, we asked you to write down your goals and expectations. Please refer to them now".

*** Responses on a 5-point Likert scale from 1 = *Strongly disagree* to 5 = *Strongly agree*.

Author statement

MTS conceptualised the article, developed and led the described service learning courses and conducted the interview study. MTS and JH reviewed the literature on service learning. DG conducted the multi-stakeholder workshop. MTS and DG developed the evaluation approach and wrote the first draft of the manuscript. BS and CS acquired funding for and led the Third Mission project. All authors contributed to the Third Mission project and its results and critically revised the manuscript.

CRediT authorship contribution statement

Julia Holzer: Conceptualization, Data curation, Project administration. **Daniel Graf:** Conceptualization, Methodology, Project administration, Writing – original draft. **Christiane Spiel:** Conceptualization, Funding acquisition, Supervision. **Barbara Schöber:** Conceptualization, Funding acquisition, Supervision. **Marie-Therese Schultes:** Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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