Transforming Teaching:
Service-Learning's Impact on Faculty

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Abstract

Service-learning has become widespread in universities worldwide, implying an increased number of involved faculty. Many studies document service-learning's impact on students, but only a handful of exploratory studies examine impact on faculty. We offer a focused investigation of positive and negative impacts of service-learning on faculty from an Asian context, based on interviews with 24 faculty members from diverse academic disciplines in a university in Hong Kong. Phenomenological methods are used to summarize the essences of firsthand experiences. Participants' valenced views about service-learning's impact are categorized as dominant positive, mixed, and negative stances. Service-learning contributed to faculty teaching, civic-mindedness, person/values, professional development, and research. Findings suggest that service-learning involvement can benefit more diverse faculty than previously identified. Service-learning is recommended as a strategy for faculty development, and as a means for universities to fulfill their social responsibility and contribute to sustainable development goals outlined by the United Nations.

Keywords: service-learning, faculty, impact, faculty development, university social responsibility

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Service-learning is an experiential pedagogy that links academic learning to community needs through organized service and critical reflection. Acknowledged as a high-impact practice (Kuh, 2008), service-learning incorporated in courses and cocurricular programs has become widespread in institutions of higher education across the globe over the past three decades. This expansion implies an increased number of faculty involved in service-learning, and suggests a strong need to understand better how they are impacted by their engagement in service-learning.

Abundant literature now explores service-learning from theoretical, empirical, and practice-oriented angles. Many of these studies examine its impact on students and, overall, present positive findings about its outcomes, academic and professional, civic and personal (Conway et al., 2009; Ngai et al., 2019). Likewise, there are inquiries into how service-learning impacts communities, positive and negative effects alike, often concluding with pointers for more equitable service-learning partnerships and projects (Crabtree, 2008; Cruz & Giles, 2000). A third stakeholder of service-learning are universities themselves. Studies about impact on universities are less common but suffice to show how service-learning poses, on the one hand, a challenge to academic institutions and traditional teaching, and, on the other hand, an opportunity to assume social responsibility and impart civic education as well as real-world training for students (Butin, 2006; Speck, 2001).

At the heart of the university are faculty, its "most costly and valuable resource" (Demb & Wade, 2012, p. 364). For faculty involved in service-learning, the pedagogy often entails a new experience in which they must play the role of "boundary workers"—that is, mediating between higher education and communities (McMillan, 2011). It is reason-

able to suppose that teachers involved in service-learning also receive some impact from it just as students and communities do. As Driscoll noted, "faculty are both influential with, and influenced by, service-learning" (2000, p. 35); Pribbenow similarly commented that in pedagogical innovations like service-learning, "all the players active in the innovation can be affected by the involvement" (2005, p. 35). A recent article by Baecher and Chung (2020) has shown how a service-learning program for teachers can aid their professional development, impacting them personally, critically, and pedagogically. Here, however, we wish to examine the impact of service-learning on those who *teach* service-learning: What are the various ways—positive and negative—that service-learning affects faculty work? Does the experience of teaching service-learning have any impact on the person?

A number of articles address faculty and service-learning; many of them offer recommendations for recruiting more faculty for service-learning, or even advocate better conditions to sustain faculty in service-learning endeavors. These articles examine reasons and characteristics of faculty who engage in service-learning (Antonio et al., 2000; Demb & Wade, 2012; McKay & Rozee, 2004; O'Meara & Niehaus, 2009), factors that deter or motivate faculty to use service-learning (Abes et al., 2002; Banerjee & Hausafus, 2007; Chen, 2015; Darby & Newman, 2014; Ma & Law, 2019; Speck, 2001), and benefits and challenges faculty encounter through involvement in service-learning (Cooper, 2014; Driscoll, 2000; Heffernan, 2001; Kezar & Rhoads, 2001; Losser et al., 2018). Added to these are general explorations of service-learning's impact on different parties (Chupp & Joseph, 2010; Driscoll et al., 1996; Mettetal & Bryant, 2010). Some of these articles and a few others touch on service-learning's impact on faculty (Carracelas-Juncal et al., 2009; Harrison et al., 2014; Pribbenow, 2005). On the whole, these studies have been only exploratory, have limited focus (i.e., impact on faculty work), and study Western contexts. We summarize salient and recurring points found in these studies:

- Service-learning presents itself to faculty as a double-edged sword: Although captivating them with positive outcomes they see in students and communities, it often entails onerous challenges, particularly in terms of time, workload, funding, and support;

- Advocates of service-learning—for whom "the benefits outweigh the costs" (McKay & Rozee, 2004, p. 30)—list faculty gains such as enhancing teaching practice, better connection with students, integrating the three domains of their work (teaching, research, service), and potential to transform their role from expert instructors to engaged co-learners;

- Characteristics of faculty involved in service-learning appear to boil down to (1) student-oriented beliefs or values as educators and (2) some degree of commitment to the community;

- Finally, some academic disciplines are thought to be better disposed toward service-learning than others, in practical, soft, life, or human sciences with social or service orientation—such as health disciplines, social work, and education—more than physical, natural, computing, or engineering sciences, arts, and humanities (Abes et al., 2002; Antonio et al., 2000).

Related to the last point and from a more critical perspective, Butin (2006) has referred to service-learning as a pet pedagogy of the "softest" and "most vocational" disciplines and fields (pp. 479–480), seemingly less compatible with the teaching practices, styles, methods, and assessment procedures of hard sciences. Differing from Butin, Zlotkowski (1998) proposed a faculty development approach, arguing that service-learning can contribute to faculty work by offering faculty members a means to connect and engage with the community in a way that can inform their teaching, practice, and research. Studies attending to faculty experience of service-learning commonly echo Zlotkowski's approach. They point out, for instance, that service-learning helps faculty develop knowledge, skills, and values for engaged scholarship (McMillan, 2011; Peterson, 2009), introduces them to reflective practice (Carracelas-Juncal et al., 2009; cf. Camus et al., 2021), and opens opportunities for interdisciplinary collaborations within and beyond universities (Cooper, 2014; Pribbenow, 2005). Arguably, these matters are beneficial for academics

regardless of discipline.

Our inquiry is situated in this body of literature where service-learning's impact on faculty has been a mere side topic or only tentatively explored. Mostly confined to North American settings and drawn from small sample groups, findings have been inconclusive and hardly generalizable. We believe the topic merits more thorough and detailed investigation, and that more in-depth investigation from a non-Western context may help confirm claims that have been made thus far. It is important to confront both positive and negative impacts on faculty in order to make necessary adjustments for service-learning to be sustainable in higher education. If faculty are able to benefit more from their involvement in service-learning, they will be able to supervise service-learning courses or programs better, and this improvement would redound to better impact on students and communities implicated in service-learning projects.

This article is a focused investigation of service-learning's impact on faculty in an Asian context, particularly Hong Kong. Service-learning was introduced in Hong Kong about two decades ago. It has since become widely adopted in institutions of higher education, and its practice is extending to secondary schools as well (Lau et al., 2022). Nonetheless, research about service-learning in Hong Kong is at an early stage (Shek et al., 2019). We probe into less explored angles by attending to experiences of faculty from different disciplines and with varying initial dispositions toward service-learning. The research is based on in-depth interviews with faculty who teach service-learning in The Hong Kong Polytechnic University (PolyU), where service-learning has been a mandatory, academic credit-bearing requirement of the undergraduate curriculum across disciplines for nearly a decade (Chan et al., 2017). These characteristics of service-learning in the host university bear on the significance of the study in several ways. First, since the majority of the university's departments offer service-learning courses, we were able to gather experiences of service-learning faculty from diverse disciplines of hard and soft sciences alike. Second, implementing service-learning as a mandatory undergraduate requirement necessitated more faculty to teach service-learning than were originally interested. In consequence, faculty we interviewed did not necessarily choose to be involved in service-learning: Some claimed to have no knowledge of nor inclination toward service-learning before being tasked with it in their respective departments. These faculty members offer perspectives about service-learning not contemplated in extant literature, which commonly draws on experiences of faculty who adopt service-learning on their own initiative. Third, the service-learning courses taught by participants of our study were standalone, regular academic courses that were custom designed to meet the service-learning requirement. They were not, in other words, converted from existing courses simply by adding a service-learning component. In this respect, the service-learning experiences of faculty we interviewed can be said to be fuller or more immersive, promising more intensity and detail for a descriptive, qualitative study.

A Phenomenological Inquiry

We were convinced that service-learning's impact on faculty is a theme worth in-depth inquiry and deemed a phenomenological approach suitable for the project. Phenomenology was inaugurated by contemporary German thinker Edmund Husserl in answer to what he saw as tendencies of "cold objectivism" in science and "abstract speculating" in philosophy (Moran, 2000). Phenomenology seeks to ground knowledge of reality on the shared consensus of persons with relevant experience. More a method of knowing than a system of thought, it gives epistemic import to concrete, subjective experiences. Phenomenology rightly takes its name from Greek "what appears" (*phainómenon*) in paying close regard to how things appear to persons with experience. Phenomenology's emphasis on subjective experience helps explain its suitability for "studying affective, emotional, and often intense human experiences" (Merriam & Tisdell, 2016, p. 28).

As a qualitative method, phenomenology tries to gain insider perspective of a phenomenon—in this case service-learning—by bringing together views of persons with direct, lived experiences of the phenomenon (Groenewald, 2004; Merriam & Tisdell, 2016). Phenomenology's principal means of data gathering is through in-depth interviews with individuals with relevant experience. Sample sizes are typically small, ranging from three to 25 interviewees, who

should ideally be a heterogenous group to enable the researchers to explore the phenomenon from different perspectives (Creswell, 2013). Essential strategies of phenomenology include (1) bracketing (or "epoche") of researcher prejudices that may distort interpretation of data, (2) immersion in data collected from subjects, (3) channeling efforts toward describing experiences related by subjects while guarding against invasive analysis, interpretation, or imposition of theory, (4) laying out and giving equal weight to collected data ("horizontalization"), and (5) presenting the essence of the experience through a summary of general and unique themes that emerge from the data ("composite description"; Creswell, 2013; Groenewald, 2004; Grossoehme, 2014; Merriam & Tisdell, 2016).

The Researchers and Their Vantage Point

As a first step, we disclose our background and vantage point as the researchers behind the study. We are academic and research staff of the service-learning office of the host university. A large part of our work consists in liaising with and supporting faculty who teach service-learning subjects. Two authors have been teaching service-learning subjects for over a decade; the other two have been directly involved in service-learning in consulting or mentoring capacities. Our firsthand experience of service-learning's effects on students, communities, and ourselves makes us staunch proponents of service-learning—a "prejudice" we are aware of. At the same time, we are not oblivious to the difficulties and challenges faculty face. In fact, we share similar experiences with them and often work with them in the nuts and bolts of service-learning, from finding community partners and sponsors to implementing projects and assessing students. We believe our background contributed to sympathetic reception of experiences related by faculty members participating in the study.

The Research Participants

PolyU is a large, public university where service-learning became mandatory in 2012. Each year, approximately 70 service-learning subjects catering to 4,000 students are offered by over 25 departments. We tried to gather a heterogenous group through purposive sampling by inviting for interview faculty who varied in years of involvement in service-learning and in academic disciplines. We targeted an equal number of participants between those with over 3 years and those with 3 or fewer years of experience, likewise between those from hard and soft sciences following Biglan's (1973) classification of academic disciplines. In view of existing departments in the university and faculty availability, in the end 24 faculty members from 18 departments were interviewed for the study. Table 1 shows the

Table 1. Distribution of Faculty Participating in the Study (*N* = 24*)		
	Hard	Soft
Academic departments	Applied Biology & Chemical Technology; Applied Physics; Building Services Engineering; Biomedical Engineering; Civil & Environmental Engineering; Land Surveying & Geo-Informatics; Industrial & Systems Engineering; Mechanical Engineering	Applied Social Sciences; Chinese & Bilingual Studies; Chinese Culture; English Learning Centre; Nursing; Optometry; Rehabilitation Sciences; Textiles & Clothing; Management & Marketing; Hospitality & Tourism Management
Years of experience in service-learning ≥3	4	8
Years of experience in service-learning <3	4	8

*13 women; 11 men.

distribution of interviewed faculty.

The final distribution of participants is fairly even in terms of years of experience and broadly represents the distribution of faculty across the host institution's discipline areas.

Materials and Methods

The interviews took place between 2017 and 2018, approximately five years after service–learning became mandatory in the host institution. These were in–depth, semistructured, individual interviews lasting 40 to 90 minutes each. To facilitate free expression, the interviews were mostly conducted in the local tongue (Cantonese) and asked broad questions about the topic (cf. Moustakas, 1994). We asked interviewees how service–learning impacts them/their work and followed up their responses to elicit details. The question was pursued until "saturated"; that is, until interviewees had nothing more to add (cf. Groenewald, 2004). When subjects spoke only of positive impact—as often turned out—we prompted for negative impact by asking, "Has service–learning had any negative impact on you/your work?" To better understand the circumstances of each subject, we also inquired about contextual details, such as their work load, the nature and target recipients of service–learning courses they taught, the origin of their involvement in service–learning, challenges they encountered, and whether they felt they received some form of support or recognition for teaching service–learning. Prior permission was obtained from participants to record interviews. Audio–records of the interviews were transcribed into Chinese, then translated into English for non–Chinese–speaking members of the research team. Approval for the research was granted by the university's Human Subjects Ethics Sub–committee (Ref. no. HSEARS20201110007).

Throughout the research process, the researchers immersed themselves in the data through several rounds of listening and relistening to audio recordings, reading and rereading transcripts, initially to get a whole picture of faculty experiences, subsequently to focus on essential points, to verify statements, or to count instances of similar ideas. Horizontalization in this research project took the form of a text–laden spreadsheet where key statements extracted from interviews were presented in 24 vertical columns, one column for each participant. To further organize the data, we placed similar statements in the same row, then assigned appropriate labels for statements in these rows. An untitled row was kept for statements that were too distinctive or too vague to group with other statements. The table thus summarized data as well as stored important details from the interviews. It facilitated the preparation of a composite summary of how service–learning impacts faculty, presented in two complementary charts. The two charts were shared by email with participants as a way of member checking to ensure that these charts captured interviewees' expressed views (cf. Grossoehme, 2014). Since feedback from faculty responding to member checking (11 participants) approved both charts, no further revisions were made.

Results

More Positive Than Negative

The main question interviewees were asked was how service–learning impacts them. The key word "impact" does not carry any positive or negative connotation. Its equivalent term in Chinese Cantonese (*yíng heúng*) is likewise neutral. The valenced responses of participants thus stand out more clearly. Overall, participants tended to describe positive impacts of service–learning on themselves and their work, making it necessary for us to prompt for examples of negative impact in most cases. Such exchanges during the interviews yielded the following results: a good majority (14/24) insisted on positive impacts; a considerable number (9/24) elaborated both positive and negative types of impact; one participant dwelled on negative impacts. We classified these three types of valenced responses as "dominant positive," "mixed," and "negative" stances, respectively. Figure 1 shows the three stances with sample statements.

Dominant Positive Stance

"Participants with dominant positive stance" refers to those who spoke either exclusively or emphatically about positive impacts of service–learning. When prompted for negative impacts, they tended to deny or dismiss these (e.g., "none," "just that," "I don't mind"). In fact, many from this group acknowledged that service–learning courses took up more time and energy than other courses they taught. However, they seemed to manage these well, for instance, through

DOMINANT POSITIVE
[14/24 respondents]

· Emphasized positive impacts while playing down negative impacts

"No negative impact… You learn."

"Enriched with new things, interaction… I hope students appreciate it more."

"Meaningful to help the needy, despite heavy workload."

"More things to do, but it's worthwhile."

"Many difficulties, but I'm happy."

"Sometimes tiring, but it's okay."

"Very good, very worthwhile… I forget the negative things."

"I don't mind the negative impact because it is meaningful."

"None. I actually learn."

"Lose vacation, but just that, time."

"None, really. Takes up time, but with time management, it doesn't affect teaching and research."

"Takes up a lot of time, but our team divides labor."

"Difficult, but colleagues should know it's not just that."

"Hard to think of any. I only think of positive ones."

MIXED
[9/24 respondents]

· Elaborated both positive and negative impacts

"Good for career development, can influence others… less free time, and physical inconvenience of fieldwork."

"Understand community better and interact more with students; but time consuming, compromises, other tasks, and causes conflicts."

"Fun to serve. Work load is heavy, and there are many challenges."

"More stressful, though also rewarding. Not enough support, manpower."

"Many positive things, but work relations are affected and sometimes lack support."

"Very meaningful, (but) lack recognition for time and effort."

"Able to help others, (but) time consuming and there are many things beyond control."

"Very rewarding, meaningful. Less time home and for research during project trips."

"See change in students; flooded with concerns about meeting NGO needs, budget, manpower, time."

NEGATIVE
[1/24 respondents]

· Emphasized negative impacts
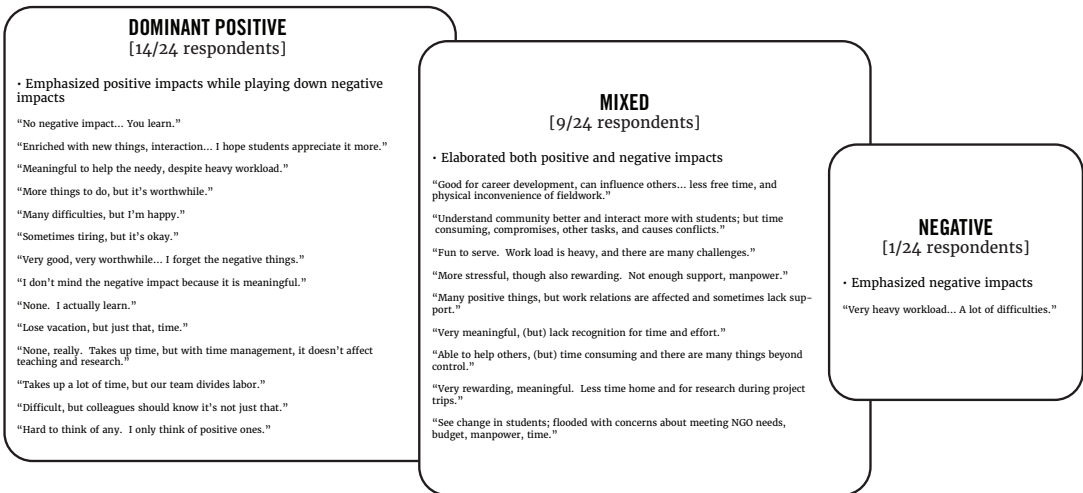
"Very heavy workload… A lot of difficulties."

Figure 1. Faculty Stances About Service-Learning's Impact

"time management," "division of labor," or simply by "learning" from experience. Their reasons for valuing service-learning are revealed by words they used to describe service-learning's effect on them as faculty, finding it "enriching," "meaningful," or "worthwhile."

Among participants in this group, it is worth highlighting the experiences of five faculty members—three from soft sciences, two from hard sciences—who were assigned to teach service-learning without prior interest in the task. Further, all claimed to have had little or no experience in volunteering or community service. Precisely for these participants, service-learning constituted a completely new experience, a discovery, as the following statements show:

> The service-learning subject was assigned to me by my department because the one teaching it was retiring. Actually, I study animals, not people! It was challenging to take up this subject in the beginning. However, the more I taught it, the more interested I became. (T7)

> I was asked to teach service-learning. I had no personal reason [to want to do so], and did not have any idea what service-learning was but thought to give it a try. At first I thought it was a burden for students, another requirement they had to fulfill. But later I saw how it helps them change, to think more

of and care for others. . . . I want to continue teaching service-learning. (T9)

I was asked to lend a hand in service-learning, and found that through it I could teach a technique to students which students could use to help others in society. . . . It's fun to serve! I enjoy the process of learning with students, and the experience of using my expertise to help others. (T10)

I had absolutely no experience in joining community projects. It was only when I started to teach service-learning that I gained that experience. I had to learn little by little. . . . It is worthwhile to teach service-learning, to see changes in the students, to be able to influence them through (my) teaching. (T12)

I had not been involved in any community project prior to teaching service-learning, although I care for marginalized persons and helped hand out food at church some time. Service-learning entails a lot of coordination and takes up time, but the social impact is a real advantage. Seeing how your field can help society, the contact with society—makes it worthwhile. (T15)

These testimonies are particularly interesting coming from faculty who originally

had little interest in service–learning and community work. They are, in other words, hardly the "type" of service–learning faculty discussed in the literature. The matter suggests that more diverse faculty can thrive in teaching service–learning than those to whom it is supposed to appeal.

Mixed Stance

The smaller group of participants who expressed mixed stance were those who discussed both positive and negative types of impact. In fact, most participants from this group tended to dwell on positive impacts but, with prompting, acknowledged and elaborated negative impacts as well. Like the previous group, participants with mixed stance considered service–learning "meaningful" or "rewarding" for reasons pertaining both to themselves (e.g., career development, drawing closer to students or the community, enjoying serving) and to others (e.g., seeing positive changes, being able to help). Compared to the dominant positive group, however, participants with mixed stance expressed more concern about the time and effort that went into teaching service–learning courses. As they explained, service–learning courses entailed logistics, coordination, and resources, as well as student and project supervision, far more than other subjects they taught. They spoke of service–learning's negative impacts in terms of having "less time," putting up with a "heavy workload," or feeling "stressed." These negative aspects led to secondary effects, such as encroaching on other tasks and commitments, or producing conflicts at work. Two participants from the group also mentioned lack of support or recognition from their departments or students as an adverse effect of service–learning.

To say more about the backgrounds of faculty members with mixed stance: Six are from soft sciences and three from hard sciences; most (6/9) had community or volunteering engagements prior to being involved in service–learning; most (6/9) started teaching service–learning simply because they had been asked to, and the remaining three either proactively offered to teach service–learning or had relevant experiences that left them inclined toward service–learning and considered natural candidates to teach it in their departments. The disparity of backgrounds within the mixed stance group and, likewise, within the dominant positive group suggests that none of the factors that we thought might be important (e.g., academic discipline, community engagement, origin or reason for service–learning involvement, years of experience in teaching service–learning) decisively determined how faculty experienced service–learning's impact.

Negative Stance

Drawbacks of teaching service–learning mentioned by participants in the first two groups seemed, unfortunately, to converge in the experiences related by the participant with negative stance, for whom service–learning meant a "very heavy workload [and] a lot of difficulties." Interestingly, this participant was initially happy to take on the task, having been previously involved in a similar program and years of community service. The participant did acknowledge positive aspects of service–learning experience, such as "learning more about needs, worries and difficulties of students" and seeing desirable "changes in their behavior, capacity for teamwork and communication." However, single–handedly teaching service–learning courses while perceiving little department support proved daunting. We believe the overall negative experience expressed by the faculty member in question deserves as much attention as those of the other groups. It is not difficult to see that under better circumstances the participant could have gained more positive experiences from teaching service–learning.

Types of Impact

During the interviews, participants also shared concrete ways that service–learning impacts them. Figure 2 sums up positive and negative impacts gathered from the interviews.

Positive examples of service–learning's impact on faculty can be classified under five domains: teaching, civic–mindedness, person/values, research, and professional development.

Positive Impacts

Contributions to Teaching. For a large majority of interviewed faculty (20/24), service–learning made a difference in teaching, particularly in helping them to develop more student–centered approaches owing to more frequent and dynamic interactions with students. For example,

POSITIVE IMPACTS **NEGATIVE IMPACTS**

Teaching [20/24 participants]

1a. Student-centered approach [15 examples]
 –better understanding/interaction/connection with students
1b. Pedagogy [9 examples]
 –picked up experiential methods (reflection, fieldtrips, class activities)
1c. Course content [5 examples]
 –service data, experience useful for academic teaching

Civic-mindedness [17/24 participants]

2a. Community awareness/concern/contact/involvement [17 examples]
2b. Linking academic goal/expertise with community needs [6 examples]

Person/Values [16/24 participants]

3a. Self-efficacy [10 examples]
 –being able to make a difference/influence students, community
3b. Impetus/Passion for work [7 examples]
 –discovering service, finding meaning, job satisfaction, integration

Professional Development [10/24 participants]

4a. Useful knowledge, skills, abilities [10 examples]
4b. Interdisciplinary networking, collaborations [8 examples]
4c. Rewards/Recognition [3 examples]

Research [9/24 participants]

5a. Academic discipline research [7 examples]
5b. Scholarship beyond specialization [2 examples]

Time consuming [9/24 participants]

–encroaches on private time, vacation, research, other projects/tasks

Affected work relations [6/24 participants]

–conflicts; feel lack of appreciation, support, recognition

Increased workload [5/24 participants]

–administrative & logistic concerns; coordination, liaising; tiring, stressful

Student problems [2/24 participants]

–inadequate behavior, motivation, attitude; complaints, negative feedback

Experience uncertainties [2/24 participants]

–many things beyond control or unfamiliar (e.g., class size, environment, community partners)

Physical inconveniences [1/24 participants]

–fieldwork; commuting to different locations

Figure 2. Positive and Negative Impacts of Service-Learning on Faculty

(Service-learning projects) entail more interaction with students. It makes me think of the students, and become more aware of how I communicate with them, manage things, and deal with people. (T12)

In service-learning, you become not just an instructor but also a mentor to students. Because we interact more, I understand them and their learning problems better. I have a more positive view of students from teaching service-learning. I realized that they are not as passive as they seem during lectures. (T13)

Service-learning changed my view of students. They seem passive and quiet in class. But in service-learning, you discover that they can be pro-active and do things you never expected them to do for the sake of service clients—things you don't usually see in campus. (T17)

I understand students better and discover different personalities and backgrounds. I also learned to appreciate and am sometimes impressed by their efforts and creativity in serving. (T20)

Service-learning has made me reflect more on students, on my interaction with them, on how I teach. . . . There's more time for direct communication, they tell you a lot of things, you see each other more, talk more, have deeper conversations during reflective activities. This is all learning for me. (T22)

Another way that service-learning contributed to teaching was by introducing faculty to elements of experiential pedagogy, such as field activities and reflecting on experience.

I learned to use reflection as a teaching method. (T1)

I got exposed to experiential learning, which is so different from book learning. Going out into the community, students understand soci-

ety more, and learn planning and teamwork in real-world settings. (T13)

Service-learning made me want to use experiential methods in my other subjects. I now incorporate class activities or field trips in these. (T19)

For a handful of interviewees, service-learning involvement also enhanced the content of discipline subjects they were teaching. Immersing in the community yielded contextualized or up-to-date information that was useful for their classes. As one participant from an engineering field explained, using their expertise to serve the community meant "gaining real life knowledge and examples" (T23). For a language expert, seeing the actual language-learning difficulties of immigrants "gave ideas to develop better teaching tools" (T5). Meanwhile, a participant from health sciences found "data collected from service useful for classes with majors" (T7).

Connecting With Society. Most participants (17/24) also claimed that service-learning contributed to their own civic-mindedness and engagement. Working in communities with community partners and interacting with service clients allowed them to directly witness and comprehend existing problems and needs of various sectors in society, such as senior citizens, migrant groups, low-income families, health patients, and persons with disabilities.

I would volunteer as a student and have always been concerned for society. Teaching service-learning brought about more involvement and in-depth understanding of elderly clients, our service target. (T3)

It has helped me understand Hong Kong society better, especially low income sectors. I know more about community environs and can contribute with some of my learning. (T20)

Service-learning lets students have more contact with the community and learn about others' needs—the same goes for me. (T23)

The examples above are from participants

who had some form of community involvement before or besides teaching service-learning. For one faculty member who was "never involved in any volunteering or community project whatsoever," being asked to teach service-learning meant heightened awareness of and engagement in the needs of society:

Service-learning increased my knowledge of society. Just think, we collaborate with at least nine different community service providers. In the process, we understand actual conditions and service gaps in society, like helping persons with mental disabilities to prepare for old age. Hong Kong has a good health service system and they can count on their families, but their families will not always be around. This is one example of service gaps we are thinking of addressing. (T17)

Other faculty members discovered in service-learning the chance to use their professional knowledge and skills for the benefit of communities, adding, as it were, a new dimension to their academic specialization on top of teaching and research.

I want to continue teaching service-learning. Making our expertise useful for community clients and seeing their progress is very satisfying. (T5)

Participating in a free vision screening project in [a developing country] when I was in senior year made me aware of severe eye problems and the need to promote eye care. Now that I oversee a service-learning project for a local community, I came to realize that this need also exists in developed societies. . . . One impact of service-learning on me and my students is being able to contribute to society with our expertise. (T7)

Impact on Person and Values. More fundamental examples of service-learning's impact on faculty touched on personal outlook and values underlying work and life attitude. For a considerable number of participants (10/24), close interactions and tangible outcomes seen in students and communities helped them to appreciate positive influences they could have on

others. Service-learning thus contributed to self-efficacy, as the following examples illustrate:

> Any passionate teacher won't be content with imparting knowledge but would also want students to become good persons. Experiential learning is best for this. I see students change attitudes, take on responsibilities. When they see their teachers go all out in serving, they follow. Lecturing just doesn't "move" students the same way service-learning does. (T6)

> Service-learning is rewarding: you see things your students do for NGOs, and how their work leaves a deep impression on them and changes their attitude. They become more concerned for the environment, some end up doing more volunteer work or taking action. I noticed that my service-learning students have a special regard for me compared to my students in other subjects—perhaps because I inspired some change in them? (T13)

> There are more opportunities to coach students, to develop relationships with them. It makes me happy to see them grow and continue service engagements even after the course is over. (T16)

> I find service-learning very meaningful. Listening to presentations of students' works I realize how much they were able to help others, and this makes me feel that I have made a difference, that I have had an impact on them and the clients we served. (T17)

Another fundamental type of impact was greater impetus or passion for work as academics or educators (7/24). Faculty members who described such experience called to mind tangible outcomes they saw in students and communities that led them to derive more meaning and satisfaction from their work. For some participants, service-learning had the effect of harmonizing different areas of work—teaching, research, and service—or became a way to live up to their values as educators or citizens in a way that produced a sense of alignment between their personal ideals and work, or between their convictions and the university's aims in promoting service-learning pedagogy.

> I find my service-learning subject meaningful. We're able to help the underserved, and students are able to polish their specialization through service. It accords with my objectives as a teacher: to help people, and to train students to teach others. (T5)

> Service-learning has a huge impact on me. It gave a new direction to my teaching. I used to think that teaching was a matter of imparting knowledge and skills, and that teaching and research were hard to combine. With service-learning, I feel like I maximize time, because I am able to teach, research, and contribute to society all at the same time. (T10)

Professional Development and Research. To a lesser extent, service-learning also contributed to professional development and academic research. For professional development, given that service-learning entails more logistics, coordination, and interaction, a number of faculty members (10/24) pointed out that "interpersonal skills," "communication," and "organizational abilities" were put into play and honed through service-learning. Interdisciplinary learning or collaboration was also mentioned by some participants (8/24), who explained that service-learning gave occasion to meet and work with students and colleagues from other departments, as well as with community partners and collaborators from different sectors and fields. Receiving some award or tangible recognition for work was another positive impact of service-learning mentioned by a few participants.

Contributions of service-learning to academic research include publications and research outputs such as conference papers and publications. Among participants with research responsibilities, seven who were mostly from health or social sciences said that their own discipline research benefited or was stimulated by empirical data, experience, or networking gained through service-learning involvement. More expressed interest or intention to link their areas of research with the content or experience of service-learning courses they taught but

felt challenged by time, if not by unfamiliar lines of inquiry. A participant from the humanities, for instance, wanted "to try but found service-learning too different" (T20); another from engineering thought that service-learning was utterly "unrelated to discipline research" in the department (T21). In contrast, at least two participants claimed that service-learning extended their scope of research, one by relating it to a service-oriented field, another by "turning from clinical to educational research" (T4).

Negative Impacts

Time and Workload. Participants also shared assorted negative impacts. A recurring concern was service-learning being "time-consuming" (9/24) to the extent of taking a toll on other work responsibilities or private time. For much the same reasons that service-learning is time-consuming, participants also experienced increased workload and stress (5/24) as negative impacts. It is interesting to note that both aspects of service-learning—being time-consuming and increased workload—were also mentioned by some interviewees with dominant positive stance. The latter, however, did not perceive these as negative impacts but as surmountable challenges or daily grind.

Work Relations. Compared to other academic courses, service-learning requires working more with others, whether a team of subject instructors or assistants or community partners. Service-learning can affect work relations (6/24) by occasioning conflicts with colleagues or collaborators. Relatedly, some faculty felt they lacked support or recognition from their departments and sometimes received negative feedback from students despite the tremendous efforts they put into teaching service-learning courses.

Others. Less cited negative impacts of service-learning on faculty were occasional student-related problems (e.g., lack of motivation, complaints), having to put up with uncertainties (i.e., "many things can happen outside the classroom, things you can't control"—T18), and physical inconveniences associated with fieldwork, such as being exposed to the elements and having to travel to different project sites. Again, these too were mentioned but taken more lightly by participants expressing dominant positive stance.

Discussion

The impact of service-learning on interviewed faculty was generally positive, requiring us to prompt for negative impact in most interviews. Even then, the majority dwelled on positive impact while acknowledging difficulties in teaching service-learning. The matter is particularly interesting when we consider that approximately half of the participants did not have prior interest in service-learning but had merely been tasked with it to meet the demand for service-learning courses as an undergraduate requirement in the host institution. That the result was generally positive while negative impacts were either perceived as ordinary, tolerable challenges or seemed at least tolerable may be attributable in part to the existence of a service-learning office in the host institution that works with faculty in the intricacies of service-learning. A number of sources recommend that universities seeking to boost their social responsibility set up such an office or similar structure to support service-learning faculty (Abes et al., 2002; Antonio et al., 2000; Banerjee & Hausafus, 2007; Chupp & Joseph, 2010; Cooper, 2014).

Teaching is where service-learning made the most impact, in practical terms, by enriching course content with information from community work, by enhancing pedagogy with experiential methods, and, above all, by enabling faculty to develop more student-centered approaches. Service-learning thus promotes a refined approach to learning that brings together pedagogical elements of situatedness, overt instruction, critical framing, and transformed practice (Macleod & Golby, 2003). In this light, service-learning can be said to transform teaching, turning it from a mere "transfer of ideas" to an interpersonal process of assisting mental development that is open to new methods and variegated sources of information.

We saw, besides, examples of positive impact at the more fundamental level of person and values as faculty discovered meaningful contributions they could make to their students and communities and were themselves enriched through synergistic and reciprocal work with students and communities. Related literature often speaks about service-learning's impact on different aspects of faculty work and says little or nothing about how service-learning impacts faculty members themselves. Like

students, faculty too are in the process of maturation as professionals and members of society. Service-learning can be said to transform not only teaching but teachers themselves, by enabling them to find fresh meaning and impetus in their roles as academics, educators, and citizens. As one participant expressed,

> I was originally invited to teach service-learning, and I liked the idea. The more I teach this subject, the more I like it. It's meaningful to witness important changes in students and communities we work with. I used to be only passionate about my research, but working on service-learning projects with students, I realized that I also enjoy being with them. Now I am as passionate about teaching as I am about research. (T19)

Looking at the different types of positive impact as a whole, it is fascinating to note how faculty learning or even transformation through teaching service-learning in a way mirrors student learning or transformation through service-learning. Just as with students, service-learning can contribute to faculty's civic involvement, academic and professional development, and personal growth.

The chief limitations of the study concern the nature and scope of the dataset: It is based on self-reports of a small sample size from a single institution. An important factor to consider when relating our findings to other contexts is that service-learning is institutionalized in the host university of the study. By institutionalizing service-learning, the university recognized service-learning as part of its regular operations and thus had a stake in ensuring the quantity and quality of service-learning activities. On the flip side, institutionalizing service-learning (which, in the host university, came hand in hand with making it an undergraduate requirement) created an urgent need for service-learning teachers from the different departments. Consequently, as mentioned, some faculty were assigned to teach service-learning courses without much choice. In sum, on the one hand, institutionalizing service-learning can enable making various types of resources available to service-learning faculty, such as funding allocation; support for teaching, operations, and research; staff development activities; and a community of practice (Ngai & Chan,

2019; Ngai et al., 2019). Without such institutional support, it is likely that service-learning will be experienced less positively or fruitfully by faculty. On the other hand, more centralized decisions concerning service-learning and its teaching may not fare well in places where faculty are used to having more autonomy over the courses they teach. These contextual details of our research limit the generalizability of our findings. Nevertheless, the concurrences of our findings with literature on the topic may be indicative of applicability to broader contexts.

Our study concurs with literature about service-learning faculty on several points. First and foremost, it is primarily in teaching that academics involved in service-learning experience its benefits, and the greatest motive and reward faculty derive from teaching service-learning comes from what they see in students and communities. On the downside, our study confirms that service-learning has the least impact on research: Notwithstanding possibilities recognized by some participants for relating community-based work and academic research, many understandably felt uncertain about venturing into scholarship that departs from their accustomed themes of inquiry. Participants who did express interest in turning information from service-learning into material for scholarship felt that lack of time constrained developing such research. Those from hard sciences expressed, in addition, difficulty in relating service-learning to their academic research. Further, participants echoed the same drawbacks of service-learning discussed in the literature; in particular, that it is time-consuming and involves much logistics, to the point of being "two to three times more" the workload of other courses by the estimates of faculty we interviewed.

Our study helps confirm these points and offers fresh, qualitative data with lived examples from service-learning faculty. Compared to previous studies, we give a more comprehensive and in-depth understanding of how service-learning impacts faculty. Further, interviewing faculty from different disciplines and with varying initial inclinations toward service-learning gives new grounds to second Zlotkowski's (1998) faculty development approach to service-learning. The idea that service-learning is more suitable for soft sciences, or that service-learning practitioners have shared characteristics—student-centeredness and

concern for the community—may relegate service–learning to particular departments or to faculty with particular characteristics. We saw, however, that faculty who experienced positive impacts from service–learning involvement did not have a common denominator. Some were from hard sciences, others from soft sciences. Before teaching service–learning, some were already interested in it or had relevant experiences; others did not. Some were involved in community work; others, hardly or "never." In a special way, it was participants who initially lacked the characteristics of service–learning faculty identified in the literature who were more deeply changed by service–learning involvement. This observation suggests that capacity to teach service–learning can be cultivated, and likewise the attributes associated with faculty who are practitioners of service–learning. In this context, Gibbs and Coffey (2000) called attention to key aspects in training faculty for higher education: nurturing reflective practice, shifting from teacher–centered and content–focused approaches to more student–centered and process–focused approaches, and expanding the repertoire of teaching methods. Teaching service–learning demands precisely these traits and is a valuable opportunity for ongoing teacher development.

Hence, we wish to leverage our findings to make recommendations that seem vital for higher education. The first recommendation is addressed to faculty members: Give service–learning a try. Faculty members, their work, their students, and communities can benefit much from it. Riivari et al. (2020) have shown that pedagogical practices that promote such matters as dialogue, multidisciplinary learning, cooperation, and personal growth can turn the university into a place of meaningful work for both students and faculty. Duly handled and with adequate means and support, service–learning can imbue faculty work with new life and meaning.

On the other hand, study participants' concurring view that service–learning entails far more time and effort than other methodologies cannot be ignored. Notwithstanding overwhelmingly positive views and willingness to put up with increased workload, such a situation extended over time can lead to faculty burnout and, ultimately, make service–learning an unsustainable pursuit in higher education. Our second recommendation is thus an appeal to institutions: Adopt service–learning as a strategy to promote faculty development and to fulfill university social responsibility. This approach would mean channeling adequate resources, manpower, and support for community–based teaching and scholarship. The university is not only a place of learning but also of cultivating engaged citizens, and its social impact is no less important than its research impact. The *Times Higher Education*'s recent adoption of the United Nations' sustainable development goals (SDGs) in its university rankings is a clear recognition of the fact (McPherson & Roll, 2021).

Considering the low impact that service–learning tends to have on faculty research, we address to universities a third recommendation: Encourage or incentivize research that connects to the needs of society at large. There is dire need for higher education to dive into new research agendas related to the SDGs: that is, issues of peace and justice, of public health and poverty eradication, of green environment and sustainable energy—issues that "make the work of universities more relevant to [their] stakeholders" and the public (Skyrme, 2021). The SDGs engage hard and soft sciences alike, and are themes for which different types of service–learning courses and projects can be designed. Faculty and universities seeking more community engagement and social impact may well find in service–learning a powerful means to contribute to the SDGs through teaching and research within the academic disciplines of higher education.

Acknowledgments or Notes

Declaration of Interest Statement

The authors declare that they have no conflict of interest.

Funding

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References

Abes, E. S., Jackson, G., & Jones, S. R. (2002). Factors that motivate and deter faculty use of service-learning. *Michigan Journal of Community Service Learning, 9*(1), 5–17. http://hdl.handle.net/2027/spo.3239521.0009.101

Antonio, A. L., Astin, H. S., & Cress, C. M. (2000). Community service in higher education: A look at the nation's faculty. *The Review of Higher Education, 23*(4), 373–398. https://doi.org/10.1353/rhe.2000.0015

Baecher, L., & Chung, S. (2020). Transformative professional development for in-service teachers through international service-learning. *Teacher Development, 24*(1), 33–51. https://doi.org/10.1080/13664530.2019.1682033

Banerjee, M., & Hausafus, C. O. (2007). Faculty use of service-learning: Perceptions, motivations, and impediments for the human sciences. *Michigan Journal of Community Service Learning, 14*(1), 32–45. https://hdl.handle.net/2027/spo.3239521.0014.103

Biglan, A. (1973). The characteristics of subject matter in academic areas. *Journal of Applied Psychology, 57*(3), 195–203. https://doi.org/10.1037/h0034701

Butin, D. W. (2006). The limits of service learning in higher education. *Review of Higher Education, 29*(4), 473–498. https://doi.org/10.1353/rhe.2006.0025

Camus, R. M., Ngai, G., Kwan, K. P., Yau, J. H. Y., & Chan, S. C. F. (2021). Knowing where we stand: Mapping teachers' conception of reflection in service-learning. *Innovative Higher Education, 46*, 285-302. https://doi.org/10.1007/s10755-020-09534-6

Carracelas-Juncal, C., Bossaller, J., & Yaoyuneyong, G. (2009). Integrating service-learning pedagogy: A faculty reflective process. *InSight: A Journal of Scholarly Teaching, 4*, 2844. https://doi.org/10.46504/04200903ca

Chan, S., Ngai, G., & Kwan, K. P. (2017). Mandatory service-learning at university: Do less-inclined students learn from it? *Active Learning in Higher Education, 20*(3), 189–202. https://doi.org/10.1177/1469787417742019

Chen, S. (2015). Faculty members' perception of service-learning courses in curriculum. *International Journal of Education and Human Developments, 1*(3), 9–19. http://ijehd.cgrd.org/images/Vol1No3/2.pdf

Chupp, M., & Joseph, M. L. (2010). Getting the most out of service learning: Maximizing student, university and community impact. *Journal of Community Practice, 18*(2–3), 190–212. https://doi.org/10.1080/10705422.2010.487045

Cooper, J. R. (2014). Ten years in the trenches: Faculty perspectives on sustaining service-learning. *Journal of Experiential Education, 37*(4), 415–428. https://doi.org/10.1177/1053825913513721

Conway, J. M., Amel, E. L., & Gerwien, D. P. (2009). Teaching and learning in the social context: A meta-analysis of service learning's effects on academic, personal, social, and citizenship outcomes. *Teaching of Psychology, 36*(4), 366–245. https://doi.org/10.1080/00986280903172969

Crabtree, R. D. (2008). Theoretical foundations for international service-learning. *Michigan Journal of Community Service Learning, 15*(1), 18–36. http://hdl.handle.net/2027/spo.3239521.0015.102

Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3rd ed.). Sage.

Cruz, N. I., & Giles, D. E. (2000). Where's the community in service-learning research? *Michigan Journal of Community Service Learning*, Special Issue No. 1, pp. 28–34. http://hdl.handle.net/2027/spo.3239521.spec.104

Darby, A., & Newman, G. (2014). Applying motivation theory to faculty motivation to utilize academic service-learning pedagogy. *Journal of Higher Education Outreach and Engagement, 18*(2), 91–119. https://openjournals.libs.uga.edu/jheoe/article/view/1116

Demb, A., & Wade, A. (2012). Reality check: Faculty involvement in outreach & engagement. *Journal of Higher Education, 83*(3), 337–366. https://doi.org/10.1080/00221546.2012.11777247

Driscoll, A. (2000). Studying faculty service-learning: Directions for inquiry and development. *Michigan Journal of Community Service Learning*, Special Issue No. 1, pp. 35–41. http://hdl.handle.net/2027/spo.3239521.spec.105

Driscoll, A., Holland, B., Gelmon, S., & Kerrigan, S. (1996). An assessment model for service-learning: Comprehensive case studies of impact on faculty, students, community, and institution. *Michigan Journal of Community Service Learning, 3*(1), 66–71. http://hdl.handle.net/2027/spo.3239521.0003.107

Gibbs, G., & Coffey, M. (2000). Training to teach in higher education: A research agenda. *Teacher Development, 4*(1), 31–44. https://doi.org/10.1080/13664530000200103

Groenewald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods, 3*(1), 42–55. https://doi.org/10.1177/160940690400300104

Grossoehme, D. H. (2014). Overview of qualitative research. *Journal of Health Care Chaplaincy, 20*(3), 109–122. https://doi.org/10.1080/08854726.2014.925660

Harrison, B., Clayton, P. H., & Tilley-Lubbs, G. A. (2014). Troublesome knowledge, troubling experience: An inquiry into faculty learning in service-learning. *Michigan Journal of Community Service Learning, 20*(2), 5–18. http://hdl.handle.net/2027/spo.3239521.0020.201

Heffernan, K. (2001). Service-learning in higher education. *Journal of Contemporary Water Research and Education, 119*(1), 2–8. https://opensiuc.lib.siu.edu/jcwre/vol119/iss1/2/

Kezar, A., & Rhoads, R. A. (2001). The dynamic tensions of service learning in higher education: A philosophical perspective. *Journal of Higher Education, 72*(2), 148–171. https://doi.org/10.1080/00221546.2001.11778876

Kuh, G. D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter.* Association of American Colleges and Universities.

Lau, K. H., Camus, R. M., & Kwan, K. P. (2022, January). *Hong Kong service-learning: An annotated bibliography.* The Hong Kong Polytechnic University, Service-Learning and Leadership Office. https://www.polyu.edu.hk/sllo/research-publications/

Losser, J. L., Caldarella, P., Black, S. J., & Pate, E. (2018). Factors affecting service learning implementation: A comparison of novice and veteran teachers. *Teachers and Teaching, 24*(6), 659–672. https://doi.org/10.1080/13540602.2018.1464906

Ma, C., & Law, S. M. (2019). Faculty experience of service-learning pedagogy at a Hong Kong university. *Journal of Higher Education Outreach and Engagement, 23*(3), 37–53. https://openjournals.libs.uga.edu/jheoe/article/view/1519

Macleod, F., & Golby, M. (2003). Theories of learning and pedagogy: Issues for teacher development. *Teacher Development, 7*(3), 345–361. https://doi.org/10.1080/13664530300200217

McKay, V. C., & Rozee, P. D. (2004). Characteristics of faculty who adopt community service learning pedagogy. *Michigan Journal of Community Service Learning, 10*(2), 21–33. http://hdl.handle.net/2027/spo.3239521.0010.202

McMillan, J. M. (2011). What happens when the university meets the community? Service learning, boundary work and boundary workers. *Teaching in Higher Education, 16*(5), 553–564. https://doi.org/10.1080/13562517.2011.580839

McPherson, M., & Roll, K. (2021, January 9). This must be a "1968 moment" for sustainable development. *Times Higher Education Blog.* https://www.timeshighereducation.com/blog/must-be-1968-moment-sustainable-development

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Mettetal, G., & Bryant, D. (2010). Service learning research projects: Empowerment in students, faculty, and communities. *College Teaching, 44*(1), 24–28. https://doi.org/10.1080/87567555.1996.9925551

Moran, D. (2000). *Introduction to phenomenology.* Routledge.

Moustakas, C. (1994). *Phenomenological research methods.* Sage.

Ngai, G., & Chan, S. C. F. (2019). Engaging teachers in teaching service-learning subjects: Critical issues and strategies. In D. T. L. Shek & S. C. F. Chan (Eds.), *Service-learning for youth leadership: The case of Hong Kong* (pp. 309–322). Springer.

Ngai, G., Lam, C. H. Y., Kwan, K. P., & Chan, S. C. F. (2019). Instituting a service-learning requirement in higher education: Evaluation and lessons learned. In D. T. L. Shek & S. C. F. Chan (Eds.), *Service-learning for youth leadership: The case of Hong Kong* (pp. 323–341). Springer.

O'Meara, K., & Niehaus, E. (2009). Service-learning is . . . How faculty explain their practice. *Michigan Journal of Community Service Learning, 16*(1), 17–32. http://hdl.handle.net/2027/spo.3239521.0016.102

Peterson, T. H. (2009). Engaged scholarship: Reflections and research on the pedagogy of social change. *Teaching in Higher Education, 14*(5), 541–552. https://doi.org/10.1080/13562510903186741

Pribbenow, D. A. (2005). The impact of service-learning pedagogy on faculty teaching and learning. *Michigan Journal of Community Service Learning, 11*(2), 25–38. http://hdl.handle.net/2027/spo.3239521.0011.202

Riivari, E., Malin, V., Jääskelä, P., & Lukkari, T. (2020). University as a workplace: Searching for meaningful work. *Teaching in Higher Education, 25*(3), 286–304. https://doi.org/10.1080/13562517.2018.1563061

Shek, D. T. L., Ngai, G., & Chan, S. C. F. (Eds.). (2019). *Service-learning for youth leadership.* Springer.

Skyrme, J. (2021, April 21). Universities should focus on what they're good for, not good at. *Times Higher Education Blog.* https://www.timeshighereducation.com/opinion/universities-should-focus-on-what-theyre-good-for-not-good-at

Speck, B. W. (2001). Why service-learning? *New Directions for Higher Education, 2001*(114), 3–13. https://doi.org/10.1002/he.8

Zlotkowski, E. (1998). A service learning approach to faculty development. *New Directions for Teaching and Learning, 1998*(73), 81–89. https://doi.org/10.1002/tl.7310