



# Knowing where we Stand: Mapping Teachers' Conception of Reflection in Service-Learning

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## Abstract

Reflection is fundamental in experiential pedagogies, and many studies have been carried out to investigate its impact and benefits on student learning outcomes. However, the concept of reflection is not well understood. In this study, we focus on the concept of reflection and ensuing approaches to it in service-learning, an experiential pedagogy that has been hailed as a high-impact practice in higher education. We first survey the semantic background of reflection and its usage in service-learning literature. We then present a qualitative study of how university faculty involved in service-learning actually conceive reflection. In-depth interviews uncovered common tendencies as well as concerns about handling reflection in service-learning courses. We devised a framework to map teachers' conception of reflection onto the service-learning goal of transformative education. From the data set, we identify four conceptual domains echoing varying conceptions of reflection in literature: reflection as *transformative learning*, as *mindful practice*, as *evaluation exercise*, and as *articulated thinking* – with the most popular being evaluation exercise and transformational learning.

**Keywords** Reflection · Service-learning · Experiential pedagogy · Transformative education/learning

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Service-learning is a field of growing importance in higher education and is, as Ash and Clayton (2004) note, “an excellent pedagogy with which to model refinements of reflective processes” (p. 139). The utmost significance of reflection in service-learning is well-established and amply tackled in scholarly literature. In broad lines, reflection is an essential and irreplaceable *condition* for learning (Jacoby, 2015); it *integrates, increases, or enriches* learning (Collier & Williams, 2013; Harvey, 2016; Hatcher & Bringle, 1997); further, it makes learning *transformative*, with impactful and lasting outcomes in students and society (Cress & Patton, 2013; Duh, 2008; Eyler & Giles, 1999; Fullerton et al., 2015; Mezirow, 1991, 1994).

More practical functions of reflection have also been explored. For instance, the articulation of learning in reflective reports is necessary means for teachers to *measure* or *document* as well as *assess* learning outcomes (Ash & Clayton, 2004; Molee et al., 2010). Meanwhile, formal and informal reflective activities help students cope with a wide range of negative emotions – anxiety, fear, sadness, indignance, trauma, etc. – which are bound to occur when immersing in unfamiliar terrain marked by some form of human or environmental distress (Bamber, 2016; Bringle & Hatcher, 1988; Collier & Williams, 2013; Kiely, 2005; Rogers, 2001).

Even though reflection is recognized as a critical part of student learning, especially in service-learning, the conception of reflection is not well defined. The idea of reflection in service-learning largely takes from John Dewey’s works on democratic education, where reflection refers to methodical thinking about experience that enables authentic learning to take place and transform into action (cf. Dewey, 1916, 1933). Accordingly, one sample definition of reflection in service-learning states that it is “the intentional consideration of experience in light of particular learning objectives” (Hatcher & Bringle, 1997, p. 153). This definition sets the content and purpose of reflection within narrow confines, which may exclude other forms of purposeful thinking that arise from service experience and contribute to student learning and change making. For example, Kiely (2005), while acknowledging the importance of reflection, takes issue against “the hegemony of the constructivist reflective tradition” that undermines “nonreflective learning processes” such as physical interaction and affective resonances which he considers equally important elements of transformational service-learning experience (pp. 16–17).

The role of the faculty in reflection, especially in service-learning, is well-acknowledged by many scholars. Doubtless, students can independently reflect and learn from their experiences, particularly inquisitive and proactive ones. However, for *more* students to derive *greater* benefits, reflection needs to be “carefully and intentionally designed” (Jacoby, 2015, p. 29). This then means that student reflection would be contingent on how *faculty* conceive reflection: better conceptual structures around reflection will enhance teaching practice which, in turn, will improve student learning (Kreber & Castleden, 2008; Rogers, 2001).

Herein lies the motivation behind our study. Reflection is integral to service-learning pedagogy, faculty are instrumental to student reflection, how faculty conceive reflection affects how they structure and implement reflective activities. There is, however, little study on teachers’ conception of reflection. This is the focus and significance of our inquiry. As Janet Eyler observed, “focus on effective reflection is the key to strengthening the power of service-learning”, and “research more tightly focused on assessing alternative approaches to reflective instruction” is necessary (Eyler, 2002, pp. 519, 532).

This study takes place in The Hong Kong Polytechnic University (PolyU), a large, publicly-funded university where a wide array of domestic and international service-learning

programs take place each year. We conduct a qualitative study of faculty conception of reflection. In particular, we are interested in the following questions: *How do teachers understand reflection and its function in service-learning? What do they consider as matter for reflection, and what do they hope to achieve through reflective activities?* In other words, in addition to achieving a better understanding of teachers' concept of reflection, we also wish to examine their approaches to reflection, particularly in the context of service-learning.

Findings from our study show that teachers hold disparate views (and attitudes) about reflection which echo varying conceptualizations of reflection in relevant literature. Analyzing the common tendencies and concerns gives us an orientative framework for mapping teachers' conception of reflection, a useful device for visualizing methods to improve approaches to reflection in light of the ideal of transformative education. While our focus is reflection in service-learning, our findings and framework may also be helpful for other fields, since reflection promotes the cognitive development of young adults and is essential for any academic discipline (Eyler, 2002; Harvey, 2016).

## Reflection: An Ambiguous (or Versatile) Term

Reflection is an ubiquitous term in service-learning literature where it is closely associated with the word "critical." As a concept, however, reflection proves challenging: it lacks conceptual clarity (Rogers, 2001), and is used with such inconsistency (Harvey, 2016; Hébert, 2015) as to be regarded a messy, complex, and ambiguous term (Van Beveren et al., 2018). Often, attempts to characterize reflection contain the term "reflection" itself, for example: critical reflection, reflective learning, reflective thinking, reflective practice, reflexivity (Jacoby, 2015; Rogers, 2001; Van Beveren et al., 2018).

### Semantic History

Interestingly, the term reflection has a rich history that presages its multi-faceted use in experiential education. Of Latin root, *re-flectere* literally means to turn or bend backwards, either as a physical quality (e.g., elephants' tusks *bend backwards*) or physical act (*to step back, look back, or even shine* when it is light that is thrown back).<sup>1</sup> The application of the notion to mental activity is likewise early. Cicero had to *hold back* his inclination before an interlocutor's provoking speech, and, elsewhere, advised orators to be mindful of the motives that push or *turn back* men (The *Orations*). In Virgil's poetry, Juno pleaded with Jupiter to *turn the course* of his intent – that is, to *alter the plan* – that would lead to Troy's ruin, while Aeneas, in his hurry to flee with father and son, failed to *pay attention* to his wife, realizing too late that he had lost her (The *Aeneid*). This brief incursion into classical literature gives a graphic overview of the term's original semantic flexibility and relation to current usages. Reflection connotes an interior hiatus during which one becomes aware of or focuses on something important, attempts to shed light on a matter, or checks and modifies a personal disposition. Such intentional application of the mind can have great bearing on oneself and on external conditions within one's influence and is thus rightly perceived as "critical." Outside

<sup>1</sup> For the etymology and early usages of reflection, see word entry in the Latin lexicon of *Perseus Digital Library*.

western literature, age-old sayings from the Confucian *Analects* such as, “I reflect on myself 3 times a day” (1.4) and, “learning without thinking (reflection) is useless; thinking (reflection) without learning is dangerous” (2.15) show the importance given to reflection and awareness of its close relation to learning.

## Reflection in Service-Learning

Reflection is extensively referred to in service-learning literature through terms such as “critical thinking” (Eyler & Giles, 1999), “critical consciousness” (Freire, 1970), “critical awareness” (Kiely, 2005), and “critical reflection” (Jacoby, 2015). The matter demonstrates common awareness that reflection is decisive for learning and has important consequences for both students and society.

Discussions about reflection in service-learning literature often cite John Dewey. Dewey insisted that the starting point of reflection be concrete experience: “something we do and the consequences which result”, that is, “an actual empirical situation... (for) the material for thinking is not thoughts, but actions, facts, events, and the relation of things” (Dewey, 1916, pp. 144, 153, 156). This “concrete experience” is usually linked to the service project in service-learning, as teachers relate the experience to guide students to progress, step by step, from the operational nature of the project to conceptual understanding of academic concepts and higher levels of personal values. This process often covers multiple dimensions that relate to the students themselves as well as the state of society, such as academic learning, personal competencies, social issues, and civic commitment (Conway et al., 2009). The goal is to challenge assumptions and open up multiple perspectives, which will (hopefully) lead to committed citizenship.

Scholars in service-learning mostly agree on the need for critical reflection as part of the learning process in service-learning. Barbara Jacoby, for instance, states that “critical reflection in service-learning should lead students to recognize the need and potential for social change, together with their own capacity to effect it” (Jacoby, 2015, p. 44). Similarly, Eyler and Giles (1999) believe that questioning how society is organized and its underlying problems “is at the heart of transformational learning (and) the process by which this transformation occurs is critical reflection” (p. 132). Other authors focus on how reflection impacts student learners by having them consider personal problems (Rogers, 2001), revise meaning schemes (Mezirow, 1991), develop more informed understanding of themselves, others, and the world (Collier & Williams, 2013), or simply by enabling students “to make up their own minds...and think for themselves” (Tonkin & Quiroga, 2015, p. 131).

## Reflection as a Basis of Assessment

In service-learning, reflection can also mean imprints of thought, that is, tangible ways by which students disclose their thinking process. As reflective artifacts are the chief means for faculty to know what students are going through and learning, scholars have proposed different ways of distinguishing levels of reflection, for instance: reflection as *Describing experience – Reflective observation – Abstract conceptualization – Active experimentation* (Kolb, 1984); reflection on *Content – Process – Premise* (Mezirow, 1991); reflection that *Draws from existing knowledge – Questions knowledge – Constructs new knowledge* (McAlpine, Weston, Berthiaume, Fairbank-Roch & Owen, 2004); Reflection *-in-action, -for-action, -from-action* (Schön, 1983, 1987; Killion & Todnem, 1991); and, finally, reflection in the form of *Descriptive writing – Descriptive reflection – Dialogical reflection – Critical reflection* (Moon, 2004).

Reflection can be done in a wide variety of ways: individually (e.g., journal writing, personal reports) or collectively (e.g., group debriefings, class discussions), using different media (i.e., speaking, writing, activities, art), and with diverse methods, such as prompt questions, case studies, library research, or role playing (Eyler, 2002; Jacoby, 2015). The artifacts generated from reflective activities are a demonstration of student learning and can be used as assessment material. Ash and Clayton (2004) recommend “positioning articulating learning at the heart of guided reflection” (p. 151). However, what students arrive at during the process of reflection “may differ from what faculty and administrators intended as learning objectives and outcomes” (Fullerton et al., 2015, pp. 89–90). Other scholars have warned against “the danger of instrumentalizing reflection” (Van Beveren et al., 2018, p. 1), or of rigidly structuring it to meet pre-determined or purely academic learning outcomes (Eyler & Giles, 1999; Kiely, 2005; Rogers, 2001). There is thus a dilemma between defining and measuring core learning outcomes on the one hand, and acknowledging or encouraging non-core but nevertheless desirable outcomes on the other. Welcome outcomes of reflection that are secondary to academic ends and perhaps more difficult to track in written artifacts include developing soft skills and graduate attributes (Harvey, 2016), clarifying personal values (Hatcher & Bringle, 1997; McEwen, 1996), and adjustments in attitudes, beliefs, and intentions (Erickson, 2009). The matter gestures educators towards making allowances for outcomes beyond what they intend, as well as avoiding confining students’ reflections to narrow themes.

### **The Role of the Teacher in Reflection**

This survey of the semantics and usages of the term leads us to advocate a “wide understanding of the meaning and application of reflection” (Rogers, 2001, p. 49) in service-learning: reflection is purposeful application of the mind to matters arising from or surrounding service experience, a crucial pause during which realizations, aspirations, and resolves potentially take shape. The nature of service-learning is such that social issues and relevant work performed by students are important themes for reflection. However, students’ reflections are not always – and need not exclusively be – bound to these. Persons they work with or encounter typically stimulate reflection. Likewise, program elements peripheral to service work can occasion earnest thinking: a pre-service lecture, team-building activities, social interaction, visits to historical or cultural sites, etc. (Bamber, 2016; Kiely, 2005).

In structured academic service-learning, these program elements are by and large designed by the teacher responsible for the program or course. Likewise, it is also often the teacher’s role to guide students to link experience to course concepts. This suggests that the teacher’s conception, and even personal practice, of reflection, is instrumental to the student learning process. Indeed, Rogers suggests that faculty “model reflective practices” for their students (Rogers, 2001, p. 53; cf. Loughran, 1996), and the need for faculty “to clarify the concept of reflection and implement additional techniques that will enable students to learn and apply habits of reflective thought in the classroom and beyond” (Rogers, 2001, p. 55).

### **The Context and Process of Research**

For a brief background, the locus of the study, PolyU, piloted its first service-learning subjects in 2011. Service-learning became a mandatory, academic credit-bearing requirement in

2012/13, and a unit was created to see to the quality and support the implementation of service-learning programs offered by different departments. By 2015/16, 22 departments were offering over 60 service-learning subjects for close to 4000 students. Most of these subjects are general education courses, while some are specifically designed for students of particular disciplines.

We employed a qualitative research approach, which is deemed most appropriate for interpretive types of research aiming at understanding human behavior and experience, exploring the processes by which people construct meaning, and describing what those meanings are (Bogdan & Biklen, 2007). We used semi-structured individual interviews as the main method of data collection. The study was approved by the Human Subjects Ethics Committee of the university.

The target participants of the study are faculty members who taught service-learning subjects in the university for at least one semester between 2012/13 to 2016/17. We employed a purposive sampling design as follows. We first classified all the academic departments at the university according to Biglan's (1973) classification of academic disciplines. We then identified faculty members who had taught a service-learning subject at least twice. We then invited these faculty members for an interview, targeting to interview 12 teachers from the "hard" disciplines and another 12 teachers from the "soft" disciplines, with an even split between more experienced (defined as those who have three or more years' experience in service-learning), and less experienced teachers. Teachers were invited to the interviews by email, and non-respondents followed up twice by email or phone. Our final interviewee pool consists of 24 teachers from 18 departments. Table 1 shows the distribution of our interview subjects according to Biglan's (1973) classification of academic disciplines and years of experience in service-learning.

Due to the uneven representation of the different disciplines in the university, as well as the uneven participation of the teachers within each discipline in service-learning, we were not able to get an even distribution with respect to the *pure/applied* dimension and *life/non-life* dimension within the *hard* disciplines. We were, however, able to get a more even distribution with respect to the *hard/soft* dimension and the *years of experience*.

Interviews were conducted either in the local tongue (Cantonese) or English, as per the preference of the subject. The interviews took place between March to June 2017, each interview lasting for approximately an hour as teachers spoke about their background, experiences, and challenges in teaching service-learning. We specifically asked what they understood by the term "reflection" and its importance in service-learning. Consent was sought for audio-recording and verbatim transcription of interviews for data analysis. The resulting records were translated into English for coding and analysis. Since mixed language usage is common in our context, English terms originally used by interviewees were retained in the translation where possible.

We used a grounded theory approach (Charmaz, 2006; Creswell, 2013) to categorize, code and analyze the data. Interview records were independently studied by each of the five team members to identify emerging themes related to the research questions of faculty's conception of reflection, and whether/why they deemed reflection as being important. In initial meetings, we conducted content analysis to identify common themes. We began with a topic in function of which data would be analyzed (i.e., how teachers conceive reflection) and an agreement to be attentive to patterns that would emerge particularly from interviewees' replies to questions about "what reflection is" and "why it is important." In subsequent meetings, features and tendencies in conceptualizing reflection were formally classified and used for data coding. The team convened regularly in the course of two semesters to confer about findings. Two

**Table 1** Distribution of Interview Subjects

	Hard		Soft	
	Life	Non-Life	Life	Non-life
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; Rehabilitation Sciences; Nursing; Optometry	Chinese & Bilingual Studies; Chinese Culture; English Learning Centre; Textiles & Clothing; Management & Marketing; Hospitality & Tourism Management
Years of experience in service-learning	≥3	4	4	4
	<3	3	4	4

researchers carried out more in-depth analysis and parallel coding. Results were presented to and disagreements resolved with the other team members not directly involved in coding. In this sense, our approach is closest to that of a pragmatic qualitative study (Clarke & Visser, 2019), in which themes are allowed to emerge from the data without pre-conceptions, with an eye towards understanding the reality behind our subjects' conceptions.

## Characterizing Reflection

We identified four major characterizations of reflection from the pool of interviews and set these as quadrant markers. The first two characterizations relate to the *function* or *purpose* of reflection, either leaning towards being an *assessment tool* for the teacher, or a *learning process* primarily for the benefit of the student. The other two characterizations appear to relate to the *focus* or *substance* of the activity, as in, whether the content was focused on a task-oriented *program review*, or a person-oriented *critical cogitation* of personal values, stereotypes and beliefs.

These characterizations of reflection allow us to construct a framework that categorizes teachers' conceptions in a two-dimensional space. Figure 1 shows our framework.

Moving along the x-axis progresses from a primarily practical focus on the task or the project to a potentially more transformative exercise that allows students to gain deeper personal meaning from their experience. Moving along the y-axis represents a similar continuum from seeing the reflection activity in a very instrumental light to treating reflection as a student-focused pedagogy for learning.

After setting the markers in place, we tested the categorization and found that: (1) *each* subject could be assigned an approximate place, and (2) *all* subjects had a place in the general scheme. This suggests that the four characterizations identified from the data set seemed to capture views expressed by teachers and to encompass the different views they expressed. Figure 2 shows the placement of the different subjects in the two-dimensional space defined by the framework.

This is not to say, however, that each subject neatly fit into one quadrant. Given that the axes represent continuums in the space of reflection conceptions, some interviewed subjects expressed

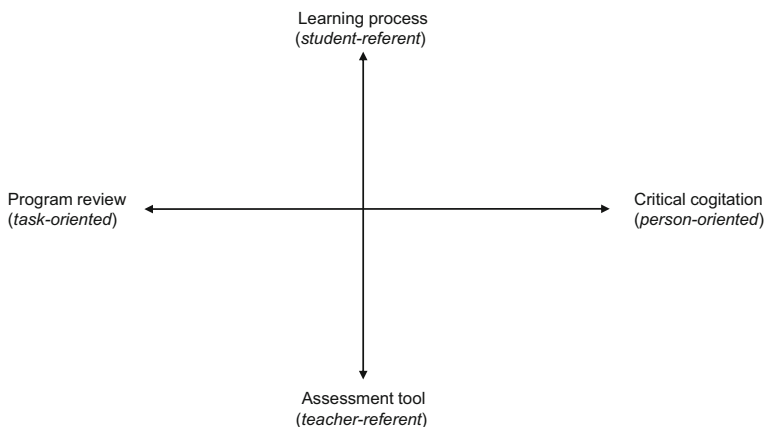


Fig. 1 Four Characterizations of Reflection



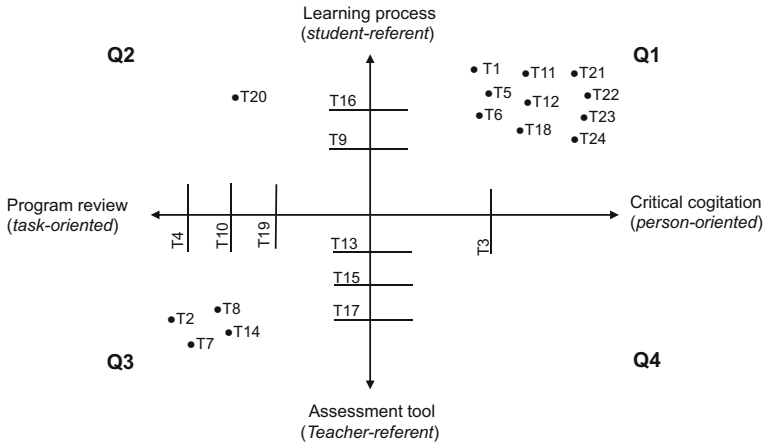


Fig. 2 Placement of Interview Subjects in Framework

mixed views. We devised a way to represent simple and mixed views that emerged from the data set. Subjects whose views clearly belonged to a single quadrant were represented by *dots* in the corresponding quadrant, while subjects who expressed views which could be characterized by more than one quadrant were represented by *lines* traversing relevant quadrants.

To countercheck the validity of our framework, after a lapse of a month one team member repeated the entire process of positioning subjects in the scheme. The exercise yielded a different position for 4 out of 24 subjects. The records of the 4 subjects in question were reviewed and the reasons for the discrepancies clarified to re-ascertain their place in the scheme.

### Polarization between Practical and Transformative Views

The first pattern that can be observed from Fig. 2 is the concentration of dot-subjects in two quadrants, Q1 and Q3, where 14 out of 15 dot-subjects are located. The interviewed subjects expressed well-defined views about reflection that clearly match the features of a given quadrant.

Q1 subjects described reflection as intentional, active thinking processes, such as self-examining, finding meaning, or digging deep into impressions and feelings. Below are examples from the interviews:

(Reflection is...)

Analysis or review of one’s experience, done with purpose (such as) to keep track of personal growth, or improvement, or to keep (in memory) things that one enjoyed... It consolidates experience... and leads to considering one’s role as a professional or as a citizen, how one can contribute to the community. It has long-term influence and can change one’s beliefs. (T18)

Critical thinking for students to evaluate themselves, their thinking process, individual learning, performance in a team... going beyond what they actually did. (T21)

To dig deep into what one has experienced so far, one’s passion, feelings, values. We emphasize personal meaning... Through service, students can become conscious of their growth, potentials, and development. (T22)

Looking at what one experienced and trying to discover meaning... When you consider your feelings about something and what it means to you – whether it is an experience of success or of failure –, you can learn from it and see how to improve in the future. (T23)  
 It is a learning process... deep learning. Not a one-off assessment tool, but a way to teach (students) self-learning. It is a method for maturing. Through reflective practices, we introspect about experiences and think how to do things better, or ponder new directions, or better ways of doing things in the future. (T24)

The statements show a conception of reflection as an activity or process that primarily takes place in the learner and are thus student-referent. In general, the interviewed subjects were strongly optimistic about human goods – individual or social – that could be achieved through exercise of reflection, such as greater self-awareness, increments in knowledge, improved practice, and ideas for future action.

In contrast, Q3 subjects expressed more instrumental views about reflection. When asked what they understood by reflection, they gave the following answers:

A way to assess and grade students, to check whether they identified the (served) community's needs and gathered information... It is a means to control and collect data for analysis. (T2)

Assessment, which is necessary for service-learning (as a credit-bearing subject)... It is useless for students because they end up writing what they know teachers want... (Nevertheless,) it is important (because) it gives teachers an objective basis for grading, but it is a burden to students, who do it for the sake of submitting homework. (T7)

A tool to manage expectations from a project, like running a business... (It is) a tool for grading and catching free-riders... Honestly, reflection is really just for university research use. The teaching objective (of service-learning) is to involve the students in the community, (and) writing reflections just doesn't make students more pro-community. (T14)

Compared to Q1 subjects, the statements above are more practical – if not pragmatic or negative – conceptions of reflection. The purpose of reflection, in these cases, are closely bound to academic tasks such as supervising a course, grading, and research output.

Students often share their own emotions during reflective activities, and it is also interesting to consider how teachers treat these expressed emotions. Q1 subjects treated emotions as springboard for deeper learning, much in line with dissonance theory (Festinger, 1957; Mezirow, 1994; Kiely, 2005). T22, for instance, states that “the first level is mostly your own feeling, it is necessary to reflect on this passion in order to arrive at personal meaning.” T23 similarly accords a significant role to feelings: “Reflection is about moving from what you have experienced, to what meaning this experience has for you; or, starting from how you are feeling about the experience, and then moving to the meaning.” Q3 subjects, on the other hand, were either “not interested in students writing about their personal feelings” (T14), or allowed this as emotional outlet, for which they were content with students' descriptions of “touching experiences” (T7), “how they felt” (T8), or “whether they were happy” (T2) with their work or the program.

The concentration of subjects in Q1 and Q3 suggest that there is a positive correlation between the primary characteristics of the two quadrants. In other words, if faculty perceive the function of reflection as being student-referent, they are more likely to focus the reflective activity along a critical or transformative lens. Likewise, subjects who perceive a teacher-

referent function of reflection prefer more task-oriented foci for the content of their reflective activities.

The lone dot-subject that does not fall into either of the two aforementioned quadrants is T20 in Q2, the quadrant combining student-referent and task-oriented characterizations. T20 described reflection as a “student learning experience” that would enhance professional practice. The interviewee did not draw out wider implications of reflection for the learner or society beyond professional knowledge or skills directly enhanced through relevant service work. Therefore, even though the teacher clearly had a student-referent view that the purpose of the reflection activity was for student learning, the overriding emphasis of the contents being placed on the professional practice kept this subject on the task-oriented side of the continuum.

### Mixed or Emerging Views

A second pattern is the considerable number of line-subjects, 9 out of 24 interviewees. As mentioned, lines represent mixed or emerging views. Line-subjects traversing Q2 to Q1, for example, regard reflection as a beneficial exercise for students. Their description of student reflection centered around service performance and emphasized individual personal or professional outcomes. They mentioned and welcomed more consequential outcomes, but did not particularly intend or follow through these. For example:

(Reflection is...)

Rethinking, deep thinking about personal or project difficulties, solutions, mistakes, teamwork... (Students) consider what they did well and how they can improve. They may have new views about social policies, culture, religion, etc.

(T9)

Deep learning (as) students consider their attitude and change their behavior (as professionals in the service industry). It contributes to real-world practice... (We hope) students realize how to help the community through their knowledge. We want students to apply what they learn and develop service attitude. (T16)

The last quote refers to a service-learning subject that is compulsory for students majoring in a service industry discipline. In this context, T16 stressed service attitude as a soft skill valuable for the trade.

Line-subjects traversing Q2 and Q3, in contrast, describe reflection in manner closely bound to service work, with equal emphasis placed on student and teacher utility.

(Reflection is...)

Introspection about what one has experienced: difficulties, good things, what to pay attention to. It's like a feedback for the teacher. (T4)

A way for students to consolidate what they learned. Through their reflection, we can observe their learning experience and see whether (the program) we designed was useful or effective. (T19)

Meanwhile, line-subjects between Q3 and Q4 described reflection in markedly teacher-referent manner, whether as means to evaluate the service performance or program, or to gauge student level of learning. Accordingly, reflection is:

A way to assess students. By expressing themselves in writing, we get to know them, what they are learning, their areas of deficiency. That way we can plan things better in the future,

or think of how to facilitate their learning. It helps commit them to an action plan as they become more aware of themselves, of what they can do, and society's needs. (T17)  
 Written (assignment) not just describing experience but about inspirations and realizations they had which can influence their future. From it we see how students are faring in terms of learning outcomes. (T15)

T3, the sole interviewee traversing Q4 and Q1, differed from other line-subjects in expressing a three-fold perspective of reflection:

...a meaningful activity in which students think back on the entire experience to note bits of learning, and some inspiration or enlightenment. For instructors, it is a summary of their teaching and helps them see where to improve. It is also a feedback to the NGO about how we can work better together... After all, they exist for their clients. (T3)

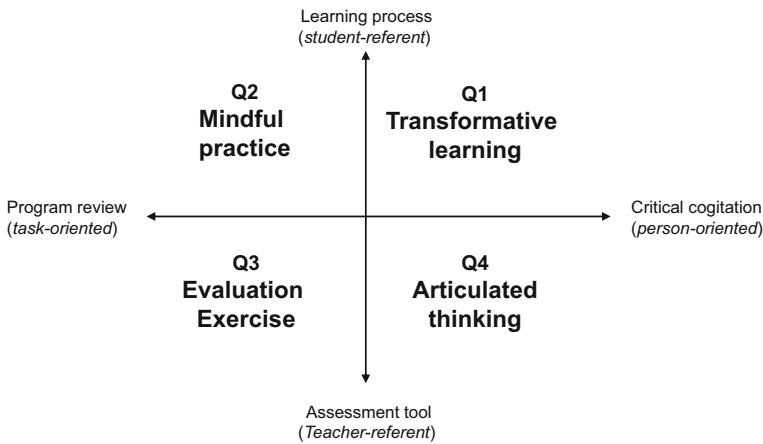
Asked about the types and themes of reflection in the service-learning course, T3 gave a layered account of reflection and reported using formal and informal activities to help students progress from making “factual observations”, to becoming aware of their “feelings about their own selves and others”, to considering “their learning, process of growth, realizations about technical skills, about society, and what they can do in the future.” The substance of reflection described by the interviewee was clearly person-oriented, though somewhat superficial compared to dot-subjects in Q1. In terms of function, the interviewee struck a balance in perceiving the value of reflection not only for student learners and service-learning faculty, but also for the served community.

### Disjunct Characterizations

A final pattern is the conspicuous void in the lower right quadrant: Q4 has no proper subjects although 4 line-subjects approach it. This suggests that its two defining characteristics – reflection as an assessment tool but yet for critical cogitation – seldom come together. In this regard, we noted that line-subjects approaching Q4 from Q3 – i.e., those who perceived reflection chiefly as assessment tool and attended to both practical and human concerns – were cautious about what students communicate in reflective artifacts. They were concerned about “unsupported claims” (T13), “beautiful reports” (T15), or students “writing things that were not authentic” (T17). (Several teachers, especially those from the hard science disciplines, expressed qualms about relying heavily on written reflections. They point out that reflective compositions can be heavily influenced by variations of proficiency in language – since English is the language medium in higher education but is a second language for most of the students – or simply writing ability). T15 supplemented that he/she puts more weight on service work and prefers to keep reflection “unstructured” and “simple” so that students could write “freely” and “genuinely.” Likewise, T13 and T17 preferred spontaneous reports about the projects and insights gained about self and society, cautiously noting that what students write should be cross-referenced with their conduct during service.

### From Characterizations to Conceptual Domains

To recap, we discerned four major characterizations of reflection from the data set of interviews with service-learning teachers from different disciplines. Arranging these into quadrants enabled us to map out how they perceive reflection's purpose and content.



**Fig. 3** Conceptual Domains of Reflection in Service-Learning

In light of the distinguishing features of the different quadrants and how these were played out in interviewees’ characterizations of reflection, four conceptual domains of reflection can be established from the data set. These are: reflection as a process, strategy or tool for *transformative learning* (Q1), as *mindful practice* (Q2), as *evaluation exercise* (Q3), and as *articulated thinking* (Q4). The conceptual domains are laid out in Fig. 3.

**Transformative Learning**

Transformative learning brings together perceptions of reflection that stress its being a learning process undertaken by the student which can reach high levels of criticality with promising consequences for self and society. Such conception is consonant with what scholars of experiential pedagogy describe as transformative, critical, or emancipatory education (e.g., Mezirow, 1991; Freire, 1970; Habermas, 1971). It accords a protagonist role to the student in learning and building society. Interviewees exhibiting this conception confidently confronted emotions, thoughts, and desires shared by students and were optimistic that reflection activities had the potential to revise or refine personal behavior, attitude, values, beliefs, perspectives, etc. Aside, we noted that reflection was incorporated into their programs in both formal and informal ways – for example, graded reflection essays and presentations were employed alongside unstructured sharing and debriefing sessions. In this sense, these interviewees perceived the utility of reflection as going beyond assessment and research. “Serving the community” and “society’s needs” were themes they typically considered in reflective activities, demonstrating their intention to connect students with the wider community and real-world problems (Cooper, 2013).

**Mindful Practice**

Mindful practice is likewise a student-referent idea of reflection that is more centered on professional or academic outcomes which are honed through service work, such as being able to link or apply classroom knowledge and developing skills and attitudes that enhance competence. Interviewees who conceive reflection as mindful practice echo Donald Schön’s rich idea of a “reflective practitioner”, that is, a professional “who reflects on their work activity, in order to identify their strengths and weaknesses and develop new and more

effective means of performing their work role” (Heery & Noon, 2017; cf. Schön, 1983). Dot- and line-subjects near Q2 also typically held group debriefings which were described as focused almost exclusively on students’ performance and successful project implementation: logistics, difficulties encountered, problem-solving, team work, etc. Capacity for mindful practice is a long-term benefit that would be particularly relevant for service-learning programs that are tightly linked with professional majors, such as health care and service-related disciplines. Through these, students get to “reflect on their work in the field in ways that would inform and deepen their academic studies” (Tonkin & Quiroga, 2015, p. 131). As it turned out, interviewees in and around Q2 were mostly from these disciplines. Notwithstanding, teachers who conceive reflection as mindful practice could help students further link their experience and specialization to broader issues in society.

### **Evaluation Exercise**

Evaluation exercise is a more instrumental approach to reflection that stresses its function as a tool for assessment or appraisal and is largely confined to being a program review. To be sure, review and assessment of student work are necessary in academic service-learning. On the other hand, given the civic learning objectives of service-learning, we would naturally hope for educators to go beyond immediate or practical concerns and facilitate students to move towards more far-reaching learning objectives.

### **Articulated Thinking**

The last domain, articulated thinking, primarily treats reflection as an instrument for measuring how much or how far students draw from their experience of service. It is roughly comparable to Ash and Clayton’s (2004) idea of “articulated learning”, which is picked up in Molee et al.’s (2010) discussion of “critical reflection”, in the sense that these authors emphasize reflection’s assessment function and accord prominent role to faculty. Ash and Clayton propose rigorous tools to track learning outcomes achieved by students, outline detailed processes of structured reflection with pre-determined scopes, and rely heavily on written artifacts.

We did not have solid samples for the domain of articulated thinking, though some line-subjects do approach the domain. These subjects tend to characterize reflection chiefly as a written task for students to demonstrate what they learned. Unlike Ash and Clayton, however, they did not perceive reflective writing itself as a learning exercise, nor did they distinguish between levels or quality of reflection. In general, they were mistrustful or apprehensive about learning that was self-reported by students.

### **Discussion**

Looking at the framework as a whole and considering the placement of the different subjects’ conceptions reveals some interesting insights. The dot-subjects are concentrated in two quadrants, Q1 and Q3. This suggests correlation between the corresponding characterizations: if reflection is conceived as primarily being a learning process for the student, the focus of the reflective activity tends to center on critical cogitation of personal values and beliefs. Conversely, reflection that is primarily deemed as an assessment tool tends to focus on task-oriented features that review the program or the project for deficiencies and room for

improvement. These two quadrants are positionally opposite to each other, and also appear to capture diametrically opposite conceptions of reflection's content and purpose.

None of our subjects placed into the lower-right quadrant. This may be a potential flaw in our design; however, the combination of features in Q4 is not inconceivable. Theoretically, a Q4 occupant would treat reflection primarily as a tool for assessing students or a program while acknowledging matters of potentially high impact on persons and society. In this sense, the lack of samples in this quadrant suggest that these two characteristics are less likely to co-occur – faculty who are interested in more person or belief-oriented topics are unlikely to view *any* pedagogy as solely for assessment (i.e., even a multiple-choice examination can contribute to student learning, cf. Hardy et al., 2014). Neither are they likely to ignore the human value of assessments, as these “can become an instrument of instruction as students engage in a process of reflection about their own learning process” (Nummedal, 1996, p. 42; cf. Simpson, 1996). A similar proposition can be made about Q2, though to a lesser degree.

The framework also allows us to analyze and evaluate teachers' conceptions of reflection on a broader scale and compare these conceptions with literature. The views of prominent scholars cited in this paper suggest that the features of Q1 are more seasoned characterizations of reflection. With reference to this viewpoint, our framework gives a glimpse of *where teachers stand* in terms of the ideal for reflection in service-learning. In addition, the distance between the placement position of a subject to the Q1 quadrant, or their relative locations on the student-referent/teacher-referent and task-oriented/person-oriented axes, may also offer insights into potentials for further development. The quadrant that is the furthest away from Q1 is the lower-left quadrant (Q3), which is populated by subjects with more cynical or even mistrustful views of the utility of reflection. It is not unreasonable to conclude that subjects with this conception stand in most need of improvement in their understanding of reflection – for example, its independent value for students beyond evidence of learning, and the frequency and variety of forms reflection can take over and above written reports.

In this regard, it is reassuring that 10 out of 24 interviewees place into Q1, with another 3 subjects expressing views that cross into this quadrant. Conversely, 4 out of 24 interviewees place into Q3, and another 6 subjects have mixed conceptions that cross into this quadrant.

Since the ultimate purpose of our study is to examine teachers' conceptions of reflection with an eye towards (if needed) refinement, our interview protocol included asking interviewees whether they needed help with reflective activities. Ironically, dot-subjects in the domain of evaluation exercise (i.e., Q3) flatly responded with negatives. In contrast, interviewees from other regions readily raised suggestions. Line-subjects between Q2 and Q3, for instance, suggested developing an e-learning module on reflection for teachers with ideas on how to motivate students (T19), or having the chance to observe how other teachers conduct reflective activities (T4). Q1 subjects suggested more subject helpers to dialogue with students (T12) and workshops on reflective practices for teachers (T5).

## Conclusions and Limitations

From our analyses of teachers' conceptions of reflection from multiple disciplines and experiences in teaching service-learning, we have devised a four-fold framework that models teachers' conception of reflection along two dimensions. One dimension captures the *focus* of the reflection along *person-* or *task-* oriented lines, while the other dimension captures the *function* of the reflection, as a tool for the teacher or a learning process for the *student*. Our

framework is intended to be a device for understanding the status of reflection as conceived by service-learning faculty, and can be used as a rough guide to position different conceptions of reflection relative to the desired emphasis on transformative education.

There are some limitations to our work. The study is based on a small sample size and drawn from one institution. This naturally limits the coverage of the academic backgrounds to those that are available in the institution. For example, the pure sciences and humanities are underrepresented in our sampling. It would be interesting to see how our framework and findings might be confirmed or revised with a larger and more representative sample group. Another interesting direction is to investigate faculty perceptions of reflection in relation to their academic backgrounds.

It is important to remember that our categorizations and placements are only approximations, and thus should not be taken as precise metrics. The value and contribution is in knowing where one stands and in seeing the bigger picture. Evidently, subjects in the lower region need to refocus reflection on student learning process, while those in left regions could bring greater benefit to their students by including more deeply human themes.

In future work, we intend to probe further into how teachers' academic backgrounds influence their views and practices of reflection in service-learning, and how, or whether, this impacts student learning. Further, it would be worth testing our framework outside of service-learning: applied to other disciplines and in different contexts, to examine whether significantly different conceptions of reflection apart from the four domains in our scheme might emerge.

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## Compliance with Ethical Standards

This paper is part of a research project approved by The Hong Kong Polytechnic University's Human Subjects Ethics Sub-committee, reference no.HSEARS20201110007.

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