Since the early 1990s, educators have combined experiential learning in higher education with community service to form service learning. For example, in the context of undergraduate learning, Astin et al. (2000) find that service learning leads to the following four major outcomes:

- Better connections between service experience and academic course materials
- Increased interactions and relationships with others (classmates, faculty, service recipients)
- Achieve outcomes related to service learning, such as a sense of personal effectiveness, increased awareness of the world and of personal values, and increased personal engagement
- Raising the importance of structured reflections, that can be in oral and written forms.

In higher education, service learning involving partnerships with community agencies, civil society and industries have not been as extensively explored as potential teaching tools. Recent attempts have also focused on collaborative learning using information technology, as developed in O’Donnell et al. (2006). Professional degrees in the fields of public policy, public administration and public management are particularly suited for this type of partnership, a variant on academic service learning. Institutional partners work with the lecturer to identify a key policy question to analyse, which is directly relevant to their own work and the assignments (essays, memos) produced by their students are shared with the partners, who can also choose to provide input on the students’ work.

Although these partnerships take place in public policy and public administration, they are usually done in an integrative context. While some modules do give “real-life” assignments, they are often one-way exercises. For example, they can take the form of an end-of-semester capstone exercise or a policy analysis exercise equivalent to a Master’s thesis. Students can choose or are assigned a policy question and work in collaboration with a counterpart or ‘client’ within the civil service, in view of integrating their learning from various courses. However, at the course-
specific level, service learning by Master’s or PhD students of public policy or public administration is still uncommon.

Given that in recent years, the class composition of graduate courses in public policy includes an increasingly large pool of recent graduates without work experience from which to ground their learning, service learning in partnership with the civil service and civil society in general becomes even more valuable. Yet, there are missed opportunities as very few linkages are established between academic lecturers, students and professionals for the purpose of teaching at the postgraduate level. Moreover, designing teaching tools through partnerships is often perceived as overly time-consuming and there is an overall lack of awareness among educators on relatively simple approaches to follow. This article addresses this missed opportunity and presents an innovative and straightforward model, based on collaborative learning, that can be implemented in various fields.

Collaborative learning involves a closer link between lecturers, postgraduate students and the professional world. Figure 1 demonstrates the implication of these linkages. Traditionally, the intersection between the three stakeholders at the postgraduate level has been minimal, if at all existing. The two added dimensions of allying forces with the professional world are: 1) to enable jointly designed coursework; and 2) to potentially create a two-way feedback channel, from students’ work on the issue of interest to the professionals, as well as to garner professional opinions and perspectives on our students’ work. This feedback mechanism serves to reinforce students’ sense of ownership over their work and to increase their level of responsibility over the quality of their output, since an ‘external’ assessor is involved in reviewing their work.

Collaborative learning also involves designing learning activities to foster experiential learning through service learning in partnership with the civil service or civil society. Three steps are required for a successful partnership: establishing mutual trust, ensuring mutual incentives and lesson sharing. Figure 2 summarises the key principles to ensure successful collaborative learning. I will describe each of these principles in more detail below.

![Figure 1: Stakeholders in collaborative learning](image1)

**Collaborative Learning**

![Figure 2: Key principles in collaborative learning](image2)

**Principle I: Mutual trust**

Among some of the potential institutional barriers lecturers may encounter will be the process of establishing mutual trust such that the institutional partner agrees to participate in collaborative learning. This establishing of trust is crucial in helping lecturers identify
‘catalyst’ individuals within the institution whose values are aligned with the promotion of dialogue and partnerships with higher education institutions. Then, the lecturer must ensure that they secure ‘buy-in’ and trust from the institutional partner’s senior management. This will require face-to-face discussions and meetings with them to explain the principles behind collaborative learning, and clarify any expectations or questions on their part.

**Principle II: Mutual incentives**

The lecturer and the institutional partner must also ensure that there is a *mutual set of incentives* for engaging in this partnership. Thus, the subsequent discussions should focus on identifying a possible topic for students to work on and supporting documentation to be consulted by students, and dealing with any confidentiality issues. This must be in line with the curriculum being developed by the lecturer and should be directly relevant to the learning objectives of the course.

**Principle III: Lesson sharing**

Once students’ assignments are completed, efforts to engage the institution and students in sessions of *mutual lesson sharing* are essential to ensure successful collaborative learning. For example, this can take the form of inviting guest speakers from the partner institutions to the classroom towards the end of the course (also a valuable and complementary learning activity). These speakers are invited to share insights specifically related to students’ assignments, based on their professional experience. For overseas partner institutions, speakers may be invited ‘virtually’ using videoconferencing software applications such as Skype. Email exchanges with a counterpart from the institutional partner will be shared with students. An “exit interview” with the partners will also be conducted to take stock of the success of the collaborative learning experience and identify ways to improve such partnerships in future.

The collaborative learning model enhances teaching in three concrete ways. Firstly, it creates better linkages between theory and practice. Secondly, it enables the designing of innovative teaching tools that provide greater space for debriefing and providing feedback to students. Thirdly, it links specific learning objectives with the soft skills necessary in the professional world.

An application of collaborative learning to my course, PP5295 “Aid Governance”, was used to design the module’s final exam in Semester 1, AY2009/2010. It was similar to a mini-capstone exercise, where materials were provided one week in advance, on a real-life case study. Students were asked to answer two questions that require the application of concepts and tools they were taught in class. The exam was worth 30% of the total grade and was conducted open-book style, but use of the internet was not allowed.

Recent feedback from students who participated in this exercise revealed the importance of lesson sharing and its mutual incentive. Students also suggested that such collaborations should be applied to longer term projects conducted throughout the semester, rather than just for the final examination. Some of the student feedback I received included the following comments:

- “[This exercise] allows us students to learn whether our recommendations are practical and reflect the needs and constraints of the organization.”
- “I am happy to know that my work has been beneficial in a ‘real world’ setting, outside of the classroom.”
- “[It] is a win-win exercise, since it allows the client to learn from constructive criticism, while the student can situate him/herself in a real, as opposed to a theoretical, setting.”
- “[It is] also a good idea to bring students and the organizations they studied together after the academic exercise.”
- “[An] an integral part of the process was the meeting with the client organization.”

*continued on page 14...*
Juggling between Teaching, Research and Service

The three main activities in academic life, which are the main components of any lecturer’s work in most universities nowadays, are teaching, research and service. As a young professional trying to find my own path within academia, it seems to me that most educators regard these as competing activities, one taking time from the other. As such, it is usual to find that most choose to focus mostly on research and teaching. Furthermore, in most research-oriented universities, excelling in research is desirable for one’s academic development and tenure, even if this compromises one’s dedication to teaching.

Coming from a creative field such as Industrial Design (ID), with an awareness of the necessary naïveté and optimism which fuels creativity, but without much previous research save for some insights from my own experience, I think the synergy created between the three activities can provide an integrated and more meaningful creation and sharing of knowledge. This idea of integration of the three areas of academic life is summarised in Figure 1.

Many times the boundaries between disciplines offer the most exciting possibilities, as is the case of Industrial Ecology, just to name a recent field of study that comprises seemingly opposite professions. The following are just a few possibilities:

1. Teaching-based research,
2. Teaching-based service,
3. Service-based research,
4. Service-based teaching,
5. Research-based teaching, and
6. Research-based service.

Problem solving seems to be inherent to design. Within the scholarship of pedagogy, one of the diverse tools widely explored today is problem-based-learning (PBL):

The PBL process is conducted in small groups of 5–6 members per group.
Learning starts with a problem. Students assume responsibility and plan their own learning. They engage in collaborative learning. They use problem solving and reasoning skills to clarify and identify the problem, generate ideas, and seek new and related knowledge to solve the problem. On completion, they reflect on their work and receive feedback from peers to improve themselves (Wee, 2003, p. 6).

Solving small problems inside the university (a hands-on community-focused project)

Based on previous experience in teaching of ID2122 “Ecodesign & Sustainability”, and through the practicum discussions in CDTL’s Professional Development Programme (PDP), the case study that follows was proposed and implemented. In general, it was observed in the previous implementations of the course that students tended to concentrate mainly on environmental sustainability aspects, and neglected or gave less attention to the economic and social aspects. In order to strengthen the social aspects of sustainability, this case study focused on the university community.

In order to engage the students in real life projects which would foster a ‘sense of belonging’ to the university community, and hopefully motivate them to develop the projects as service towards the university, this case study was developed in collaboration with the Campus Sustainability Committee (CSC) at NUS. The CSC, composed of staff and students,
had already developed diverse projects under a strategic plan to reinforce sustainability within the university campus. As seen in Figure 2, some of the main topics addressed by the CSC included:

1. resource usage,
2. waste management,
3. protection, care and use of natural spaces, and
4. education.

These were developed through internal campaigns to reduce, reuse and recycle, with the aim of reducing the use of plastic bags, disposables in canteens and many others as seen in some posters in Figures 3 and 4.

In this case study, the students had to observe, define and propose solutions to small problems within the university’s context and within the sustainability plans presented by the CSC members. Most problems chosen by the students were related to resource usage and waste management. From the results of the projects’ outcomes, some of the more interesting problems chosen by the students were:

1. development of edible straws to reduce the use of plastic straws in the canteen,
2. handcrafted products made by repurposing plastic bags,
3. integrated disposable food sets with cutlery and containers in the same material for easy recycling,
4. a system to manage the waste of foam (used intensely as a modeling material in ID courses),
5. a system for collection and usage of cardboard rolls of toilet paper,
6. system for repurposing cardboard boxes into food carriers, which in time diminishes the use of plastic bags.
Some of the final prototypes for the projects are shown in Figures 5–10.

**Lessons learnt from the case study**

It is important to note that the students were especially inquisitive about the process and wanted to know how to approach the problems. Their involvement with the project, especially with different people in the university, was evident. For example, students’ documentation showed them observing, interviewing and interacting with the personnel working with the cleaning services or the canteens. The people from CSC were also especially cooperative, and dedicated much time to answering the students’ questions as well as evaluating and testing some of the proposals.

The learning outcomes of such a course are difficult to evaluate in an objective and tangible way, and the real impact of the proposed method will probably be evident only in the future (e.g. one indicator could be how many students who took this course during their second year incorporated the proposed method or decided to undertake related topics as a graduation project). However, the student feedback for this course was in general, positive. Furthermore, students indicated in their feedback, their appreciation for the module's teaching techniques (videos, invited guest speakers, fieldtrips and outdoor classes).

Cross-disciplinary studies are very important in professions such as design, as they stimulate iterative feedback loops between creative and critical thinking. In working with our own community, a sense of reality and ‘belonging’ is encouraged by bridging this pedagogical exercise with service to the university.

**Endnotes**

1. The author would like to extend special thanks to NUS for supporting the experimental workshops to test these teaching ideas and members of the Campus Sustainability Committee for their support with the project in the case study here illustrated. He also expresses his pleasure for having the opportunity to work with an specially enthusiastic group of second year undergraduate ID students (NUS-ID 2010).

2. The author was formerly with the Dept of Architecture until June 2010.

**Reference**

This paper addresses various issues relating to class participation and its grading based on my personal experiences.

Some advantages of class participation

Though some scholars have raised reservations about grading class participation (Jacobs & Chase, 1992), it is widely practised at NUS and many other universities. I too have incorporated such a component in the courses I teach and in my opinion, grading class participation serves many useful functions. It forces students to think, often spontaneously; it allows the instructor to know whether the students are following him; it makes the class more interactive and hence more fun and enjoyable; and it builds confidence and helps students learn how to express themselves—a valuable skill in the real world. It also forces students to be better prepared for classes, especially if the instructor practises cold calling. In addition, it tests the students over an extended period of time as compared to, for instance, the final exams. In a survey I conducted in Semester 1, AY 2009/2010, 96.2% of 182 students felt that class participation was important for reasons such as those mentioned above, regardless of whether it was graded or not. Thus, the students themselves are beginning to see the value of class participation.

Should class participation be graded?

However, out of this 96.2%, 4% felt that though class participation was important, it should not be graded. Given that our students are highly motivated by grades (Marzano et al., 1988) there will certainly be less participation if class participation is not graded. Further, in light of this, giving a low percentage (e.g. 5%) for class participation, would not, in my opinion, act as a sufficient incentive. Thus in the courses I teach, class participation accounts for 20% of the final grade.

Some disadvantages of class participation

Class participation is not without its problems, though some of them can be minimised or overcome. One issue is whether class participation disadvantages the timid students. Though grading class participation would certainly encourage some timid ones to speak up, there will still be those who are extremely timid and would not move out of their comfort zones no matter what the instructor does. Students who really have a problem speaking up in class can participate through other means such as emails or the discussion forum. My discussion forums are usually very active and some of those who are too shy to speak up in class, participate actively in the discussion forums.

Another issue centring class participation is whether it encourages students to speak up just for the sake of saying something. Though this may result in a lot of irrelevant and unimportant exchanges, instructors should be careful not to stress that students should “ask only relevant questions” as this may discourage many from participating. One way to minimise this problem is to state clearly at the beginning that it is not the quantity but the quality of the students’ contributions and questions that counts. Further, if the students’ questions are not directly related or cannot be addressed in class for one reason or the other, I will inform them and they are welcome to see me after class. This helps to reduce disruptions in class.

Yet another problem is that the grading of class participation may be perceived as arbitrary or subjective. This issue will be discussed a little later.
What does class participation mean and where can it take place?

Class participation typically refers to answering questions posted either by the instructor or fellow students (this would usually mean that the students must be sufficiently prepared) and asking questions. Obviously, what should count is the quality, not mere quantity. One might ask whether class attendance should be considered as class participation. In my opinion, students’ mere presence in a class does not equate to class participation and hence I do not take that into account separately. Having said that, if a student is persistently absent, he would have fewer opportunities to participate and hence he will usually score lower for class participation.

Class participation can take place in class (e.g. tutorials), through emails and through the discussion forum. One question is whether class participation can take place in the lectures. It certainly can and it does happen in my lectures. I pause in my lectures to invite questions, pose problems and give the students some time to think about the solution. I also walk around the lecture theatre to elicit responses. In addition, I incorporate questions into my PowerPoint slides to encourage students to think during lectures.

How to encourage class participation?

If class participation is graded, it is important for instructors to provide an environment conducive to class participation. The first class is extremely important as it sets the tone for the rest of the classes. The first class can be conducted in an informal way with an icebreaker and the instructor should spend some time explaining why class participation is important and how it will be graded. In order to encourage participation, it might also be good to help students understand that learning is a process hence the instructor is not expecting the right questions or answers all the time, and it is alright to make mistakes. In addition, when he poses a question, the instructor should be prepared to repeat the question and wait for answers.

How to grade class participation?

For tutorial classes, I start with a common base mark for all and then move the marks upwards or downwards as the course progresses. It would be helpful if the instructor knows the students’ names (this also encourages participation). I make it a point to remember my students’ names by the second or third week. Each time I go back to my office after a class, I go through the list, revisit the marks and make necessary adjustments according to the students’ participation. I take note of students whom I am unsure about, and try to pay particular attention to them in the subsequent week. The marks can change from week to week. Sometimes they keep moving in one direction; sometimes they start moving in the opposite direction. I use the following guidelines in assigning the grades:

- Below 10: Does not turn up for classes often (thus fewer opportunities to participate) or turns up unprepared for class most of the time
- 10–12: Answers only when called; superficial understanding
- 13–14: Volunteers to answer/ask questions, shows quite good understanding
- 15–16: Volunteers to answer/ask questions quite consistently and shows good understanding
- 16 and above: Comparatively exceptional. Turns up well-prepared for class, actively participates/contributes in class, asks critical/detailed questions, challenges assumptions and creates an impact.

I reveal these guidelines to students at the beginning of the class and also inform them that all tutors would be using these guidelines. I also inform the tutors about what is expected in terms of grade distribution for class participation. In this way, the students do not see the process as arbitrary or subjective.

In relation to the discussion forum, I go through all the messages and take note of significant contributions on a weekly basis. A student’s consistent and meaningful participation would
be viewed favourably and I would adjust the student’s final marks for class participation upwards. The same goes for emails.

As for lectures, what I did this term was to go around during the break and passed out cards to students who have participated in the lectures. I then asked them to come down and write their names. I kept this name list and tried to remember the names of students who have participated in the lectures and tried to monitor their progress over the course. Again a consistent and meaningful participation would be viewed favourably and the final class participation marks would be moved upwards. However, I found this to be a very cumbersome process and there was a lot of remembering to do. Thus what I propose to do the next time is to leave a box at the front of the lecture theatre and ask students who have participated to write down the nature of their participation (e.g. the question that they raised) on the cards and put them in the box. I will then go back and create the list and assess students’ participation over a period of time.

Giving feedback on class participation

It would also be useful to give the students feedback on class participation. For instance, a student who has not been doing well may get an email in the middle of the term to encourage him to participate more actively in class. In my case, I inform all students at the beginning of the class that I will send messages to students who have been doing well to encourage them to keep up the good work. Thus, if students do not receive such a message from me, they need to do more. I also announce at the beginning of the class that I may reward or recognise those who have made a significant impact, such as the student who made the biggest impact in the discussion forum or the student who made me think the most.

The relationship between class participation and the final examinations

In the year that I conducted the survey, slightly more than half of the 20% who received an ‘A’ for class participation scored 70 and above for the final exams but the rest did not. Though it is my first time conducting the survey, it has been quite a consistent trend over the years, suggesting that class participation and final examinations scores do not always coincide. This again supports the fact why class participation should be graded.

Conclusion

Grading class participation takes time and effort. However, if it is done properly, it makes the teaching and learning process more enriching for both the instructor and the students. I have learnt so much from the students’ questions and I am sure the students have also benefitted from the experience.

References


Reframing Mental Models: A Different Approach to Summarising A Module

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It is common to hear some students exclaim in exasperation that they have sat through a module for an entire semester and yet, could not make sense of what the module was all about. Through my observations and conversations with them, I have found that this knowledge gap happens when students do not take ownership of the knowledge being disseminated in a module. The pragmatic approach most of them adopt to fulfill module requirements have resulted in many of them relying on their lecturers and instructors to provide the framework for studying a module. This reliance has in turn led to students cultivating a habit of accepting knowledge as it is presented.

In order to encourage students to “claim ownership” of the knowledge being disseminated in the module HR2002 “Human Capital in Organizations”, I experimented with an approach which departs from the traditional way of summarising a module at the end of the semester. Traditionally, a lecturer holds court during the summary session—revisiting learning objectives, fielding questions, clarifying doubts and yes, providing information about the exam. In this particular approach, I take the “back seat” instead.

This activity is called “Understanding Competencies & Reframing Mental Models”. The exercise encourages students to reflect upon the concepts and theories covered in the module; it also provides them with an opportunity to exercise their critical thinking skills as they build their very own model or framework that would articulate what they learnt in the module. In addition, it helps them to make sense of the issues and challenges raised during the lessons.

In order to engage every student, the activity brief, which also includes a reading list of three related articles, was distributed to the class two weeks before the module’s final session. Each student was tasked to think about his mental model of relating and interacting with people, a key emphasis of the module. The students then formed small groups in which they could pool their ideas together. Each group had to come up with one PowerPoint slide to articulate their model or framework, and they had to do a five-minute class presentation.

The results of the exercise were a refreshing surprise. The framework of the module which I presented to students at the beginning of the semester comprised of just three simple circles (Figure 1).

![Figure 1. Example of a framework provided at the beginning of the semester.](image-url)
However, the models and frameworks the students presented went beyond the module’s assigned topics to include processes and flows. Some of the groups also managed to incorporate concepts they gleaned from the recommended articles into their presentations, an indication that they could see the knowledge they acquired from the module coming together as a whole. The process in which they tried to make sense of how they should relate to and interact with people in the workplace became the anchor for this exercise. Some examples of the frameworks drawn up by students are presented below in Figures 2 to 4.

This exercise ultimately “forces” students to take a hard look at the concepts and theories discussed in the module, to filter out what makes the most sense to them, and then to integrate this knowledge into a model or framework that reflects how they would approach the challenges of negotiating in a work environment. It was heartening to see that most groups were able to integrate key concepts of the module into their models and frameworks. The value-adding insights from each group were evident from the inclusion of seemingly minute details presented in some sessions during the semester; yet, these details made a great impact on the sense-making endeavours of each group. The ultimate satisfaction students derived in this final session came from the their realisation that what had been discussed in class were not merely concepts and theories, but knowledge that has practical value in driving their decisions on how they wish to interact and relate to people when they enter the workplace.

This approach provides a summary session which is driven by the students and anchored to a core pillar of the module. It is student-centred and helps them to reframe what they have learnt in a framework or model that is both personal and meaningful.

![Diagram](https://example.com/diagram.png)

**Figure 2. First example of a conceptual framework drawn up by the students.**
Figure 3. Second example of a conceptual framework drawn up by the students.

Figure 4. Third example of a conceptual framework drawn up by the students.
The Collaborative Learning Model

...continued from page 3

• “[Such an exercise would be] more meaningful for longer-term projects, instead of the exam.”

• “[The] the client was not fully aware of what to expect from us: I recommend clarifying expectations and further structuring the feedback process from student to client.”

• “[One] thing I would change about the exercise: to have a session with the client prior to the assignment: allocating an hour or two for a representative to talk in class with a Q&A session.”

References:

