

Generating, Deepening, and Documenting Learning: The Power of Critical Reflection

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Opening Reflection (individual and written) Your Approaches to Reflection

Describe your current approach(es) to reflection:

What activities? When in the semester? Written or oral or both? Individual or collaborative or both? How guided?

Examine your current approaches to reflection:

Why do you use these approaches? (e.g., past experience, constraints you operate under, objectives, your skills, your students' skills, etc.)

What do you see as the strengths of these approaches? What do you see as their shortcomings?

On a scale of 1 – 10, with 1 = low and 10 = high, how confident are you that you are using reflection effectively to generate your desired learning outcomes?

1 2 3 4 5 6 7 8 9 10

Why?

On a scale of 1 – 10, with 1 = not at all and 10 = extremely, how satisfied are you with the student learning achieved through your current approaches to reflection ?

1 2 3 4 5 6 7 8 9 10

Why?

What specifically do you think needs to change about your current approach(es) to reflection?

Articulate Learning

What is one idea or question about reflection that you want to think more about as we proceed through this workshop? Why is this idea or question important to you?

Student Reflection Product: Academic Category (Slightly modified from original)

[NOTE: Produced as the last step in a reflection process that combined oral and written reflection and refined through two drafts, with feedback from peers and instructor]

One main attribute we have discussed that a servant-leader should have is foresight, or the ability to anticipate what will happen based on patterns observed from the past through a combination of rational thought and intuition. In "The Servant as Leader," Robert Greenleaf says that foresight is "the 'lead' that the leader has" and that without it "he is not leading" because events "force his hand." However, ***I have learned that*** although lack of foresight can indeed limit the choices of a leader, his/her "lead" may not be lost entirely as long as there are options for action; lack of foresight need not entirely "force [one's] hand," but to avoid the situation in which it does, it is necessary to think creatively about one's remaining options and not assume that one no longer has any options.

I learned this when we reflected on the challenges we were experiencing with the "Computer Literacy Project" at the assisted living facilities in a group meeting with my instructor. We talked about how we had not had much foresight regarding the computers we had obtained as donations; when we made our project plan at the beginning of the semester, we did not even consider the possibility that the donated equipment might not be in good working order and so had planned only a little time for computer set-up. At this point, we were discouraged that we were having to spend a lot of time trying to fix technological problems at the assisted living facilities when, if we had anticipated the need, we could have arranged for someone with more technical expertise than we have to get the computers in working order before we took them to the sites; had we done that (and one of my group members even knows someone who would have been happy to help us out, so it wouldn't have been difficult to find such a person), we would have had working computers much more quickly and could have moved on by now to working on sustainability for the computer literacy project. We felt that, at this point, we would not have enough time to accomplish all of the objectives we had at first set forth for the project; in particular, we realized that we may not be able to firmly establish a permanent "home" program to take on the responsibility of the Computer Literacy Project. We felt that we had no choice but to simply give up this objective—that is, we felt that our lack of foresight had indeed taken away our "lead"—since the pressure we were experiencing from time seemed to be forcing our hand and leaving us no options.

However, my instructor asked us if not being able to completely fulfill an objective meant that we could not progress towards it at all. This question helped us to realize that while we may not be able to fully complete everything we wanted to with this project, we still can make significant progress toward several goals; we have not, therefore, completely lost the ability to provide leadership in this project, as our reading of Greenleaf's discussion of foresight led us to believe. We can establish preliminary contact with possible "home" programs for the project and compile a report of these options. We can locate a source of technological support, whether within the college of engineering or elsewhere, for future participants in the project - as a step toward dealing with the technological problems that we are not going to be able to fix this semester and toward making this part of the project more sustainable. In short, our choice of actions at this point may be limited by our lack of foresight earlier on in the project (we simply do not have the time at this point to get more than one computer at each site installed and working properly, even with

the help of my group member's friend, for example, and we therefore we will not be able to hold the 10-person classes that we had planned to have running before the end of the semester); but we still have choices, and we still have options for making progress on this project before our involvement with it ends. Of course, before I can judge my conviction that leadership options are not, in fact, lost by lack of foresight, it will be necessary to undertake some of these actions and ascertain whether or not it really is too late to have an impact on this project; perhaps there is a point in any project in which leadership is lost due to lack of foresight, and it would be interesting to try to determine through this project and others at what stage in a project's unfolding that point occurs, if in fact it consistently does.

This learning matters because my group and I discovered that we do not agree that lacking foresight causes a leader to "lose [his or her] lead" as Greenleaf states and were able to use this discovery to help us overcome our discouragement and sense of failure. Perhaps our experiences with the consequences of lacking foresight are different from Greenleaf's ideas of these consequences because we were able to identify this mistake as we were making it. Our overall understanding of the concept of foresight has not only been reinforced by but also revised through the service-learning process of reflection. If we had failed to reflect on our service experiences, we might never have realized we were failing in the area of foresight in connection with our technological problems. Then we would indeed be having our hands forced by events, as we would not have the opportunity that we do now to analyze how we can change our actions to prevent this. Even though our efforts in this service project have been compromised by our lack of foresight, I believe we can utilize other leadership skills to retain our "lead" in this project. We can reassess the highest priority needs of the project, be flexible, and learn to work within the limitations that our lack of foresight has caused. Basically, this learning matters because it has reinforced both to me and to my group members the importance of foresight when trying to achieve goals and also caused us to find alternate ways of working towards those goals when our lack of foresight brings us into situations of limited options.

In light of this learning I will spend some time after our meeting with the facility manager to foresee what situations may come up in the last five weeks of this project, write these ideas down, and share them with my group members. This will be difficult simply because foresight is, in the paradoxical words of Greenleaf, "foresee[ing] the unforeseeable." Since there are so many challenges and changes that may yet arise in this project, it will be hard to predict them. However, I believe that examining and reflecting on our past experiences with the project will help me to do this. As Greenleaf states, foresight often requires a leader to have a "feel for patterns," and one important way for me to recognize and sense patterns in the progress of this project is by reflecting on my past experiences and current involvement with this project. Also, I can be thinking of what choices still remain for us as we seek to come as close to completing our objectives for this project as possible, and how we can act upon these choices.

Has this student learned through reflection on SL experience?

Do you have evidence of her having learned?

What evidence would you like to see that you don't find here?

Student Reflection Product: Personal Growth Category (slightly modified from original)
[NOTE: Produced as the last step in a reflection process that combined oral and written reflection and refined through two drafts, with feedback from peers and instructor]

I learned that for the past 20 years I have been developing a pattern of in appropriate dependency in that I easily default to depending on other people, relying on them to help me accomplish my objectives even if I do not really know them well enough to trust them. However when I get backed into a corner because of this dependency, I have the capability to handle it because of my resourcefulness, or my ability to find alternate ways to accomplish my objectives when situations are not conducive to meeting those objectives.

I learned this when I compared the dependency problem that I faced in the Dominican Republic with the situation at the assisted living facility last week when I depended on the Activity Coordinator's presence and she was not there. When I volunteered at an orphanage in the Dominican Republic I took a large step of independence by going without knowing anyone else and hoping that I could establish a support system once I was down there. When this support did not develop I became very homesick and relied on my parents to arrange a way for me to come home early. I did not try to use my own abilities to survive for the rest of the trip, or even to get me home, but depended on my parents to work out the situation, as has always been our pattern as a family (my parents have always been over-protective and have stepped in and "rescued" my brother and I on many occasions). Last week at the assisted living facility I encountered another example of my tendency to be too dependent on others when I counted on the Activity Coordinator to be at the site to introduce my group to the residents and wasted a lot of time waiting around for her rather than going to a "Plan B" quickly. Even though I defaulted into dependency, however, I was able to be resourceful to overcome the problem created by my dependency, by eventually locating someone else who was able to introduce us like I had hoped the Activity Coordinator would do.

This learning matters because now that I am in college, I am at a point in my life when I need to become independent in order to be able to function on my own, and though I am now better able to use my resources to pull myself out of a problem created by dependency, it would be more sustainable if I could prevent myself from defaulting into dependency by bolstering my independence. Whereas in the past (in the Dominican Republic) I depended on my parents to "rescue me" from a difficult situation, this time I was able to rescue myself. Granted, my situation at the assisted living facility was much less stressful than being in another country and not knowing anyone, and I was not risking much by depending on myself rather than someone else to find a way to begin my interaction with the residents. However it is important for me to realize through this example of my resourcefulness at the assisted living facility that the reason I default to dependency is not because I cannot handle the problem or situation myself, it's that my lifelong reliance on my parents as rescuers has led me to believe that I am independent and strong enough to do it. It is this underlying belief that I will need to work on if I am to become a more independent adult.

In light of this learning I will set small goals for myself to become more independent. I think that my decision to go to the Dominican Republic by myself was a step of independence that was too large for me to take so I will find ways to push myself towards independence, realizing that it's a process that begins with small steps. For example, in the past I have been dependent on my brother to get gas in my car, but in light of this learning I will resolve to get my own gas. Also, I have been financially dependent on my parents and have come to depend on them to give me money every week to buy necessary items for the week. Because I want to become more independent, I will talk to my mother and work out a system where she gives me a set amount of money for the rest of the semester and I will have to budget it out for myself on a week by week basis. I know that there are many other smaller steps I could be taking, so I plan to reflect on this idea of dependence in my journal during Spring Break and try to recognize the areas in my life where I am dependent so that later on I will not become backed into a corner so easily because of my dependency on someone else; I will establish at least two additional goals by the end of Spring Break, for a total of four to work on the next six months. It will be challenging to identify and then act on becoming less dependent in these areas of my life because I feel comfortable knowing that I have a safety net, however since I will not be able to depend on safety nets forever, this process of personal growth will be beneficial to me when those safety nets give out. Another more fundamental challenge will be to back away from these safety nets, such as my parents giving my money and my brother getting my gas, while not backing away from the individuals who care enough about me to be safety nets. I do want to back away from my dependence on my parents and brother, for example, but I must be careful not to back away from my parents and brother in the process. I think that by talking to them and explaining my desire to become more independent, I can let them know that I sincerely appreciate their support but at the same time need to learn to rely more upon myself. To ensure that I really do make progress in terms of these goals in the next six months, I will put a notebook in my car and record who gets gas each time my car needs to be filled, and I will ask my roommate to ask me on the first of each month where I stand with this and with my mother on the budgeting situation; if I am successful in changing this dependency - rescuer pattern that I have with my parents, then it should show up concretely in these two specific behaviors.

Has this student learned through reflection on SL experience?

Do you have evidence of her having learned?

What evidence would you like to see that you don't find here?

Defining Service-Learning

Since Robert Sigmon's seminal article "Service-learning: Three Principles" (1979) helped to establish and formalize the pedagogy, individuals, as well as programs and institutions, have created numerous definitions for "service-learning." Although specific understandings vary, as the field has grown and matured, the range of definitions has begun to converge on several core characteristics of service-learning. A few oft-cited definitions include:

Service-learning is a "course-based, credit-bearing educational experience in which students (a) participate in an organized service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of personal values and civic responsibility."

~ Bringle, R., Hatcher, J., & McIntosh, R. *Analyzing Morton's Typology of Service Paradigms and Integrity*. *Michigan Journal of Community Service Learning*, Fall 2006, Vol 13, No. 1.

Service-learning is a "method under which students... learn and develop through active participation in thoughtfully organized service that: is conducted in and meets the needs of a community and is coordinated with... an institution of higher education...and with the community; helps foster civic responsibility; is integrated into and enhances the academic curriculum of the students... and includes structured time for the students...to reflect on the service experience."

~ *National and Community Service Trust Act of 1993*.

"Service-learning is the various pedagogies that link community service and academic study so that each strengthens the other. The basic theory of service-learning is Dewey's: the interaction of knowledge and skills with experience is key to learning... Learning starts with a problem and continues with the application of increasingly complex ideas and increasingly sophisticated skills to increasingly complicated problems."

~ Thomas Ehrlich, in: *Barbara Jacoby and Associates. Service-Learning in Higher Education: Concepts and Practices*. San Francisco, CA: Jossey-Bass, 1996.

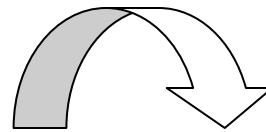
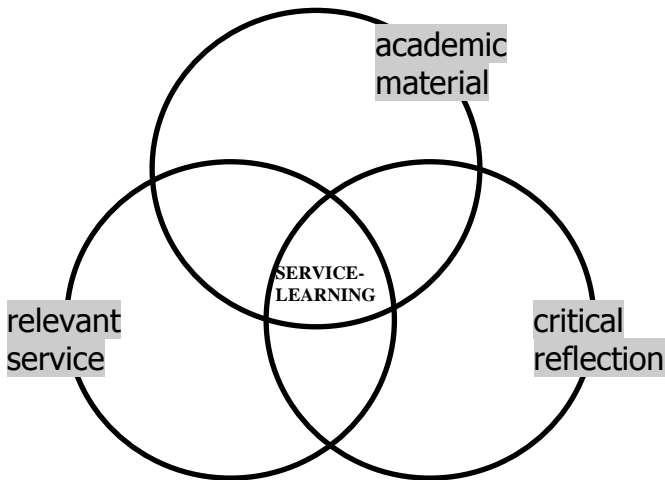
Consensus on the essential elements of the pedagogy:

- integration of learning goals and service goals
- academic learning goals supplemented with at least civic learning goals and maybe other categories of learning as well (e.g., personal growth, professional development, multi-cultural learning, ethical inquiry)
- organized, structured process
- reciprocal (or, mutually-transformative) collaboration among students, faculty/staff, community members, and institution that fulfills shared objectives and builds capacity among all partners
- structured reflection
- duration and intensity sufficient to produce meaningful learning and service outcomes

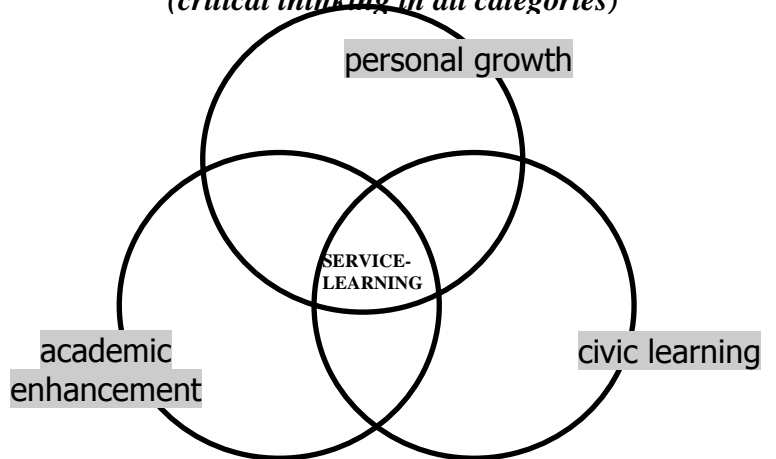
Conceptualizing Service-Learning as Pedagogy

Service-learning (S-L) is a collaborative teaching and learning strategy designed to promote academic enhancement, personal growth, and civic learning. Students render meaningful service in community settings that present them with experiences related to academic material. Through guided reflection, students—individually and in groups—examine their experiences critically and articulate specific learning outcomes, thus enhancing the quality of their learning and of their service.

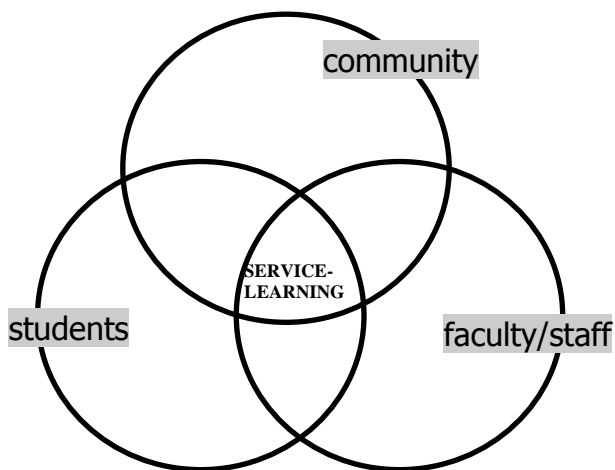
Components of S-L



Learning Goal Categories of S-L (critical thinking in all categories)



Partners in S-L



Reflection on Reflection (oral/written & collaborative, then indiv & written)

“Reclaiming Reflection”

“Reflection”

“Critical reflection”



“Reflection”

“Critical Reflection”

Mark with an X how YOU think of reflection

Mark with an O how YOUR STUDENTS think of reflection

What is Critical Reflection?

**“Experience is the best teacher – Or is it?”
(Conrad and Hedin)**

“active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends”

Dewey, J. (1910). *How we think*

“a continual interweaving of thinking and doing”

Schön, D. (1983). *The reflective practitioner: How professionals think in action*

to “integrate the understanding gained into one’s experience in order to enable better choices or actions in the future as well as enhance one’s overall effectiveness”

Rogers, R. (2001). Reflection in higher education: A concept analysis.
Innovative Higher Education

**“We had the experience but missed the meaning”
Eliot, T.S (1943) *The Four Quartets***

Critical Reflection

1) Generates

2) Deepens

3) Documents

Learning

10 Tips for Designing Critical Reflection

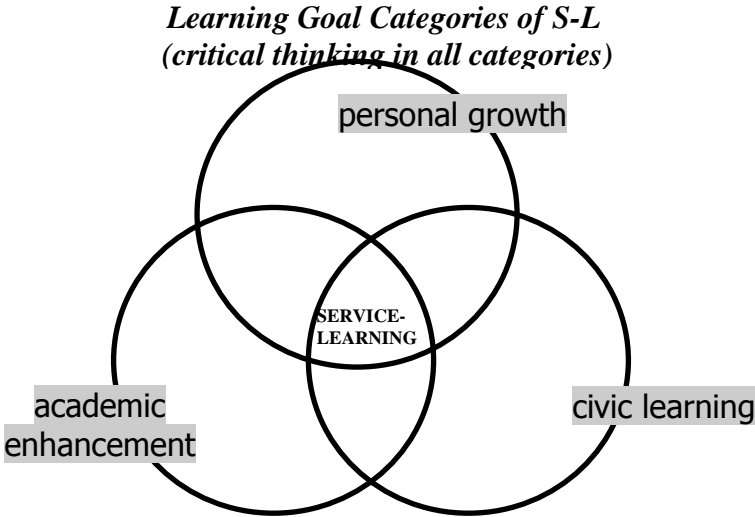
1. **“Everything is reflection-worthy”:** Few if any details are too small or insignificant to have meaning, and all experiences—whether designed for learning or serendipitous—as well as readings, observations, events, etc. present opportunities for a wide range of learning.
2. Critical reflection is the part of experiential learning that generates, deepens, and documents learning. When used in this capacity, it needs to be understood not as “touchy-feely,” non-grade-able, private, stream-of-consciousness but rather as a reasoning process that is analytical, integrative, assessable, subject to public critique, and structured/guided.
3. Critical reflection can generate learning outcomes that include knowledge, skills, attitudes/values, and behaviors. **If it is to generate assessable learning, critical reflection should be guided in accordance with the desired learning outcomes.**
4. **Reflection can be guided by a facilitator orally, by a set of written prompts, or by other methods. This guidance should enable the learner to generate learning and then assist them in articulating it coherently and cohesively, in part so as to inform future learning and action.**
5. Reflection activities can be written or oral or both, and they can be individual or collaborative or both; perhaps the strongest reflection combines all four possibilities. Reflection can involve physical movement, drawing, audio-visual elements ... the possibilities are limited only by the facilitator’s creativity.
6. **Critical reflection can be designed iteratively and therefore build on itself cumulatively. Relatedly, it is helpful to use a pre-mid-post structure that focuses the learner’s attention on changes in his/her assumptions and reasoning processes and on progress toward fulfilling objectives.**
7. An overall reflection strategy may integrate multiple reflection mechanisms. A reflection *strategy* answers the questions
 - a. “When do we reflect?” (at what points during the experience or course or project)
 - b. “Why do we reflect?” (toward what learning objectives)
 - c. “Where do we reflect?” (in what settings, geographic or virtual)
 - d. “Who reflects?” (learners alone or together, with facilitators, with other participants)A reflection *mechanism* answers the question: “How do we reflect?” (with what guidance, in what structure)
8. It is useful to begin designing a reflection strategy or mechanism by considering such questions as:
 - a. Who are the learners (what experience, skills, etc. do they bring and not bring)?
 - b. Who is the facilitator, if there is one (what experience, skills, etc. does he/she bring and not bring)?
 - c. What are the objectives?
 - d. What are the constraints?
9. Reflection requires a **“safe yet critical” space**: the risks associated with meaning making need to be acknowledged and minimized while adhering to high standards of reasoning. While reflection is not about generating one right answer, not all reasoning is equally valid. Reflection can be used to support learners in making reasoned judgments that are well-supported with evidence and that result from consideration of multiple perspective—not merely expressing opinions.
10. Learning through critical reflection is often an unfamiliar (counter-normative) process, which requires intentional capacity-building: **many learners need to learn how to learn through critical reflection.** Facilitators modeling reflection can be an important part of such capacity-building and can enhance their own learning as well.

Additional Tips for Designing Critical Reflection?

One specific enhancement you might make to your approach(es) to reflection, in light of the “Tips”:

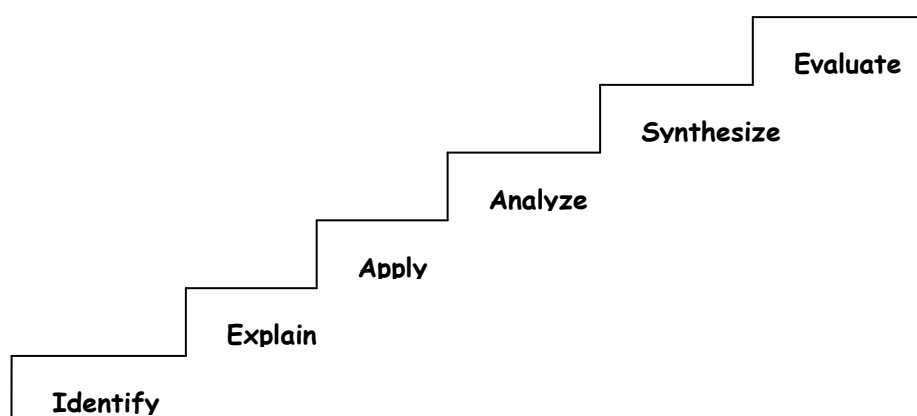
What Learning Are We After?

Learning Categories → Learning Goals



Bloom's Taxonomy of the Cognitive Domain

Bloom's Classification	Examples of Learning-Related Behaviors
Knowledge	<i>Identify, define, order</i>
Comprehension	<i>Explain, restate</i>
Application	<i>Apply, solve, choose</i>
Analysis	<i>Analyze, compare, contrast</i>
Synthesis	<i>Synthesize, develop, propose</i>
Evaluation	<i>Evaluate, assess, judge, critique</i>



Learning Goal	Learning Objectives (LOs)
<p><i>Category:</i> Academic Enhancement</p> <p><i>Goal:</i> I want students to understand and be able to use Chickering and Gamson's 7 principles for good practice in undergraduate education</p>	<p>LO #1 Students will identify the 7 principles</p>
	<p>LO #2 Students will explain the 7 principles in their own words so that someone not familiar with them could understand them</p>
	<p>LO #3 Students will apply the 7 principles to their roles as teachers of young children or elderly residents in the community, using them to design learning activities</p>
	<p>LO #4 Students will analyze the similarities and differences between the 7 principles as outlined in the text and as experienced with their learner population in the community</p>
	<p>LO #5 Students will propose changes to the 7 principles</p>
	<p>LO #6 Students will evaluate both their implementation of the 7 principles (original and revised) with their learner population and the relevance of the principles for this population</p>

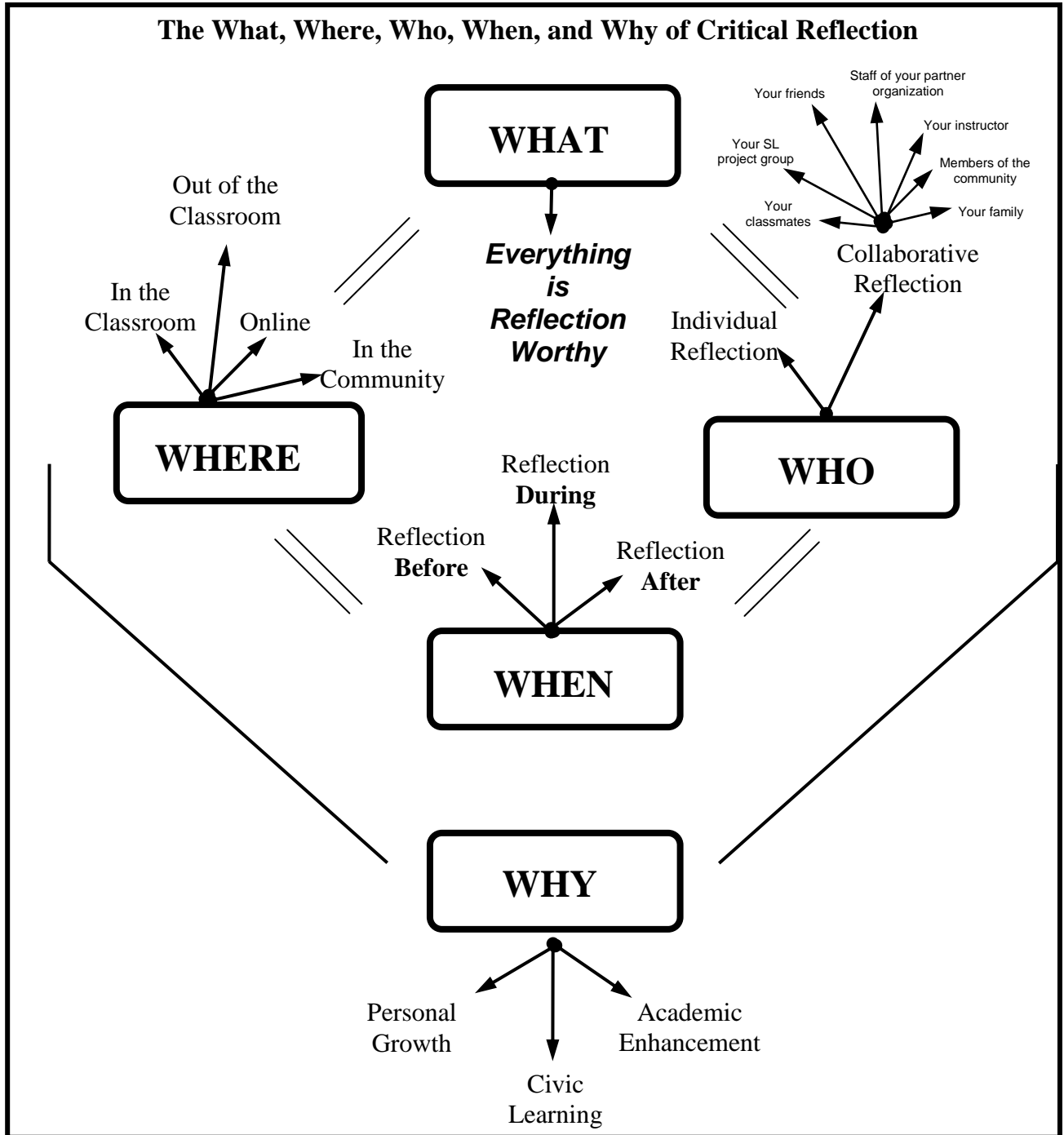
Learning Goals → Learning Objectives

Learning Goal	Learning Objectives (LOs)

Generating Learning through Reflection

Designing Your Reflection Strategy: General Principles

- Match with design of learning process and integrate with other assignments / activities
- Combine multiple mechanisms: Written, oral, individual, and collaborative ... let them build
- Use early – middle – late overlay
- Provide scaffolding & guided practice (learning to learn through reflection), in part through feedback
- Create “safe yet critical” spaces, perhaps erring on the side of safe early on



Designing a Reflection Mechanism

- Determine learning goals in advance
- Develop prompts to guide reflection in accordance with the learning goals
- Share with the students elements of sound reasoning and apply them as standards to deepen reflection (don't "miss the meaning")
- Develop a mechanism capturing and expressing key learnings
- Support students in using / acting on their learning, including setting goals

A Continuum of Possibilities (field: Teacher Education; category: Personal Growth)

Example reflection activity #1:

Reflect on your strengths and weaknesses

Example reflection activity #2:

List and explain 2 of your strengths and 2 of your weaknesses

Example reflection activity #3:

List and explain 2 of your strengths and 2 of your weaknesses. Share with a neighbor. Together, select the strength that, for each of you, is more relevant to / helpful in your role as a teacher

Example reflection activity #4:

According to Parker Palmer, "limitations are the flip side of our gifts ... a particular weakness is the inevitable trade-off of a particular strength." There is nothing "wrong" with us that we need to "fix," he suggests. Rather, we are who we are; sometimes our personal characteristics serve us well (and we think of them as strengths), and sometimes they serve us ill (and we think of them as weaknesses). [Let Your Life Speak, 2000]

Individually and in writing ...

- Identify and explain a personal characteristic that you tend to think of as a weakness in your role as a teacher
- Apply Palmer's discussion: What gift or strength do you think this "weakness" might be the flip side of?

Discuss with a neighbor ...

- Compare and contrast a teaching-related situation in which the weakness emerged and one in which the flip side strength emerged. Why do you think each emerged as it did and what were the consequences?
- If Palmer is correct regarding the relationship between our strengths and weaknesses, what do you think are the implications for our approach to personal and professional development as teachers?

Individually and in writing ...

- Do you agree with Palmer? Why or why not?

**Reflection on Your Approaches to Reflection
(indiv & written, then oral & collaborative)
Evaluating Your Approaches**

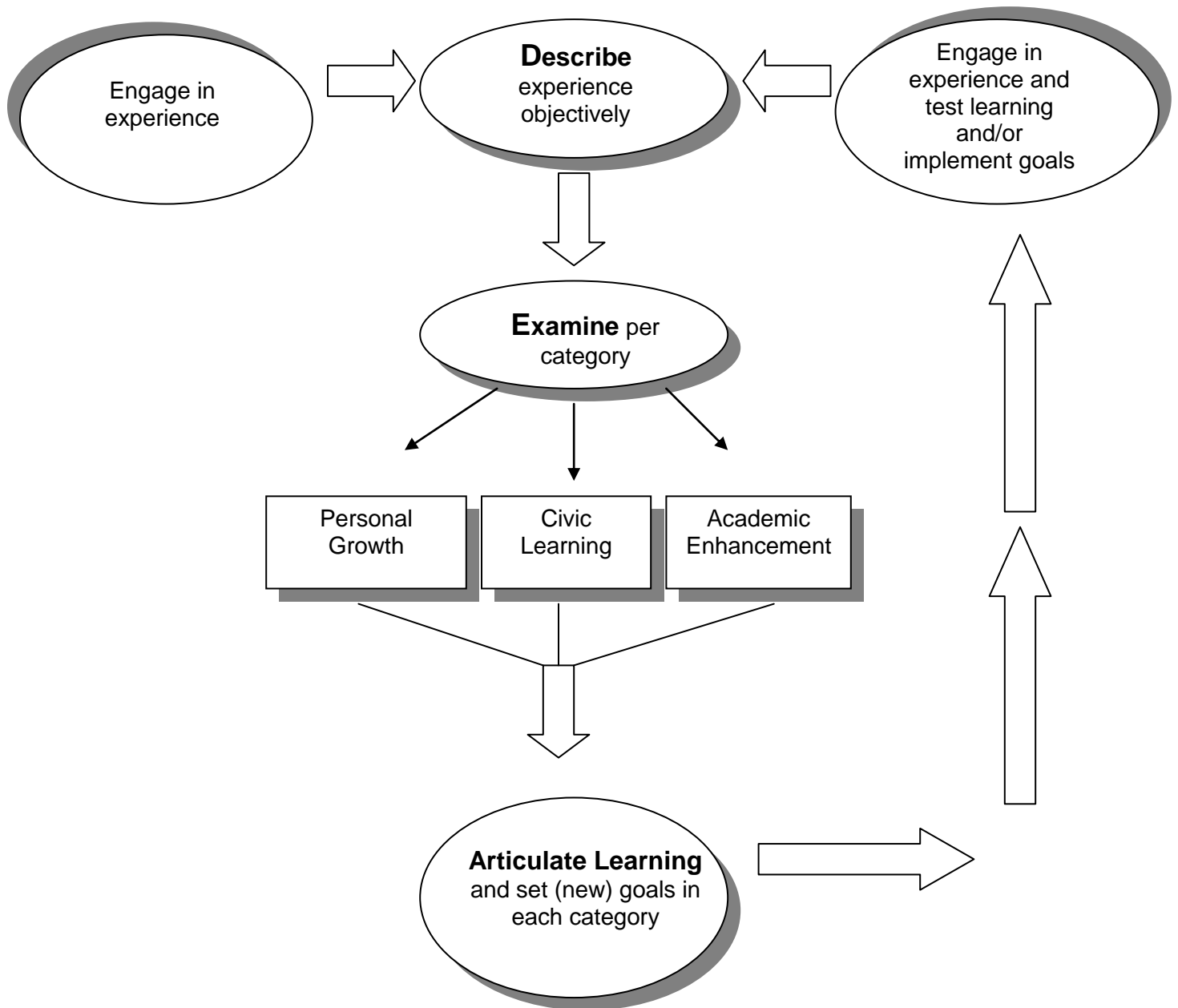
Evaluate your current approaches to reflection against the following criteria. On a scale of 1 – 10, with 1 = “not at all” and 10 = extremely, to what extent do your current approaches embody each of these characteristics of strong reflection?

<i>link experience to learning</i>	1	2	3	4	5	6	7	8	9	10
<i>guided</i>	1	2	3	4	5	6	7	8	9	10
<i>occur regularly</i>	1	2	3	4	5	6	7	8	9	10
<i>involve feedback to enhance the learning</i>	1	2	3	4	5	6	7	8	9	10
<i>help clarify values</i>	1	2	3	4	5	6	7	8	9	10
<i>oriented toward specific learning objectives</i>	1	2	3	4	5	6	7	8	9	10
<i>integrative</i>	1	2	3	4	5	6	7	8	9	10
<i>assessed in terms of critical thinking</i>	1	2	3	4	5	6	7	8	9	10
<i>actionable / include goals for future action</i>	1	2	3	4	5	6	7	8	9	10
<i>generate change in the learner's life</i>	1	2	3	4	5	6	7	8	9	10

Which, if any, are not relevant to your context? Which, if any, do you disagree with? Others you would add?

What, if anything, does this reflection suggest you might want to do differently?

Schematic Overview of the DEAL Model for Critical Reflection



Sample DEAL Prompts

Describe (objectively)

- When did this experience take place?
- Where did it take place?
- Who else was there? Who wasn't there?
- What did I do? What did others do? What actions did I / we take?
- What did I / we say or otherwise communicate?
- Who didn't speak or act?
- Did I / others laugh, cry, make a face, etc.?
- What did I / we hear? See? Smell? Taste? Touch?
- Why did the situation occur?

Examine – Academic Enhancement (Bloom objectives-based)

1. Identify specific academic material related to your SL activities that you now understand better – OR—that you now realize you still need to learn or become proficient in as a result of reflection on that experience.
2. Explain the material so that someone unfamiliar with it could understand it.
3. Apply the material to your SL experience (E.g., when did you see it, or note its absence? How did / could you or someone else use it?)
4. Compare and contrast your initial understanding of the academic concept and your experience of it:
 - In what specific ways are your understanding and the experience the same and in what specific ways are they different?
 - What are the possible reasons for the difference(s) (E.g., bias, assumptions, lack of information on your part or on the part of the author / instructor / community?)

Examine – Civic Learning (Goal-based)

- What was I / someone else trying to accomplish? In taking the actions I / they did, was the focus on symptoms of problems or causes of problems? Was the focus (symptom or cause) appropriate to the situation? How might I / they focus more on underlying causes in the future?
- What roles did each person / group / organization involved in the situation play and why? What alternative roles could each have played? Did I / other individuals act unilaterally or collaboratively and why? Should I / they have worked with others in a different way?
- In what ways did differentials in power and privilege emerge in this experience? What are the sources of power and privilege in this situation, and who benefits and is harmed? How might any inappropriate dependencies be eliminated?
- How did leadership emerge in this situation, on my / others part?
- What is in the interest of the common good in this situation? In what ways is the individual good (mine / others) linked to and/or contrary to the common good? What tradeoffs between them are involved? In what way did any other tradeoffs (long-term / short-term; justice / efficiency; etc.) emerge in this situation? Who made the trade-offs? Were the trade-offs made appropriate or inappropriate and why?
- How does this experience help me to better understand my partner organization's vision, mission, and goals? What does it reveal about the relationship between the organization and those it serves? What does it suggest about how this relationship might be improved?

Or, in contexts (such as international SL) in which civic learning is framed explicitly in terms of *global citizenship*, such prompts as:

- What connections (economic, political, environmental, social, cultural, historical) does this experience suggest between local (my home community? the host community?) and global communities?

- What are the points of tension surfaced in this experience between my responsibilities to each of these local communities and to global communities? What trade-offs do I experience between my responsibility to my home community and to this community? How might these trade-offs impact the choices made at home and vice versa?
- To what extent and in what ways does this experience suggest that I am a “citizen” of my host country while I am there? In what ways should I/do I have voice in this community?
- How do members of this community define concepts such as ‘community,’ ‘leadership,’ ‘power,’ etc.? What are the similarities and differences between their definitions and my own? What role does nationality / ethnicity / culture / history / etc. play in these differences?

Examine – Personal Growth (Goal-based → Objective-based)

I. Surface a personal characteristic

- What assumptions or expectations did I bring to the situation? How did they affect what I did or didn’t think, feel, decide, or do? To what extent did they prove true? If they did not prove true, why was there a discrepancy?
- How did this experience make me feel (positively and/or negatively)? How did I handle my emotional reactions (e.g., what did I do as a result of my feelings)? Should I have felt differently? Why or why not?
- In what ways did I experience difficulties (e.g., interacting with others, accomplishing tasks,) and what personal characteristics contributed to the difficulties (e.g., skills, abilities, perspectives, attitudes, tendencies, knowledge)? In what ways did I succeed or do well in this situation (e.g., interacting with others, accomplishing tasks, handling difficulties) and what personal characteristics helped me to be successful (e.g., skills, abilities, perspectives, attitudes, tendencies, knowledge)?

II. Develop understanding of that personal characteristic (using Bloom explicitly)

1. Identify a personal characteristic that you are beginning to understand better
2. Explain the characteristic (so that someone who does not know you would understand it).
3. Apply: How does / might this characteristic positively and/or negatively affect your interactions with others, your decisions, and/or your actions in your service-learning activities and (as applicable) in other areas of your life?
4. Analyze: What are the possible sources of / reasons for this characteristic? How does your understanding of these sources / reasons help you to better understand what will be involved in using, improving, or changing this characteristic in the future?

Articulate Learning

“I learned that” should...

- Express an important learning, not just a statement of fact
- Provide a clear and correct explanation of the concept(s) in question so that someone not in the experience could understand it.
- Explain your enhanced understanding of the concept(s), as a result of reflection on your experience
- Be expressed in general terms, not just in the context of your experience (so that the learning can be applied more broadly to other experiences)

“I learned this when” should....

- Connect your learning to your specific activities, making clear what happened in the context of that experience so that someone who wasn’t there could understand it.

“This learning matters because” should...

- Consider how the learning has value, both in terms of your project-related activities and in broader terms, such as:
 - Other organizations or issues
 - Other activities you participate in
 - Other personal interests or professional goals.
 - Other courses

“In light of this learning” should...

- Set specific and assessable goals and consider the benefits and challenges involved in fulfilling those goals
- Tie back clearly to the original learning statement.

EXAMPLE Reflection Mechanism per DEAL

Clayton, P.H. MDS 302 – “Contemporary Science, Technology, and Human Values” – NC State University

Sample written spectrum activity [Notes / excerpts for spectrum activity on Robert Greenleaf’s *Servant Leadership*]

Goal: Support intensive individual reflection on the issues the author raises – in order to achieve personal engagement with the text and to promote deeper understanding of the complexities of servant leadership as a way of being in the world

Process:

Step 1: Discussion of the reading in the previous class period identified key issues and helped establish shared understanding of the reading (DESCRIBE step of reflection)

Step 2: Ask the students to find a private place in the classroom to sit, bring out their copy of the reading, and draw a series of spectrums (1 – 10 scales) on notebook paper (unless worksheet developed in advance, with a series of spectrums and space to write between them)

Step 3: Students play a written spectrum game – instructor facilitated: they are to locate themselves on a scale of 1 (strongly agree, unless otherwise noted) – 10 (strongly disagree, unless otherwise noted) and make notes to themselves in support of their judgment on each spectrum and in response to the follow-up questions on each spectrum (EXAMINE step of reflection – individual)

1. See page 7 – 8: *I am generally confident that my actions result in meeting the other’s highest priority needs (agree 1 -- disagree 10)*
 - When am I unsure – give an example
 - What do I do / how do I handle it when I am not sure whether I am really serving in this way?
2. See page 10: *I generally seek to understand (1) -- seek to be understood (10)*
 - Example of having done each each
3. See page 10 and page 34: *I generally blame others or see problems as “out there” (1) -- I generally accept responsibility and ask myself, in what way is this “my problem,” looking “in here”(10)*
4. See pages 13 – 14 (“anyone could lead perfect people”): *I generally do (1) – do not (10) expect others to be perfect*
 - Potential reasons for this?

Step 4: Return to our seats and discuss key tensions / questions / issues surfaced in further depth, sharing from our individual reflection as desired (EXAMINE phase of reflection – collaborative)

Step 5: ARTICULATE LEARNING per worksheet

Sample physical spectrum activity [Notes for spectrum activity on Peter Vaill's distinction between "institutionalized learning" and "learning as a way of being," the latter being necessary in a world of "whitewater" (complexity, unpredictability, constant change)]

Goal: Surface tension points and questions on Peter Vaill's *Learning as a Way of Being*

Process:

Step 1: Ask the students to quickly re-cap the main points of the reading (DESCRIBE)

Step 2: Students play a physical spectrum game with the following two types of prompts, carrying a notepad with them to capture key ideas for further development – instructor facilitated, with follow-up discussion questions within each prompt and with encouragement that they move along the spectrum in response to one another's points as appropriate and that they interact with one another not just with the facilitator (EXAMINE – collaborative and physical)

I. Strongly disagree (1) – strongly agree (10) spectrum prompts

- 1) Compared to three years ago, I feel that my life is more "white water-y"
- 2) The community organization I am partnering with is strongly characterized by white water
- 3) Institutionalized learning is / is not common in my experience at NC State
- 4) I am comfortable with / confident in my role as a learner in the institutional learning mode
- 5) Given my objectives as an undergraduate, I am satisfied with the degree of institutional learning at NC State
- 6) I learn as a way of being regardless of the nature of the learning environment

II. Locate yourself with respect to one of the seven elements of learning as a way of being identified by Vaill and posted on the wall (so the spectrum is not a scale of agree / disagree but rather a set of discrete ideas)

- 1) in which arena am I most apt to be stretched beyond my comfort zone?
- 2) which arena am I most intrigued by / do I most want to develop in?
- 3) which arena do I believe the SL process is most helping to me to develop in?
- 4) which arena do I believe the SL process is least helping me to develop in?

Step 3: Return to our seats and discuss key tensions / questions / issues surfaced in further depth (EXAMINE -- collaborative)

Step 4: ARTICULATE LEARNING per worksheet

DEAL Example: Group Activity and Reflection on the Meanings of Service

[Excerpted from Clayton, P.H. & Moses, M.G. (2006). *Integrating Service-Learning: A Resource Guide*. Boston: Jumpstart.]

Activity

Project the following two quotes:

“One who serves takes care to make sure that other people’s highest priority needs are being served. The best test, and difficult to administer, is: do those served grow as persons; do they while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And, what is the effect on the least privileged in society; will they benefit, or, at least, will they not be further deprived?” ~Robert Greenleaf

“If I knew for a certainty that a man was coming to my house with the conscious design of doing me good, I should run for my life.” ~Henry David Thoreau

Place a collection of items on a table in the room. Items might include: pens, coins, pieces of colored paper, a scarf, a bottle of water, fresh flowers, food (a plate of bagels, a bag of cookies, an apple), a book, etc. Virtually any collection of items will suffice, but you may be able to accomplish certain objectives through the materials you choose to include (e.g., if you want your students thinking about cultural associations with food, then include a food item that has cultural connotations; if you want your students thinking about issues related to reading, then include a book or other written document). Be careful to have some variety in the items (e.g., more than just 2 or 3 items) but also to avoid having too many items (e.g., more than 10).

Divide the class into two or more groups, depending on class size, and give them the following instructions: “In light of the two perspectives on service represented by these quotes, in your groups develop a plan to be of service using the materials provided. Present your plans to the other group(s). Be ready to move on to another activity in 15 minutes.” Do not warn the students when they are running out of time or answer questions about how they should approach their task. After 15 minutes, call the activity to and end. If the students have not completed the activity (including presenting to one another), at your discretion (depending on your objectives and constraints) give them additional time.

Reflection on the Activity

Provide a worksheet with reflection prompts (such as those that follow) and ask the students to reflect collaboratively in their groups, with each student taking notes on his/her own worksheet, including any private thoughts he/she has but does not share with the group. Be sure to include prompts that focus their attention on the learning objectives you have for this activity.

1. **Describe** the activity, objectively and in fair detail (Who? Where? When? What? Who did what? How? Etc.)
2. **Examine** the activity:
 - a. In what ways did I / we respond to the perspectives on service? To the task of producing a “service plan”? Why did I / we respond as I / we did (e.g., what previous experiences or expectations influenced me / us)?
 - b. What skills or abilities did I / other members of my group use in accomplishing this task? What skills or abilities did I / they have but not use, and why? What skills or abilities did I / we not have that would have been useful, and how can I / we develop them?
 - c. What assumptions did we make (e.g., about the instructor’s role, about the particular materials provided) and how did they influence how we undertook the task?
 - d. What roles were played by the various members of our group? Were there roles that should have been played that no one assumed? How did we determine who would play what role?
 - e. To what extent were we successful in accomplishing the task we were given? Did we complete it on time? Did we present our plan effectively? What else might “success” mean, as we judge our efforts? How might we have approached the task differently, in order to be more successful?
 - f. What alternative “service plans” might we have produced? Why did we produce the one we did? Is this the “best” plan we could have produced? What would have had to change in order for us to have produced a better plan?
 - g. What specific elements of our “service plan” emerged from our engagement with the perspectives on service? What did we agree with and try to adopt? What did we disagree with and try to avoid?
 - h. In this activity and more generally, is it difficult to translate the perspective on service offered by Greenleaf into concrete action? Why or why not? Is it of value to try to do so? Why or why not?
 - i. What questions about the nature of service does our engagement with these perspectives lead us to identify? In what ways might these be important questions as our service-learning project unfolds throughout the semester?
3. **Articulate** one or more specific **learnings** from this discussion.

After 30 minutes, ask each group to share some of the most important learnings they achieved through reflection on this activity and then as a class set goals for future action.

Additional Approaches to Using DEAL to Structure Reflection

Digital stories ...

Concept maps ...

???

???

???

???

Critical Thinking and Higher Order Reasoning

Review the following statements and consider what feedback you'd like to give the authors in order to improve the quality of their reasoning and of their interactions with others.

A: "Everybody knows that smoking is bad, so parents shouldn't smoke when they have children; those parents who do smoke obviously just don't care about their kids."

B: "I was not used to working with so many kids. This made me nervous and I do not like being nervous. This is important to know because I know that in the future I do not want to have a job that requires me to work with children. After I worked with them for a few weeks and got to know them the nervousness wore off and I became comfortable. This was important because it allowed me to be the best role model I could be."

C: "Being effective at improving the lives of a group of disadvantaged people (in this case the academic performance of underprivileged children) includes not only being good at the specific task or activity we are bringing to the community (explaining academic concepts to them), but also making them feel special and loved. This helps to make them more receptive to our efforts. It became clear that the more we got to know the kids and showed them that we actually cared about them, the more willing they were to pay attention to us and their homework. For example, when I first started working with William, he wouldn't even look at me or acknowledge my presence. But every week I brought him little gifts, like candy and stickers, and slowly he began to warm up to me so that now he runs up when I come in and is ready to get to work... This matters because underprivileged children are not getting the attention that they need at home...."

D: We talked about how we had not had much foresight regarding the computers we had obtained as donations; when we made our project plan at the beginning of the semester, we did not even consider the possibility that the donated equipment might not be in good working order and so had planned only a little time for computer set-up. At this point, we were discouraged that we were having to spend a lot of time trying to fix technological problems at the assisted living facilities when, if we had anticipated the need, we could have arranged for someone with more technical expertise than we have to get the computers in working order before we took them to the sites; had we done that (and one of my group members even knows someone who would have been happy to help us out, so it wouldn't have been difficult to find such a person), we would have had working computers much more quickly and could have moved on by now to working on sustainability for the computer literacy project. We felt that, at this point, we would not have enough time to accomplish all of the objectives we had at first set forth for the project; in particular, we realized that we may not be able to firmly establish a permanent "home" program to take on the responsibility of the Computer Literacy Project. We felt that we had no choice but to simply give up this objective—that is, we felt that our lack of foresight had indeed taken away our "lead"—since the pressure we were experiencing from time seemed to be forcing our hand and leaving us no options.

DEAL Model Critical Thinking Standards Table

Critical Thinking Standard	Description	Associated questions to ask to check your thinking
Integration	<i>Service experience clearly related to the learning</i>	<ul style="list-style-type: none"> ▪ Have I clearly shown the connection between my experience and my learning?
Clarity	<i>Expands on ideas, express ideas in another way, provides examples or illustrations where appropriate.</i>	<ul style="list-style-type: none"> ▪ Did I give an example? ▪ Is it clear what I mean by this? ▪ Could I elaborate further?
Accuracy	All statements are <i>factually correct</i> and/or <i>supported with evidence</i> .	<ul style="list-style-type: none"> ▪ How do I know this? ▪ Is this true? ▪ How could I check on this or verify it?
Precision	Statements contain <i>specific information</i>	<ul style="list-style-type: none"> ▪ Can I be more specific? ▪ Have I provided sufficient detail?
Relevance	All statements are <i>relevant to the question</i> at hand; all statements connect to the central point.	<ul style="list-style-type: none"> ▪ How does this relate to the issue being discussed? ▪ How does this help us/me deal with the issue being discussed?
Depth	<i>Explains the reasons behind conclusions and anticipates and answers the questions that the reasoning raises and/or acknowledges the complexity of the issue.</i>	<ul style="list-style-type: none"> ▪ Why is this so? ▪ What are some of the complexities here? ▪ What would it take for this to happen? ▪ Would this be easy to do?
Breadth	<i>Considers alternative points of view or how someone else might have interpreted the situation.</i>	<ul style="list-style-type: none"> ▪ Would this look the same from the perspective of....? ▪ Is there another way to interpret what this means?
Logic	The <i>line of reasoning makes sense</i> and follows from the facts and/or what has been said.	<ul style="list-style-type: none"> ▪ Does what I said at the beginning fit with what I concluded at the end? ▪ Do my conclusions match the evidence that I have presented?"
Significance	The conclusions or goals represent a (the) <i>major issue</i> raised by the reflection on experience.	<ul style="list-style-type: none"> ▪ Is this the most important issue to focus on? ▪ Is this most significant problem to consider?
Fairness	<i>Other points of view are represented with integrity (without bias or distortion)</i>	<ul style="list-style-type: none"> ▪ Have I represented this viewpoint in such a way that the person who holds it would agree with my characterization?

Modified source: Paul, R & Elder, L. 2001. The Miniature Guide to Critical Thinking. The Foundation for Critical Thinking. Santa Rosa, CA. www.criticalthinking.org

DEAL Model Critical Thinking Rubric [August 2007]

[Modified source: Paul, R & Elder, L. 2001. The Miniature Guide to Critical Thinking. The Foundation for Critical Thinking. Santa Rosa, CA. www.criticalthinking.org]

	completely lacking (1)	under-developed (2)	good (3)	excellent (4)
CT Set A				
<i>Integration</i>	Provides no clear connection between the experience and the learning	Provides minimal and/or unclear connection between the experience and the learning	Provides adequate and reasonably clear connection between the experience and the learning	Provides thorough and very clear connection(s) between the experience and the learning
<i>Relevance</i>	Misclassifies the learning and/or inappropriately shifts from one category of learning goal to another; fails to keep the discussion specific to the learning	Discusses learning that is relevant to the category of learning goal, but much of the discussion is not related to the learning	Discusses learning that is relevant to the category of learning goal and keeps the discussion reasonably well focused on the learning	Discusses learning that is relevant to the category of learning goal and keeps the discussion well-focused on the learning
<i>Accuracy</i>	Consistently makes inaccurate statements and/or fails to provide supporting evidence for claims <ul style="list-style-type: none"> • <u>Academic category</u>: Incorrectly identifies, describes, and/or applies academic concept(s) 	Makes several inaccurate statements and/or supports few statements with evidence <ul style="list-style-type: none"> • <u>Academic category</u>: Is not accurate in identifying, describing, and/or applying academic concept(s) 	Usually but not always makes statements that are accurate and well-supported with evidence <ul style="list-style-type: none"> • <u>Academic category</u>: Accurately identifies, describes, and applies appropriate academic concept(s) 	Consistently makes statements that are accurate and well-supported with evidence <ul style="list-style-type: none"> • <u>Academic category</u>: Accurately identifies, describes, and applies appropriate academic concept(s)
<i>Clarity</i>	Consistently fails to provide examples, to illustrate points, to define terms, and/or to express ideas in other ways	Only occasionally provides examples, illustrates points, defines terms, and/or expresses ideas in other ways	Usually but not always provides examples, illustrates points, defines terms, and/or expresses ideas in other ways	Consistently provides examples, illustrates points, defines terms, and/or expresses ideas in other ways
<i>Precision</i>	Consistently fails to provide specific information, descriptions, or data	Only occasionally provides specific information, descriptions, or data	Usually but not always provides specific information, descriptions, or data	Consistently provides specific information, descriptions, or data
<i>Writing</i>	Consistently makes typographical, spelling, and/or grammatical errors	Makes several typographical, spelling, and/or grammatical errors	Makes few typographical, spelling, and/or grammatical errors	Makes very few or no typographical, spelling, and/or grammatical errors
CT Set B				
<i>Depth</i>	Fails to address salient questions that arise from statements being made; consistently over-simplifies when making connections; fails to consider any of the complexities of the issue	Addresses few of the salient questions that arise from statements being made; often over-simplifies when making connections; considers little of the complexity of the issue	Addresses some but not all of the salient questions that arise from statements being made; rarely over-simplifies when making connections; considers some but not all of the full complexity of the issue	Thoroughly addresses salient questions that arise from statements being made; avoids over-simplifying when making connections; considers the full complexity of the issue
<i>Breadth</i>	Ignores or superficially considers alternative points of view and/or interpretations	Gives minimal consideration to alternative points of view and/or interpretations and makes very limited use of them in shaping the learning being articulated	Gives some consideration to alternative points of view and/or interpretations and makes some use of them in shaping the learning being articulated	Gives meaningful consideration to alternative points of view and/or interpretations and makes very good use of them in shaping the learning being articulated
<i>Logic</i>	Draws conclusions and/or sets goals that don't follow at all from the line of reasoning presented	Draws conclusions and/or sets goals that only occasionally follow reasonably well from the line of reasoning presented	Draws conclusions and/or sets goals that usually follow well from the line of reasoning presented	Draws conclusions and/or sets goals that consistently follow very well from the line of reasoning presented
<i>Significance</i>	Draws conclusions and/or sets goals that don't address the most significant issue(s) raised by the experience	Draws conclusions and/or sets goals that only minimally address the significant issue(s) raised by the experience	Draws conclusions and/or sets goals that usually address fairly significant issue(s) raised by the experience	Draws important conclusions and/or sets meaningful goals that substantially address the most significant issue(s) raised by the experience
<i>Fairness</i>	Consistently represents others' perspectives in a biased or distorted way	Occasionally represents others' perspectives in a biased or distorted way	Often but not always represents others' perspectives with integrity	Consistently represents others' perspectives with integrity (without bias or distortion)

Consider the differences in the level of reasoning demonstrated between A and B below:

Category = Academic Enhancement

A: *I learned that* foresight is an important part of leadership ... when reflecting on my group's failure to anticipate the likelihood that the computers we were to install might not be in good working order.

B: One main attribute we have discussed that a servant-leader should have is foresight, or the ability to anticipate what will happen based on patterns observed from the past through a combination of rational thought and intuition. In "The Servant as Leader," Robert Greenleaf says that foresight is "the 'lead' that the leader has" and that without it "he is not leading" because events "force his hand." However, *I have learned that* although lack of foresight can indeed limit the choices of a leader, his/her "lead" may not be lost entirely as long as there are options for action; lack of foresight need not entirely "force [one's] hand," but to avoid the situation in which it does, it is necessary to think creatively about one's remaining options and not assume that one no longer has any options.

Category = Personal Growth

A. *I learned that* I am too dependent on other people.

B. *I learned that* for the past 20 years I have been developing a pattern of in appropriate dependency in that I easily default to depending on other people, relying on them to help me accomplish my objectives even if I do not really know them well enough to trust them. However when I get backed into a corner because of this dependency, I have the capability to handle it because of my resourcefulness, or my ability to find alternate ways to accomplish my objectives when situations are not conducive to meeting those objectives.

**Academic Enhancement
Learning Objectives**

Learning Objective Level	Academic Enhancement Learning Objectives	Associated Guiding Prompts
LO 1: Identify	Identify a specific academic concept.	Identify a specific academic concept related to your service-learning experience that you now understand better as a result of reflection on that experience.
LO 2: Explain	Explain the academic concept.	Explain the academic concept (so that someone not in your class would understand it).
LO 3: Apply	Apply the academic concept in the context of the experience.	How does the academic concept apply to your service-learning experience? (E.g., When did you see it, or note its absence? How did, or could, you or someone else use it?)
LO 4: Analyze	Analyze your initial understanding* of the academic concept in light of the experience.	4.1 Compare and contrast your initial understanding of the academic concept and your experience of it: In what specific ways are your understanding and the experience the same and in what specific ways are they different? —AND— 4.2 What are the possible reasons for the difference(s) (E.g., bias, assumptions, lack of information on your part or on the part of the author / instructor / community)
LO 5: Synthesize	Develop an enhanced understanding of the academic concept in light of the experience.	How do you now understand the concept differently than you did before? In other words, what do you now see in the concept that you had not seen before (complexities, subtleties, new dimensions, etc.)?
LO 6: Evaluate	Evaluate the completeness of your understanding of the concept and of its use in the community.	6.1 How, specifically, might you now explain the concept differently, to express your enhanced understanding of it? —AND— 6.2 What additional questions need to be answered and/or evidence gathered in order to test the appropriateness of this preliminary revision in your understanding of the concept? —AND— 6.3 Based on this enhanced understanding of the concept, how, specifically, might you and/or your service organization need to act differently in the future (or, how might you have acted differently in the past) AND what are the associated benefits and challenges?

* For example, based on your encounter with it to date in readings, lectures, class discussions, previous courses, etc. Remember that your understanding of an idea is always incomplete – perhaps because it is your first encounter with it, or because it was not presented in its entirety, or because your interpretation or that of the author / instructor is limited. The very nature of ideas is that our understanding of them can always deepen, expand, or change as we continue to read, listen, experience, study, and reflect.

Personal Growth Learning Objectives

Learning Objective Level	Personal Growth Learning Objectives	Associated Guiding Prompts
LO 1: Identify	Identify a personal characteristic* of yours.	Identify a personal characteristic that you now understand better as a result of reflection on your service-learning experiences.
LO 2: Explain	Explain the personal characteristic.	Explain the personal characteristic (so that someone who does not know you would understand it)
LO 3: Apply	Apply your understanding of this personal characteristic in the context of the experience and (as applicable) to other areas of your life.	How does / might this personal characteristic positively and/or negatively affect your interactions with others, your decisions, and/or your actions in your service-learning activities and (as applicable) in other areas of your life?
LO 4: Analyze	Analyze the sources of this personal characteristic	4.1 What are the possible sources of / reasons for this personal characteristic? -- AND -- 4.2 How does your understanding of the sources of this personal characteristic help you to better understand what will be involved in using, improving, or changing it in the future?
LO 5: Synthesize	Develop the steps necessary to use, improve upon, or otherwise change this personal characteristic in the short term, in your service-learning activities and (as applicable) in other areas of your life.	5.1 In what specific way(s) can you use, improve upon, or otherwise change this characteristic, in your service-learning activities and (as applicable) in other areas of your life over the short term? —AND— 5.2 What are the potential personal benefits and risks / challenges you might face as you do so?
LO 6: Evaluate	Evaluate your strategies for personal growth over the long term.	6.1 What is a more general and significant way to use this new understanding of yourself in your life over the long term, so that you continue, improve upon, and increasingly become more responsible for your own process of personal growth? —AND— 6.2 What challenges or setbacks might you face in this ongoing personal growth process and how might you deal with them? —AND— 6.3 How will you assess your progress in this process so that you may make changes to your personal growth strategies as needed?

* For example, a tendency to make certain types of assumptions, to have certain types of reactions, to interpret others in certain ways; a particular strength or shortcoming (skill, ability, perspective, attitude, knowledge, etc.); a pattern of thought or behavior; a value, belief, or conviction; your sense of identity (in terms of gender, ethnicity, age, socioeconomic status, etc.).

Closing Reflection (indiv & written, then oral & collaborative)

Describe critical reflection

Examine critical reflection --

What are the most significant similarities between your current approaches and critical reflection? What are the most significant differences?

What specific elements of critical reflection in general / of the DEAL Model in particular do you want to incorporate more of?

In what ways do you believe doing so will enhance your current approaches to reflection ?

What challenges might you face in making changes to your current approaches to reflection/ in adopting a model of critical reflection? What trade-offs might be required?

What do you want to learn more about regarding critical reflection?

Articulate learning

What are your most important take-away messages from the reflection on reflection you have done during this workshop?

What specific actions will you take in light of your learning? When will you take them? With whom?

Selected Publications

Clayton, P.H., Hatcher, J.A., & Bringle, R.G. (Eds). *Research on Service Learning: Conceptual Frameworks and Assessment*. Vol 2, IUPUI Series on Service Learning Research. Sterling, VA: Stylus Publishing. Under development.

Ash, S.L. & Clayton, P.H. (2009). *Learning Through Critical Reflection: A Tutorial for Students in Service-Learning*. Raleigh, NC. Accompanying *Instructor Version*.

Ash, S., Jameson, J., & Clayton, P. Research on the Academic Learning of Students in Service-Learning. In P. Clayton, J. Hatcher, & R. Bringle (Eds.), *Research on Service Learning: Conceptual Frameworks and Assessment*. Vol. 2, IUPUI Series on Service Learning Research. Sterling, VA: Stylus Publishing. Under development.

Whitney, B.C. & Clayton, P.H. Research on the Role of Reflection in International Service Learning. In Bringle, R.G., Hatcher, J.A. and Jones, S.G. (Eds.). *International Service-Learning: Conceptual Frameworks and Research*. Sterling, VA: Stylus Publishing. In press.

ABSTRACT: Designing effective reflection is one of the key ingredients in harnessing the capacity of domestic and international service learning to generate significant learning and service outcomes. Both the process and the products of reflection provide rich grounds for investigating the relationship between the nature of the ISL experience and the outcomes achieved and for examining the ISL experience in-depth so as to better understand its dynamics. Many practitioners find the reflection component of service-learning challenging to implement, however, and the difficulties may well be enhanced when service-learning is undertaken in an international context. This chapter will discuss the meaning and role of critical reflection in service-learning, explore issues of effective design, and consider the implications of an international context. With this foundation, the chapter provides recommendations for constructing research to study both outcomes and the role of reflection in reaching them.

Clayton, P.H. and Ash, S.L. (2009). **Generating, Deepening, and Documenting Learning: The Power of Critical Reflection for Applied Learning.** *Journal of Applied Learning in Higher Education, 1(1)*.

ABSTRACT: Applied learning pedagogies—including service-learning, internships/practica, study abroad, and undergraduate research—have in common both the potential for significant student learning and the challenges of facilitating and assessing that learning, often in non-traditional ways that involve experiential strategies outside the classroom as well as individualized outcomes. Critical reflection oriented toward well-articulated learning outcomes is key to generating, deepening, and documenting student learning in applied learning. This article will consider the meaning of critical reflection and principles of good practice for designing it effectively and will present a research-grounded, flexible model for integrating critical reflection and assessment.

Bringle, R., Clayton, P., & Price, M. (2009). **Partnerships in Service Learning and Civic Engagement.** *Partnerships: A Journal of Service-Learning and Civic Engagement*. Elon, NC: NC Campus Compact.

ABSTRACT: Developing campus-community partnerships is a core element of well-designed and effective civic engagement, including service learning and participatory action research. A structural model, SOFAR, is presented that differentiates campus into administrators, faculty, and students, and that differentiates community into organizational staff and residents (or clients, consumers, advocates). Partnerships are presented as being a subset of relationships between persons. The quality of these dyadic relationships is analyzed in terms of the degree to which the interactions possess closeness, equity, and integrity, and the degree to which the outcomes of those interactions are exploitive, transactional, or transformational. Implications are then offered for how this analysis can improve practice and research.

Ash, S., Jameson, J., & Clayton, P. (2009). **Assessing Critical Thinking and Higher Order Reasoning in Service-Learning Enhanced Courses and Course Sequences.** In T. Banta, B. Jones, & K. Black (Eds.), *Planning, Implementing, and Sustaining Assessment: Principles and Profiles of Good Practice*. San Francisco, CA: Jossey-Bass.

Ash, S.L., Clayton, P.H., & Atkinson, M. (2005). Integrating Reflection and Assessment to Capture and Improve Student Learning. *Michigan Journal for Community Service-Learning*, 11(2). pp. 49-59.

ABSTRACT: Intentionally linking the assessment of the student learning outcomes of service-learning with its reflective component allows each to inform and reinforce the other. This paper traces the evolution of a strategy that uses reflection products as data sources to assess and improve both individual student learning and program-wide approaches to reflection. Two tools were developed in response to an earlier, unsatisfactory, assessment of students' work. Students and instructors then used these tools to guide the process of reflective writing in two courses. Associated rubrics evaluated the quality of thinking demonstrated in the written products. Results suggest that these tools can improve students' higher order reasoning abilities and critical thinking skills relative to academic enhancement, civic engagement, and personal growth, and as a result, can improve the overall quality of their thinking and learning. However, this assessment has also surfaced the need for further improvement, particularly with respect to academic learning outcomes.

Clayton, P.H. & Ash, S.L. (2005). Reflection as a key component in faculty development. *On the Horizon*, 13(3).

ABSTRACT: Reflection is key to learning from experience, including the experience of teaching. We suggest that critical reflection is as important in faculty development as it is in student learning and offer our experience with a service-learning program as a case study of the benefits and challenges of structuring faculty development around reflection. Reflection on our teaching both deepens our understanding of our roles as educators and allows us to model those abilities and perspectives we want our students to develop. Further, collaborating with our students in the reflective process promotes a strong sense of learning community, positioning students and faculty alike as engaged in collaborative inquiry.

Clayton, P.H., Ash, S.L., Bullard, L.G., Bullock, B.P., Moses, M.G., Moore, A.C., O'Steen, W.L., Stallings, S.P., & Usry, R.H. (2005). Adapting a core service-learning model for wide-ranging implementation: An institutional case study. *Creative College Teaching*. Vol 2, Spring. pp. 10-26.

ABSTRACT: Service-learning is a highly adaptable pedagogy, well-suited to fulfill a variety of objectives with a range of student populations across the spectrum of disciplines. This article shares the experience of a large institution's Service-Learning Program that has developed a core model for service-learning and that supports instructors across campus in customizing it for their own unique implementation. The core model consists of a baseline definition, a standard approach to curricular design, and a simple but well-structured reflection process. Discussion of this core model is followed by the presentation of seven examples of courses that have been reworked accordingly with a service-learning component, from the small-scale module to the semester-long project to the entirely project-based course. The experiences of students and faculty across this spectrum of approaches reveal some of the benefits and the challenges associated with adaptation of a core model in implementing service-learning across the disciplines.

Clayton, P.H. & Ash, S.L. (2004). Shifts in perspective: Capitalizing on the counter-normative nature of service-learning. *Michigan Journal of Community Service-Learning*, 11(1). pp. 59-70.

ABSTRACT: Service-learning is a unique pedagogy, and its very differences from traditional teaching and learning strategies make it both appealing and challenging to implement. Students and faculty alike are the products of traditional learning environments and often find service-learning unfamiliar and, as a consequence, experience dissonance, discomfort, and uncertainty. Confronting the difficulties students and faculty at our institution have faced in adjusting to these differences has helped us to realize the importance of making "shifts in perspective" in how we understand and enact teaching and learning and service. This article shares our emerging understanding of these "shifts" and of how we can support students and faculty in undertaking them effectively. The central conclusion is that reflecting on the differences between service-learning and more traditional pedagogies and on ways to make the associated shifts in perspective and practice can help practitioners to implement service-learning successfully and to more fully tap its power to nurture the capacity for self-directed learning.

Ash, S.L. & Clayton, P.H. (2004). The Articulated Learning: An Approach to Guided Reflection and Assessment. *Innovative Higher Education*, 29(2). pp. 137-154.

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