Generating, Deepening, and Documenting Learning through Critical Reflection

Abstract: Reflection is the element of experiential education that helps students avoid "having the experience but missing meaning." When understood and designed as critical reflection and integrated with assessment, it generates, deepens, and documents learning. Using excerpts from the tutorial, *Learning through Critical Reflection*, we will examine the research-grounded DEAL Model and its associated critical thinking tools and rubrics.

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Student Reflection Product: Academic Category (Slightly modified from original student product)
[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 experience?

Do you have evidence of her having learned?

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

Worksheet: "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

If they are not the same, why might this matter and what might you do about it?

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*
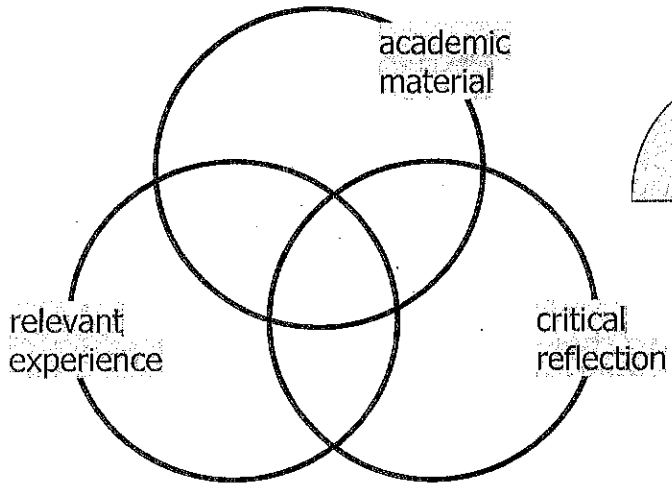
Critical Reflection
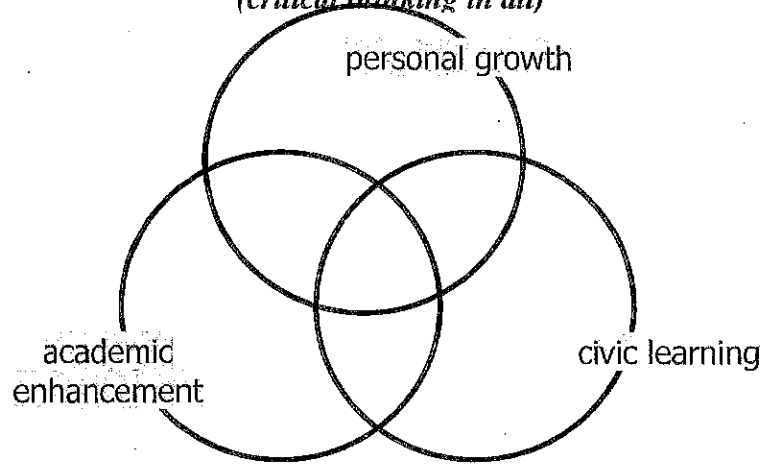
1) Generates

2) Deepens

3) Documents

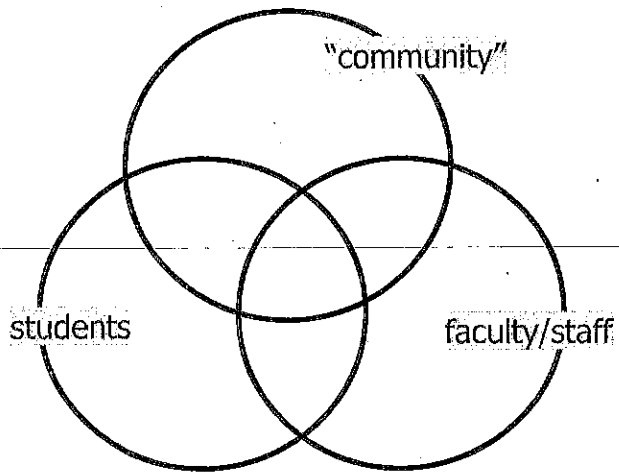### Learning

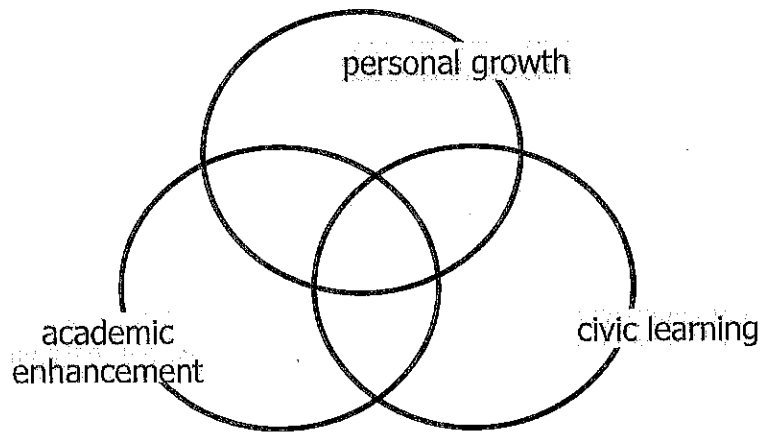# Conceptualizing Experiential Education

Components

Categories of Learning
(critical thinking in all)

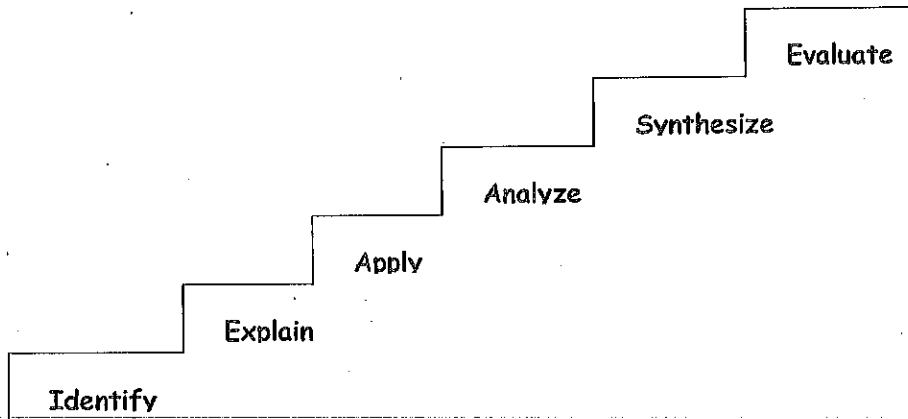*Partners*

Learning Categories → Learning Goals & Objectives

Bloom's Taxonomy of the Cognitive Domain

Evaluate

Synthesize

Analyze

Apply

Explain

Identify

Learning Goal	Learning Objectives (LOs)
Category: Academic Enhancement Goal: I want students to understand and be able to use Chickering and Gamson's 7 principles for good practice in undergraduate education	**LO #1** Students will identify the 7 principles
	LO #2 Students will explain the 7 principles in their own words so that someone not familiar with them could understand them
	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
	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
	LO #5 Students will propose changes to the 7 principles
	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

Generating Learning through Critical Reflection

Designing Reflection Mechanisms

- Determine learning goals / objectives in advance
- Develop prompts to guide reflection in accordance with the learning goals / objectives
- Share with the students elements of sound reasoning / critical thinking 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)

Example reflection mechanism #1:

Reflect on your strengths and weaknesses

Example reflection mechanism #2:

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

Example reflection mechanism #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 mechanism #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?

Schematic Overview of the DEAL Model for Critical Reflection

Engage in experience → **Describe** experience objectively ← **Engage in experience and test learning and/or implement goals**

Describe experience objectively → **Examine** per category

Examine per category →

| Personal Growth | Civic Learning | Academic Enhancement |

→ **Articulate Learning** (incl setting goals) in each category →
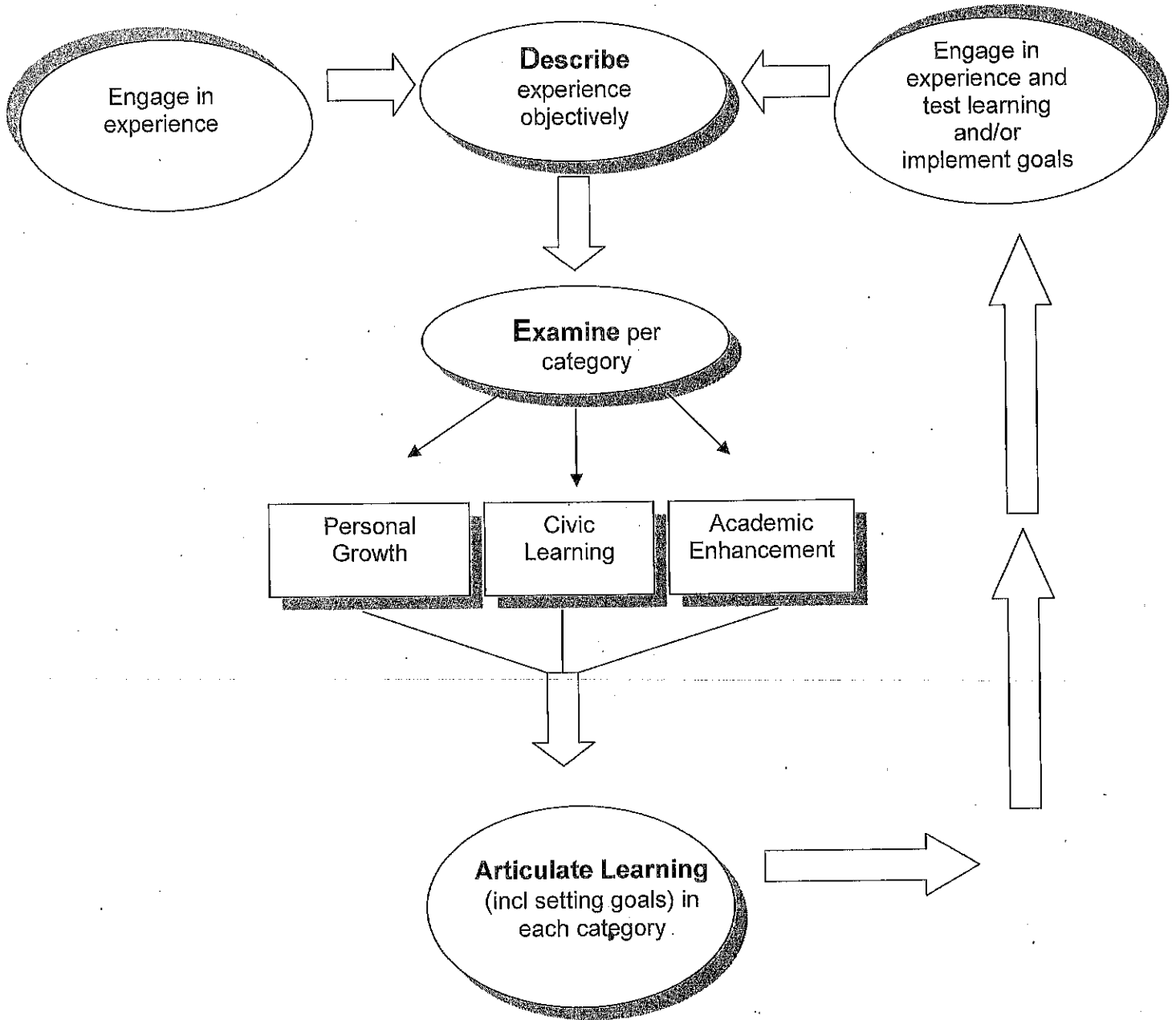
Sample DEAL Prompts

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
- What specific academic material is relevant to this experience? Explain the concept, theory, etc clearly and concisely so that someone unfamiliar with it could understand it
- How did the material emerge in the experience (When did I see it or note its absence? How did or should I or someone else use it?) ?
- What academic (e.g., disciplinary, intellectual, professional) skills did I use / should I have used? In what ways did I / others think from the perspective of a particular discipline and with what results?
- In what specific ways are my understanding of the material or skill 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 my part or on the part of the author / instructor / community?)

Examine – Civic Learning
- What was I / someone else trying to **accomplish**? Why?
- In taking the actions I / they did, was the focus on **symptoms** or underlying **causes**? Was the focus (symptom or cause) appropriate to the situation? How might I / they focus more on underlying causes in the future? What trade-offs will be associated with doing so?
- 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 differences in **power** and **privilege** emerge in this experience? What are the sources of power and privilege in this situation? 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 strategies**? 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?
- 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
- 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**? Why? How did I handle my emotional reactions (e.g., What did I do as a result of my feelings? Was I in control of my feelings?)? Should I have felt differently? Why or why not?
- 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)? 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)? What does this tell me about how I **define success**? Is my definition appropriate? How might it change? Should it change?
- How does / might any of these personal characteristics positively and/or negatively **affect** my interactions with others, my decisions, and/or my actions in this situation and in other areas of my life?
- What are the possible **sources** of / reasons for this characteristic? How does my understanding of these sources / reasons help me to better understand what will be involved in using, improving, or changing this characteristic in the future?

Examine – _____
-
-

Examine – _____
-
-

Articulate Learning

"I learned that" ...
- 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 the experience
- Be expressed in general terms, not just in the context of the experience (so that the learning can be applied more broadly to other experiences)

"I learned this when" ....
- Connect the learning to specific activities that gave rise to it, making clear what happened in the context of that experience so that someone who wasn't there could understand it.

"This learning matters because" ...
- Consider how the learning has value, both in terms of this situation and in broader terms, such as other organizations, communities, activities, issues, professional goals, courses, etc.

"In light of this learning" ...
- Set specific and assessable goals ; consider the benefits and challenges involved in fulfilling them
- Tie back clearly to the original learning statement.

Integrating Reflection and Assessment:
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	*Service experience clearly related to the learning*	▪ Have I clearly shown the connection between my experience and my learning?
Clarity	*Expands on ideas, express ideas in another way, provides examples or illustrations where appropriate.*	▪ Did I give an example? ▪ Is it clear what I mean by this? ▪ Could I elaborate further?
Accuracy	All statements are *factually correct and/or supported with evidence.*	▪ How do I know this? ▪ Is this true? ▪ How could I check on this or verify it?
Precision	*Statements contain specific information*	▪ Can I be more specific? ▪ Have I provided sufficient detail?
Relevance	All statements are *relevant to the question* at hand; all statements connect to the central point.	▪ How does this relate to the issue being discussed? ▪ How does this help us/me deal with the issue being discussed?
Depth	*Explains the reasons behind conclusions* and anticipates and answers the questions that the reasoning raises and/or *acknowledges the complexity of the issue.*	▪ 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	*Considers alternative points of view or* how someone else might have interpreted the situation.	▪ Would this look the same from the perspective of....? ▪ Is there another way to interpret what this means?
Logic	The *line of reasoning makes sense and* follows from the facts and/or what has been said.	▪ 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) *major issue raised by the reflection on* experience.	▪ Is this the most important issue to focus on? ▪ Is this most significant problem to consider?
Fairness	*Other points of view are represented with integrity (without bias or distortion)*	▪ Have I represented this viewpoint in such a way that the person who holds it would agree with my characterization?

DEAL Model Critical Thinking Rubric

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

	(1)	(2)	(3)	(4)
CT Set A				
Integration	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
Relevance	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
Accuracy	Consistently makes inaccurate statements and/or fails to provide supporting evidence for claims	Makes several inaccurate statements and/or supports few statements with evidence	Usually but not always makes statements that are accurate and well-supported with evidence	Consistently makes statements that are accurate and well-supported with evidence
Clarity	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
Precision	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
Writing	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				
Depth	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
Breadth	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
Logic	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
Significance	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
Fairness	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)

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 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 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 partner 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.

10 Summary 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.

Which tips are most significant to you?
Which tips would you revise and how?
What additional tips do you recommend?
Specific enhancement(s) you might make to your approach(es) to reflection, in light of the "Tips":

PHC Ventures, 2010

~ Reflection on Reflection ~

Describe your current approach(es) to reflection

What reflection activities do you use?

When in the semester?

Written or oral or both?

Individual or collaborative or both?

How is reflection guided?

Examine your current approaches to reflection:

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?

link experience to learning	1	2	3	4	5	6	7	8	9	10
guided	1	2	3	4	5	6	7	8	9	10
occur regularly	1	2	3	4	5	6	7	8	9	10

involve feedback to the learner to enhance the learning

	1	2	3	4	5	6	7	8	9	10
help clarify the learner's values 1	2	3	4	5	6	7	8	9	10

oriented toward specific learning objectives

	1	2	3	4	5	6	7	8	9	10
integrative 1	2	3	4	5	6	7	8	9	10

assessed in terms of critical thinking

1   2   3   4   5   6   7   8   9   10

actionable / include goals for future action

1   2   3   4   5   6   7   8   9   10

generate change in the learner's life

1   2   3   4   5   6   7   8   9   10

occur in a "safe yet critical" context

1   2   3   4   5   6   7   8   9   10

<u>**Describe**</u> critical reflection

<u>**Examine**</u> critical reflection
What are the most significant <u>similarities</u> between your current approaches and critical reflection as we have discussed it today?

What are the most significant <u>differences</u>?

What specific elements of critical reflection do you want to <u>incorporate</u> more of? Why?

What <u>challenges</u> might you face in making changes to your current approaches to reflection? What trade-offs might be required?

What do you want to <u>learn more about</u> regarding critical reflection?

Articulate learning
The strengths of your current approach(es) to reflection are ...

What specifically about your current approach (es) to reflection should be enhanced?

What are your other most important take-away messages from this reflection on reflection?

What specific actions will you take in light of your learning? When will you take them? With whom? What challenges will they present and how will you deal with those challenges?

Selected Related 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. (2010). In Bringle R.G., Hatcher, J.A. and Jones, S.G. (Eds.). *International Service-Learning: Conceptual Frameworks and Research.* Sterling, VA: Stylus Publishing.

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.

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.

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