Instructor’s Guide

UCSF LEaP (Learning from your Experiences as a Professional): GUIDELINES FOR CRITICAL REFLECTION

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1. Brief Description

These guidelines, based on the extensive literature on reflection in education, provide a stand-alone tool instructors at all levels of medical education and in all health professions can use to help learners effectively reflect on their learning, experiences and professional development.

The three page guidelines include instructions on effective use (page 1), a step-by-step guide through the reflective process (page 2), and answers to a set of frequently asked questions (page 3). They were developed for use with written reflections, but with the exception of one of the FAQs on page 3, can be applied to reflection in any form, including oral or video. The five steps on page 2 take learners through a process modeled on the clinical SOAP note (Chief Complaint/Identification, Subjective, Objective, Assessment and Plan). The learner begins by identifying an appropriate experience for critical reflection (Chief Complaint/Identification). This is followed by description of an experience with consideration of content, process and premise (Subjective); feedback, information or new learning obtained in response to the experience as part of the critical reflection (Objective); synthesis of the subjective analysis and objective data with past experience to reframe the experience and formulate learning goals (Assessment); and creation of a specific, timely and measurable plan for future learning or behavior (Plan).

The LEaP was designed to encourage active learning, reframing and analysis. While the term reflection is sometimes used for exercises in which learners either tell a story or transcribe past learning for faculty appraisal, LEaP prompts learners to focus on an unresolved experience, learn from the reflective exercise itself, make both the content and process of that learning
explicit in the reflection, and create a timely and measurable plan to address the gaps or challenges they identify.

2. Background

Since the late 1990s, accrediting bodies and oversight organizations have recognized reflection as an essential skill for health professionals and an important tool for competency-based assessment (Epstein and Hundert 2002; ACGME 2009; Frank, 2005; GMC, 2009). As a result, educators and clinicians across the medical education spectrum are looking for guidance in the teaching and development of reflective ability.

There is an extensive and growing body of literature on reflection both in education generally and in medical and health professions education more specifically (Osterman and Kottcamp, 1993; Mann, Gordon, & Macleod, 2007). This literature ranges from theoretical articles which create conceptual frameworks for reflective learning (Schon, 1983; Kolb, 1984; Mezirow 1991; Boud & Walker, 1998) to trials demonstrating meaningful educational or clinical outcomes as a result of reflection (Blatt et al. 2007; Mamede et al. 2008; Toy et al. 2009). By contrast, there is relatively little information on best practices for teaching and learning reflection. Studies of reflection demonstrate a wide variability of approaches from journaling through vlogs, in class vs. take home exercises, and application in pre-clinical, clinical and continuing education settings. While some authors have published structured approaches to reflection (Johns, 1992; Wald, 2009), most such approaches have not been either evaluated in controlled trials or widely adopted by educators.
Our objective was to develop and provide evidence for guidelines that would help educators develop reflective skills in their learners, minimize the need for formal instruction, and prove broadly useful in medical and health professions education.

3. Development

Our development process consisted of literature review, survey of current reflection activities in Undergraduate Medical Education (UME) at UCSF, an informal needs assessment of UCSF course and clerkship directors, and design and revision by group consensus of a reflective learning guide.

Guideline development began in the spring of 2008 with creation of a Task Force on Reflective Learning consisting of UCSF medical school curriculum leaders representing seven major clinical specialties, members of the Office of Medical Education, and researchers with expertise in reflection. We met monthly for six months and used Kern’s (1998) six-step model of curriculum development as a conceptual framework for tackling the challenge of incorporating reflection into our undergraduate medical student training. We searched the PubMed and ERIC databases using the terms “reflection,” “curriculum,” “teaching,” “learning,” and multiple synonyms for each term and reviewed the bibliographies of relevant articles to find additional scholarship in this area. We also conducted a local needs assessment in the form of a survey of all required courses and clerkship directors about reflection activities in the UCSF UME curriculum followed up by emails to determine the context of these exercises, feedback procedures and the directors’ perceptions of the challenges in teaching reflection.

Based on our literature review and survey, we developed a consensus definition of reflection (since modified based on feedback and implementation studies described below) and
decided to develop a brief, stand-alone guide which would be instructive to both learners and faculty. We set the following parameters for the guide:

1. It should be brief enough for use in hour-long sessions.

2. For broad utility, it should focus on promoting reflective thinking rather than fulfilling a particular reflective agenda such as professional development or clinical reasoning.

3. We should proactively address common sources of faculty and student resistance including justification for adding to a full curriculum and the requirement for written reflection.

4. Because many learners and educators will not have had formal instruction in reflective learning, the guide should function adequately as a stand-alone tool.

5. The guide should make the steps for reflection sufficiently clear that they could be used to facilitate feedback on reflective skills from faculty and peers.

The LEaP guidelines are provided in Appendix A. For more details of the development process, please see Aronson et. al 2011.

4. Evidence

We have done two studies which provide evidence that LEaP improves medical students' reflective ability scores on written reflections (Aronson et. al. 2011; Aronson et. al. submitted) and have significant anecdotal evidence for its efficacy across learner groups and settings based on use of the LEaP in courses, clerkships and residency programs at UCSF and many other institutions (University of Colorado, Stanford, Hofstra, University of Toronto, among others).

In an article on the development and pilot testing of the LEaP (Aronson et al., 2011), we studied the reflections of third year medical students on their core obstetrics and gynecology rotation in response to a prompt on professionalism. The control group (n=37) received no
further instruction and the experimental group (n=78) received the LEaP guidelines. The experimental group scored significantly higher in reflective ability (p<.001, effect size = 1.25) as measured by a previously validated scoring rubric (Learman et al. 2008).

We next conducted a randomized trial of the impact of the LEaP guidelines and feedback, alone and together, on reflection scores of third year medical students in a mandatory longitudinal course (Aronson et al., submitted). Using a 2x2 design, we assigned half our sample of 167 students to receive reflection guidelines and half to receive only a definition of critical reflection in medical education. We then divided both groups into half again, with one half receiving feedback on both the content and reflective ability demonstrated in their reflection and the other receiving contact feedback alone. We found that reflective learning guidelines improved performance and that feedback also improved performance but only when feedback was provided on reflection, not content. Reflections were scored using the same validated rubric as in the pilot which has a range from 0 (no description of event) to 6 (deep reflection). Mean reflection scores were 3.81 (sd=1.9) using guidelines and 2.22 (sd=.89) without guidelines (p<.001) and 3.35 (sd=1.2) for those receiving both reflection and content feedback and 2.67 (sd=1.26) for content feedback only (p=.01). The LEaP guidelines were more effective than feedback, but we found no synergy between the two.

5. Teaching Tips

- These guidelines can be given with no other instruction and more learners will incorporate more elements of effective reflection into their reflections than without this information. We do not yet know however whether and how many repeated exposures
would build learner skill not just to higher levels but to satisfactory levels of competence; we have, however, found several interventions which appear to help:

- Providing feedback not just on reflection content but on reflective skill.
- Teaching about reflection and its importance as part of the core curriculum. Our first year medical students now receive an hour of teaching about critical reflection and LEaP prior to their first assignment. While we don’t yet have outcome data, we believe this led to better reflections both because the task and goals were more clear, we provided them with examples of stronger and weaker reflections, and because devotion of curricular time to reflection signaled its importance.
- Linking reflective assignments both to key course or clerkship learning Mann, Gordon, & Macleod, 2007) and to each other to map out a reflective skill developmental trajectory for learners.

- The literature shows that context matters in teaching reflection. The assignment should be required and relevant. These guidelines will be most effective when used on an exercise or exercises that address learners’ current concerns (first exam, board, transition to the wards, role, mistakes, etc.), when privacy/safety issues are addressed and it is clear that the purpose of the assignment is not demonstrating excellence but showing the ability to constructively confront personal and professional development needs, and if faculty are role modeling and responding to the assignment with formative feedback on reflective skill.

- No matter how the guidelines are used, it is helpful to emphasize the importance of reading the guidelines through at least once prior to starting a critical reflection. This is
especially true for pages 1-2; page 3 is FAQs so relevant principally to learners with the listed questions.

- Key to use of these guidelines is understanding that completion of the “O” or objective portion of the LEaP SOAP note requires learners to seek out new feedback or learning. Consequently, the LEaP cannot be done in class unless the class uses small groups/faculty to provide the “O” in a process wherein learners write the “S”, read it and get feedback in pairs or small groups, then complete the remainder of the LEaP.

  - Note: Peers may or may not be able to provide the appropriate perspectives and/or data needed by all learners. For example, we often find third year students make assumptions about entire specialties or the system that are particular to their team or circumstances and an equally inexperienced peer may not be able to provide one or many alternate perspectives and explanations.

  - If doing ‘feedback’ in this way, it will be important to distinguish the feedback or input on the experience to be used in the reflective process from the feedback on reflective skill after the reflection is complete.

- Learners, especially those who have experience with free form reflection, may initially resist the structured approach in the LEaP. It helps both to emphasize to them the data that critical reflection more effectively promotes learning and behavior change and that they can write the sort of reflection they are used to as the first or “subjective” step in the LEaP SOAP approach. We have also shown that even those who favor less formal approaches reflect more effectively with the structured approach.

- Providing feedback which addresses reflective ability is more effective in developing reflective skill than feedback on content alone.
• Consider working across your curriculum or training program to design critical reflection exercises which both address key competencies or learning issues but allow a process of developmental reflective skill building.

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6. References


6. Appendix A: The UCSF LEaP: Learning from your Experiences as a Professional. **Guidelines for Critical Reflection**

Most people reflect, but the skill medical professionals need, Critical Reflection, is different:

- **Reflection** - looking back at something, considering it.
- **Critical reflection** - the process of analyzing, questioning and reframing a personal experience to enhance learning and inform future behavior.
  - A skill developed over time with practice and feedback.
  - Used by health professionals to promote lifelong learning and improve outcomes.

**Before you start:**

1. Know that while these guidelines may seem restrictive, research shows that without such structure people write ‘reflections’, i.e. anecdotes with little or no evidence of learning.
   - Novice reflectors usually 1) just describe their experience and/or 2) draw conclusions with no input from other people or sources. Even when done thoughtfully, this leads to missed opportunities for learning since we can’t know what we don’t know or assume the experiences and interpretations of others will be the same as ours. This sort of reflection can (rightly) feel like a waste of time.

2. Remember these are guidelines, not a cookbook. It is far more important to learn from the critical reflection than to follow the format precisely and/or answer every question.
   - Consider first writing out the experience and all your thoughts and feelings about it (the “S” of the LEaP) before analyzing it using the guidelines. Most learning from a critical reflection takes place not from simply telling the story of your experience but from reframing and analyzing it based on the input of others, new information, your own past experience, and a search for larger lessons.

3. Choose an experience from which you can learn.
   - The point of critical reflection is not to document past learning but to deepen or broaden your learning, to identify training gaps, personal strengths and weaknesses, and to create a meaningful plan for further professional development.

4. Make sure you understand the point of each section.
   - **Subjective** depicts the experience both to fully explore your own thoughts and feelings and so others (peers or faculty) can follow your subsequent analysis and evaluate the effectiveness of your critical reflection for your learning.
   - **Objective** should not include learning or data that was part of the initial experience but additional research, feedback or opinions/interpretations you sought during the critical reflection in order to learn more from the experience.
   - **Assessment** requires analysis of the experience to integrate the subjective and objective data and your current and past experience. It should result in new understanding or identification of new learning goals with clear future relevance.
   - **Plan** should consist of action items which can be accomplished and evaluated in the upcoming weeks to months and can be revisited with an advisor, mentor or peer group to track your professional development and to make sure you are reflecting in a way that informs your learning and/or clinical practice.
The LEaP SOAP note

STEP 1: CHIEF COMPLAINT/IDENTIFICATION
Choose an experience which triggered questions or concerns for you, such as a situation:
1) where you didn’t have the necessary knowledge or skills
2) that went well but you are not entirely sure why
3) which was complex, surprising, uncomfortable or uncertain
4) in which you felt personally or professionally challenged.

Note: this is about your learning so if you weren’t the major actor in the events you describe, consider why the experience stands out for you and what you can learn from it that will inform or further your professional development right now.

STEP 2: SUBJECTIVE
Describe the experience as fully as you can, including its content, processes, and premises:
- Consider what happened: the situation and context, including your thoughts and feelings at the time. (Content)
- Discuss how it happened. How did you approach the situation? How did you perform? How did the behaviors or choices of others impact you? What went well? What didn’t? (Process)
- Consider why things happened as they did. What assumptions did you and others make? What system factors may have contributed to this problem? (Premise)

STEP 3: OBJECTIVE
Reconsider the experience by obtaining
1) Other people’s perspectives: Use open-ended, open-minded questions (or tell the story in “S”) to elicit opinions, interpretations and feedback from mentors, supervisors, other professionals, patients, families, and/or peers, and/or
2) New data: Consult the medical literature or other sources of relevant information.
Useful objective data will reframe the experience, identify key issues, and deepen your learning.

STEP 4: ASSESSMENT
Synthesize your learning: What educational, personal or professional strengths and weaknesses have you identified? How can you relate this experience to your past experiences to identify important challenges? What personal/professional patterns have you identified? How has this analysis affected how you will approach similar situations in the future? Look for larger learning/professional development issues. Specify lessons learned or questions/learning issues identified.

STEP 5: PLAN
Make a plan to address future similar challenges. The plan should be SMART: Specific, Measurable, Attainable, Relevant and Timely.
- Include: a) what specific next steps you will take; b) where you can get the information or help you need; c) who you will check in with and when; and d) how you and your check-in person will know whether or not your plan is working. If the plan is SMART, you should be able to assess the utility of your action items for furthering your learning or practice in days to weeks or months at the most.
LEAP FAQs

Will this really help me be a better health professional?
There is a wealth of theoretical data and a growing number of studies to suggest that it will. Specifically, critical reflection promotes life-long learning, self-care, and professional development by helping trainees and practitioners identify gaps in their abilities and knowledge and develop critical reasoning, problem-solving and self-assessment skills. Recent studies suggest reflection improves test scores, decreases diagnostic errors, helps trainees meet rotation goals, and improves professionalism. A reflective professional is one who has an open mind, thinks about his or her own thinking, learns more deeply, connects with his or her feelings, considers perspectives other than his/her own, strives to learn from rather than deny or ignore errors, problems and learning gaps, and reframes his/her thinking to formulate reasoned approaches to clinically uncertain and complex situations.

Why can’t I just reflect however I want?
Analysis of hundreds of ‘reflections’ by medical students and residents revealed that most consisted of moving or disturbing anecdotes. While such experiences are ideal for reflection, the reflections themselves showed little evidence of learning: identification of key issues with outside help, reframing of the situation, integration of past and present experience, and specific plans for learning how to manage similar future situations.

Why do I have to write the critical reflection?
Technically, a critical reflection does not have to be written. However, writing promotes critical thinking and offers ongoing opportunities for feedback and accountability. Alone or with a mentor or colleague, you can look back at your reflection to assess your professional development. Creation of a product also shows commitment to learning and ownership of your experience. Finally, writing is a fundamental skill, essential not only for scholarship but for professional communication via chart notes and consults.

Is there any way for me to know if I’m critically reflecting well?
Weaker reflections: tell a story without analyzing it AND/OR consist largely of the reflector’s opinion of what happened AND/OR include only vague generalizations about what the reflector might do to improve, i.e. “I need to slow down and listen more to patients.” In these reflections, the reflector usually knew the outcome of the reflection when s/he started writing, so little was learned from the exercise. Stronger reflections consider the reflector’s thoughts, emotions, values, and assumptions AND include input from others, even (especially) when that input differs from the reflector’s own impressions AND provide a clear articulation of a specific learning issue and a specific plan for approaching similar future situations. In these reflections, the reflector often chooses the experience for one set of reasons and then recognizes other key personal or situational issues critical to her/his professional performance after input from others. Stronger reflections demonstrate courage by confronting real, unresolved challenges.

What can I do to improve my ability to critical reflect?
Like any skill (suturing, endoscopy, breaking bad news), some people will have more inherent aptitude for critical reflection than others, but all will improve with practice and constructive feedback.

Here are some tips for better reflection:

- Pick an experience in which you were a major actor or to which you had a strong reaction
- Avoid excuses and whining and avoid self-congratulation
- Don’t make vague generalizations; specify thoughts, feelings, and objectives
- Don’t skip steps in the LEaP; each serves an essential role in creating a effective analysis
- Work toward a different perspective, improved knowledge, new skills or attitudes
- Remember the objective isn’t beautiful writing, good storytelling or self-promotion but the demonstration of purposeful thinking, critical analysis and professional development.