2019 UCSF Educator's Portfolio Workbook Part 2
Templates

This document contains six templates: the Executive Summary, and five Educational Roles:

- Teaching
- Mentoring and Advising
- Curriculum Development, Instructional Design and Technology
- Educational Leadership
- Learner Assessment

Executive Summary of Most Significant Contributions to Teaching and Education
Name and Department: Click or tap here to enter text.
Overall faculty roles: In one sentence, list your faculty roles (teaching, research, patient care, administration) and approximate time allocation to each.
Click or tap here to enter text.
Changes in role(s) over time: In one sentence, describe major changes in roles over the past 2-3 years.
Click or tap here to enter text.
Important contributions to education: Identify educator role in parentheses and list contribution in a phrase. Describe what was done, how well it was done and its impact in 2-3 sentences. Use only as many as are appropriate to your teaching (1-5). Note that (a) Teaching and at least one additional Detailed Role Description are required for Academy membership applications, and (b) you must select from the contributions below in preparing your Detailed Role Descriptions (over the past 2 or 3 years).
First important contribution to education: Teaching
Click or tap here to enter text.
Second important contribution to education
Click or tap here to enter text.
Third important contribution to education
Click or tap here to enter text.
Fourth important contribution to education
Click or tap here to enter text.
Fifth important contribution to education
Click or tap here to enter text.

ROLE: Teaching (classroom or clinical)
Name and Department: Click or tap here to enter text.
1. Name your teaching activity(ies): Identify the impactful activity(ies) you select to focus on.
Click or tap here to enter text.
2. Your role(s): Describe your role(s) and specifically what you contribute.
Click or tap here to enter text.
3. Learners and amount of contact: Describe types, levels and numbers of learners; amount of contact you have with them.
Click or tap here to enter text.
4. Builds on best practice/evidence: Describe your preparation including the use of best practice and evidence where available, your professional development, and/or congruence with national, curriculum, and/or program goals.
Click or tap here to enter text.
5. Goals and learning objectives: List goals and learning objectives of program. If these are extensive, provide just a few illustrative examples.
Click or tap here to enter text.
6. Methods: Describe the methods used for instruction, how these align with objectives, and rationale for choices.
Click or tap here to enter text.
7. Results and impact: Describe evidence of learner ratings of teaching, learning outcomes, application of knowledge in other settings at UCSF, impact on educational programs within the institution, and/or teaching awards. Comparison data is required.
Click or tap here to enter text.
8. Dissemination: Describe how your efforts have been recognized by others externally through peer review, dissemination, use by others, or teaching awards nationally.
Click or tap here to enter text.
9. Reflective critique: Describe your reflections, what went well and plans for improvement.
Click or tap here to enter text.

ROLE: Mentoring and Advising
Name and Department: Click or tap here to enter text.
1. Name your mentoring and/or advising role(s) or activity(ies):
Click or tap here to enter text.
2. Your role(s): Describe your role(s) and specifically what you contribute.
Click or tap here to enter text.
3. Mentees and amount of contact: Describe types, levels and numbers of mentees; amount of contact you have with them.
Click or tap here to enter text.
4. Builds on best practice/evidence: Describe your preparation including the use of best practice and evidence where available, your professional development, and/or congruence with national, curriculum, and/or program goals.
Click or tap here to enter text.
5. Goals and learning objectives: List goals and learning objectives of program and/or individual mentees. If these are extensive, provide just a few illustrative examples.
Click or tap here to enter text.
6. Methods: Describe the methods used for instruction, how these align with objectives, and rationale for choices.
Click or tap here to enter text.
7. Results and impact: Describe evidence of mentee ratings for mentoring, learning outcomes, career trajectories, impact on educational programs, and/or mentoring awards.
Click or tap here to enter text.
8. Dissemination: Describe how your efforts have been recognized by others externally through peer review, dissemination, use by others, or mentoring awards nationally.
Click or tap here to enter text.
9. Reflective critique: Describe your reflections, what went well and plans for improvement.
Click or tap here to enter text.

ROLE: Curriculum Development, Instructional Design and Technology
Name and Department: Click or tap here to enter text.
1. Name your curriculum development, instructional design and/or technology activity(ies):
Click or tap here to enter text.
2. Your role(s): Describe your role(s) and specifically what you contribute.
Click or tap here to enter text.
3. Learners and amount of contact: Describe types, levels and numbers of learners.
Click or tap here to enter text.
4. Builds on best practice/evidence: Describe your preparation including needs assessment, the use of best practice and evidence where available, your professional development, and/or congruence with national, curriculum, and/or program goals.
Click or tap here to enter text.
5. Goals and learning objectives: List goals and learning objectives of program. If these are extensive, provide just a few illustrative examples.
Click or tap here to enter text.
6. Methods: Describe the curriculum, instructional resources and/or technology used, innovations employed, how these align with objectives, and rationale for choices.
Click or tap here to enter text.
7. Results and impact: Describe evidence of learner ratings of teaching/course, learning outcomes, application of knowledge in other settings at UCSF, impact on educational programs, and/or recognition/honors within the institution for this work.
Click or tap here to enter text.
8. Dissemination: Describe how your efforts have been recognized by others externally through peer review, dissemination, use by others, or teaching awards nationally.
Click or tap here to enter text.
9. Reflective critique: Describe your reflections, what went well and plans for improvement.
Click or tap here to enter text.

ROLE: Educational Leadership
Name and Department: Click or tap here to enter text.
1. Name your educational leadership role(s):
Click or tap here to enter text.
2. Your role(s): Describe your role(s) and specifically what you contribute.
Click or tap here to enter text.
3. Groups served and amount of contact: Describe types, levels and numbers of stakeholders (faculty, students, residents); amount of contact you have with them.
Click or tap here to enter text.
4. Builds on best practice/evidence: Describe your preparation, including the use of best practice and evidence where available, and your professional development.
Click or tap here to enter text.
5. Vision and goals: Describe vision, goals and/or congruence with national, institutional, curriculum, and/or program goals. If these are extensive, provide just a few illustrative examples.
Click or tap here to enter text.
6. Methods: Describe the methods used to achieve goals, and how these align with institutional priorities and resources, and innovative solutions.
Click or tap here to enter text.
7. Results and impact: Describe evidence of stakeholder satisfaction, learning or other outcomes, impact on educational programs, and recognition//honors for leadership at UCSF.
Click or tap here to enter text.
8. Dissemination: Describe how your activities have been recognized by others externally through peer review, dissemination, use by others, or leadership awards nationally.
Click or tap here to enter text.
9. Reflective critique: Describe your reflections, what went well and plans for improvement.
Click or tap here to enter text.

ROLE: Learner Assessment
Name and Department: Click or tap here to enter text.
1. Name your learner assessment activity(ies):
Click or tap here to enter text.
2. Your role(s): Describe your role(s) and specifically what you contribute to learner assessment.
Click or tap here to enter text.
3. Learners and amount of contact: Describe types, levels and numbers of learners.
Click or tap here to enter text.
4. Builds on best practice/evidence: Describe your preparation including the use of best practice and evidence where available, your professional development, and/or congruence with national, curriculum, and/or program goals and resource utilization.
Click or tap here to enter text.
5. Goals for assessment: List goals for assessment. If these are extensive, provide just a few illustrative examples.
Click or tap here to enter text.
6. Methods: Describe assessment formats and methods, how these align with objectives, and rationale for choices.
Click or tap here to enter text.
7. Results and impact: Describe evidence of learner satisfaction, learning outcomes, application of assessment process to other settings at UCSF, impact on educational programs, and/or recognition/honors within the institution.
Click or tap here to enter text.
8. Dissemination: Describe how your efforts have been recognized by others externally through peer review, dissemination, use by others, or awards nationally.
Click or tap here to enter text.
9. Reflective critique: Describe your reflections, what went well and plans for improvement.
Click or tap here to enter text.

ROLE: Curriculum Development, Instructional Design and Technology

Name: Ellen Laves | **Department:** Pediatrics

1. Name your curriculum development, instructional design and/or technology activity(ies):

Pediatric Residency Procedure Curriculum

2. Your role(s): Describe your role(s) and specifically what you contribute.

As the Director of the Pediatric Residency Procedure Program at the UCSF Kanbar Center, I am responsible for creating a simulation-based procedure curriculum that is used to supplement intern clinical experience. Sessions occur 9 times per year for 3.5 hours and consist of multiple procedure "stations." Upon taking over as the director of the program in 2013, I applied Kern's 6-step model for curriculum development to guide curriculum modifications. I performed both a general and targeted needs assessment for the curriculum which identified a few key areas for improvement including the need for 1) standardized didactics with clear learning objectives, 2) longitudinal repeated practice of specific procedures over the year, and 3) formalized learner assessment and feedback. In response to the needs assessment, I restructured the yearlong curriculum to provide repeated instruction of the same procedures throughout the academic year. For each procedure station I created a standardized didactic component with specific goals and objectives that was given prior to learners practicing on mannequins. In order to standardize learner assessment, I used validated behavioral checklists studied by other groups in the medical literature to provide formalized summative feedback, in addition to informal in the moment feedback. I have collected learner and instructor evaluations and feedback for each station as well as the procedure program generally and continue to develop the curriculum in an iterative manner.

3. Learners and amount of contact: Describe types, levels and numbers of learners.

Sessions are held 9 times per year and are attended by 13-14 pediatric interns.

4. Builds on best practice/evidence: Describe your preparation including needs assessment, the use of best practice and evidence where available, your professional development, and/or congruence with national, curriculum, and/or program goals.

Needs Assessment: My general needs assessment was conducted through a literature review of studies addressing resident procedure competency as well as ACGME pediatric residency requirements. The targeted needs assessment was obtained through survey administration to residents.

Educational Strategies: Each station starts with a standardized didactic that covers objectives and standards of care for the given procedure. Videos were acquired from well-established and published groups; PowerPoint presentations were created de novo using content from the literature. The intubation station PowerPoint specifically features video laryngoscopy movies to assist learners with identifying key anatomic landmarks. Learners are given time for guided practice on mannequins with instructor feedback using K. Anders Ericsson's theory of deliberate practice as a framework for instruction.

Implementation: I advocated for the creation of a new group of core instructors who were invested in teaching procedural skills. I secured funding for the program by collaborating with residency leadership and led the core instructor recruitment effort. Core instructors are required to have baseline knowledge of deliberate practice and procedural instruction which is obtained by attending a UCSF "Teaching Procedures" faculty development course. I give all core instructors formal feedback twice per year that is based on learner evaluations. For my personal professional development I participated in the Teaching Scholars Program and attended UCSF faculty development workshops.

Assessment: I use validated checklist tools created and studied by other groups in the medical literature to provide summative learner assessments.

5. Goals and learning objectives: List goals and learning objectives of program. If these are extensive, provide just a few illustrative examples.

Each procedure station has its own set of learning objectives. Below are examples of station objectives:

Endotracheal Station Learner Objectives: By the end of this session learners will be able to

- Verbalize the difference between using the Macintosh and Miller blades
- Identify blade location based on visualized anatomic markers
- Engage in deliberate practice using the mannequins

Lumbar Puncture Station Learning Objectives: By the end of this session learners will be able to

- Verbalize the materials necessary to perform an infant lumbar puncture
- Demonstrate sterile technique while performing an infant lumbar puncture
- Identify the appropriate intervertebral space based on palpation of anatomic markers
- Engage in deliberate practice using the mannequins

6. Methods: Describe the curriculum, instructional resources and/or technology used, innovations employed, how these align with objectives, and rationale for choices.

The current curriculum consists of 9 sessions that move from common basic procedures to more advanced procedures as the year progresses. Repeated instruction of the same procedures is used to assist with learner longitudinal development.

Session	Procedures
Orientation	Procedures are dictated by Pediatric Advanced Life Support requirements
Sessions 1 and 2	Bag valve mask, phlebotomy, arterial stick, IV placement
Sessions 3 and 4	Lumbar puncture, laceration repair, bag valve mask
Sessions 5 and 6	Lumbar puncture, intubation, IV placement
Sessions 7 and 8	Lumbar puncture, umbilical catheterization, intubation

Mannequins are used to provide the opportunity for safe deliberate practice of medical procedures.

7. Results and impact: Describe evidence of learner ratings of teaching/course, learning outcomes, application of knowledge in other settings at UCSF, impact on educational programs, and/or recognition/honors within the institution for this work.

Learner Ratings: The procedure curriculum has been well received by the learners, with 93% of surveyed residents stating that the course impacted their procedural competence in one or more procedural skill. We did not have an earlier evaluation for comparison. The results of our evaluation regarding instructor effectiveness are listed below:

Question	"Strongly Agree"
"My instructor's demonstration of the procedure helped me understand the steps of the procedure"	96%
"My instructor was able to effectively answer my questions regarding the procedural topic"	96%
"My instructor provided me with useful feedback"	95%

Learning Outcomes: For the purposes of assessing learning outcomes we performed a summative "procedural checklist" assessment for each station. We also assessed lumbar puncture (LP) competency through self-report of successful and failed clinical attempts. For the 2015-16 academic year, interns who had the opportunity to perform at least one LP (17 of 28 interns) had a success rate of 39%. This is on par with the LP success rate noted in the literature for similar levels of pediatric learners.

8. Dissemination: Describe how your efforts have been recognized by others externally through peer review, dissemination, use by others, or teaching awards nationally.

I presented the curriculum design and learning outcomes during the 2016 UCSF Educational Symposium.

9. Reflective critique: Describe your reflections, what went well and plans for improvement.

While the curriculum was well received by learners, I would like to improve the clinical success rate of the intern lumbar punctures (39%). Based on my review of the literature and reflection on what determines expertise, I suspect that the performance gap is due to the curriculum not addressing cognitive processes (e.g. situational awareness, problem solving, interpretation of tactile/visual cues) that are core to expertise. The current curriculum is focused on the behavioral components of procedural performance and does little to address cognitive components of learning. I am presently interviewing expert physicians (with my colleague Shruti Kant) regarding their cognitive processes while performing lumbar punctures. We are specifically discussing moments of insight and performing cognitive task analysis to get a granular view into how experts think while performing a lumbar puncture. I hope to use information garnered in these interviews to direct future iterations of the curriculum, potentially through the use of the 4 Components of Instructional Design methodology, which integrates cognitive and behavioral tasks.

ROLE: Educational Leadership

Name: Andrea Marmor, MD, MSEd | **Department:** Pediatrics

1. Name your educational leadership role or roles:

Life Cycle/Prepilogue course director

2. Your role(s): Describe your role/roles and specifically what you contribute.

- Life Cycle/Prepilogue is the last block of the Essential Core. It covers an eclectic group of topics from embryology to geriatrics, and faces the challenge of engaging students who are concerned about preparing for USMLE Step 1 as well as the forthcoming beginning of clinical clerkships.
- I oversee all aspects of the Life Cycle course (159 hrs), mentor MS4 interns, and advise students. I have been involved in structure and integration of Prepilogue, which prepares students for USMLE Step 1.
- I teach the Pediatrics topics for Life Cycle, which includes giving 3 lectures and an exam review, organizing patient interviews, and teaching and coordinating the 5 Pediatrics small groups.

3. Groups served and amount of contact: Describe types, levels and numbers of stakeholders (faculty, students, residents); amount of contact you have with them.

- Stakeholders: Approximately 150 MS2 students per year, in their last block of Essential Core (Jan/Feb/March); 2-3 MS4 course interns + additional MS4's who help teach small groups; Lecturers from multiple disciplines and 6 discipline leaders
- Contact: I see students daily in lecture, communicate with them regularly via the course forum, teach directly via 3 lectures, 5 small groups and one exam review, administer and grade all exams, and meet individually with students who are struggling. I work closely with MS4 course interns. I communicate regularly with all discipline leaders and most lecturers

4. Builds on best practice/evidence: Describe your preparation, including the use of best practice and evidence where available, and your professional development.

- I received a Masters in Medical Education from USC in 2004
- I spent 9 years as Peds discipline leader, working closely with Dr. Masters, and I have continued to receive mentorship and advice from Dr. Masters in the last 3 years
- I have worked to learn more about helping learners in difficulty, including working with the screening committee, and creating a faculty development workshop on professionalism in learners.
- Dr. Stotland and I held a focus group of students to get their perspective on Boards. I have learned how other schools manage Boards prep, including sharing ideas with a course director in Arizona.
- Dr. Stotland and I have been active members of the ECCC, and have both shared and gained ideas from other course directors. For example, this year we revised our small group leader feedback process, and we have met with Educational Technology to convert some of our lectures to video modules

5. Vision and goals: Describe vision, goals and/or congruence with national, institutional, curriculum, and/or program goals. If these are extensive, provide just a few illustrative examples.

Boards Prep: Perhaps the biggest challenge of leading the Life Cycle course is its proximity to USMLE Part I. We have already made great improvements in this area by collaborating with students and faculty leaders involved with the USMLE Prep curriculum. Based on this year's experience, I would like to continue the structured review calendar, expand on the use of Boards-style questions in lectures and in practice tests, involve other course directors in identifying material relevant to Boards prep and continue to find more ways to provide students with support and understanding during this challenging time.

Curricular innovation: The Life Cycle course is one of the most clinically based blocks, and therefore lends itself to realistic clinical and patient –based learning experiences. Our vision is to capitalize on this by developing more simulation and interprofessional learning experiences for students. As we look forward to Bridges, I hope and plan to remain intimately involved in the teaching of the Life Cycle subjects within the new curriculum's structure. I have been especially excited by the prospect of more integration across the EC blocks. For example, learning about a pediatric patient with RSV while students learn about microbiology, or working through a case of an a Urea Cycle Defect as students learn about metabolism. Introducing pediatrics in the foundational sciences curriculum, rather than at the end, has the potential to not only raise the interest level and awareness of pediatric issues, but also help students truly grasp physiologic concepts as they apply them to special populations such as newborns and children.

6. Methods: Describe the methods used to achieve goals, and how these align with institutional priorities and resources, and innovative solutions.

Boards Prep: Over the last 2 years, we have collaborated with the leadership for the USMLE prep curriculum, along with other EC block directors, to rebrand and restructure Prepilogue. In 2013-2014, based on student feedback, we piloted a new "protected Fridays" calendar. We also worked closely with member of the USMLE Prep Working Group and Prepilogue leadership to further integrate Boards prep topics into Life Cycle lectures and small groups.

Curricular Innovation: Each year since 2003 I have made changes to the Pediatric topics in the course, moving steadily towards more interactive, patient-based and simulation-based activities. For example, I have worked nearly every year with a senior medical student on a project related to the pediatrics currriculum and helped them to evaluate their impact on student learning. Projects have included creation of online modules (Development, Embryology) and novel learning experiences (a Neonatal Resuscitation simulation, an obesity clinic exercise).

7. Results and impact: Describe evidence of stakeholder satisfaction, learning or other outcomes, impact on educational programs, and recognition//honors for leadership at UCSF.

This year the course's "overall quality" rating was 4.28, higher than for the last 3 years. Students frequently name Life Cycle as one of their favorite blocks in the EC. In this year's evaluation, 42% of students who commented mentioned that the course's structure allowed them to balance Life Cycle with Boards prep. In addition, when we asked students whether they agreed that the Protected Fridays allowed them to focus on both Life Cycle and Boards, the average was 4.66 on a scale from 1 (strongly disagree) to 5 (strongly agree). When asked if USMLE-style questions in lecture enhanced their learning, average agreement was 4.13. Finally, student comments indicated that they felt supported by course faculty and administration: 30% of named "course directors" as one of the strengths of the block.

While the course evaluations do not separate out pediatrics, the pediatrics SG leaders are consistently in the top 2 among all disciplines, and students frequently cite pediatrics as a highlight of the course.

8. Dissemination: Describe how your activities have been recognized by others externally through peer review, dissemination, use by others, or leadership awards nationally.

Each year we give a course report to the Essential Core Course Committee regarding the course's best practices and plans for improvement.

9. Reflective critique: Describe your reflections, what went well and plans for improvement.

I am proud of the significant change in how students viewed the integration of the Life Cycle and Boards prep curricula. I am also proud of the collaboration between students and faculty that led to this important step forward. It was challenging to move away from the Epilogue model, and to balance the important new subjects taught in Life Cycle with the students' very real needs to prepare for Boards. I appreciated the ECCC's support and confidence in allowing us to make some very significant changes.

As I look forward to this year's course, Dr. Stotland and I are able to move forward with confidence in keeping our overall course calendar the same, with Fridays protected for Boards prep. We can now shift our focus to refining some of our new experiments for this year. For example, we would like to expand on the Boards-style questions and their integration into lecture and practice exams. We are re-envisioning an interprofessional project with the School of Midwifery and planning a collaboration with the School of Pharmacy We would like to further explore creative ways of teaching embryology, which has been a challenging topic for many years. And we have met with Educational Technology to begin learning about the option of making video modules for some of our core lectures, freeing up time for more interactive, case-based in person learning sessions.

Ultimately, I will remain actively involved in how the Life Cycle material is taught in Bridges, and would love to continue to support students in their preparation for Boards, as well as their transition from student-centered classroom learning to patient-centered clinical learning.

ROLE: Learner Assessment	
Name: Sandrijn van Schaik	**Department:** Pediatrics
1. Name your learner assessment activity:	
Development of a Leadership skills Observation and Feedback Tool	
2. Your role: Describe your role and specifically what you contribute to learner assessment.	
I was a co-PI on a Academy grant funded project that aimed to develop and pilot test a new assessment instrument for clinical leadership. As one of two senior investigators I was responsible for oversight of design, subject recruitment and data analysis/interpretation, and mentored a student and a junior faculty member in this project	
3. Learners and amount of contact: Describe types, levels and numbers of learners.	
The instrument is targeted at resident physicians, and our pilot study included pediatric and internal medicine residents of all levels of training at two institutions. Almost 200 residents were part of the different phases of the development of this pilot.	
4. Builds on best practice/evidence: Describe your preparation including the use of best practice and evidence where available, your professional development, and/or congruence with national, curriculum, and/or program goals and resource utilization.	
We started our project with an in-depth literature review and inventory of existing clinical leadership skill assessment tools, and identified a clear gap: leadership tools for medical settings are almost exclusively geared towards crisis situations. Most physicians will lead teams in longitudinal settings with teams of more permanent membership and different types of tasks. One member of our team had extensive experience with a validated tool from te business world, the Leadership Practice Inventory (LPI) with as major limitation its lack of applicability to the clinical setting. To adapt the LPI to clinical team leadership we started our project with a qualitative phase to identify specific behaviors of clinical team leaders associated with the different domains on the LPI. We then undertook a Delphi process with an international group of experts in team leadership in healthcare and created our instrument based on this process. We piloted the tool in 2 phases, using the data from the first phase to make adaptations as suggested by local specialists in assessment.	
5. Goals for assessment: List goals for assessment. If these are extensive, provide just a few illustrative examples.	
The goal of this tool is to provide formative assessment and feedback to resident physicians regarding their clinical team leadership skills, thereby ensuring that they meet the associated milestones in the ACGME subcompetcency of team leadership.	
6. Methods: Describe assessment formats and methods, how these align with objectives, and rationale for choices.	
The LOFT instrument is a 29-item tool with observable behaviors, meant for 360 evaluaton of residents by team members, peers and supervising physicians. The overall domain of clinical leadership is aligned with common program requirements and ACGME competencies, and the rationale for a 360 approach is grounded in the ACGME requirement for 360 evaluation, and the assumption that leadership skills in particular lend itself well to such an approach.	
7. Results and impact: Describe evidence of learner satisfaction, learning outcomes, application of assessment process to other settings at UCSF, impact on educational programs, and/or recognition/honors within the institution.	
We collected evaluator satisfaction data for the instrument during the pilot and found that evaluators deemed the tool easy to use and saw it as a useful instrument to provide this type of feedback to residents. We have not yet evaluated residents' perceptions of the tool or any impact on learning outcomes. One caveat is that our pilot study showed relatively high ratings across all levels of training at both institutions, indicating that the instrument may not discriminate well between levels of learners and/or that raters have a tendency to be overly generous with their ratings. This phenomenon has been described in medical education and is obviously a limitation to the usefulness of this instrument that we will need to address. Of interest, during the project period I was also a PI on a project funded by a Stemmler Grant from the National Board of Examiners that aimed to develop and pilot a different	

assessment tool focused on interprofessional teamwork skills. While the foundational work for this project was published in Medical Education in 2014 (van Schaik et al Volume 48, Issue 6, pages 583–592) with the pilot testing of this tool we ran into similar issues of a ceiling effect, likely due to a generosity error among raters.
8. Dissemination: Describe how your efforts have been recognized by others externally through peer review, dissemination, use by others, or awards nationally.
A manuscript describing the instrument development is in preparation and will be submitted to a peer-reviewed journal (likely JGME)
9. Reflective critique: Describe your reflections, what went well and plans for improvement.
From this process and several similar, related projects I have learned that instrument development is challenging. In particular assessment of skills in the interpersonal/communication domain is challenging because evaluators seem to associate these with (fixed) personality traits rather than (changeable) behaviors or skills.

ROLE: Teaching (classroom or clinical)

Name: Ellen Laves | **Department:** Pediatrics

1. Name your teaching activity(ies): Identify the impactful activity(ies) you select to focus on.

A. Provide clinical instruction for residents, medical students, and nurse practitioner students in the ZSFG pediatric inpatient ward and urgent care clinic.
B. Core instructor for the Pediatric Resident Procedure Program at the UCSF Kanbar Center.
C. Course instructor for the UCSF "Teaching Procedural Skills" workshop.
D. Developer and leader of a procedural education workshop presented at the 2017 WGEA conference.

2. Your role(s): Describe your role(s) and specifically what you contribute.

A. I serve as a clinical preceptor for Pediatric and Family Medicine Residents and students rotating in pediatrics at ZSFG. I am responsible for bedside teaching, didactic instruction, and clinical oversight. I am also responsible for monthly resident and medical student teaching conferences.
B. I provide hands-on instruction during simulation sessions targeting pediatric intern procedural skills.
C. I lead a UCSF faculty development workshop focused on procedural teaching skills.
D. I co-developed and led a workshop that teaches learners about Applied Cognitive Task Analysis – a tool that can be used to deconstruct cognitive components of procedural tasks. We conceptualized the workshop, created novel teaching materials, and trained 3 co-facilitators.

3. Learners and amount of contact: Describe types, levels and numbers of learners; amount of contact you have with them.

A. In pediatric urgent care I supervise 2-5 residents from Pediatrics and Family Medicine and 1-3 medical students or nurse practitioner students. As an inpatient ward attending, I work with 2-3 residents from Family Medicine and Pediatrics and one medical student. I work on the inpatient service 8 weeks out of the year and, when I am not the inpatient attending, I work 30 hours per week in pediatric urgent care. Monthly teaching conference attendance is on average 10 learners.
B. The Pediatric Resident Procedural Program simulation sessions are held 9 times per year and have 13-14 pediatric interns present. Each session runs for 3.5 hours.
C. Attendance at the UCSF "Teaching Procedural Skills" workshop is typically 20 multidisciplinary and interprofessional learners who range from residents to faculty educators. The course is 4 hours and is held 2-3 times per year.
D. We presented our workshop at a local conference where other workshops were offered concurrently. It was attended by 5 multidisciplinary learners at various levels of training and lasted 1.5 hours.

4. Builds on best practice/evidence: Describe your preparation including the use of best practice and evidence where available, your professional development, and/or congruence with national, curriculum, and/or program goals.

Participation in the UCSF Teaching Scholars Program and the coursework required for the Teach for UCSF certificate in general teaching has informed my teaching style and armed me with the skills required to provide high quality bedside teaching and develop curricula. In curricular design I utilize Kern's 6-step approach to curriculum development as my framework.

5. Goals and learning objectives: List goals and learning objectives of program. If these are extensive, provide just a few illustrative examples.

A. The goals of the residency program that are particularly applicable to my clinical teaching include:
- Evaluate and manage common medical conditions presenting in children
- Perform procedures necessary to practice general pediatrics
- Evaluate and manage common pediatric conditions presenting as acute illness
- Demonstrate ability to communicate with patients and families

B. I have described and given examples of learning objectives for the Pediatric Resident Procedure Program in the Curriculum Development section of my application.
C. UCSF "Teaching Procedural Skills" workshop objectives:
- Develop a process for teaching a procedure
- Describe how the theory of deliberate practice guides the steps for teaching a procedure
- Practice providing feedback that will enhance performance
- Analyze obstacles to the teaching of procedures

D. "Enhancing procedural education with Applied Cognitive Task Analysis" workshop objectives:

- Describe how expert task automation impacts procedural instruction
- Describe how differences in novice and expert perspectives affect procedural instruction
- Use Applied Cognitive Task Analysis to identify behavioral and cognitive tasks required to perform a specific medical procedure
- Describe how the use of Applied Cognitive Task Analysis can impact instruction of procedures

6. Methods: Describe the methods used for instruction, how these align with objectives, and rationale for choices.

A. As a preceptor in pediatric urgent care, I use the "One-Minute Preceptor" as my framework for guiding students through clinical decision-making.

B. The resident procedure curriculum begins with a brief didactic to establish learner objectives followed by time for deliberate practice using mannequins with in the moment coaching. I conclude with summative feedback of the learner performing the procedure from start to finish.

C. In the UCSF workshop we address our learning objections through the use of interactive small group activities, large group discussions, and a short didactic component. Small group activities challenge the learners to teach and provide feedback. The large-group discussion encourages learners to extrapolate lessons learned to procedural teaching. This structure allows us to capitalize and build on the experiences of the workshop participants.

D. Our WGEA workshop addresses learning objectives through the use of 1) a didactic introducing the concepts of task automation and Applied Cognitive Task Analysis, 2) large group activities that allow time to practice Applied Cognitive Task Analysis on a non-medical "procedure", and 3) small group work where individuals can apply the tool to common medical procedures.

7. Results and impact: Describe evidence of learner ratings of teaching/course, learning outcomes, application of knowledge in other settings at UCSF, impact on educational programs within the institution, and/or teaching awards.

A. In 2014 I was awarded the Haile T. Debas Academy of Medical Educators Excellence in Teaching Award. My resident ratings from e*value for clinical teaching are 4.85 on a 5-point scale (department mean 4.72).

B. My teaching was rated at 4.9 on a 5-point scale for the Procedural Skills Program.

C. My quality of teaching was rated at 4.74 on a 5-point scale for the UCSF workshop.

D. All learners at our WGEA workshop "strongly agreed" that that the 1) content was relevant, 2) materials were used effectively, 3) activities enhanced learning, and 4) that they would recommend the workshop to others.

8. Dissemination: Describe how your efforts have been recognized by others externally through peer review, dissemination, use by others, or teaching awards nationally.

A. I have been an invited speaker at the UCSF Department of Family Medicine Continuing Education Conference. I am an author in the book *Visual Diagnosis in Pediatrics* and have published a medical procedure manual geared towards novice learners on the online resource AgileMD.

B. Our pediatric resident procedure curriculum has been presented at the 2016 UCSF Educational Showcase.

D. Our faculty development workshop was selected for presentation at the 2017 WGEA Conference.

9. Reflective critique: Describe your reflections, what went well and plans for improvement.

I have worked to refine and formalize my teaching style and have improved my e*value teaching ratings from 4.78 (2013-14 academic year) to 4.85 (current). The Teaching Scholars Program has helped me formalize my methods of clinical teaching and given me the tools needed to develop and evaluate curricula. One of my goals is to improve my procedural instruction skills, both in the clinical arena and simulation lab. This type of teaching is especially interesting to me, as it is a microcosm of high-stakes instruction. Even instruction of a "simple" procedure has to assess learner preparedness, learner cognitive elements (e.g. cognitive load and emotion), address behavioral steps, and provide feedback all in a limited amount of time. I am still working on how to balance those needs in a brief timeframe and want to utilize existing, and perform new research to guide my development in this area. Ultimately I would love to be involved in cross-departmental collaborative research to explore how concepts can be applied to different types of procedures and to other types of bedside teaching (e.g. physical exam skills).

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Examples of Educational Philosophy Statements

Shruti Kant, MBBS

I am writing to apply for the Teaching Scholars Program. I am currently an Assistant Clinical Professor, Step 2 in the Department of Emergency Medicine, Division of Pediatric Emergency Medicine.

I am applying to the Teaching Scholars Program with the express goal of becoming a scholar in medical education. Through this process, I hope to continue my growth as an educator and particularly grow myself as a researcher in education.

I developed an interest in education early in my career as a chief resident, when I began educating medical students on history taking and physical examination. Since then I have continued to be involved in education of medical students, residents and fellows through bedside teaching, simulation, table top discussions, small group discussions and classroom didactics. As a fellow, I helped my fellowship director with curriculum design for fellow education. Through these efforts we were able to fill several gaps in fellow education in a fellow driven manner. For example, we had several hours over the course of a month dedicated towards board review but without a definite agenda. For one of the hours, I suggested fellow run PEM jeopardy with faculty support. We included residents and faculty. This became a popular hour each month, which was very educational for all participants with many interesting pearls being taught by not only the presenter but also faculty and other fellows in attendance.

Most recently I served as the Assistant Fellowship Director at the University of Alabama Birmingham prior to joining UCSF. As APD for the fellowship program, my focus was on the education curriculum for the fellows. I coordinated their weekly didactic learning, simulation sessions and procedure workshops. I also developed and implemented a board review series for the pediatric emergency medicine fellows, which received excellent reviews.

In the short time since I joined UCSF, I have continued my educational efforts with one-on-one bedside teaching, simulation for residents, small group teaching for medical students and large group lectures.

Although the above brings satisfaction I would like to do more and be more invested in trainee education. The recent establishment of a new division of pediatric emergency medicine within the Department of Emergency Medicine has created a fantastic opportunity to develop pediatric emergency medicine specific curricula for residents in, both emergency medicine and pediatrics. Graduating EM residents frequently cite pediatric emergency medicine as their area of least comfort. This deficit opens up numerous possibilities for research and building/improving a curriculum. I plan to take a leadership role in developing this area here at UCSF.

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With the recent expansion of UCSF to incorporate Children's of Oakland, the time is also ripe to collaborate with the Pediatric Emergency Medicine Fellowship Program at UCSF Benioff CHO to help create a combined fellowship program. I am working with the fellowship director to help write the initial proposal for the combined fellowship program. Going forward I plan to devote considerable effort to curriculum development and learner assessment.

Finally, I would like to create another interesting international pediatric specific learning experience for trainees interested in Global Medicine. I have the opportunity and contact in Kenya and would like to develop this connection to create a strong educational relationship. I envision a relationship where our trainees not only learn and gain experience but can also participate in education of the local trainees.

As may be apparent, my teaching interests are in curriculum development – particularly how to develop interesting programs, learner assessment and importantly in program assessment and improvement. I also believe that there is always room for improvement in my teaching and would welcome the chance to freshen up my teaching style.

While I have had no prior formal training in education or scholarship in education research, I believe that my experiences to date have prepared me to enter the teaching scholars program at this time. I strongly believe that my own education in these areas would ideally place me in better position to achieve my goals, giving me new skills to draw upon.

I have reviewed the curriculum outlined for the teaching scholars program and believe that its goals are well aligned with my own. I believe that as a participant of the program I would be able to develop the skill set I need to further my career goals of developing a career in educational scholarship and becoming a better educator, with a view to future publications and dissemination of information.

Last but possibly most importantly, as a TSP scholar, I look forward to learning from and working with experts in the field of education. I hope to build long lasting relationships leading to future collaborative efforts and mentorship.

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Ellen Laves, MD

As an attending in the San Francisco General Hospital's Pediatric Urgent Care, I frequently supervise residents in performing bedside procedures. I have recently noted that residents seem underprepared to perform less common procedures, and on occasion have had graduating residents confess that they have only had one lifetime opportunity to perform a rare but critically important procedure. My experience of encountering underprepared residents is not unusual, and is likely due to increasingly stringent duty hour requirements and changes in clinical guidelines that result in reduced opportunities for trainees to perform procedures. Procedural competence is profoundly important for the future success of graduating residents, and is part of the Accreditation Council for Graduate Medical Education requirements. This gap in resident experience and graduation expectations inspired me to consider how we could best prepare residents to perform procedures through simulation, as well as at the bedside.

My first foray into procedural education was in authoring the UCSF Hospital Pediatric Emergency Medicine Procedures Manual. I designed the manual as a "procedure cookbook" that discussed 1) needed materials, 2) video resources, and 3) step---wise procedural instructions (see attached example). My goal in creating this manual was to assist with procedural preparation and bedside teaching by elevating the instructor---learner pre---procedure conversation. While I felt that the manual could serve as a resource for the early learner, I quickly became convinced that further refined instruction and deliberate practice in a controlled environment was essential to attain procedural competence.

I find simulation---based procedural education to be an exciting arena, as it allows practice and refinement of skills in a safe environment. In simulation learning, residents are allowed to ask questions of instructors, achieve an understanding of the mechanics of the procedure and make errors, all without causing increased risk to the patient. As the Co---Director of the Pediatric Residency Simulation Curriculum at UCSF's Kanbar Center, I designed a curriculum that allows repeated practice of specific procedures that are deemed to be essential for graduating residents. While repeated procedural practice is important, the question of how one executes and instructs deliberate practice is a crucial consideration, as the mixed success rates seen in the literature examining simulation---based procedural education make clear.

As I contemplated how one deliberately practices a procedure, I considered the act of learning an instrument. The parallels between procedural and musical education are clear: both require manual dexterity and an ability to integrate technically difficult tasks into the musical piece or medical procedure. Expert musicians are both technically skilled and adaptable, in large part because they have a complex internal representation of their task. Their internal representation is achieved through deliberate practice with progressive challenges that bring out weaknesses and allow for further adaptation and improvement. For example, as a serious violinist for much of my youth, I challenged myself through rhythm changes and speed drills to bring out weak---points in my performance. Current residents excel in the simulation lab but are unable to translate this

to a clinical scenario, likely because they have not been sufficiently challenged to address weaknesses while practicing with the manikin. I believe that simulation---based procedural education is in need of the progressive challenges that are seen in other learning domains.

My planned Teaching Scholars project involves the creation of a simulation---based procedure curriculum that specifically targets lumbar puncture skills, and its evaluation through a randomized controlled trial. The curriculum would introduce progressive challenges to the lumbar puncture simulation, in contrast to the present model where the resident only practices under an ideal scenario. For example, during a given session the resident would be challenged through the following progression: 1) practicing a lumbar puncture without challenges, 2) having the instructor challenge him/her with increasingly difficult needle angulations, and 3) using his/her non---dominant hand for the procedure. During these progressive challenges, the instructor would utilize a model spinal column to prompt the resident to consider what part of the spine obstructed the needle's progression, thus helping them to develop an internal visual representation. If successful, I plan on expanding this procedural teaching model to the other procedures taught at UCSF's Kanbar Center. My hope is that through thoughtful curriculum design and evaluation, that we will be able to demonstrate measurable change in resident skills that could be replicated in other residency programs.

My readings on musical, touch---typing, and medical pedagogy has sparked a broader interest in how people learn, and has inspired me to apply to the Teaching Scholars Program. I view myself as a clinician---educator at heart, and ultimately see myself in a role that would combine teaching and medical education research. While my interest at this point is primarily focused on how one teaches and learns medical procedures through deliberate practice, I am more broadly interested in educational theory, the foundations of curriculum design and evaluation, as well as improving my bedside teaching skills. To that end, I have attended courses as part of the Teach for UCSF Certificate Program in an effort to improve my understanding of medical pedagogy. The formal education of the Teaching Scholars Program would far exceed what I am able to achieve through self---directed study; and the opportunity to learn alongside other TSP---colleagues would provide me with a network of individuals with whom I could collaborate in the future. I am fully committed to using my experience in TSP to design and evaluate future curricula at the Kanbar Center, and ultimately plan to collaborate with other UCSF departments and outside institutions to better evaluate its effects.