

Aligning Practice to Policies: Changing the Culture to Recognize and Reward Teaching at Research Universities

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ABSTRACT

Recent calls for improvement in undergraduate education within STEM (science, technology, engineering, and mathematics) disciplines are hampered by the methods used to evaluate teaching effectiveness. Faculty members at research universities are commonly assessed and promoted mainly on the basis of research success. To improve the quality of undergraduate teaching across all disciplines, not only STEM fields, requires creating an environment wherein continuous improvement of teaching is valued, assessed, and rewarded at various stages of a faculty member's career. This requires consistent application of policies that reflect well-established best practices for evaluating teaching at the department, college, and university levels. Evidence shows most teaching evaluation practices do not reflect stated policies, even when the policies specifically espouse teaching as a value. Thus, alignment of practice to policy is a major barrier to establishing a culture in which teaching is valued. Situated in the context of current national efforts to improve undergraduate STEM education, including the Association of American Universities Undergraduate STEM Education Initiative, this essay discusses four guiding principles for aligning practice with stated priorities in formal policies: 1) enhancing the role of deans and chairs; 2) effectively using the hiring process; 3) improving communication; and 4) improving the understanding of teaching as a scholarly activity. In addition, three specific examples of efforts to improve the practice of evaluating teaching are presented as examples: 1) Three Bucket Model of merit review at the University of California, Irvine; (2) Evaluation of Teaching Rubric, University of Kansas; and (3) Teaching Quality Framework, University of Colorado, Boulder. These examples provide flexible criteria to holistically evaluate and improve the quality of teaching across the diverse institutions comprising modern higher education.

Research on how students learn and on learner-centered teaching practices is well documented in peer-reviewed scholarship (National Research Council, 2000; Doyle, 2008; Ambrose *et al.*, 2010; Brown *et al.*, 2014) and more recently highlighted in high-level policy reports and papers (Handelsman *et al.*, 2004; Singer *et al.*, 2012; Kober, 2015). Robust evidence shows that active-learning pedagogies are more effective than

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traditional lecture-based methods in helping students, including students from underrepresented backgrounds, learn more, persist in STEM (science, technology, engineering, and mathematics) fields, and experience higher rates of completing their undergraduate degrees (Lorenzo *et al.*, 2006; Haak *et al.*, 2011; Eddy and Hogan, 2014; Freeman *et al.*, 2014; Becker *et al.*, 2015; Trenshaw *et al.*, 2016). Grounded in this scholarship, many postsecondary institutions have launched institution-wide efforts to improve the quality and effectiveness of undergraduate teaching and learning. As commented by Susan Singer, former director of the Division of Undergraduate Education at the National Science Foundation, the landscape is filled with encouraging ways to transform undergraduate education (Singer, 2015).

Despite this movement toward developing and supporting systemic reform in undergraduate education, a majority of research university faculty members who teach undergraduate science and engineering classes remain inattentive to the shifting landscape. Student-centered, evidence-based teaching practices are not yet the norm in most undergraduate STEM education courses, and the desired magnitude of change in STEM pedagogy has not materialized (Henderson and Dancy, 2007; Dancy and Henderson, 2010; Dancy *et al.*, 2014; Anderson *et al.*, 2011; Singer *et al.*, 2012; Malcolm and Feder, 2016).

A critical factor impeding systemic improvements of undergraduate education, not only in STEM fields, is how teaching is considered in the rewards structure. Development of a coherent set of policies to guide the evaluation of a faculty member's work is a precondition for improving the merit and promotion processes. However, evidence shows a wide variation in commitment to and expectations for research, teaching, and service between and within research universities exists (Fairweather and Beach, 2002). Furthermore, stated policies that articulate the value of teaching have been insufficient to raise the attention paid to teaching. Merely espousing the value of teaching is not enough. Frequently, department, college, and university practices do not align with stated priorities in their formal policies (Fairweather, 2002, 2009; Huber, 2002).

Currently, faculty members at research universities tend to be assessed and promoted mainly on the basis of research success (Bradforth *et al.*, 2015). "Neglect of undergraduate education had been built into the postwar university, in which faculty members were rewarded for their research output, graduate student Ph.D. production, and the procurement of external research support, but not for time devoted to undergraduate education" (Lowen, 1997, p. 224). This reality is frequently reinforced by a lack of support and feedback about teaching (Gormally *et al.*, 2014). Furthermore, teaching effectiveness is overwhelmingly assessed using student evaluation surveys completed at the end of each course, despite evidence that these evaluations rarely measure teaching effectiveness (Clayson, 2009; Boring *et al.*, 2016), contain known biases (Centra and Gaubatz, 2000), promote the status quo, and in some cases reward poor teaching (Braga *et al.*, 2014). There is also increasing evidence that unintended biases of students influence course evaluations (MacNeill *et al.*, 2015). However, the ease with which these student evaluation surveys are administered and used in the promotion and tenure process has resulted in a long-standing practice that presents a barrier to innovation and scholarly teaching.

Providing faculty members with support for improved teaching, aligning incentives with the expectation of quality teaching, using metrics that accurately reflect teaching effectiveness, and developing transparent evaluation practices that are not unduly biased are necessary for systemic improvement of undergraduate education. Enabling effective evaluation of teaching will require the development of practical frameworks that are scholarly, accessible, efficient, and aligned with local cultures so as not to preclude their use by most institutions. Such frameworks will provide the greatest probability that teaching and its evaluation will be taken seriously in the academy (Wieman, 2015).

This essay discusses the collaboration between the Association of American Universities¹ (AAU) and the Cottrell Scholars² funded by Research Corporation for Science Advancement (RCSA) to address this critical barrier to improve the quality of undergraduate STEM education. While our efforts have focused primarily on undergraduate STEM education, many of the recommended practices would serve to improve undergraduate education generally.

An initial AAU and Cottrell Scholar collaborative project (2012–2015) focused on understanding the landscape of established and emergent means to more accurately evaluate and assess teaching effectiveness. Building from this work, a second collaborative project (2015–2017) aimed to develop practical guidelines to recognize and reward contributions to teaching at research universities at the department, college, and university levels. A starting point for this project was to assess the current espoused importance of teaching at research universities by examining published promotion and tenure policies at research-intensive institutions. This information was combined with an analysis from a 2014 survey administered to instructional staff on the importance of teaching at research universities as part of the AAU Undergraduate STEM Education Initiative. These results formed the basis for a workshop sponsored by the AAU and RCSA held in May of 2016 that brought together leading higher education scholars and practitioners and research-active faculty members to develop specific recommendations and guidance to value, assess, and reward effective teaching.

The following essay reports on the gap between policies and practices within an institution and offers strategies intended to provide guidance on how institutions can more effectively align their practices for valuing teaching with the stated priorities in their formal policies. The essay concludes with profiles of three institutional examples drawing upon such strategies to assess and reward contributions to teaching.

¹Founded in 1900, the AAU comprises 62 distinguished institutions in the United States and Canada that continually advance society through education, research, and discovery. Our U.S. member universities earn the majority of competitively awarded federal funding for academic research, are improving human life and well-being through research, and are educating tomorrow's visionary leaders and global citizens. AAU members collectively help shape policy for higher education, science, and innovation; promote best practices in undergraduate and graduate education; and strengthen the contributions of research universities to society.

²The Cottrell Scholar program develops outstanding teacher-scholars in chemistry, physics, and astronomy who are recognized by their scientific communities for the quality and innovation of their research programs and their academic leadership skills.

THE GAP BETWEEN POLICY AND PRACTICE

An analysis of 51 institutions' university-level promotion and tenure policies shows that many contain language valuing teaching in addition to research (see list of universities in the Supplemental Materials). Forty-one of these policies give some form of guidelines as to how teaching should be considered. Out of the 41 institutions that provide guidelines, 36 required at least one form of evidence, 36 recommend or require student evaluations to be used, and 26 recommend or require peer classroom observation.

The AAU, as part of its Undergraduate STEM Education Initiative, collected statements on the evaluation of teaching from 32 department chairs at eight universities. Across all institutions and departments there was a strong assertion that teaching is highly valued. Furthermore, all departments make use of student evaluations at the end of courses and provide an annual award for excellence in teaching. However, it was impossible to discern for 19 of 32, or 59%, of the statements submitted whether attention to student learning outcomes or evidence-based pedagogy was either required or recognized.

Additionally, the AAU collected information about the value placed on teaching and the quality of the evidence used to assess effective teaching in merit and promotion processes from approximately 1000 instructional staff. Respondents³ were asked to indicate the extent to which they agreed with a series of statements about the value placed on teaching by their departments, colleges, and schools, as shown in Table 1. This information was collected to provide a baseline of the overall culture toward teaching at these various levels as part of the AAU Undergraduate STEM Education Initiative pilot project sites. Respondents agreed that both their department and campus administrations at their universities recognize the importance of teaching and are supportive of faculty members improving and changing their teaching practices (3.20 ± 0.74 and 3.02 ± 0.75 , respectively). However, when asked whether faculty members in their departments believe that ongoing improvement in teaching is part of their job duties, the level of agreement drops slightly (2.90 ± 0.74). Also, when asked to give their opinion whether effective teaching plays a meaningful role in the annual review and salary processes within their colleges and within the promotion and tenure processes at their institutions, the mean responses were in the middle between agree and disagree (2.50 ± 0.87 and 2.54 ± 0.86 , respectively). These results suggest some disconnection between what is publicly supported within colleges and universities and what actually happens in day-to-day processes.

Furthermore, when respondents were asked to provide their opinions about the quality of the evidence for effective teaching used by their colleges in annual review and salary processes and

TABLE 1. Overall means for survey statements by faculty members about importance and recognition of teaching (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree)

Statement	Mean	SD	Valid N
My departmental administration recognizes the importance of teaching and is supportive of faculty improving and changing teaching practices.	3.20	0.74	964
Campus administration at my university recognizes the importance of teaching and is supportive of faculty improving and changing teaching practices.	3.02	0.75	960
Instructors in my department believe that ongoing improvement in teaching is part of their jobs.	2.90	0.74	962
In my opinion, effective teaching plays a meaningful role in the annual review and salary processes in my college.	2.50	0.87	950
In my opinion, effective teaching plays a meaningful role in the promotion and tenure processes at my institution.	2.54	0.86	950

in the promotion and tenure processes at their institutions, those choosing “don't know” or not answering increased to slightly more than 40% (see Table 2). Of those who chose to respond, in both cases, one-third noted the teaching evidence was of “low quality” and half cited “medium quality” evidence of effective teaching. This reinforces findings previously demonstrated by Wieman (2015).

RECOMMENDATIONS TO VALUE, ASSESS, AND REWARD CONTRIBUTIONS TO TEACHING AT RESEARCH UNIVERSITIES

Larger long-term improvement to undergraduate STEM education will evolve from an environment of continuous improvement of teaching coupled with an altering of the practice of how contributions to teaching are recognized and rewarded at research institutions. Interpretation and enactment of written policies relating to the evaluation of teaching for purposes of merit and promotion are where true institutional values lie (Fairweather, 2002).

Fostering a university culture that values high-quality and continuous improvement of teaching as much as performing high-quality research requires establishing teaching as a public and collaborative university activity, as well as an integral aspect of the individual faculty member's *scholarship*. To do this, it is critical to identify the criteria and relevant roles of the faculty member, program, department, college, and institution for evaluating an individual faculty member's work that fits both the local context (program/department/college) and the larger institutional mission. Ultimately, the goal is to allow local variation in a manner that both preserves the academic freedom of faculty in the classroom while supporting the university's collective responsibilities for undergraduate education.

³A total of 2971 instructional staff received the AAU faculty survey across the eight project-site institutions. More than 1000 (1093) submitted at least a partially completed survey, resulting in an overall response rate of 36.8%; individual institutional response rates ranged from 21.6% to 69.4%. A majority of respondents (542, or 49.6%) were either associate professors or professors with tenure. Twelve percent were tenure-track professors who did not yet have tenure at the time they were surveyed. More than a quarter of respondents were graduate students (26%), and the final 12.5% were instructor/lecturers, nontenured faculty, no response, or other instructional staff. Responses from private institutions comprised 36% of the total, with 64% from public institutions. The Supplemental Materials include the survey instrument and the complete project site baseline data report.

TABLE 2. Responses to quality of evidence of effective teaching

Your feedback regarding the quality of the evidence for teaching used in the following circumstances:	Low quality		Medium quality		High quality		Total	No response or don't know
	N	%	N	%	N	%	N	N
By your college in the annual review and salary process	224	34.4	331	50.8	97	14.9	652	441
By your institution in the promotion and tenure process	212	33.2	325	50.9	101	15.8	638	455

Deans and Department Chairs Play a Critical Role

As institutional leaders, deans and department chairs can reinforce an expectation that faculty members understand teaching not as an isolated activity, but as integrated into their roles as scholars, as members of the university, and as members of their own disciplinary-based community. This requires department chairs and deans to encourage faculty members to think critically about their teaching and develop a continuous improvement mind-set about their teaching within their disciplines and in the context of the educational responsibilities of their departments. Beginning this conversation during the hiring process (e.g., through clear language in the job announcement and application package materials) articulates the importance of teaching. Furthermore, assessing a candidate's attitudes about teaching and advising can be achieved by including questions about teaching and advising in addition to research in the on-campus interview. Some schools also schedule a teaching demonstration (such as a mini-class) as part of the interview process, going beyond simply discussing teaching with the candidate. This approach demands that universities, colleges, and departments must desire to hire outstanding scholars who participate in the dissemination of the knowledge that they create and view teaching as an essential element of scholarship.

Emphasize the Importance of Teaching at the Onset of Hiring

For new hires, a department could provide teaching professional development funds as part of start-up packages, require a professional development plan for teaching, support participation in faculty learning communities, or intentionally support faculty mentoring by pairing expert teachers with those interested in improving their teaching and provide course-load credit for both faculty members.

Communicate Criteria and Expectations on How Contributions to Teaching Will Be Evaluated and Recognized

Faculty members should be provided with mechanisms to document and evaluate teaching innovations and improvements necessary to satisfy these criteria and expectations. Additionally, data from such documentation should feed into reward systems. Three practices are essential to this recommendation. 1) Empower departments to establish an agreed-upon set of metrics that go beyond student satisfaction surveys for each faculty member. A broader array of materials could include: development/revision of learning goals and content in course syllabus, incorporation of new pedagogical

practices into courses, documented achievement of student learning outcomes or changes in classroom culture, involvement in teaching service or scholarship, or shifts of assessment from factual recall to providing evidence of how students use their knowledge. The primary purpose of these strategies is to encourage faculty members to be reflective about their teaching practices. 2) Make sure that metrics are efficient, that is, they are not so labor-intensive as to preclude their use by most faculty members. 3) Ensure that promotion and tenure committees at both the departmental and institutional levels are educated with respect to best practices about how to effectively review the materials submitted by faculty members.

Establish a Culture Consistent across Departments, Colleges, and the University That Recognizes the Scholarly Activity of Teaching

Fundamentally, the values of a university and a department can be discerned from the activities they promote and reward. The above recommendations are aimed at establishing a culture consistent across departments, colleges, and the university that recognizes the scholarly activity associated with the time and effort to maintain and improve education. Achievement of this goal will require a holistic approach to value, support, assess, and reward teaching at multiple institutional levels. Universities and colleges can signal a commitment to quality educational practices for all by providing resources to support faculty members improving large introductory STEM courses. A commitment by the department and university to use clearly articulated empirical evidence for rewarding teaching, both in the promotion and tenure process and for teaching awards, provides validation for the importance of effective undergraduate education. Fundraising around curricular programs can bring exposure and reward to faculty members invested in student learning. Efforts to address the perceived divide between tenure-stream "research" faculty and instructional faculty, who often play a significant role in the large introductory courses, could further support the university's educational mission. Opportunities to discuss and present scholarly activities around teaching provide public recognition that can be emphasized by the visible support of key institutional leaders, such as deans, chairs, and other academic administrators. Furthermore, increasing awareness within the university about existing efforts and related scholarship to improve student learning and teaching effectiveness on campus has the potential to better articulate how the institution's educational objectives relate to the research mission of the university.

THREE EXAMPLES OF INSTITUTIONAL INITIATIVES TO ASSESS AND REWARD TEACHING

Promotion Process at the University of California, Irvine: Moving to a Three-Bucket System

At most universities, accomplishment in three areas—research, teaching, and service—is evaluated to inform merit and promotion decisions. Overall accomplishment that has both quantity and impact components can be represented by a single bucket (Figure 1A). The level that must be achieved for promotion varies by university and discipline, but is generally agreed upon locally and is represented by the dashed line in Figure 1A. Getting over the line results in promotion. But this graphic illustrates the common perception, particularly at R1 universities, that the full line can be determined almost completely by accomplishments in research.

When all faculty are compared in this one-bucket system, those who do more teaching and service rarely benefit in terms of merit and promotion, because getting to the dashed line is what is needed. One solution is to move to a three-bucket system, in which a level of accomplishment that has both quantity and impact components is required in each of three buckets (Figure 1B). If the faculty member does not reach the required level in all three buckets, merit-based salary increases are not awarded or promotion/tenure is denied. In this system, one cannot simply fill the research bucket so full that empty teaching and service buckets are acceptable.

A) One-Bucket System



B) Three-Bucket System

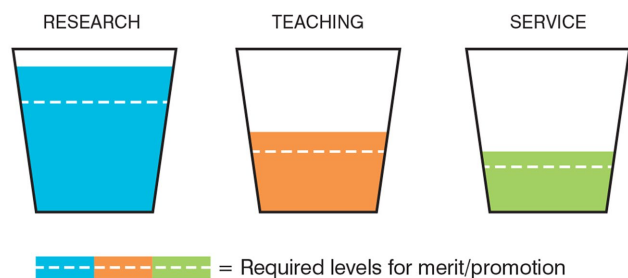


FIGURE 1. Moving from a one- to three-bucket system. (A) In the one-bucket system, the arrow on left indicates the level of accomplishment, determined by quantity and impact components, required for promotion. Sufficient accomplishment in research is often enough to reach this level. (B) Using a three-bucket system requires accomplishment not only in research but in teaching and service as well, and the shading indicates that accomplishment expected might vary depending on department, school/unit, or even at different times in one's career.

The University of California (UC), Irvine, has not yet made a complete transition from a one-bucket to a three-bucket system, but is making steady changes in this direction. For example, as a member of the UC system, UC Irvine has a merit and promotion system that governs advancement through the ranks with associated salary increases on a regular schedule (www.ucop.edu/academic-personnel-programs/_files/apm/apm-210.pdf). Advancements can be accelerated in time to reward the most outstanding faculty. On the UC Irvine campus, accelerations have typically required demonstration of research accomplishments at a significantly higher rate and of similar or greater impact than expected for a regular action. Since 2014, accelerations have required evidence of excellence above that expected for normal actions, not only in research but also in teaching and/or service.

What is put into the buckets also matters. While published UC policy indicates that at least two types of evidence should support evaluation of teaching (see the Supplemental Material or visit www.ucop.edu/academic-personnel-programs/_files/apm/apm-210.pdf, p. 5), in practice, student evaluations are often the only evidence used. For the 2016 review cycle, UC Irvine has required individuals to upload at least one additional type of evidence to evaluate teaching (e.g., reflective teaching self-statement, syllabus, peer evaluation, or measure of student achievement). This change is a first step toward conducting a more thorough evaluation of the contributions to teaching. It also broadens the discussion of teaching by everyone involved in the review process and thus has the potential to increase awareness of the innovative and effective teaching practices taking place on campus.

University of Kansas Department Evaluation of Faculty Teaching Rubric

The Center for Teaching Excellence at the University of Kansas (KU) recently developed a rubric (Figure 2) for department-level evaluation of faculty teaching. The university requires that evaluation of faculty teaching for promotion and tenure and progress toward tenure includes information from the instructor, students, and peers. However, the quality of the information collected is highly variable, and reviewers often struggle to integrate and make sense of information from the three sources. In practice, many evaluations prioritize a narrow dimension of teaching activity (the behavior of the instructor in the classroom) and a limited source of evidence (student evaluations). Providing a rubric to structure the evaluation of faculty members' teaching increases the visibility of all dimensions of teaching, clarifies faculty teaching expectations, enables quick identification of strengths and areas for improvement, and brings consistency across evaluations and over time.

The goal of the rubric is to help department committees integrate information from the faculty members being evaluated, their peers, and their students to create a more holistic view of a faculty member's teaching contributions. Drawing on the peer review of teaching literature (e.g., Hutchings, 1995, 1996; Glassick *et al.*, 1997; Bernstein and Huber, 2006; Bernstein, 2008; Lyde *et al.*, 2016), the rubric identifies seven dimensions of teaching practice that address contributions to both individual courses and the department's curriculum. For each category, the rubric provides both guiding questions and defined expectations. The rubric can also be used to guide a constructive peer-review process, reflection, and iterative improvement.

	Below Expectations: 1-2	Meets Expectations: 3	Exceeds Expectations: 4-5
Expectation levels align with KU's promotion and tenure rating scale.	(1) Poor: Consistently at this level (2) Marginal: Some teaching at this level	(3) Competent	(4) Professional: Some teaching at this level (5) Advanced: Consistently at this level
Goals, content, and alignment • What are students expected to learn from the courses taught? • Are course goals appropriately challenging? • Is content aligned with the curriculum?	<ul style="list-style-type: none"> Course goals are unclear, inappropriate, or marginally related to curriculum Content and materials are outdated or unsuitable for students in the courses Range of topics is too narrow or too broad Content is not clearly aligned with curriculum or institutional expectations 	<ul style="list-style-type: none"> Course goals are articulated and appropriate for curriculum Content is current and appropriate for topic, students, and curriculum Course topics include an appropriate range Standard, intellectually sound materials 	<ul style="list-style-type: none"> Course goals are well articulated, high quality, and clearly connected to program or curricular goals Content is challenging and innovative or related to current issues and developments in field Topics are of appropriate range and depth, with integration across topics High quality materials, well-aligned with course goals
Teaching practices • How is in-class and out-of-class time used? • What assignments, assessments and learning activities are implemented to help students learn?	<ul style="list-style-type: none"> Teaching practices are not sufficiently planned or organized, or are poorly implemented Practices are not well executed; little development in methods despite evidence of need Students lack opportunities to practice the skills embedded in course goals Student engagement is variable 	<ul style="list-style-type: none"> Teaching practices are well planned and organized Standard course practices carried out; follows conventions within discipline and institution Students have some opportunities to practice skills embedded in course goals Students consistently engaged 	<ul style="list-style-type: none"> Activities are well planned, integrated, and reflect commitment to providing meaningful assignments and assessments Uses effective, high-impact or innovative methods to improve understanding In- and out-of-class activities provide opportunities for practice and feedback on important skills and concepts Students show high levels of engagement
Achievement of learning outcomes • What impact do these courses have on learners? • What evidence shows the level of student understanding?	<ul style="list-style-type: none"> Insufficient attention to student learning—quality of student learning is not described or analyzed with clear standards Evidence of poor student learning; low level of skill/ understanding is required or achieved without clear attempts to improve 	<ul style="list-style-type: none"> Clear standards for evaluating the quality of student understanding Typical student achievement for courses at these levels 	<ul style="list-style-type: none"> Standards for evaluating student understanding are connected to program or curriculum expectations, or use authentic assessments Efforts to support learning in all students Quality of learning supports success in other contexts (e.g., subsequent courses or non-classroom venues), or is increasing over successive offerings
Classroom climate and student perceptions • What are the students' views of their learning experience? • How has student feedback informed the faculty member's teaching?	<ul style="list-style-type: none"> Classroom climate does not promote civility or discourages student motivation and engagement Consistently negative student reports of teacher accessibility, interaction skills Poor sense of learning among students Little attempt to address concerns voiced by students 	<ul style="list-style-type: none"> Classroom climate promotes civility No consistently negative student ratings of teacher accessibility, interaction skills Most students indicate progress with their learning Instructor articulates some lessons learned through student feedback 	<ul style="list-style-type: none"> Evidence that classroom climate is respectful, cooperative, and encourages motivation and engagement Student feedback on teacher accessibility, interaction skills is generally positive Students perceive that they are learning important skills or knowledge Instructor is responsive to student feedback in short- and long-term
Reflection and iterative growth • How has the faculty member's teaching changed over time? • How has this been informed by evidence of student learning?	<ul style="list-style-type: none"> No indication of having reflected upon or learned from prior teaching or feedback 	<ul style="list-style-type: none"> Continued competent teaching, possibly with minor reflection based on input from peers and/or students Articulates some lessons learned from prior teaching and feedback 	<ul style="list-style-type: none"> Regularly makes adjustments to teaching based on reflections on student learning, within or across semesters Examines student performance following adjustments Reports improved student achievement of learning goals based on past course modifications
Mentoring and advising • How effectively has the faculty member worked individually with UG or graduate students?	<ul style="list-style-type: none"> No indication of effective mentoring or advising students (but expected in department) 	<ul style="list-style-type: none"> Some evidence of effective advising and mentoring (define as appropriate for discipline) 	<ul style="list-style-type: none"> Evidence of exceptional quality and time commitment to advising and mentoring (define as appropriate for discipline)
Involvement in teaching service, scholarship, or community • In what ways has the instructor contributed to the broader teaching community, both on and off campus?	<ul style="list-style-type: none"> No interaction with broader community about teaching, including involvement with teaching-related committees No evidence of keeping up with reports on effective teaching Practices and results of teaching are not shared with others Actions have negative impact on teaching culture in department or institution 	<ul style="list-style-type: none"> Some involvement in teaching-related committees, or engagement with peers on teaching (e.g., teaching-related presentations or workshops) Participates in department-level curriculum decisions 	<ul style="list-style-type: none"> Regular involvement in teaching-related committees, engagement with peers on teaching (e.g., teaching-related presentations or workshops) Occasional (or more) local or external presentations or publications to share practices or results of teaching Contributes to department or university curricular planning or assessment Advanced—Scholarly publications or grant applications related to teaching

FIGURE 2. Rubric for department evaluation of faculty teaching.

To ensure applicability across disciplines, the rubric does not weigh or place focus on any particular element or require a particular type of evidence to be used. Departments are encouraged to modify the rubric and use it to build consensus about the dimensions, the questions, and the criteria. The implementation strategy included discussions with department chairs and the KU Center for Teaching Excellence department ambassadors in advance of its release in order to increase the probability of broad buy-in. The rubric was piloted during the 2016–2017 academic year as a guide for peer review of teaching, promotion and tenure, and third-year reviews.

University of Colorado Teaching Quality Framework

The AAU-sponsored undergraduate STEM initiative has helped to support the development of a new Teaching Quality Framework (TQF) at the University of Colorado. The framework draws upon organizational change literature and cites the University of Colorado, Boulder (CU Boulder), already existing guidelines—“Dossiers for comprehensive review, tenure, or promotion must include multiple measures of teaching”—to create a framework for assessing and promoting teaching quality (Finkelstein *et al.*, 2015). The goal of the TQF is to create a common campus-wide framework for using scholarly measures of teaching effectiveness that is disciplinary specific and provides faculty members with feedback in order to support improved teaching. Thus, CU Boulder seeks to address the calls to professionalize teaching and create a climate of continuous improvement. The framework defines teaching as a scholarly activity—like research—and assesses the core components of such scholarship (Bernstein, 2008). Current efforts draw from decades of research in teaching evaluation to create a common framework (Glassick *et al.*, 1997) by defining categories of evaluation as follows: 1) clear goals, 2) adequate preparation, 3) appropriate methods, 4) significant results, 5) effective presentation, and 6) reflective critique.

These framework categories are held constant across all departments; however, specific interpretation of the components of the framework and their relative weights are defined at a department level (Figure 3). Thus, departments specify in a clear way what is meant by “multiple measures” and “significant results” locally, but use common categories across the campus.

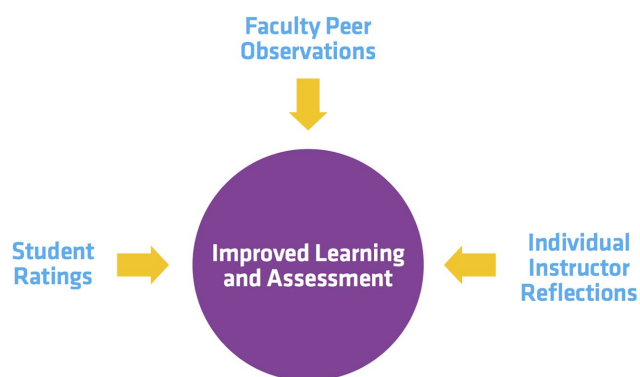


FIGURE 3. Three “voices” in a scholarly framework for assessing teaching.

This approach provides the university with a common framework while preserving disciplinary identity and specificity.

The implementation strategy has created two layers of work: one at the departmental level and one at the campus-wide level. Participation in the TQF is purposefully voluntary, asking departments to work to develop the framework rather than address a top-down mandate. The departmental level seeks to increase engagement and exploration of new ways to assess teaching by empowering individual departments to identify how they might enact more scholarly measures of teaching. Nine CU Boulder departments participated in the TQF in the 2016–2017 academic year with a postdoctoral-level facilitator. These cross-departmental discussions have led to departmental-based work in Fall 2017. An initial four departments have committed two to five lead faculty to identify what the measures of scholarly teaching are that address the framework in their disciplines, while the facilitator manages the biweekly meetings and shares information across departments. Additional departments are expected to phase in participation in Spring and Fall 2018.

CU Boulder has plans for two levels of campus discussions: the first among the pilot departments; and a subsequent one that will include broader representation from other departments, deans, and other institutional stakeholders. Once the departmental metrics and common campus framework and review system are coordinated, these tools will be deployed in the annual merit review and/or promotion and tenure review of departments across campus.

CONCLUSION

There is no question that strong examples of excellent teaching practice already exist throughout research universities. However, increasing visibility of and institutionalizing support for and reward of effective teaching is a challenge faced by many research universities. In most cases, relevant policies are already in place that emphasize the importance of teaching, but work remains to change the culture such that common practice aligns with these policies, especially at the departmental level.

Here, we have outlined some key elements associated with reward structures within research universities that can be leveraged to align practice and policy. To illustrate potential variations within the general framework, we highlighted three different approaches that are being piloted at specific research universities. At the department level, there needs to be an explicit conversation about the scholarly nature of teaching and a faculty member’s responsibilities regarding teaching as a scholar in a particular discipline. There also needs to be an explicit discussion of the collective nature of undergraduate teaching and its role within the broader responsibility of the research university. Finally, there needs to be recognition and adoption of empirical models for evaluating teaching that have been tested and validated. Within this broader context, the specific implementation at any given research university must be flexible and adaptable to local culture, structures, and goals.

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Supplemental Material

CBE—Life Sciences Education

Dennin *et al.*

Index

- 210-0 **Policy**
- 210-1 **Instructions to Review Committees Which Advise on Actions Concerning Appointees in the Professor and Corresponding Series**
- a. Purpose and Responsibility of the Review Committees
 - b. Maintenance of the Committee's Effectiveness
 - c. Procedure
 - d. Criteria for Appointment, Promotion, and Appraisal
 - e. The Report
- Appendix A, Statement on Professional Ethics, 1966 AAUP
- 210-2 **Instructions to Review Committees Which Advise on Actions Concerning the Professor of Clinical (e.g., *Medicine*) Series**
- 210-3 **Instructions to Review Committees Which Advise on Actions Concerning the Lecturer with Security of Employment Series**
- 210-4 **Instructions to Review Committees Which Advise on the Appointment, Merit Increase, Promotion, Career Status Actions for Members of Librarian Series**
- a. Definition of Review Committee
 - b. Purpose and Responsibility of Review Committee
 - c. Maintenance of the Committee's Effectiveness
 - d. Procedure
 - e. Criteria

Index

- 210-5 **Instructions to Review Committees Which Advise on Actions Concerning Appointees in the Supervisor of Physical Education Series**
- a. Purpose and Responsibility of the Review Committee
 - b. Maintenance of the Committee's Effectiveness
 - c. Procedure
 - d. Criteria for Appointment and Promotion
 - e. The Report
- 210-6 **Instructions to Review Committees Which Advise on Actions Concerning the Health Sciences Clinical Professor Series**
- 210-24 **Authority**

210-0 **Policy**

In their deliberations and preparations of reports and recommendations, academic review and appraisal committees shall be guided by the policies and procedures set forth in the respective *Instructions* which appear below.

210-1 **Instructions to Review Committees Which Advise on Actions Concerning Appointees in the Professor and Corresponding Series**

The following instructions apply to review committees for actions concerning appointees in the Professor series and the Professor in Residence series; and, with appropriate modifications, for appointees in the Adjunct Professor series.

a. **Purpose and Responsibility of the Review Committees**

The quality of the faculty of the University of California is maintained primarily through objective and thorough appraisal, by competent faculty members, of each candidate for appointment or promotion. Responsibility for this appraisal falls largely upon the review committees nominated by the Committee on Academic Personnel or equivalent Committee and appointed by the Chancellor or a designated representative. It is the duty of these committees to ascertain the present fitness of each candidate and the likelihood of the candidate's pursuing a productive career. In judging the fitness of the candidate, it is appropriate to consider professional integrity as evidenced by performance of duties. (A useful guide for such consideration is furnished by the *Statement on Professional Ethics* issued by the American Association of University Professors. A copy of this *Statement* is appended to these instructions of 210-1 for purposes of reference.) Implied in the committee's responsibility for building and maintaining a faculty of the highest excellence is also a responsibility to the candidate for just recognition and encouragement of achievement.

b. **Maintenance of the Committee's Effectiveness**

- (1) *The membership, deliberations, and recommendations of the review committee are strictly confidential.* The chair of each such committee should remind members of the committee of the confidential nature of the assignment. This should be kept in mind in arranging for all written or oral communications; and when recommendations with supporting documents have been forwarded, all copies or preliminary drafts should be destroyed. Under the provisions of Section 160 of the Academic Personnel Manual, the candidate is entitled to receive upon request from

the Chancellor a redacted copy of all confidential academic review records in the review file (without disclosure of the identities of members of the *ad hoc* review committee).

- (2) The whole system of academic review by committees depends for its effectiveness upon each committee's prompt attention to its assignment and its conduct of the review with all possible dispatch, consistent with judicious and thorough consideration of the case.
- (3) The chair of the review committee has the responsibility of making sure that each member of the committee has read and understands these instructions.

c. **Procedure**

- (1) **General** — Recommendations concerning appointment, promotion, and appraisal normally originate with the department chair. The letter of recommendation should provide a comprehensive assessment of the candidate's qualifications together with detailed evidence to support this evaluation. The letter should also present a report of the department chair's consultation with the members of the department, including any dissenting opinions. The letter should not identify individuals who have provided confidential letters of evaluation except by code. In addition to the letter of recommendation, the department chair is expected to assemble and submit to the Chancellor an up-to-date biography and bibliography, together with copies of research publications or other scholarly or creative work.
- (2) **Appointments** — The department chair should include in the documentation opinions from colleagues in other institutions where the nominee has served and from other qualified persons having firsthand knowledge of the nominee's attainments. Extramural opinions are imperative in cases of proposed appointments to tenure status of persons from outside the University.
- (3) **Promotions** — Promotions are based on merit; they are not automatic. Achievement, as it is demonstrated, should be rewarded by promotion. Promotions to tenure positions should be based on consideration of comparable work in the candidate's own field or in closely related fields. The department and the review committee should consider how the candidate stands in relation to other people in the field outside the University who might be considered alternative candidates for the position. The department chair shall supplement the opinions of

colleagues within the department by letters from distinguished extramural informants. The identity of such letter writers should not be provided in the departmental letter except by code.

- (4) **Assessment of Evidence** – The review committee shall assess the adequacy of evidence submitted. If in the committee's judgment the evidence is insufficient to enable it to reach a clear recommendation, the committee chair, through the Chancellor, shall request amplification. In every case all obtainable evidence should be carefully considered.

If in assessing all obtainable evidence, the candidate fails to meet the criteria set forth in Section 210-1-d below, the committee should recommend accordingly. If, on the other hand, there is evidence of unusual achievement and exceptional promise of continued growth, the committee should not hesitate to endorse a recommendation for accelerated advancement. If there is evidence of sufficient achievement in a time frame that is extended due to stopping the clock for reasons as defined in APM - 133-17-g-i or a family accommodation as defined in APM - 760, the evidence should be treated procedurally in the same manner as evidence in personnel reviews conducted at the usual intervals. All evidence produced during the probationary period, including the period of extension, counts in the evaluation of the candidate's review file. The file shall be evaluated without prejudice as if the work were done in the normative period of service and so stated in the department chair's letter.

d. **Criteria for Appointment, Promotion, and Appraisal**

The review committee shall judge the candidate with respect to the proposed rank and duties, considering the record of the candidate's performance in (1) teaching, (2) research and other creative work, (3) professional activity, and (4) University and public service. In evaluating the candidate's qualifications within these areas, the review committee shall exercise reasonable flexibility, balancing when the case requires, heavier commitments and responsibilities in one area against lighter commitments and responsibilities in another. The review committee must judge whether the candidate is engaging in a program of work that is both sound and productive. As the University enters new fields of endeavor and refocuses its ongoing activities, cases will arise in which the proper work of faculty members departs markedly from established academic patterns. In such cases, the review committees must take exceptional care to apply the criteria with sufficient flexibility. However, flexibility does not entail a relaxation of high standards. *Superior intellectual attainment, as evidenced both in teaching and in research or other creative achievement, is an indispensable qualification for appointment or promotion to tenure positions.* Insistence upon this standard for holders of the professorship is necessary for maintenance of the quality of the University as an institution dedicated to the discovery and

transmission of knowledge. Consideration should be given to changes in emphasis and interest that may occur in an academic career. The candidate may submit for the review file a presentation of his or her activity in all four areas.

The University of California is committed to excellence and equity in every facet of its mission. Contributions in all areas of faculty achievement that promote equal opportunity and diversity should be given due recognition in the academic personnel process, and they should be evaluated and credited in the same way as other faculty achievements. These contributions to diversity and equal opportunity can take a variety of forms including efforts to advance equitable access to education, public service that addresses the needs of California's diverse population, or research in a scholar's area of expertise that highlights inequalities. Mentoring and advising of students and faculty members, particularly from underrepresented and underserved populations, should be given due recognition in the teaching or service categories of the academic personnel process.

The criteria set forth below are intended to serve as guides for minimum standards in judging the candidate, not to set boundaries to exclude other elements of performance that may be considered.

- (1) **Teaching** - Clearly demonstrated evidence of high quality in teaching is an essential criterion for appointment, advancement, or promotion. Under no circumstances will a tenure commitment be made unless there is clear documentation of ability and diligence in the teaching role. In judging the effectiveness of a candidate's teaching, the committee should consider such points as the following: the candidate's command of the subject; continuous growth in the subject field; ability to organize material and to present it with force and logic; capacity to awaken in students an awareness of the relationship of the subject to other fields of knowledge; fostering of student independence and capability to reason; spirit and enthusiasm which vitalize the candidate's learning and teaching; ability to arouse curiosity in beginning students, to encourage high standards, and to stimulate advanced students to creative work; personal attributes as they affect teaching and students; extent and skill of the candidate's participation in the general guidance, mentoring, and advising of students; effectiveness in creating an academic environment that is open and encouraging to all students, including development of particularly effective strategies for the educational advancement of students in various underrepresented groups. The committee should pay due attention to the variety of demands placed on instructors by the types of teaching called for in various disciplines and at various levels, and should judge the total performance of the candidate with proper reference to assigned teaching responsibilities. The committee should clearly indicate the sources of

evidence on which its appraisal of teaching competence has been based. In those exceptional cases when no such evidence is available, the candidate's potentialities as a teacher may be indicated in closely analogous activities. In preparing its recommendation, the review committee should keep in mind that a redacted copy of its report may be an important means of informing the candidate of the evaluation of his or her teaching and of the basis for that evaluation.

It is the responsibility of the department chair to submit meaningful statements, accompanied by evidence, of the candidate's teaching effectiveness at lower-division, upper-division, and graduate levels of instruction. More than one kind of evidence shall accompany each review file. Among significant types of evidence of teaching effectiveness are the following: (a) opinions of other faculty members knowledgeable in the candidate's field, particularly if based on class visitations, on attendance at public lectures or lectures before professional societies given by the candidate, or on the performance of students in courses taught by the candidate that are prerequisite to those of the informant; (b) opinions of students; (c) opinions of graduates who have achieved notable professional success since leaving the University; (d) number and caliber of students guided in research by the candidate and of those attracted to the campus by the candidate's repute as a teacher; and (e) development of new and effective techniques of instruction, including techniques that meet the needs of students from groups that are underrepresented in the field of instruction.

All cases for advancement and promotion normally will include: (a) evaluations and comments solicited from students for most, if not all, courses taught since the candidate's last review; (b) a quarter-by-quarter or semester-by-semester enumeration of the number and types of courses and tutorials taught since the candidate's last review; (c) their level; (d) their enrollments; (e) the percentage of students represented by student course evaluations for each course; (f) brief explanations for abnormal course loads; (g) identification of any new courses taught or of old courses when there was substantial reorganization of approach or content; (h) notice of any awards or formal mentions for distinguished teaching; (i) when the faculty member under review wishes, a self-evaluation of his or her teaching; and (j) evaluation by other faculty members of teaching effectiveness. When any of the information specified in this paragraph is not provided, the department chair will include an explanation for that omission in the candidate's dossier. If such information is not included with the letter of recommendation and its absence is not adequately accounted for, it is the review committee chair's responsibility to request it through the Chancellor.

- (2) **Research and Creative Work** — Evidence of a productive and creative mind should be sought in the candidate's published research or recognized artistic production in original architectural or engineering designs, or the like.

Publications in research and other creative accomplishment should be evaluated, not merely enumerated. There should be evidence that the candidate is continuously and effectively engaged in creative activity of high quality and significance. Work in progress should be assessed whenever possible. When published work in joint authorship (or other product of joint effort) is presented as evidence, it is the responsibility of the department chair to establish as clearly as possible the role of the candidate in the joint effort. It should be recognized that special cases of collaboration occur in the performing arts and that the contribution of a particular collaborator may not be readily discernible by those viewing the finished work. When the candidate is such a collaborator, it is the responsibility of the department chair to make a separate evaluation of the candidate's contribution and to provide outside opinions based on observation of the work while in progress. Account should be taken of the type and quality of creative activity normally expected in the candidate's field. Appraisals of publications or other works in the scholarly and critical literature provide important testimony. Due consideration should be given to variations among fields and specialties and to new genres and fields of inquiry.

Textbooks, reports, circulars, and similar publications normally are considered evidence of teaching ability or public service. However, contributions by faculty members to the professional literature or to the advancement of professional practice or professional education, including contributions to the advancement of equitable access and diversity in education, should be judged creative work when they present new ideas or original scholarly research.

In certain fields such as art, architecture, dance, music, literature, and drama, distinguished creation should receive consideration equivalent to that accorded to distinction attained in research. In evaluating artistic creativity, an attempt should be made to define the candidate's merit in the light of such criteria as originality, scope, richness, and depth of creative expression. It should be recognized that in music, drama, and dance, distinguished performance, including conducting and directing, is evidence of a candidate's creativity.

- (3) **Professional Competence and Activity** — In certain positions in the professional schools and colleges, such as architecture, business

administration, dentistry, engineering, law, medicine, etc., a demonstrated distinction in the special competencies appropriate to the field and its characteristic activities should be recognized as a criterion for appointment or promotion. The candidate's professional activities should be scrutinized for evidence of achievement and leadership in the field and of demonstrated progressiveness in the development or utilization of new approaches and techniques for the solution of professional problems, including those that specifically address the professional advancement of individuals in underrepresented groups in the the candidate's field. It is responsibility of the department chair to provide evidence that the position in question is of the type described above and that the candidate is qualified to fill it.

- (4) **University and Public Service** — The faculty plays an important role in the administration of the University and in the formulation of its policies. Recognition should therefore be given to scholars who prove themselves to be able administrators and who participate effectively and imaginatively in faculty government and the formulation of departmental, college, and University policies. Services by members of the faculty to the community, State, and nation, both in their special capacities as scholars and in areas beyond those special capacities when the work done is at a sufficiently high level and of sufficiently high quality, should likewise be recognized as evidence for promotion. Faculty service activities related to the improvement of elementary and secondary education represent one example of this kind of service. Similarly, contributions to student welfare through service on student-faculty committees and as advisers to student organizations should be recognized as evidence, as should contributions furthering diversity and equal opportunity within the University through participation in such activities as recruitment, retention, and mentoring of scholars and students.

The Standing Orders of The Regents provide: "No political test shall ever be considered in the appointment and promotion of any faculty member or employee." This provision is pertinent to every stage in the process of considering appointments and promotions of the faculty.

e. **The Report**

- (1) The report of the review committee forms the basis for further review by the Committee on Academic Personnel or its equivalent and for action by the Chancellor and by the President. Consequently, the report should include an appraisal of all significant evidence, favorable and unfavorable. It should be specific and analytical and should include the review committee's evaluation of the candidate with respect to each of

the qualifications specified above. It should be adequately documented by reference to the supporting material. It should document the vote of the review committee but not identify the voters. It should not provide the identity of individuals who have provided confidential evaluations except by code.

- (2) The review committee has the responsibility of making an unequivocal recommendation. No member should subscribe to the report if it does not represent that member's judgment. If the committee cannot come to a unanimous decision, the division of the committee and the reasons therefore should be communicated either in the body of the report or in separate concurring or dissenting statements by individual members, submitted with the main report and with the cognizance of the other committee members.

Appended for reference is the statement on professional ethics referred to in APM - 210-1-a of these instructions.

*American Association of University Professors
Policy Documents & Reports
Pages 75-76, 1990*

Statement on Professional Ethics
(Endorsed by the Seventy-Third Annual Meeting, June 1987)

The Statement

- I. Professors, guided by a deep conviction of the worth and dignity of the advancement of knowledge, recognize the special responsibilities placed upon them. Their primary responsibility to their subject is to seek and to state the truth as they see it. To this end professors devote their energies to developing and improving their scholarly competence. They accept the obligation to exercise critical self-discipline and judgment in using, extending, and transmitting knowledge. They practice intellectual honesty. Although professors may follow subsidiary interests, these interests must never seriously hamper or compromise their freedom of inquiry.

- II. As teachers, professors encourage the free pursuit of learning in their students. They hold before them the best scholarly and ethical standards of their discipline. Professors demonstrate respect for students as individuals and adhere to their proper roles of intellectual guides and counselors. Professors make every reasonable effort to foster honest academic conduct and to ensure that their evaluations of students reflect each student's true merit. They respect the confidential nature of the relationship between professor and student. They avoid any exploitation, harassment, or discriminatory treatment of students. They acknowledge significant academic or scholarly assistance from them. They protect their academic freedom.

- III. As colleagues, professors have obligations that derive from common membership in the community of scholars. Professors do not discriminate against or harass colleagues. They respect and defend the free inquiry of associates. In the exchange of criticism and ideas professors show due respect for the opinions of others. Professors acknowledge academic debt and strive to be objective in their professional judgment of colleagues. Professors accept their share of faculty responsibilities for the governance of their institution.

- IV. As members of an academic institution, professors seek above all to be effective teachers and scholars. Although professors observe the stated regulations of the institution, provided the regulations do not contravene academic freedom, they maintain their right to criticize and seek revision. Professors give due regard to their paramount responsibilities within their institution in determining the amount and character of work done outside it. When considering the interruption or termination of their service, professors recognize the effect of their decision upon the program of the institution and give due notice of their intentions.
- V. As members of their community, professors have the rights and obligations of other citizens. Professors measure the urgency of these obligations in the light of their responsibilities to their subject, to their students, to their profession, and to their institution. When they speak or act as private persons they avoid creating the impression of speaking or acting for their college or university. As citizens engaged in a profession that depends upon freedom for its health and integrity, professors have a particular obligation to promote conditions of free inquiry and to further public understanding of academic freedom.

210-2 **Instructions to Review Committees Which Advise on Actions Concerning the Professor of Clinical (*e.g.*, *Medicine*) Series**

- a. The policies and procedures set forth in APM - 210-1-a, -b, -c, and -e shall govern the committee in the confidential conduct of its review and in the preparation of its report. The committee should refer to [APM - 275](#) for policies on the Professor of Clinical (*e.g.*, *Medicine*) series.
- b. The review committee shall judge the candidate with respect to the proposed rank and duties, considering the record of the candidate's performance in (1) teaching, (2) professional competence and activity, (3) creative work, and (4) University and public service.

The department chair is responsible for documenting the faculty member's division of effort among the four areas of activity. The chair should also indicate the appropriateness of this division to the position that the individual fills in the department, school, or clinical teaching faculty.

Appointees in the Professor of Clinical (*e.g.*, *Medicine*) series are to be evaluated in relation to the nature and time commitments of their University assignments.

The criteria set forth below are intended to serve as guides for the review committee in judging the candidate, not to set boundaries to the elements of performance that may be considered.

Clinical teaching, professional activity, and creative work may differ from standard professorial activities in the University, but can be judged on the basis of professional competence, intellectual contribution, and originality.

- (1) **Teaching** — Excellent teaching is an essential criterion for appointment or advancement. Clinical teaching is intensive tutorial instruction, carried on amid the demands of patient care and usually characterized by pressure on the teacher to cope with unpredictably varied problems, by patient-centered immediacy of the subject matter, and by the necessity of preparing the student to take action as a result of the interchange.

Nevertheless, the criteria suggested in the instructions for the regular Professor series (see APM - 210-1) are applicable:

. . . the candidate's command of the subject; continuous growth in the subject field; ability to organize material and to present it with force and logic; . . . spirit and enthusiasm which vitalize the

candidate's learning and teaching; ability to arouse curiosity in beginning students and to stimulate advanced students to creative work; personal attributes as they affect teaching and students; the extent and skill of the candidate's participation in the general guidance and advising of students

In addition, the clinical teacher should be successful in applying knowledge of basic health science and clinical procedures to the diagnosis, treatment, and care of a patient in a manner that will not only assure the best educational opportunity for the student, but also provide high quality care for the patient.

For appointment to a title in this series, the appointee should have a record of active participation and excellence in teaching, whether for health professional students, graduate students, residents, postdoctoral fellows, or continuing education students.

For promotion to or appointment at the Professor rank, the appointee should be recognized as an outstanding clinical teacher. Most candidates will have designed educational programs at a local level, and some will have designed such programs at a national level.

- (2) **Professional Competence and Activity** — There must be appropriate recognition and evaluation of professional activity. Exemplary professional practice, organization of training programs for health professionals, and supervision of health care facilities and operations comprise a substantial proportion of the academic effort of many health sciences faculty. In decisions on academic advancement, these are essential contributions to the mission of the University and deserve critical consideration and weighting comparable to those of teaching and creative activity.

(a) Standards for Appointment or Promotion

For entry level positions, the individual should have three or more years of training and/or experience post M.D., Ph.D. or equivalent terminal professional degree. In addition, an appointee should show evidence of a high level of competence in a clinical specialty.

For promotion to or appointment at the Associate Professor rank, an appointee should be recognized at least in the local metropolitan health care community as an authority within a clinical specialty. A physician normally will have a regional reputation as a referral

physician; another health professional normally will have a regional reputation as evidenced in such work as that of a consultant.

For promotion to or appointment at the Professor rank, the appointee will have a national reputation for superior accomplishments within a clinical specialty and may have a leadership role in a department or hospital. Appointees may receive patients on referral from considerable distances, serve as consultants on a nationwide basis, serve on specialty boards, or be members or officers of clinical and/or professional societies.

(b) Evaluation of Clinical Achievement

Evaluation of clinical achievement is both difficult and sensitive. In many cases, evidence will be testimonial in nature and, therefore, its validity should be subject to critical scrutiny. The specificity and analytic nature of such evidence should be examined; the expertise and sincerity of the informant should be weighed.

Overly enthusiastic endorsements and cliché-ridden praise should be disregarded.

Comparison of the individual with peers at the University of California and elsewhere should form part of the evidence provided. Letters from outside authorities, when based on adequate knowledge of the individual and written to conform to the requirements cited above, are valuable contributions. Evaluation or review by peers within the institution is necessary. The chair should also seek evaluations from advanced clinical students and former students in academic positions or clinical practice.

If adequate information is not included in the materials sent forward by the chair, it is the review committee's responsibility to request such information through the Chancellor.

- (3) **Creative work** — Many faculty in the health sciences devote a great proportion of their time to the inseparable activities of teaching and clinical service and, therefore, have less time for formal creative work than most other scholars in the University. Some clinical faculty devote this limited time to academic research activities; others utilize their clinical experience as the basis of their creative work.

An appointee is expected to participate in investigation in basic, applied, or clinical sciences. In order to be appointed or promoted to the Associate or full Professor rank, an appointee shall have made a significant contribution to knowledge and/or practice in the field. The appointee's creative work shall have been disseminated, for example, in a body of publications, in teaching materials used in other institutions, or in improvements or innovations in professional practice which have been adopted elsewhere.

Evidence of achievement in this area may include clinical case reports. Clinical observations are an important contribution to the advancement of knowledge in the health sciences and should be judged by their accuracy, scholarship, and utility. Improvements in the practice of health care result from the development and evaluation of techniques and procedures by clinical investigators. In addition, creative achievement may be demonstrated by the development of innovative programs in health care itself or in transmitting knowledge associated with new fields or other professions.

Textbooks and similar publications, or contributions by candidates to the professional literature and the advancement of professional practice or of professional education, should be judged as creative work when they represent new ideas or incorporate scholarly research. The development of new or better ways of teaching the basic knowledge and skills required by students in the health sciences may be considered evidence of creative work.

The quantitative productivity level achieved by a faculty member should be assessed realistically, with knowledge of the time and institutional resources allotted to the individual for creative work.

- (4) **University and Public Service** — The review committee should evaluate both the amount and the quality of service by the candidate to the department, the school, the campus, the University, and the public, paying particular attention to that service which is directly related to the candidate's professional expertise and achievement. The department chair should provide both a list of service activities and an analysis of the quality of this service.

210-3 **Instructions to Review Committees Which Advise on Actions Concerning the Lecturer with Security of Employment Series**

- a. The policies and procedures set forth above in APM - 210-1-a, -b, -c, and -e, shall govern the committee in the confidential conduct of its review and in the preparation of its report. The committee should refer to [APM - 285](#) both for policies and procedures on appointments in the Lecturer with Security of Employment series.
- b. The review committee shall judge the candidate with respect to the proposed rank and duties considering the record of the candidate's performance in (1) teaching, (2) professional achievement and activity, and (3) University and public service.
- c. The criteria set forth below are intended to serve as guides for minimum standards by which to judge the candidate, not to set boundaries to exclude other elements of performance that may be considered, as agreed upon by the candidate and the department.

(1) **Teaching**

Clearly demonstrated evidence of excellent teaching is an essential criterion for appointment, advancement, or promotion. Under no circumstances will security of employment be conferred unless there is clear documentation of outstanding teaching.

In judging the effectiveness of a candidate's teaching, the committee should consider such points as the following: the candidate's command of the subject; continuous growth in the subject field; ability to organize material and to present it with force and logic; capacity to awaken in students an awareness of the relationship of the subject to other fields of knowledge; fostering of student independence and capability to reason; ability to arouse curiosity in students and to encourage high standards; personal attributes as they affect teaching and students; extent and skill of the candidate's participation in the general guidance, mentoring, and advising of students; and effectiveness in creating an academic environment that is open and encouraging to all students. The committee should pay due attention to the variety of demands placed on Lecturers by the types of teaching called for in various disciplines and at various levels, and should judge the total performance of the candidate with proper reference to assigned teaching responsibilities. The committee should clearly indicate the sources of evidence on which its appraisal of teaching competence has been based. In those exceptional cases of an

initial appointment where no such evidence is available, the candidate's potential as a teacher may be indicated in closely analogous activities. In preparing its recommendation, the review committee should keep in mind that the report may be an important means of informing the candidate of the evaluation of his or her teaching and of the basis for that evaluation.

It is the responsibility of the department chair to submit meaningful statements, accompanied by evidence, of the candidate's teaching effectiveness. Among significant types of evidence of teaching effectiveness are the following: (a) opinions of other faculty members knowledgeable in the candidate's field, particularly if based on class visitations, on attendance at public lectures or lectures before professional societies given by the candidate, or on the performance of students in courses taught by the candidate that are prerequisite to those of the informant; (b) opinions of students; (c) opinions of graduates; and (d) development of new and effective techniques of instruction.

All cases for advancement and promotion normally will include: (a) evaluations and comments solicited from students for most, if not all, courses taught since the candidate's last review; (b) a quarter-by-quarter or semester-by-semester enumeration of the number and types of courses and tutorials taught since the candidate's last review which includes (i) the level of courses and tutorials taught, (ii) the enrollments of courses and tutorials taught, and (iii) for each course, the percentage of student course evaluations in relation to the total number of students in the course; (c) brief explanations for abnormal course loads; (d) identification of any new courses taught or of old courses which the candidate has substantially reorganized in approach or content; (e) notice of any awards or other acknowledgments of distinguished teaching; (f) when the faculty member under review wishes, a self-evaluation of his or her teaching; and (g) commentary by other faculty on teaching effectiveness. When any of the information specified in this paragraph is not provided, the department chair will include an explanation for that omission in the candidate's dossier. If such information is not included with the letter of recommendation and its absence is not adequately accounted for, it is the review committee chair's responsibility to request it through the Chancellor.

(2) Professional Achievement and Activity

A demonstrated distinction in the special competencies appropriate to teaching the particular subject is one of the criteria for appointment or promotion. The candidate's professional activities should be scrutinized

for evidence of achievement and leadership. Intellectual leadership must be documented by materials demonstrating that the candidate has, through publication (either in traditional forms or in electronic format), creative accomplishments, or other professional activity, made outstanding and recognized contributions to the development of his or her special field and/or of pedagogy.

(3) University and Public Service

The review committee should evaluate both the quantity and the quality of service by the candidate to the department, the campus, the University, and the public, paying particular attention to that service which is directly related to the candidate's professional expertise and achievement. Evidence of suitability for promotion may be demonstrated in services to the community, state, and nation, both in the candidate's special capacities as a teacher and in areas beyond those special capacities when the work done is at a sufficiently high level and of sufficiently high quality. Faculty service activities related to the improvement of elementary and secondary education represent one example of this kind of service. Similarly, contributions to student welfare through service on student-faculty committees and as advisers to student organizations should be recognized as evidence. The department chair should provide both a list of service activities and an analysis of the quality of this service.

The Standing Orders of The Regents provide: "No political test shall ever be considered in the appointment and promotion of any faculty member or employee." This provision is pertinent to every stage in the process of considering appointments and promotions.

210-4 **Instructions to Review Committees Which Advise on the Appointment, Merit Increase, Promotion, Career Status Actions for Members of Librarian Series**

- a. The committees here referred to, either standing or *ad hoc* or both, are designated as review committees in what follows. Authorization for their appointment is described in APM - 360-6-b and -c.
- b. The quality of the librarian series at the University of California is maintained primarily through objective and thorough review by peers and administrators of each candidate for appointment, merit increase, promotion, and career status action. Responsibility for this review falls, in part, upon the review committee(s). For purposes of appointments, it is the duty of these committees to assess the present qualifications of the candidates and their potential as productive members of the library staffs. For purposes of merit increases, promotions, and career status actions, it is the duty of these committees to assess an individual's performance during a given review period to determine if a merit, promotion, or career status action should be recommended. Review committees should refer to APM - 360 for information concerning appointment, merit increase, promotion, and career status actions.

In conducting its review and arriving at its judgment concerning a candidate, each review committee shall be guided by the criteria as mentioned in APM - 360-10 and described in APM - 210-4-e.

- c. **Maintenance of the Committees' Effectiveness**
 - (1) The deliberations and recommendations of the review committees are to be strictly confidential. The membership and report of each *ad hoc* review committee are confidential. The chair of each committee shall remind members of the confidential nature of the assignment. This requirement must be kept in mind when arrangements are made through the Chancellor for written or oral communications. When recommendations with supporting documents have been forwarded to the Chancellor, all copies or preliminary drafts shall be destroyed. Under the provisions of APM - 360-80-I, the candidate is entitled to receive from the Chancellor a redacted copy of the confidential documents in the academic review record (without disclosure of the identities of members of the *ad hoc* review committee and without separate identification of the evaluation and recommendation made by the *ad hoc* review committee).
 - (2) The entire system of review by such committees depends for its effectiveness upon each committee's prompt attention to its assignment

and its conduct of the review with all possible dispatch, consistent with judicious and thorough consideration of the case.

- (3) The chair of the review committee has the responsibility for making sure that each member of the committee has read and understands these instructions.

d. **Procedures**

- (1) **General** - Recommendations for appointments, merit increases, promotions, and career status actions typically originate with the department or unit head, herein called the review initiator (see APM - 360-80-e). The letter of recommendation shall provide a comprehensive assessment of the candidate's qualifications, together with detailed evidence to support the evaluation. The letter should also present a report of consultation with appropriate members of the professional library staff and others in a position to evaluate performance and should include any dissenting opinions.

In the case of an appointment, opinions from colleagues in other institutions where the candidate has served and from other qualified persons having firsthand knowledge of the candidate's attainments are to be included, if feasible.

In the review of a proposed merit increase, promotion, or career status action (the general procedure for all shall typically be the same, subject to any special campus procedures), extramural evidence, when it can be obtained, is highly desirable although not required.

- (2) **Assessment of Evidence** - The review committee shall assess the adequacy of the evidence submitted. If, in the committee's judgment, the evidence is incomplete or inadequate to enable it to reach a clear recommendation, the committee shall solicit additional information through the Chancellor and request amplification or new material. In every case, all obtainable evidence shall be carefully considered.

If, according to such evidence, the candidate fails to meet the criteria set forth in APM - 210-4-e, the committee should recommend against the proposed action.

If, on the other hand, there is evidence of unusual achievement and exceptional promise of continued growth, the committee should not hesitate to endorse or propose a recommendation for higher rank or higher salary point within rank which would constitute an accelerated advancement of an appointee.

e. **Criteria**

- (1) **Appointments** - A candidate for appointment to this series shall have a professional background of competence, knowledge, and experience to assure suitability for appointment to this series. Such background will typically include a professional degree from a library school with a program accredited by the American Library Association. However, a person with other appropriate degree(s) or equivalent experience in one or more fields relevant to library services may also be appointed to this series.

Selection of an individual to be appointed to the rank of Assistant Librarian is based upon the requirements of the position with due attention to the candidate's demonstrated competence, knowledge and experience. A person appointed as Assistant Librarian without previous professional library experience should typically be appointed at the first salary point. A person who has had previous experience relevant to the position may be appointed to one of the higher salary points in this rank, depending on the candidate's aptitude, the extent of prior experience, and/or the requirements of the position.

A candidate with extensive previous relevant experience and superior qualifications may be appointed to one of the two higher ranks in the series. The criteria for the appointment to either of these levels will be the same as those for promotion as outlined below.

- (2) **Merit Increases and Promotions** - At the time of original appointment to a title in this series, each appointee shall be informed that continuation, advancement, or promotion is justified only by demonstrated superior professional skills and achievement. In addition, promotion shall be justified by growing competence and contribution to the candidate's position, and/or the assumption of increased responsibility. This is assessed through objective and thorough review. If, on the basis of a review, the individual does not meet the criteria for advancement there is no obligation on the part of the University to continue or advance the appointee. Promotion may also be tied to position change. The assumption of administrative responsibilities is not a necessary condition for promotion.

(3) In considering individual candidates, reasonable flexibility is to be exercised in weighing the comparative relevance of the criteria listed below. A candidate for merit increase or promotion in this series shall be evaluated on the basis of professional competence and quality of service rendered within the library and, to the extent that they are relevant, one or more of the following: professional activity outside the library; University and public service; and research and other creative activity.

(a) **Professional Competence and Quality of Service Within the Library** - Although contribution in each of the following areas will vary considerably from person to person, depending on each person's primary functions as a librarian, performance and potential shall be reviewed and evaluated in any or all of the five major areas of librarianship: obtaining, organizing, and providing access to information; curating and preserving collections of scholarly, scientific, cultural, or institutional significance; engaging with users to provide them with guidance and instruction on the discovery, evaluation, and use of information resources; carrying out research and creative activity in support of the foregoing and for the continual improvement of the profession; and library administration and management. Additionally, librarians should be judged on consistency of performance, grasp of library methods, command of their subjects, continued growth in their fields, judgment, leadership, originality, ability to work effectively with others, and ability to relate their functions to the more general goals of the library and the University.

Evidence of professional competence and effective service may include, but is not limited to, the opinions of professional colleagues, particularly those who work closely or continuously with the appointee; the opinions of faculty members, students, or other members of the University community as to the quality of a collection developed, for example, or the technical or public service provided by the candidate; the opinions of librarians outside the University who function in the same specialty as the candidate; the effectiveness of the techniques applied or procedures developed by the candidate; and relevant additional educational achievement, including programs of advanced study or courses taken toward improvement of language or subject knowledge.

(b) **Professional Activity Outside the Library** - A candidate's professional commitment and contribution to the library profession should be evaluated by taking account of such activities as the following: membership and activity in professional and scholarly organizations; participation in library and other professional

meetings and conferences; consulting or similar service; outstanding achievement or promise as evidenced by awards, fellowships, grants; teaching and lecturing; and editorial activity.

- (c) **University and Public Service** - Evaluation of a candidate's University and public service should take into account University-oriented activities, including, but not limited to the following: serving as a member or chair of administrative committees appointed by the Chancellor, University Librarian, or other University administrative officers; serving as a member or chair of other University committees, including those of student organizations and of the departments and schools other than the library, such as serving on undergraduate or graduate portfolio committees. Public service includes professional librarian services to the community, state, and nation.
- (d) **Research and Other Creative Activity** - Research by practicing librarians has a growing importance as library, bibliographic, and information management activities become more demanding and complex. It is therefore appropriate to take research into account in measuring a librarian's professional development. The evaluation of such research or other creative activity should be qualitative and not merely quantitative and should be made in comparison with the activity and quality appropriate to the candidate's areas of expertise. Note should be taken of continued and effective endeavor. This may include authoring, editing, reviewing or compiling books, articles, reports, handbooks, manuals, and/or similar products which are submitted or published during the period under review.

f. **The Report**

- (1) The report of the review committee(s) forms the basis for further administrative review and action by the Chancellor. Consequently, the report should include an assessment of all significant evidence, favorable and unfavorable. It should be specific and analytical, should include the review committee's evaluation of the candidate with respect to the qualifications specified, and should be adequately documented by reference to the supporting material.
- (2) The review committee has the responsibility of making an unequivocal recommendation. No member should subscribe to the report if it does not represent that member's judgment. If the committee cannot come to a unanimous decision, the division of the committee and the reasons therefore should be communicated either in the body of the report or in separate concurring or dissenting statements by individual members,

submitted with the main report and with the cognizance of the other committee members.

210-5 **Instructions to Review Committees Which Advise on Actions Concerning Appointees in the Supervisor of Physical Education Series**

The following instructions apply to review committees for actions concerning appointees in the Supervisor of Physical Education series (see [APM - 300](#)).

The Supervisor of Physical Education series has been designated for those members of a Department of Physical Education or Physical Activities who teach, promote and/or supervise physical activities, intercollegiate athletics, or intramural sports programs; teach courses and establish curricula in physical education; coordinate or administer campus intercollegiate athletics or recreation programs.

The titles Assistant Supervisor, Associate Supervisor, and Supervisor of Physical Education have been granted limited equivalency with the corresponding titles in the Professor series. The equivalency extends to leave of absence privileges (including sabbatical leave) and tenure at the two higher ranks. The supervisor series is not used for those members of a Department of Physical Education or Physical Activities of whom research is required and thus properly belong in the Professor series.

a. **Purpose and Responsibility of the Review Committees**

While the review criteria differ in the supervisor series from the requirements of the Professor series, the quality of the faculty in both series is maintained through objective and thorough appraisal of each candidate for appointment and promotion. Significant responsibility for this appraisal falls to the review committees nominated by the Committee on Academic Personnel (or other appropriate committee) and appointed by the Chancellor. It is the duty of the review committee to ascertain the present fitness of each candidate and the likelihood of a continuing productive career. Implicit in the committee's responsibility for maintenance of a quality faculty is just recognition and encouragement of achievement on the part of the candidate.

b. **Maintenance of the Committee's Effectiveness**

The chair of the review committee has the responsibility of assuring that these instructions have been read and understood by the members, that *strict confidentiality* is maintained by the committee, and that committee actions are carried out with as much dispatch as is consistent with thoughtful consideration. These requirements are presented in greater detail in Section 210-1-b.

c. **Procedure**

- (1) **General** — Recommendations for appointment and promotion normally originate with the department chair who should include in the letter of recommendation a comprehensive assessment of the candidate's qualifications and detailed related evidence, and a report of the appropriate consultation with departmental colleagues, recording the vote and the nature of any dissenting opinions. In addition, the department chair is expected to assemble and submit with the recommendation teaching evaluations, updated biographical information, evidence of the candidate's effectiveness, leadership, and professional growth in all assigned areas of responsibility, and any other items pertinent to the review.
- (2) **Appointments** — The documentation provided with the department chair's recommendation should include opinions from colleagues in other institutions where the candidate has served, and from other qualified persons having direct knowledge of the candidate's attainments. Extramural opinions are imperative in the case of proposed tenured appointments.
- (3) **Promotions** — Promotions are based on merit, and should be recommended only when achievement and the promise of future contributions warrant such action. Both the department and the review committee should consider the candidate's teaching, leadership, professional development and standing in relation to others who might be considered alternative candidates for the position. The department chair should supplement the opinions of departmental colleagues with letters from qualified extramural informants.
- (4) **Assessment of Evidence** — The review committee shall assess the adequacy of the evidence submitted and if deemed inadequate to reach a clear recommendation, the committee chair shall request, through the Chancellor, additional evidence or amplification. All obtainable evidence shall be carefully considered.

If, according to all obtainable evidence, the candidate fails to meet the criteria set forth in Section 210-5-d below, the committee should recommend against appointment or promotion. If, on the other hand, there is evidence of unusual achievement and exceptional promise of continued growth, the committee should not hesitate to endorse a recommendation for accelerated advancement.

d. **Criteria for Appointment and Promotion**

The review committee shall judge the candidate for the proposed rank and duties, considering the record of performance in (a) teaching, (b) professional achievement and leadership in one or more of the following: physical activities, campus intramural or recreation programs, extramural sports, or intercollegiate sports programs; and (c) University and public service. In evaluating the candidate's qualifications within these areas, the review committee shall exercise reasonable flexibility, balancing heavier commitments and responsibilities in one area against lighter responsibilities in another. Although published research is *not* required of those in the supervisor of physical education series, such research or other creative activity should be given appropriate recognition as adding to the knowledge in the field. However, neither the flexibility noted above nor the absence of a research requirement should entail a relaxation of the University's high standards for appointment and promotion. *Superior attainment and the promise of future growth, as evidenced in teaching, program leadership, professional development, and University and public service, are indispensable qualifications for appointment and promotions to tenure positions.*

The criteria outlined below are intended to guide reviewing agencies in judging the candidate, not to set boundaries to the elements of performance that may be considered.

- (1) **Teaching** — Effective teaching is an essential criterion to appointment or advancement. Under no circumstances will a tenure commitment be made unless there is a clear evidence of ability and diligence in the teaching role. In assessing performance in this area, the committee should consider the candidate's command of the subject; continued growth; mastering of new topics to improve effective service to the University; ability to organize and present course materials; grasp of general objectives; ability to awaken in students an awareness of the importance of subject matter to the growth of the individual; extent and quality of participation; achievements of students in their field.

It is the responsibility of the department chair to provide meaningful statements, accompanied by evidence, including student evaluations, regarding the candidate's effectiveness in teaching.

If the information provided is deemed inadequate, it is the responsibility of the chair of the committee to request additional material, through the Chancellor.

- (2) **Professional Achievement and Activity** — Although published research is not required of those in the supervisor series, any pertinent activity or creative work in this area shall be given due consideration as evidence of professional achievement or leadership.

In reviewing the candidate's suitability for appointment or promotion, the committee should evaluate the evidence for professional achievement as shown by educational attainment, record of accomplishment, and promise of future growth. No recommendation for tenure should be made unless this evidence clearly demonstrates that the candidate has superior leadership qualities in one or more of the areas of supervising, coaching, or administering programs in physical education, physical activities, recreation or sports. For appointment or promotion to the rank of Supervisor, significant and extramurally recognized distinction is required. It is the responsibility of the department chair to provide evidence that bears on the questions of leadership and of professional achievement and activity. This may include evidence related to educational accomplishment; the institution of effective and innovative programs; competitive sports records; activity in professional organizations; supervision of personnel; administration of activities, sports, or recreation programs; and other appropriate information.

- (3) **University and Public Service** — The committee should evaluate both the amount and the quality of service by the candidate to the department, the campus, the University, and the public, paying particular attention to that service which is directly related to the candidate's professional expertise and achievement. The department chair should provide both a listing of service aspects and an analysis of the quality of this service.
- (4) The Standing Orders of The Regents provide: "No political test shall ever be considered in the appointment and promotion of any faculty member or employee." This provision is pertinent to every stage in the process of considering appointments and promotions of faculty members.

e. **The Report**

- (1) The report of the review committee forms the basis for further review by the Committee on Academic Personnel (or equivalent) and for action by the Chancellor and by the President. Consequently, it should include an appraisal of all significant evidence, favorable or unfavorable. It should be specific and analytical and should include the review committee's evaluation of the candidate with respect to each of the qualifications

specified above. It should be adequately documented by reference to the supporting material.

- (2) The review committee has the responsibility of making an unequivocal recommendation. No member should subscribe to the report if it does not represent that member's judgment. If the committee cannot come to a unanimous decision, the division of the committee and the reason therefore should be communicated either in the body of the report or in separate concurring or dissenting statements by individual members, submitted with the main report and with the cognizance of the other committee members.

210-6 **Instructions to Review Committees Which Advise on Actions Concerning the Health Sciences Clinical Professor Series**

- a. The policies and procedures set forth in APM - 210-1-a, -b, -c, and -e shall govern the committee in the confidential conduct of its review and in the preparation of its report. The instructions below apply to review committees for actions concerning appointees in the Health Sciences Clinical Professor series. The committee should refer to [APM - 278](#) for policies on the Health Sciences Clinical Professor series.
- b. The review committee shall evaluate the candidate with respect to proposed rank and duties, considering the record of the candidate's performance in (1) professional competence and activity, (2) teaching, (3) University and public service, and (4) research and creative work. Activities in items (3) and (4) are desirable and encouraged to the extent required by campus guidelines. See [APM - 278-10-c and -d](#).

For appointments, the chair shall provide a description of the proposed allocation of the candidate's time in the areas of activity. For advancement, the chair shall document the faculty member's allocation of effort among the areas of activity. The chair should also indicate the appropriateness of this allocation to the position that the individual holds in the department, school, or clinical teaching faculty.

Appointees in the Health Sciences Clinical Professor series shall be evaluated in relation to the nature and the allocation of time of their University assignments. Faculty with part-time appointments are expected to show the same quality of performance as full-time appointees, but the amount of activity may be less.

The criteria set forth below are intended to serve as guidelines for the review committee in judging the candidate, not as boundaries for the elements of performance that may be considered.

(1) **Professional Competence and Activity**

The evaluation of professional competence and activity generally focuses on the quality of patient care.

A demonstrated distinction in the special competencies appropriate to the field and its characteristic activities should be recognized as a criterion for appointment or promotion. The candidate's professional activities should be reviewed for evidence of achievement, leadership, or demonstrated progress in the development or utilization of new approaches and techniques for the solution of professional problems.

a. **Professional Practice**

For an initial appointment to the rank of Health Sciences Assistant Clinical Professor, the committee should ascertain the present capabilities of the candidate and the likelihood that the candidate will be a competent teacher and develop an excellent professional practice.

In addition to proven competence in teaching, a candidate for appointment or promotion to the rank of Health Sciences Associate Clinical Professor or Health Sciences Clinical Professor in this series should show evidence of excellence in professional practice. Such evidence may include, but is not limited to, evaluations that demonstrate:

- provision of high-quality patient care;
- a high level of competence in a clinical specialty;
- expanded breadth of clinical responsibilities;
- significant participation in the activities of clinical and/or professional groups;
- effective development, expansion, or administration of a clinical service; or
- recognition or certification by a professional group.

The review committee should judge the significance and quantity of clinical achievement and contribution to the profession. In many cases, evidence of clinical achievement will be testimonial in nature.

(b) Professional Activity

An individual's role in the organization of training programs for health professionals and the supervision of health care facilities and operations may provide evidence of exemplary professional activity. In decisions bearing on academic advancement, these activities should be recognized as important contributions to the mission of the University.

(2) **Teaching**

Teaching is a required duty of clinical faculty. Before making an initial appointment to this series, the review committee should evaluate the candidate's potential to be an effective teacher. Evidence of excellence in clinical teaching is essential for advancement in this series. Teaching may involve registered University of California students, housestaff, fellows, and postdoctoral scholars. Normally teaching in the clinical setting comprises intensive tutorial instruction, carried on amid the demands of patient care and usually characterized by multiple demands on the teacher to cope with unpredictably varied problems, patient needs, and the necessity of preparing the students to exercise judgment and/or take action. Nevertheless, the criteria suggested for evaluating teaching in the regular Professor series are applicable:

In judging the effectiveness of a candidate's teaching, the committee should consider such points as the following: the candidate's command of the subject; continuous growth in the subject field; ability to organize material and to present it with force and logic; . . . fostering of student independence and capability to reason; spirit and enthusiasm which vitalize the candidate's learning and teaching; ability to arouse curiosity in beginning students, to encourage high standards, and to stimulate advanced students to creative work; personal attributes as they affect teaching and students; extent and skill of the candidate's participation in the general guidance, mentoring, and advising of students; effectiveness in creating an academic environment that is open and encouraging to all students. (APM - 210-1-d(1))

In addition, the clinical teacher should be successful in applying knowledge of basic health science and clinical procedures to the diagnosis, treatment, and care of a patient that will not only assure the best educational opportunity for the student, but will also provide the highest quality care for the patient.

Dossiers for advancement and promotion normally will include evaluations and comments solicited from students.

(3) University and Public Service

The review committee should evaluate both the amount and the quality of service by the candidate to the department, the school, the campus, the University, and the public to the extent required by campus guidelines. Campus guidelines may include separate requirements or expectations for various schools or departments.

(4) Research and Creative Work

The review committee should evaluate research and creative work, to the extent required by campus guidelines. Campus guidelines may include separate requirements or expectations for different schools or departments.

Comparison of the individual with peers at the University of California and elsewhere should form part of the evidence provided. As a general rule, for appointment and promotion at the level of Health Sciences Associate Clinical Professor, faculty may demonstrate local or regional recognition for their clinical and teaching activities. For advancement to the Health Sciences Clinical Professor rank, faculty may demonstrate a regional or national reputation and should demonstrate highly distinguished clinical expertise, highly meritorious service, and excellence in teaching.

Extramural referee letters may be requested for new appointments and promotions if required by campus procedures. For reviews at Health Sciences Clinical Professor, Step VI, and for above-scale salaries, the chair should request letters from authorities and should also seek evaluations from advanced clinical students and former students now in academic positions or clinical practice. If adequate information is not included in the materials sent forward by the chair, it is the review committee's responsibility to request such information through the Chancellor.

210-24 **Authority**

The responsibility to nominate and the authority to appoint review committees shall be in accordance with the stipulations set forth in the Manual Sections concerning the respective title series.

AAU Undergraduate STEM Education Initiative

**Project Site Baseline Data Summary Report
December 11, 2014**

Summary

AAU is excited by the visible momentum across all eight project sites to improve teaching and learning. Through AAU STEM Initiative workshops and conferences, the collection of baseline data, individual project site annual reports, campus visits to each of the eight project sites, and opportunities to engage with your project teams at national meetings, AAU has gained a deeper appreciation of the projects' goals and objectives, implementation and progress. In addition, the information we have gathered from these sources has allowed AAU to begin to assess the effects of the AAU STEM Initiative.

Based upon our assessment, it is clear that the AAU Undergraduate STEM Education Initiative is having a positive impact. It has catalyzed institutional action toward reforming undergraduate STEM education, enhanced communication and collaboration on campuses, leveraged campus support (financial and other resources) from all levels of institutions, and aligned to some degree efforts to improve undergraduate STEM education within campuses.

In the first year of implementation, more than 58 courses were directly impacted by redesign efforts at the eight sites. These courses enrolled well over 50,000 undergraduate students, the large majority of whom were freshmen and sophomores. Around 150 tenure track or tenured faculty and a nearly equal number of non-tenure track faculty, as well hundreds of lecturers and graduate and undergraduate assistants, were involved in instruction for these courses¹.

All project sites have made progress in addressing the core elements of the Framework for Systemic Change to Undergraduate STEM Teaching and Learning.

Pedagogy

Each site worked on redesigning a handful of introductory STEM courses. These courses spanned at least two departments, many sites committing to inter-departmental collaboration during the redesign. Through pre- and post-test methods, many of the sites gathered data on the learning outcomes of students in redesigned courses in addition to the baseline data requested by AAU.

Scaffolding

All sites indicated a commitment to supporting faculty in evidence-based teaching techniques with varying approaches. Examples of approaches to support improved faculty instruction include developing mentoring and apprenticeship programs, training TAs in evidence-based pedagogy and collaborating with teaching and learning centers to provide training for faculty. In

¹ Note that some courses were offered multiple times and in multiple sections, and these figures separately count each time a student or instructor was involved in course offerings.

addition to providing training and learning community opportunities for faculty, several project sites have developed tools to measure changes in faculty instructional practices.

Cultural Change

Each project site made some effort to provide incentives to faculty to engage in pedagogical reform. Some institutions studied how to better align faculty reward and evaluation systems with a commitment to student-centered pedagogy. The level of effort varied substantially among the project sites, as did the extent to which campus teams made explicit the difference between written policy pertaining to the importance of teaching and the way in which the policy was actually implemented within departments on their respective campuses.

Review of the statements on the evaluation of teaching from participating departments shows a substantial gap between the ambitious plans of the project sites to bring about significant change in instruction and an incentive system where rewards for faculty who invest effort in achieving student-centered instruction are uncertain. This is not unexpected—achieving cultural reform is difficult and long-term. To help achieve the hoped-for larger effect, we believe that greater emphasis in faculty evaluation policies and practices should be placed on the use of evidence-based student-centered methods as an expectation for instruction in promotion and tenure/annual reviews.

Survey Methodology and Data

AAU developed a set of common data elements to better understand the current status of undergraduate teaching and learning at the project sites. We collected information about faculty practices and attitudes, physical infrastructure to support evidence-based teaching, and departmental summaries of the evaluation of teaching for salary increases and for promotion and tenure. This summary report contains information describing the overall respondent population and provides the mean response to each question in the survey across all eight project sites.

AAU assured the campuses that we will only use these data in aggregated form to help inform national conversations in which we participate, including with federal policymakers and leaders of other national associations. AAU will not use these data to benchmark or compare institutions directly to one another to assess comparative progress between project sites. We caution that these comparisons are of limited utility given the mix of respondents and disciplines across institutions, which we made no attempt to correct for. Individual institutional responses may prove more useful in identifying strengths, as well as areas for improvement, and will serve as an important internal point of comparison for project sites when the survey is administered subsequently (currently planned for Spring, 2016, in the final term of the three-year AAU project site duration). AAU has encouraged project sites to use this information internally for purposes they deem appropriate and ask that institutions refrain from sharing or describing it publicly (e.g., on project or departmental websites).

Instructor Survey—The eight project site institutions were asked to survey instructional staff (both faculty and graduate students) in the STEM departments in which specific changes were planned. The goal of the survey was to document aggregate behaviors, attitudes, and perceptions of local culture early on in the funding period. The survey focused on:

- **Instructor information:** such as institution, department, rank.
- **Classroom practices:** instructors were asked to rate how descriptive various statements were of their own teaching practices.
- **Attitudes towards teaching:** instructors were asked to indicate their level of agreement with statements about teaching practices and techniques.
- **Professional development related to teaching:** instructors were asked to rate the availability of, and their participation in, various types of on- and off-campus professional development activities.

- **Institutional environment for teaching:** instructors were asked to indicate their level of agreement with statements about the attitudes of other instructors, department chairs, and campus administrators toward teaching, as well as their perception of how important a role teaching played in annual and salary reviews and promotion and tenure.

To standardize respondent demographics between institutions, we classified respondents into one of the following categories:

- Tenured faculty
- Tenure track faculty
- Non tenure track faculty
- Instructor/lecturer
- Graduate student
- Other

We binned departmental affiliations into one of the following disciplines:

- Chemistry
- Engineering
- Mathematics
- Molecular and cellular biology
- Organismal and general biology
- Physics
- Psychology, Behavior, Physiology

We asked respondents to specify the lowest level, highest enrollment class they had taught within the past year, and then assigned those courses to one of the following categories:

- Lower division
- Mid-level
- Advanced/graduate
- Unable to be characterized

Campus Infrastructure—We asked respondents to fill out pages 11 and 12 of the PULSE Vision & Change rubric (which can be found here: <http://www.pulsecommunity.org/page/v-c-certification>) to describe their campus infrastructure for teaching and learning. Some respondents provided one institutional response; others provided one response per participating department. In the case of the latter, we averaged departmental responses to arrive at a single institutional response. We are reporting overall campus responses, as well as the aggregate response, for each item. Again we caution against reading too much into the comparisons, and we state that AAU has no plans to use these comparisons for any purpose.

But we believe the responses may be useful for you both to identify strong and weak areas and against which a future application of these pages of the rubric may be compared.

Promotion and Tenure - The process for collecting benchmark data from the project sites included a request that the chairs of all impacted departments write a summary of the evaluation of teaching for salary increases and for promotion and tenure. Thirty-two department chairs from across seven of the sites responded with statements from one to three pages in length.

Summary Report on AAU STEM Initiative Baseline Instructor Survey

Response Rate

2,971 instructional staff received the AAU Faculty Survey across the eight project site institutions. Over 1,000 (1,093) submitted at least a partially completed survey, resulting in an overall response rate of 36.8%; individual institutional response rates ranged from 21.6% to 69.4%.

Demographics of Respondents

A majority of respondents (542 or 49.6%) were either associate professors or professors with tenure. Twelve percent were tenure-track professors, who did not yet have tenure at the time they were surveyed. Over a quarter of respondents were graduate students (26%) and the final 12.5% were Instructor/Lecturers, Non-Tenure Faculty, No Response, or Other Instructional Staff. Responses from private institutions comprised 36% of the total with 64% from public institutions.

AAU staff categorized the many departments that respondents reported into broader subject areas; percent of responses by subject area are:

Physics – 27%

Chemistry AND Engineering – both 16.5%

Molecular and Cellular Biology AND Psychology, Behavior, Physiology – both 12%

Organismal and General Biology – 7%

Mathematics – 6%

No Response – 3%

Internally, AAU staff also categorized courses that faculty reported based on the titles and course numbers as given. The categories used were Lower Division, Mid-Level, and Advanced/Graduate. Not surprisingly, because the question asked respondents to focus on the “lowest level, highest enrollment course that they had taught in the past year” 45.6% fell into the Lower Division category. An additional 32% were unable to be categorized based on responses given or no title and/or course number was given. Approximately one tenth were categorized as “Mid-Level” (9.5%) or “Advanced/Graduate” (13.1%) courses.

Survey Results

Average responses to statements about the use of certain instructional behaviors in the course identified by the individual ranged from a low of 2.20 to a high of 3.40, with an overall mean on behavior statements of 2.76. See Table 1.

Table 1. Overall Means for Survey Statements of Instructional Behavior

1= Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree

Statement	Mean	Std. Dev.	Valid N
I guide students through major course topics as they listen and take notes.	2.91	.99	812
I design activities that connect course content to my students' lives and future work.	2.57	.94	808
I connect class activities to course learning goals.	3.20	.81	805
I provide students with immediate feedback on their work during class (e.g., student response systems, short quizzes, etc.).	2.72	1.12	808
I use student assessment results to guide the direction of my instruction during the semester.	2.54	1.01	810
I frequently ask students to respond to questions during class time.	3.40	.80	810
I use student questions and comments to determine the focus and direction of class discussion.	2.87	.87	812
I structure class so that students explore or discuss their understanding of new concepts before formal instruction.	2.20	1.00	809
I structure class so that students regularly talk with one another about course concepts.	2.72	1.07	809
I require students to work together in small groups.	2.66	1.22	810
I structure problems so that students consider multiple approaches to finding a solution.	2.54	.93	810
I provide time for students to reflect about the processes they use to solve problems.	2.45	.96	808
I require students to make connections between related ideas or concepts when completing assignments.	3.14	.83	809

The overall mean on instructional attitudes and beliefs was 3.37, mid-way between “Agree” and “Strongly Agree.” The range of responses to statements of instructional attitudes and beliefs was 2.83 to 3.76. (See Table 2.) The higher overall mean for attitudes and beliefs (3.37) may indicate that respondents have more openness and willingness to certain instructional ideas compared to their self-reported instructional behaviors (overall mean of 2.76). These data are limited because respondents were asked to answer with regard to a single identified class.

Table 2. Overall Means for Survey Statements of Instructional Attitudes and Beliefs

1= Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree

Statement	Mean	Std. Dev.	Valid N
To teach effectively requires knowing how students learn a subject and not just knowing the subject.	3.50	.61	995
To teach effectively requires establishing and articulating learning goals.	3.33	.66	990
Connecting assignments to learning goals throughout the course enhances effective teaching.	3.42	.61	984
It is important to engage students as active participants in learning.	3.66	.55	987
As a faculty member I try to promote interest in the subject matter.	3.73	.52	980
It is important to understand what motivates students to learn the course material.	3.31	.68	991
An instructor should convey enthusiasm for the subject being taught.	3.76	.50	988
Developing and utilizing tools to assess student learning is integral to effective teaching.	3.23	.68	986
Teaching effectiveness is enhanced by using data on student learning to refine teaching practice.	3.14	.68	981
It is important to provide relevant, real-life examples of the concept you are teaching.	3.44	.72	985
To the extent possible, an instructor should ensure that STEM courses are inclusive of all students.	3.39	.73	983
Implementing practices that enhance students' self- efficacy in learning the subject matter is key to effective teaching.	3.33	.64	962
Learning can be facilitated through the use of social interaction among students.	3.25	.67	981

Statement	Mean	Std. Dev.	Valid N
It is important for instructors to explicitly address any preconceptions of students (cultural biases, past learning experiences, etc.) in their learning.	2.83	.80	977
An instructor is responsible for engaging students in a subject.	3.18	.72	986
Interactive learning techniques are helpful in teaching effectively.	3.36	.65	980
Even without more resources, it is possible to improve the effectiveness of teaching.	3.30	.71	982
An instructor has been successful if students retain the important concepts of the class for the long-term.	3.46	.63	985
An instructor is responsible for providing students with timely and useful feedback.	3.48	.58	989

Use of on-campus and off-campus professional development activities are included in Tables 3 and 4. The highest use levels (greater than 40%) for on-campus activities among respondents were for teaching development events held specifically for instructors, peer evaluations/feedback of teaching, and the availability of a mentor or other person to go to for advice and teaching. Potential users (those who answered that the activity was not available but they would use it if it were available) most wanted a center or unit focused on teaching and learning within (their) college or school (15.6%); over 20% noted that they already used such a facility (21.7%). The largest percentages for yes, the activity is available on campus, but not used (greater than 30%) were for university wide centers and resources.

Table 3. Use of On-Campus Professional Development Opportunities

On-Campus Professional Development Opportunity	Yes, and I use at least once a term.		Yes, and I use at least once a year.		Yes, I used in the past.		Users (sum of Yes and use)		Yes, and I have not used.	
	N	%	N	%	N	%	N	%	N	%
Teaching development events (i.e. talks, workshops) specifically for instructors.	122	11.2%	262	24.0%	61	5.6%	445	40.7%	291	26.6%
Teaching development opportunities and resources for NEW instructors.	48	4.4%	139	12.7%	64	5.9%	251	23.0%	284	26.0%
Peer evaluations/feedback of teaching.	175	16.0%	224	20.5%	56	5.1%	455	41.6%	238	21.8%
A mentor or other person to go to for advice about teaching.	227	20.8%	227	20.8%	40	3.7%	494	45.2%	196	17.9%
A center or unit focused on teaching and learning within your college or school.	79	7.2%	130	11.9%	28	2.6%	237	21.7%	288	26.3%
A university wide center or unit focused on teaching and learning.	95	8.7%	164	15.0%	34	3.1%	293	26.8%	336	30.7%
University resources for instructors to improve their teaching methods	84	7.7%	179	16.4%	40	3.7%	303	27.7%	359	32.8%
On-Campus Professional Development Opportunity	No, but I would use if available. (Potential Users)		No, and I would not use.		NA or No Response					
	N	%	N	%	N	%				
Teaching development events (i.e. talks, workshops) specifically for instructors.	81	7.4%	86	7.9%	190	17.4%				
Teaching development opportunities and resources for NEW instructors.	84	7.7%	73	6.7%	401	36.7%				
Peer evaluations/feedback of teaching.	130	11.9%	60	5.5%	210	19.2%				
A mentor or other person to go to for advice about teaching.	120	11.0%	70	6.4%	213	19.5%				
A center or unit focused on teaching and learning within your college or school.	171	15.6%	116	10.6%	281	25.7%				
A university wide center or unit focused on teaching and learning.	87	8.0%	115	10.5%	262	24.0%				
University resources for instructors to improve their teaching methods	122	11.2%	59	5.4%	250	22.9%				

The off-campus activity most frequently used by respondents was “resources for instructors to improve their teaching methods” (18.6%); it is unclear where these resources come from, but it’s likely that they include many disciplinary association and NSF sponsored websites. Respondents indicated that if mentors (14%) or cohorts of scholars (15.4%) or additional resources to help improve teaching (14.7%) were available off-campus that they would use them.

Table 4. Use of Off-Campus Professional Development Opportunities

Off-Campus Professional Development Opportunity	Yes, and I use at least once a term.		Yes, and I use at least once a year.		Yes, I used in the past.		Users		Yes, and I have not used.	
	N	%	N	%	N	%	N	%	N	%
Teaching development events (i.e. talks, workshops) specifically for instructors.	17	1.6%	116	10.6%	20	1.8%	153	14.0%	216	19.8%
Teaching development opportunities and resources for NEW instructors.	8	0.7%	26	2.4%	14	1.3%	48	4.4%	182	16.7%
A mentor or other person to go to for advice about teaching.	44	4.0%	96	8.8%	22	2.0%	162	14.8%	147	13.4%
A cohort of scholars focused on teaching and learning.	39	3.6%	75	6.9%	14	1.3%	128	11.7%	170	15.6%
Resources for instructors to improve their teaching methods.	64	5.9%	115	10.5%	24	2.2%	203	18.6%	202	18.5%
Off-Campus Professional Development Opportunity	No, but I would use if available. (Potential Users)		No, and I would not use.				NA or No Response			
	N	%	N	%	N	%	N	%		
Teaching development events (i.e. talks, workshops) specifically for instructors.	139	12.7%	239	21.9%	346	31.7%				
Teaching development opportunities and resources for NEW instructors.	115	10.5%	230	21.0%	518	47.4%				
A mentor or other person to go to for advice about teaching.	153	14.0%	249	22.8%	382	34.9%				
A cohort of scholars focused on teaching and learning.	168	15.4%	184	16.8%	443	40.5%				

Resources for instructors to improve their teaching methods.	161	14.7%	166	15.2%	361	33.0%
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Finally, respondents rated statements that would give some indication of the value placed on teaching in their department, college, and school. The purpose of this section was to try to provide some baseline of the overall culture toward teaching at these various levels. Respondents agreed that their departmental administration recognized the importance of teaching and is supportive of faculty improving and changing their teaching practices (3.20) and that campus administration at their universities also recognize the importance and are supportive (3.02). When asked whether instructors in their departments believe that ongoing improvement in teaching is part of their jobs the level of agreement drops slightly (2.90). When asked to give their opinion whether effective teaching plays a meaningful role in the annual review and salary processes within their colleges and within the promotion and tenure processes at their institutions, the mean responses were in the middle between agree and disagree (2.50 and 2.54, respectively). This difference might suggest some disconnect between what is publicly supported within colleges and universities and what actually happens in day to day processes.

Table 5. Overall Means for Survey Statements about Importance and Recognition of Teaching

1= Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree

Statement	Mean	Std. Dev.	Valid N
My departmental administration recognizes the importance of teaching and is supportive of faculty improving and changing teaching practices.	3.20	.74	964
Campus administration at my university recognizes the importance of teaching and is supportive of faculty improving and changing teaching practices.	3.02	.75	960
Instructors in my department believe that ongoing improvement in teaching is part of their jobs.	2.90	.74	962
In my opinion, effective teaching plays a meaningful role in the annual review and salary processes in my college.	2.50	.87	950
In my opinion, effective teaching plays a meaningful role in the promotion and tenure processes at my institution.	2.54	.86	950

When respondents were asked to provide their opinion about the quality of the evidence for effective teaching used by their colleges in annual review and salary processes as well as the

promotion and tenure processes at their institutions (probably the most controversial survey questions), those choosing “Don’t Know” or not answering increased to a little more than 40% (See Table 6.). Of those who chose to respond, in both cases, one third noted the teaching evidence was of “low quality” and half cited “medium quality” evidence of effective teaching.

Table 6. Percent Responses to Quality of Evidence of Effective Teaching

Your feedback regarding the quality of the evidence for teaching used in the following circumstances:								
	Low Quality		Medium Quality		High Quality		Total	Non Response or Don't Know
	N	%	N	%	N	%	N	%
By your College in the annual review and salary process.	224	34.4%	331	50.8%	97	14.9%	652	441
By your Institution in the promotion and tenure process.	212	33.2%	325	50.9%	101	15.8%	638	455

Conclusion

These findings represent the most basic aggregation of responses to the initial faculty survey conducted in Spring 2014 at the eight AAU project sites. They will provide a comparison point for the subsequent administration of this survey in 2016. More granular analysis of these initial survey results may continue into the following months.

Summary Report on Campus Infrastructure

PULSE Vision & Change Rubric 1.0. Each response scored as 0 (not observed), 1 (initial stages), 2 (average), 3 (very good), 4 (excellent, exemplary).

A. Physical Infrastructure

#	Factor	Aggregate Response
1	Classrooms and teaching laboratories can accommodate special needs and differing abilities.	3.7
2	Access to flexible, re-configurable teaching spaces to encourage student interaction, ability to work in small groups.	2.5
3	Classroom IT infrastructure encourages active learning practices.	2.8
4	Access to intelligently designed laboratory space flexible enough to allow different uses that blur distinction between lecture and lab.	2.7
5	Equipment/supplies in teaching laboratories.	2.7

B. Learning Spaces

#	Factor	Aggregate Response
1	Informal gathering spaces that encourage collaboration.	2.5
2	Learning Center for Students – for example, college-wide writing centers, learning centers or department level center with staff, tutor meeting rooms, TAs, computers and printers, study space for students.	3.2

C. Resources and Support

#	Factor	Aggregate Response
1	IT support for innovative teaching, responds quickly to IT crisis; support includes hands-on technology training for faculty and proactive survey of new technology.	3.4
2	Staff support for teaching: administrative help to support teaching, lab managers/lab instructors, curriculum development/learning specialists, tenure-track faculty with education specialty.	2.6
3	Institutional support for electronic resources: e.g., journal subscriptions and databases.	3.9

Summary Report on Evaluation of Teaching

The department statements on the evaluation of teaching for salary increase and for promotion and tenure had much in common across departments and institutions, including strong assertions that teaching is highly valued. All departments make use of student evaluations at the end of courses, and some also use peer observation for some decisions. Many have some kind of annual award for excellence in teaching. Most provided conventional descriptions of review processes and the provision of feedback to faculty members. From many of the statements (19 of 32, or 59% of those submitted), it would be impossible to discern whether attention to student-, active-, or evidence-based pedagogy was either recognized or required.

Across the 32 project site departments that submitted statements, only six had some form of explicit statement that included “introduction of innovative methods” or “introduction of active learning techniques” among the key criteria for excellence in teaching for tenure track faculty. Interestingly, two more included such criteria for their lecturers but not their tenure track faculty. Three of the six were explicit about their encouragement of active learning methods, via department discussion or department funding of attendance at faculty trainings provided by their professional societies. Another seven of the thirty-two had some statement that could be classified as permissive, for example, “the committee will review and consider any other elements the faculty member includes in their personal statement” or “publications or presentations on education may also be considered among the criteria for excellence in teaching” or “the time taken to introduce new methods is factored into the consideration of total workload” or “attendance at local or national meetings on education is taken as evidence of commitment to teaching.” One explicitly acknowledged that student evaluations might drop in the first run of a new approach, and that this is taken into account in evaluating instructors who’ve used innovative or active-learning methods in the classroom.

FINAL AAU BASELINE DATA COLLECTION

February 5, 2014

Dear AAU Project Site Leaders:

This document, along with attachments, contains the final request for baseline data from the eight AAU campus project sites. We thank you for your feedback. The request looks similar to the last iteration. We made some adjustments to the instructor survey in response to comments received, however, you should know that many of the suggestions we received were inconsistent across project sites (e.g., the survey questions are both too technical and not technical enough), indicating we have reached a good balancing point. We are planning to collect this information this year, and then once again in the final year of the AAU project (early 2016).

We would like to reiterate some information about how we will and will not use data collected.

- AAU will use these data to provide requested information to our funder (The Helmsley Trust). The Trust is interested in progress made on individual campuses, but also in understanding progress across the project sites. With eight different institutions and projects focusing on a variety of departments, courses, and emphases, this is a challenging endeavor, but it is part of what motivates us to collect some common data across project sites.
- AAU will use these data in aggregated form to help inform national conversations that we participate in, including with federal policymakers and leaders of other national associations.
- AAU will ***not*** use these data to benchmark or compare institutions directly to one another to assess progress or for other reasons (related to the AAU STEM Initiative or other issues). We encourage individual institutions to use these data for those purposes to the extent they deem appropriate and are willing to share information with one another, but that is not a role AAU will play.
- AAU cannot and will not use instructor survey results in evaluating instructors' job performance and we hope you will make it abundantly clear to instructors that neither will individual institutions.

We thank you for your patience during the iterative process to arrive at this final request and look forward to working with you on it. Please feel free to contact Emily Miller (emily.miller@aau.edu; 202-408-7500) with any questions.

BASELINE DATA REQUIREMENTS BY CAMPUS ROLE/CHECKLIST

Who Responds	What Information Is Needed	Deadline
All individual instructors in each department participating in the AAU STEM Initiative project.	1. Fill out survey instrument.	May 5, 2014
Chairs of each department participating in the AAU STEM Initiative project.	<ol style="list-style-type: none"> 1. Provide information on courses, enrollments, instructors and faculty (<i>See attached template</i>). 2. Provide a short (one page max) written description of the role of teaching in annual review, contract renewal, promotion and tenure processes in the department, addressing policy, practice, and perception, as well as any recent or ongoing activity. 3. Encourage all instructors in the department to fill out the survey. 4. Participate in site visits. 	Deadline for Items 1 and 2: March 17, 2014
Campus project leads.	<ol style="list-style-type: none"> 1. Fill out infrastructure section of PULSE Vision & Change rubric (See, attached rubric section, pp. 11-12). 2. Coordinate overall campus response. 3. Encourage department chairs and individual instructors to complete their parts. 4. Submit annual report to AAU (as required by funding agreement). 5. Coordinate and participate in site visits. 	Deadline for Item 1: March 17, 2014

Survey for Instructors (all instructors in departments participating in the AAU Initiative)

Who Should Receive the Survey?

Please invite all faculty and instructors including graduate students in the departments which have courses being adapted in your institution's AAU STEM Initiative. All faculty and instructors in these departments should receive the survey whether they are actively involved in the AAU STEM Initiative or not.

Content of the Survey

The survey contains 13 questions consisting of 58 items, all of which are closed-ended (i.e., they give respondents a set of answers from which to select a response). Respondents should be able to quickly advance through the survey by ticking off answers; the survey should take 20 minutes

or less to complete. The survey assesses teaching practices and attitudes. The survey can be added or appended to institutional or other surveys with the limitations described below.

Survey Validation

Many of the survey questions are adapted from:

Teaching Practices Instrument; Beach, A.L., Henderson, C., Walter, E. M., & Williams, C. Western Michigan University, with support from NSF WIDER: EAGER #1256505

Initial results of a pilot were strong and suggest meaningful data can be gleaned from these questions.

Survey Administration

Institutions are welcome to use either electronic (e.g., SurveyMonkey, Qualtrics), ScanTron, or paper versions to administer the survey.

When administering the survey, instructors should have the option of choosing not to answer by leaving blank any item.

Please make it clear to instructors that their answers will not be used in performance evaluation by the department or the institution.

No questions or items can be removed. No response categories can be changed.

Questions 2 and 3 are questions that will need to be adapted by the pilot institution to reflect which departments at the institution are involved in the AAU STEM Initiative and local vernacular and categories for faculty and instructors (please include a tenure and non-tenure track differentiation).

Questions 4 through 8 must be kept together and in the same sequence.

With these constraints, pilot institutions may add questions for local use and re-sequence questions, especially to make them flow better with questions added for local use.

The survey in PDF format is attached. A Word document containing the text of the questions and response categories can be provided upon request. This text can be used to copy and paste into whatever form or system the institution chooses to administer the survey.

The survey will be administered this year (2014) and then once again in the final year of the AAU project (early 2016).

Survey Data

We ask institutions to provide AAU with the following basic information about its survey administration:

- A copy of the final survey instrument used by institution (link to electronic survey or hard copy of final survey)

- Date of launch, dates of follow up reminders (if any), and final deadline
- Names of departments in which individuals received the invitation to complete the survey
- Number of individuals receiving the invitation to complete the survey
- Paragraph describing any unusual circumstances that may have influenced survey administration at your institution (provide only if needed)
- Contact information (name, email address, telephone number) for an individual who can answer questions about survey administration and data that was collected at your institution

When survey administration is closed and final, an electronic data file (Excel, CSV) should be submitted to AAU; please remove fields that include names or email addresses. Institutions administering the survey in paper form must enter all data into an electronic format for submission to AAU; please omit individual's names if they were collected.

Departmental Template on courses, enrollments, instructors, and faculty (for department chairs)

This template provides a “snapshot” of the courses taught in the first year of funding, e.g. their enrollments and who teaches them. Each department participating in the AAU STEM Initiative should complete a copy of the attached Excel table (named “AAU Project Site Department Course Summaries.xlsx”). The department chairperson or her/his designee should be able complete the table. Alternatively, your institutional research office may be able to help you.

For each course offered by a department in Spring 2014, Fall 2013, and Summer 2013 the following elements are requested:

- Semester (or equivalent) course was offered
- Course enrollment by student level (freshman, sophomore, junior, senior, graduate)
- Number of TAs
- Instructor demographics
 - Title
 - Rank (tenured, tenure-track, not on tenure-track)

Space is also provided in the table to give a summary of other faculty in the department who did not teach during the past year.

Role of teaching in departmental tenure and promotion decisions (for department chairs)

Each department chair should provide a short (one page max) written description of the role of teaching in annual review, contract renewal, promotion and tenure processes in the department, addressing policy, practice, and perception, as well as any recent or ongoing activity.

PULSE Vision & Change Rubric (for project site leaders)

We ask that *only pages 11 and 12* of the rubric be filled out. The rubric can be found online [here](#), but is also attached.

SURVEY INSTRUMENT FOR INSTRUCTORS

This survey has 14 questions consisting primarily of close-ended items and will take you approximately 15 minutes to complete. Your participation in this survey is voluntary. Your answers will go directly to [NAME] and will be kept confidential. Only aggregated data will be shared in reports. The deadline for the survey completion is [FILL IN DATE]

If you have any questions, please contact [NAME] [CONTACT INFORMATION]

- 1. With which AAU STEM Initiative Pilot Institution are you associated?**

- 2. Which disciplinary area does the department you are primarily associated with best fit within?**
 - Physics
 - Molecular/Cellular Biology
 - Organismal/General Biology
 - Engineering
 - Chemistry
 - Psychology, Behavior, Physiology
 - Mathematics
 - Other

- 3. What is your employment designation?**
 - Faculty-Tenured
 - Faculty-On Tenure Track
 - Faculty-Not On Tenure Track
 - Teaching Assistant/Graduate Student
 - Other Non-Faculty

Course Specific Information

We would like you to answer the following questions keeping in mind your LOWEST LEVEL, HIGHEST ENROLLMENT course you have taught within the past year.

- 4. What is the title of the LOWEST LEVEL, HIGHEST ENROLLMENT course you have taught within the past year?**

- 5. Which best describes the level of the LOWEST LEVEL, HIGHEST ENROLLMENT course you have taught within the past year?**
 - Lower division
 - Mid-level
 - Advanced/Graduate Level
 - Other

6. With regard to the course you identified, how are most decisions about teaching practices in the course made?

- I make most decisions
- I'm part of a team that makes most decisions
- Somebody else makes most decisions

7. To your knowledge, has the course you identified and/or any of its instructors received external funding support to enhance teaching and/or student learning?

- yes
- no

8. To your knowledge, is the course you identified targeted for attention in your institution's AAU STEM Initiative?

- yes
- no

9. Please indicate the degree to which the following statements are descriptive of your teaching in the lowest level, highest enrollment course that you identified above.

	Not at all descriptive	Minimally descriptive	Mostly descriptive	Very descriptive
I guide students through major course topics as they listen and take notes.				
I design activities that connect course content to my students' lives and future work.				
I connect class activities to course learning goals.				
I provide students with immediate feedback on their work during class (e.g., student response systems, short quizzes, etc.).				
I use student assessment results to guide the direction of my instruction during the semester.				
I frequently ask students to respond to questions during class time.				
I use student questions and comments to determine the focus and direction of class discussion.				
I structure class so that students explore or discuss their understanding of new concepts before formal instruction.				
I structure class so that students regularly talk with one another about course concepts.				
I require students to work together in small groups.				
I structure problems so that students consider multiple approaches to finding a solution.				
I provide time for students to reflect about the processes they use to solve problems.				

I require students to make connections between related ideas or concepts when completing assignments.				
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Now we would like your personal perspective about various teaching and learning techniques and practices. Your responses should not be limited to the course specified earlier.

10. The following are some statements about attitudes and beliefs towards undergraduate teaching. Please rate your personal level of agreement with each of these statements based on your own attitudes and opinions.

	Strongly Disagree	Disagree	Agree	Strongly Agree
To teach effectively requires knowing how students learn a subject and not just knowing the subject.				
To teach effectively requires establishing and articulating learning goals.				
Connecting assignments to learning goals throughout the course enhances effective teaching.				
It is important to engage students as active participants in learning.				
As a faculty member I try to promote interest in the subject matter.				
It is important to understand what motivates students to learn the course material.				
An instructor should convey enthusiasm for the subject being taught.				
Developing and utilizing tools to assess student learning is integral to effective teaching.				
Teaching effectiveness is enhanced by using data on student learning to refine teaching practice.				
It is important to provide relevant, real-life examples of the concept you are teaching.				
To the extent possible an instructor should ensure that STEM courses are inclusive of all students.				
Implementing practices that enhance students' self-efficacy in learning the subject matter is key to effective teaching.				
Learning can be facilitated through the use of social interaction among students.				
It is important for instructors to explicitly address any preconceptions of students (cultural biases, past learning experiences, etc.) in their learning.				
An instructor is responsible for engaging students in a subject.				
Interactive learning techniques are helpful in teaching effectively.				

Even without more resources, I believe it is possible to improve the effectiveness of my teaching.				
An instructor has been successful if students retain the important concepts of the class for the long-term.				
An instructor is responsible for providing students with useful feedback.				

11. Please indicate the availability of, and your participation, in the following ON CAMPUS (including institutional and departmental) professional development activities.

	No, and I would not use	No, but I would use if available	Yes, and I have not used	Yes, and I use at least once a year	Yes, and I use at least once a term	Don't Know/Not applicable
Teaching development events (i.e. talks, workshops) specifically for instructors.						
Teaching development opportunities and resources for NEW instructors.						
Peer evaluations/feedback of teaching.						
A mentor or other person to go to for advice about teaching.						
A center or unit focused on teaching and learning within your college or school.						
A university-wide center or unit focused on teaching and learning.						
University resources exist for instructors to improve their teaching methods						
Other (please specify and indicate your level of participation)						

12. Please indicate the availability of, and your participation, in the following OFF CAMPUS (including professional society and national association) professional development activities.

	No, and I would not use	No, but I would use if available	Yes, and I have not used	Yes, and I use at least once a year	Yes, and I use at least once a term	Don't Know/ Not Applicable
Teaching development events (i.e. talks, workshops) specifically for instructors.						
Teaching development opportunities and resources for NEW instructors.						
A mentor or other person to go to for advice about teaching.						
A cohort of scholars focused on teaching and learning.						
Resources exist for instructors to improve their teaching methods.						

Other (please specify and indicate your level of participation)						
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13. Please rate your personal level of agreement with each of these statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
My departmental administration recognizes the importance of teaching and is supportive of faculty improving and changing teaching practices				
Campus administration at my university recognizes the importance of teaching and is supportive of faculty improving and changing teaching practices.				
Instructors in my department believe that ongoing improvement in teaching is part of their job.				
In my opinion, effective teaching plays a meaningful role in the annual review and salary processes in my college.				
In my opinion, effective teaching plays a meaningful role in the promotion and tenure processes at my institution.				

14. Please give your feedback regarding the quality of the evidence for effective teaching used in the following circumstances:

	Low Quality	Medium Quality	High Quality	Don't Know
By you COLLEGE in the annual review and salary process.				
By your INSTITUTION in the promotion and tenure process.				

Thank you! We value your input about teaching and learning.

University-level promotion and tenure policies were reviewed from the following list of institutions:

Amherst College
Arizona State University
Barnard College
Boise State University
Boston College
Boston University
Brandeis University
Bucknell University
Case Western Reserve University
Colby College
College of Holy Cross
Colorado School of Mines
Cornell University
Dartmouth College
Duke University
Franklin and Marshall College
Georgia Institute of Technology
Hamilton College
Haverford College
Hope College
Illinois State University
Indiana University, Bloomington
Iowa State University
James Madison University
Johns Hopkins University
Lewis and Clark College
Louisiana State University
Massachusetts Institute of Technology
Michigan State University
Missouri University of Science & Technology
Montana State University
Mount Holyoke College
New York University
Northwestern University
Ohio State University
Pennsylvania State University
Princeton University
Purdue University
Rice University
Rochester Institute of Technology

Santa Clara University
Stanford University
Stony Brook, The State University of New York
Texas A&M University, College Station
The State University of New York
Tulane University of Louisiana
University of California, Irvine
University of California, Riverside
University of Colorado Boulder
University of Kansas
University of Michigan - Ann Arbor