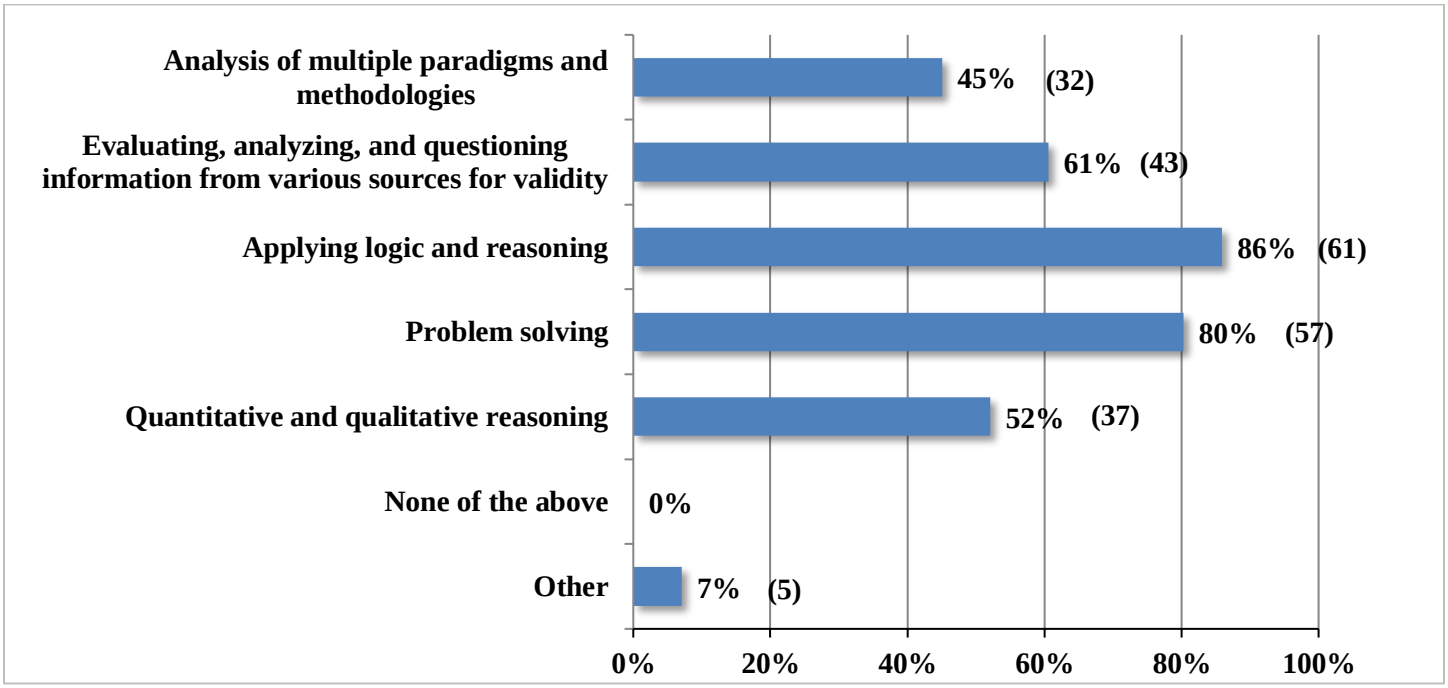
The Institutional Learning Outcome Assessment: Critical Thinking Survey

The Institutional Learning Outcome (ILO) Assessment: Critical Thinking survey was administered between February 5th and February 20, 2019. The goal of this survey is to determine which aspects of the Critical Thinking ILO faculty members include within their curriculum and what teaching strategies and methodologies they use to help students learn these aspects. Of the roughly 483 instructors at Chabot at the time of the survey[1], 71 (15%) took the survey. Most of the faculty respondents teach classes full-time and have worked more than 6 years at Chabot College.

Ascertaining Aspects of the Critical Thinking ILO Taught by Faculty

Faculty members were asked which of the following aspects of the ILO: Critical Thinking they include within their current curriculum:



Of the faculty members who responded to this survey, the majority (more than 80 %) include *applying logic and reasoning* and *problem solving* aspects of the Critical Thinking ILO within their curriculum. Sixty-one percent of the responders include *evaluating, analyzing, and questioning information from various sources for validity*, 52% of the responders include *quantitative and qualitative reasoning*, and 45% of the responders include *analysis of multiple paradigms and methodologies*. Among the "other" answers, faculty members mentioned *visual analysis* and *game theory*.

[1] Total count of full-time and part-time faculty are based on Fall 2019 HR reports

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Courses where Critical Thinking is Taught

According to the faculty members that responded to the survey, the ILO: Critical Thinking is taught in the following courses:

ADMJ 50	BUS 14	DIGM 10A	ES 7	Math 43	PEAC Walk 1
ANAT 1	BUS 19	DIGM 11	ESL 110A	MICR 1	PHIL 50
ANTH 1	BUS 1A	DIGM 12A	ESL 110B	MTH 1	PHIL 60
ANTH 13	BUS 1B	DIGM 15	ESL 110C	MTH 104	PHIL 65
ANTH 1L	BUS 93	DIGM 16	ESL 110D	MTH 15	PHIL 70
ANTH 3	Chem12B	DIGM 17	ESL 111 B	MTH 2	Physics 11
ANTH 5	Chem31	DIGM 2	ESL 116 A	MTH 20	Physics 18
Architecture 2A/2B	Comm 1	DIGM 20	ESL 15 A	MTH 3	Physics 3A
Art 12 & 13 ABCD	Comm 11	DIGM 4A	ESL 15 B	MTH 36	Physics 3B
Art 23	Comm 20	DIGM 5	ESL 120	MTH 37	Physics 4A
Art 2ABC	Comm 46	DIGM 6A	ESL 121	MTH 4	Physics 4B
Art 3ABCD	Comm 50	DIGM 7	ESL 122	MTH 53	Physics 4C
Astronomy 10	CSCI 14	DIGM 8A	ESL 130	MTH 55	Physics 5
Astronomy 20	CSCI 15	DIGM 8B	ESL 150	MTH 6	POSC 1
Astronomy 30	CSCI 20	ECD 52	HLTH 51B	MTH 8	POSC 12
ATEC 3	CSCI 21	ECD 56	HUMN 68	N51	POSC 20
ATEC 50	CSCI 7	ECD 62	Kine 1	N53	POSC 30
BIOL 10	DH 52B	English 101A	Kine 10	N55	PSCN 21
BIOL 2	DH 55A	English 102	Kine 11	N60A	PSCN 22
BIOL 31	DH 56 B	English 1A	Kine 14	N60B	PSCN 26
BIOL 6	DH 58	English 4	Kine 15	N60C	PSY 1
BUS 7	DH 73	English 7	Kine 2	N64	PSY 2
BUS 8	DH 75	ENSC 11	LIBS 1	N88	Service Learning 85
BUS 10	DH 82B	ES 1	LIBS 2	NTH 12	
BUS 12	DH 83	ES 2	Math 31	PEAC HER 1	

Among other answers survey participants wrote, “All MEDIA courses”, “All math courses”, “All ATEC and BMW courses”, “All Engineering courses 10, 11, 22, 25, 36, 43, 45”, “ENG Literature classes (20, 21, 22, 24, 25, 26, 30, 32, 35, 42, 45), ENG creative writing classes (11, 12, 13)”, and “All art history courses touch on these categories of Critical Thinking, but ARTH 1 has a significant amount of time devoted to them.”

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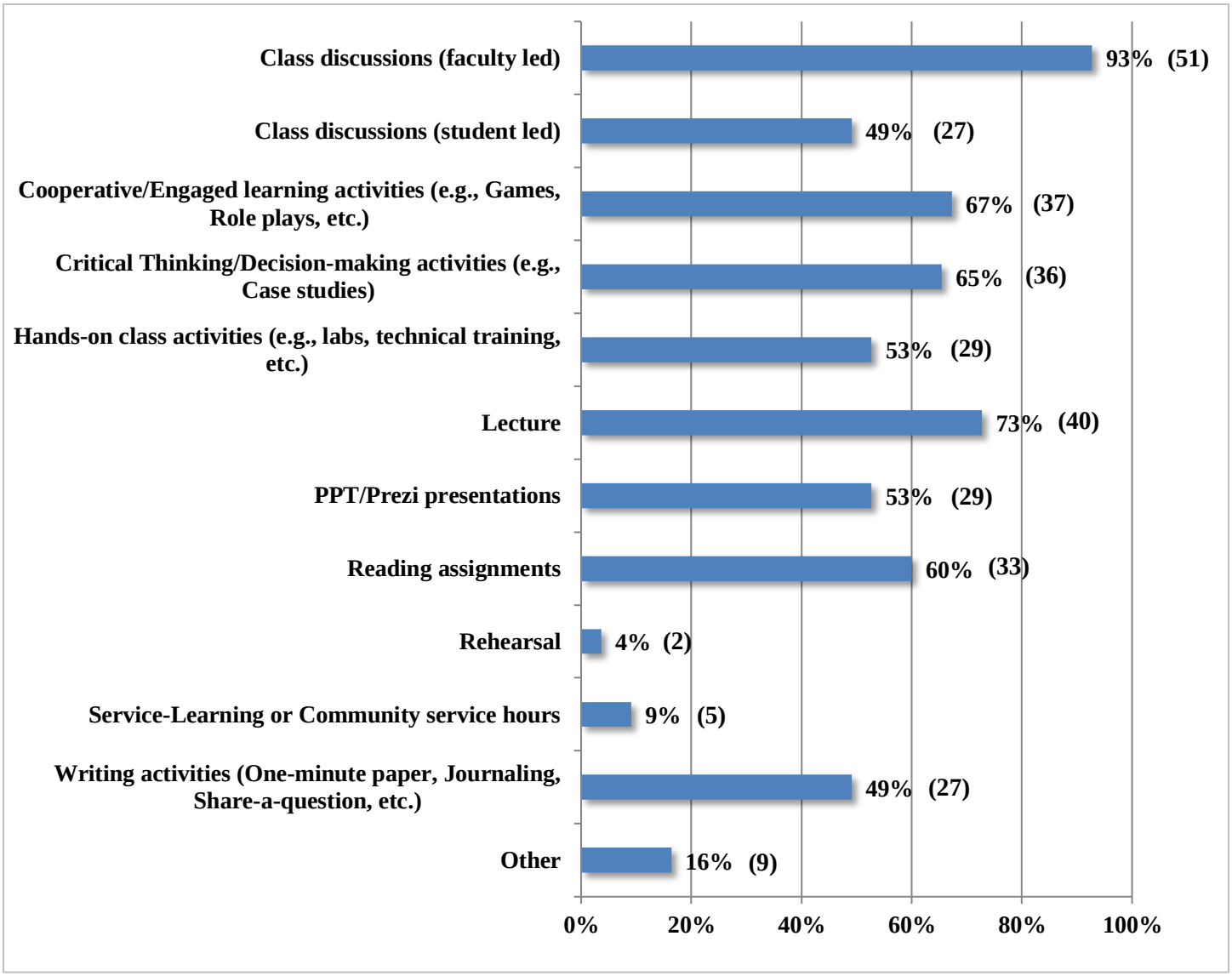
Teaching Strategies and Their Effectiveness

Faculty members were asked what teaching strategies they use to help students learn Critical Thinking.



Also, faculty members use interviews, observation, graphic visualization in resolving design issues, reflection, comprehensive projects, simulations, and financial statement analysis.

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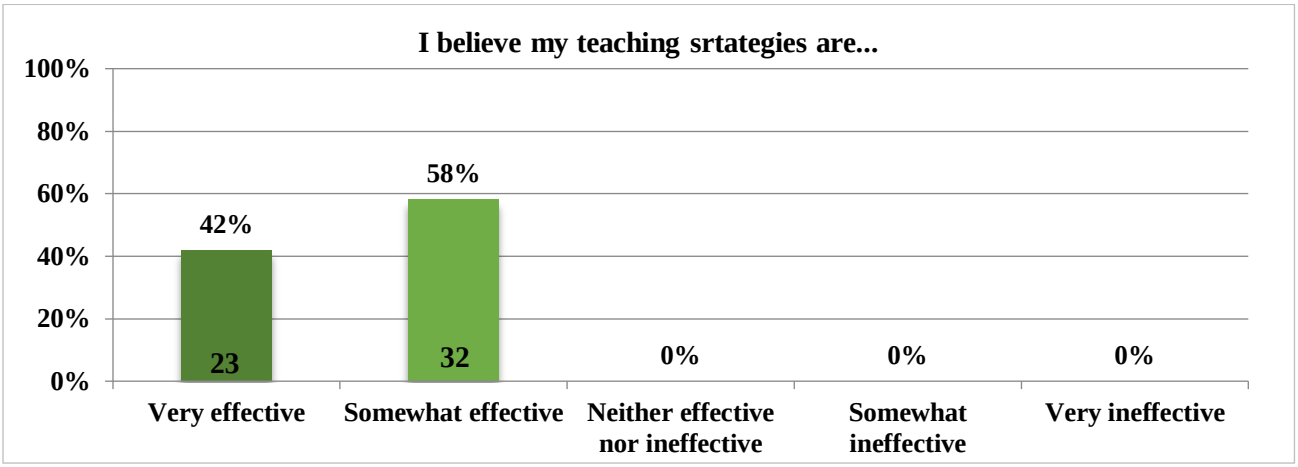
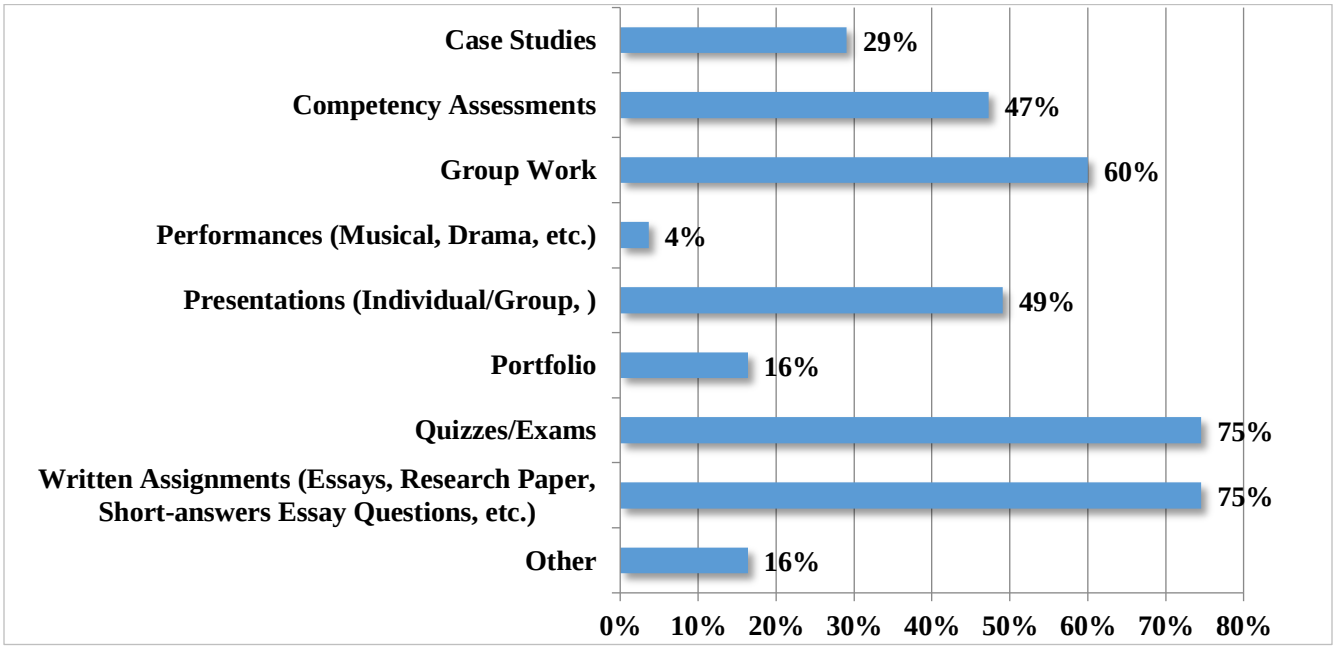
Faculty members shared their beliefs about the effectiveness of the teaching strategies they use for helping students successfully achieve aspects of the ILO: Critical Thinking.



Survey respondents believe that the strategies they use are very effective (42%) or somewhat effective (58%) for teaching Critical Thinking.

Methodologies and Their Effectiveness

Faculty members were also asked about methodologies they use to assess the effectiveness of their teaching strategies in helping students learn Critical Thinking. Faculty members used the following assessment methods:



In addition, faculty members also mentioned utilizing discussion boards, reflection, and programming assignments.

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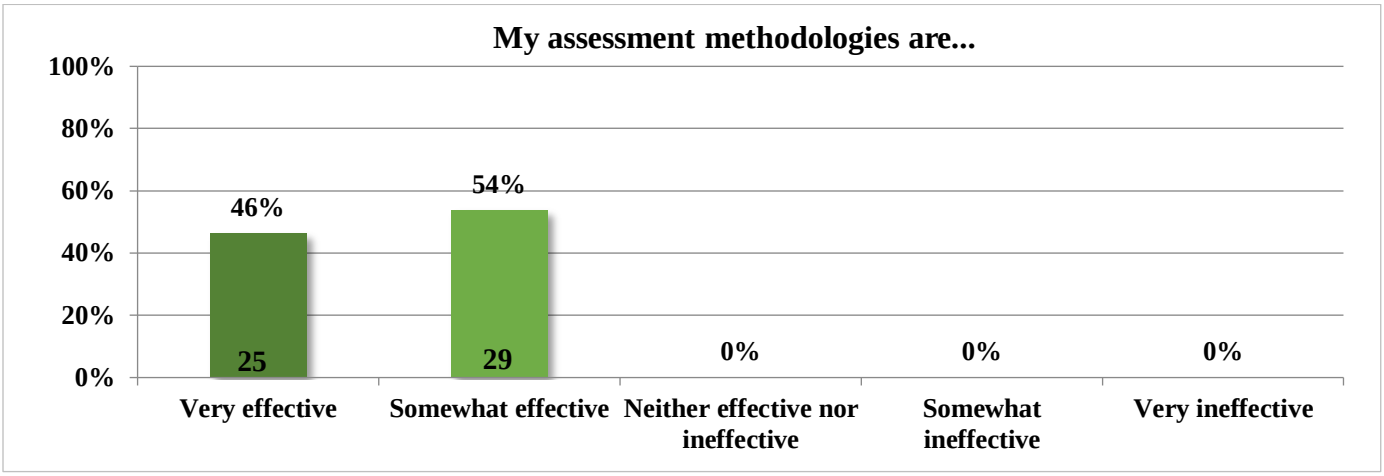
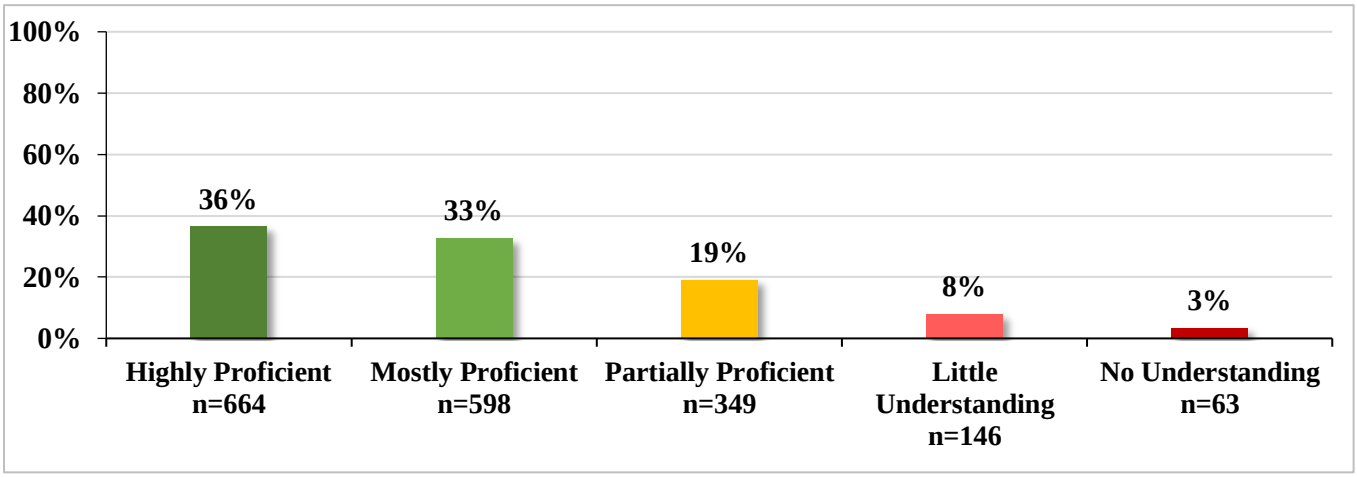
Faculty members shared their beliefs about the effectiveness of the assessment methodologies they use to accurately reflect student learning with regard to the ILO: Critical Thinking.



Survey respondents believe that the assessment methodologies they use are very effective (46%) or somewhat effective (54%) for assessing aspects of Critical Thinking.

Percentage of Students at Each Level of Proficiency for Critical Thinking

Forty-six faculty members rated their students' level of proficiency in Critical Thinking. These faculty members rated 1,820 students across roughly 50 different sections at the following levels of proficiency in the ILO: Critical Thinking:



Faculty members rated most students (69%) as highly proficient or mostly proficient in Critical Thinking. Faculty members rated a minority of students, as only partially proficient (19%) or having little understanding (11%) of the ILO: Critical Thinking.

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Ways to Improve Student Success in Critical Thinking ILO

Faculty members were asked to identify one way that Chabot College can help improve student success in this ILO.

- "More FT chemistry instructors!"
- "Written assignments that require analysis and assessments of issues, arguments, and beliefs."
- "Good assessment tools for accurate placement"
- "Reduce class sizes to allow time for instructors to better provide individual attention/guidance during learning."
- "support more professional development opportunities (i.e., conferences, webinars, institutes) to keep up to date with student success methodologies/pedagogies"
- "Professional development on teaching strategies"
- "Have more guest speakers who present their scientific studies, including methodology."
- "Funding to the Learning Connection; additional support classes in English and Math, especially now that students can place themselves in transfer classes. Additional specimens for Anthropology :)"
- "Emphasize critical thinking in written assignments. Use discussion items to encourage reading. Encourage students to develop presentations on works they have read."
- "Less multiple choice on exams and assignments; wider variety of courses that meet the critical thinking GE requirement."
- "Create and share a "Chabot Case Studies in Critical Thinking" journal (or blog) where we can contribute exemplars of assignments that seem to work for us in our classes. Seeing what colleagues do could be tremendously inspiring, and hopefully would trigger even more thought and development of successful approaches we could share."
- "Stop encouraging (by paying them to train other teachers) the practice of having students listen to teacher-made videos and fill in the blanks in teacher-made "notes packets." Recognize the importance of literacy and communication by reducing the emphasis on multiple choice testing. Recognize that there has been an erosion in the requirement that students do significant amounts of reading outside of class, and talk honestly about how that is hurting our students as they move on."
- "consider using more project based learning"
- "Let the Math department teach remedial math (104, 65) again? Many of our students really need it. I have students who cannot divide or multiply a positive integer by 2."

- "Mandate tutoring and highly encourage students to participate in counseling as a way to maintain a healthy school-life balance."
- "Maintain strong learning center resources for students."
- "Workshop and that focus on assessing critical thinking skills."
- "The content of most of this ILO is okay, but many of the outcomes aren't written particularly well. "Applying logic and reasoning"? You apply logic, yes, but doesn't "applying reasoning" sound ungrammatical? One applies reason, yes, but *reasoning*? One evaluates and critiques reasoning, but she doesn't so much *apply* reasoning. And later "Quantitative and qualitative reasoning" is listed, and I think there is a bit of a redundancy. What's the difference between applying reasoning and applying quantitative/qualitative reasoning? Also, "quantitative and qualitative reasoning" doesn't align with the Bloom's taxonomy verbiage for SLOs, right? Doesn't it need to begin with something like 'applying'? Finally, "Evaluating, analyzing, and questioning information from various sources for validity" is too vague, I think. Do you mean something like "Evaluating the credibility of sources"?"
- "Smaller class size allows for more discussions."
- "More support for Supplemental Instruction, more hands-on active-learning focused classrooms."
- "Demonstrate critical thinking in action. Apply critical thinking to a problem in the discipline, or in the current world we inhabit. Do it in real time in front of students."
- "More part-time faculty involvement/discussions. The part-timers make up the majority of the faculty, but from personal experience as a PT faculty, we aren't always informed or included in these discussions. Nor are we encouraged to attend meetings (especially since PT faculty must use personal time/effort with little/no compensation)."
- "More workshops to review how to set up ILOs."
- "Challenge them with difficult readings that they can master with hands-on engaged reading/annotation strategies that they practice in class and reinforce in groups"
- "Require prerequisites for better preparation; College emphasize student commitment to participate is crucial in order to gain benefits"
- "Adding skill-building lab/units to certain courses to support student success"
- "Encourage folks to learn how to scaffold group discussion activities or project based learning assignments."
- "Smaller class size."

- “Host public debates, give more money to the Forensics team, build a relationship with the Bay Area Urban Debate League, use critical pedagogy practices”
- “Provide funding to supplies, furniture, and material to support active learning classrooms.”
- “Stop putting so much emphasis on career preparation, and encourage focus on foundations and principles”
- “Set our expectations higher. Our students have a great deal of life experience that matters; however, they are often trapped by life/cultural paradigms that reflect their lack of education or broader global experience. In short, despite rich experience, they trust what they are told.”
- “Have every class include some higher order ?'s throughout the course”
- “Critical Thinking should be "Contextualized" to course applicable content, not done in a "theory" only based setting. This is a "need to be able to do" as it applies to all aspects of personal and professional life.”
- “Telling students, "It ain't about passing this or that current class or the next one...it is about the major foundations and concepts. NOTHING is standardized"”
- “Need better facilities, access to computer labs, much more flexibility with hiring learning assistants. Right now the process of getting, approving, and using LAs is too rigid.”