It ain't what you thought: Surveying the necessity of change and the instructor role

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Minute – reflection

Reflect on a course you teach--or have taken.

Can you name the one thing you think is most responsible for student learning in that course? This one thing can be ANYthing.

Take 2 min to reflect

Mid-Course Surveys

Our approach to student feedback

Our charge

o Administer a 5-minute mid-course "check-in" to all students enrolled in a recently redesigned LD math course

o CETL has administered this survey to 3,500+ students in other disciplines (Anthro, Comm Studies, Poli Sci, Econ, Accounting, Sociology, Art History, etc.) as part of our educational development programming

o Survey created online in Qualtrics using 13Q, Likert scale (5 pt)

o The questions we ask are rooted in literature on learning and cognition

Math courses targeted

- o Math 1000/1001 - Quantitative Reasoning in Today's World (GE)
- o Math 1081 - Pre-Calc With Functions
- o Math 1082 - Pre-Calc With Functions with Lab
- o Math 1083 - Pre-Calc Trigonometry
- o Math 1040 - Pre-Calc Functions and Trigonometry
- o Math 1090/1091 - Introduction to Statistics
- o EDFN 1090/1091 - Introduction to Statistics

Math Mid-Course Survey (Fall 2018)

o Math coordinators asked their section instructors to give students a link to the survey

o Approx. 6,688 students taking redesigned math QR courses were surveyed

o Approx. 28% of all students responded (1,872)

Please rate your agreement with the following statements:

	Strongly Agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree
This math course is well organized.	○	○	○	○	○
The course assignments are clear.	○	○	○	○	○
The instructor for this course breaks up class time with class discussions or other activities.	○	○	○	○	○
The instructor for this course has made an attempt to learn my name, or get to know me.	○	○	○	○	○
I receive regular feedback on my assignments for this course.	○	○	○	○	○
Class assignments and activities are meaningful to me as a learner.	○	○	○	○	○

Compared with other Cal State LA classes I take, this class has been:

A mix of lecture and in-class activities

Mostly lecture

Mostly in-class activities

So far, if I were to give this class a grade, I would grade it as:

A

B

C

D

F

So far, the grade I expect to receive in this course is:

A

B

C

D

F

Not sure

Compared with other Cal State LA classes I take, in this class I am:

Very Interested

Interested

Somewhat interested

Not interested

Not sure

I also want to say this about the class (write down any comments or concerns):

Please rate your agreement with the following statements:

	Strongly Agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree
This math course is well organized.	○	○	○	○	○
The course assignments are clear.	○	○	○	○	○
The instructor for this course breaks up class time with class discussions or other activities.	○	○	○	○	○
The instructor for this course has made an attempt to learn my name, or get to know me.	○	○	○	○	○
I receive regular feedback on my assignments for this course.	○	○	○	○	○
Class assignments and activities are meaningful to me as a learner.	○	○	○	○	○

This math course was well organized.

Organized instructional materials are a high-impact practice, especially for first-generation and students of color.

Blaich, C., Wise, K., Pascarella, E.T., & Roksa, J. (2016). Instructional clarity and organization: It's not new or fancy, but it matters. *Change: The Magazine of Higher Learning, 48*:4, 6-13.

Pashler, H., Bain, P.M., Bottge, B.A., Graesser, A., Koedinger, K., & McDaniel, M. (2007). *Organizing instruction and study to improve student learning*. Washington, DC: National Center for Education Research, Institute of Education Sciences.

The course assignments are clear.

'Transparent' assignments-- with specified task definition and criteria --particularly benefit first-generation students.

Winkelmes, M. A. (2015, February). Equity of access and equity of experience in higher education. *The National Teaching & Learning Forum, 24*(2): 1-4.

Winkelmes, M. A., Bernacki, M., Butler, J., Zochowski, M., Golanics, J., & Weavil, K. H. (2016). A teaching intervention that increases underserved college students' success. *Peer Review, 18*(1/2): 31.

The instructor breaks up class time with discussions or other activities .

Active learning increases student performance in science, engineering, and mathematics.

Freeman, S., Eddy, S.L., McDonough, M., Smith, M.K., Okoroafor, N., Jordt, H., & Wenderoth, M.P. (2014). Active learning increases student performance in science, engineering, and mathematics. *PNAS 111(*23): 8410-1815.

The instructor has made an attempt to learn my name, or get to know me .

Students are more motivated and successful in academic environments when they believe they belong there.

Yeager, D., et al. (2014). Breaking the cycle of mistrust: Wise interventions to provide critical feedback across the racial divide. *Journal of Experimental Psychology*, *14*(2), 804-824.

Walton, G.M., & Cohen, G.L. (2011). A brief social belonging intervention improves academic and health outcomes of minority students. *Science, 331*: 1447-1451.

I receive regular feedback on my assignments for this course.

Effective feedback is essential to acquiring new knowledge and skills. Feedback can be either positively or negatively given/received.

Ericsson, K.A., Krampe, R.T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*(3): 363-406.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*: 81- 112.

Shute, V.J. (2008). Focus on formative feedback. *Review of Educational Research, 78*(1): 153-198.

Class assignments and activities are meaningful to me as a learner.

Relevant assignments tap into students' prior knowledge and help them make connections through analogous reasoning.

Bransford, J.D., Brown, A., & Cocking, R. (2000). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.

Memory becomes durable when students must impose meaning on hard-to-remember content.

Morris, C.D., Bransford, J.D., & Franks, J. (1977). Levels of processing versus transfer appropriate processing. *Journal of Verbal Learning and Verbal Behavior, (165)*: 519-533.

Q1 significant correlations

	organized	clear assignments	breaks up class	know my name	regular feedback	assignments meaningful
organized	1	.757**	.574**	.468**	.608**	.541**
clear assignments	.757**	1	.543**	.445**	.582**	.506**
breaks up class	.574**	.543**	1	.547**	.572**	.501**
know my name	.468**	.445**	.547**	1	.659**	.420**
regular feedback	.608**	.582**	.572**	.659**	1	.549**
assignments meaningful	.541**	.506**	.501**	.420**	.549**	1

Reports of "well organized" and "clear assignments" were positively correlated with "meaningful assignments" and learning a student's name.

Q5 I also want to say this about the class :

We coded Math students' open-ended responses:

- o 674 open-text responses

- o 1,856 individually coded themes

- o On average, 2.7 themes emerged from each open-ended response

Mid-course Check in Fall 2018 – CODE BOOK	
0	N/A – test, n/a, no, not applicable
1	Positive pacing (1) indicates well-structured classroom sessions. Describes sessions that are easy to follow or slow down to accommodate confused students. Also indicated by in-class activities that check for understanding (as opposed to lecturing). Positive pacing is student centered and tracks with students where they are.
2	Positive structure (2) indicates a well-sequenced course structure overall; in session-to-homework or session- to-session flow, and/or well-organized course materials, including midterms and homework. Students can relate session-to-session activities, including homework.
3	Positive professor (3) indicates the instructor who is any combination of: helpful, patient, personable, easy to understand, encouraging or engaging, e.g. student centered.
4	The positive professor who is named by a student is a Named Instructor (4).
5	Positive community (5) indicates active peer dynamics where students help each other to learn, feel like they belong to a group, and/or feel like the classroom encourages peer engagement/mentoring/learning. Also described by active learning in class, by good attendance, lively activity, and lots of participation from students.
	Positive student self-reports (6-9) include emotional valence (excitement or interest), goal setting and monitoring (Metacognitive) and reports of learning (Learning gains):
6	Excited (6) indicates positive valence, e.g., fun, excitement, interest in the course, or eagerness to learn.
7	Metacognitive (7) means the student describes their role and responsibilities in the course and expresses accountability for own learning. Often the student will describe a goal s/he set for the course, or monitors behavior.
8	Learning gains (8) are student self-reports of learning in the course.
9	Relevance (9) indicates any course experience that students regard as relevant to their lives, including "real world" and experiential materials and applications. The student sees the course has having benefits beyond the class.
10	Positive technology 10 indicates any technology such as LMS Canvas, i-clickers, online homework, online tutoring, that is seamlessly aligned within course structure and or materials. Students report learning using these tools.
11	Positive Coordination with workshops/ co-req supports (11) means students make connections between in-class work and supplemental instruction including co-requisite work and see both as one experience.
12	Negative pacing (12) indicates hard to follow and unstructured classroom sessions. Describes sessions that do not accommodate students who are confused or not following. Also indicated by a lack of in-class activities, too much --or too little --lecture.
13	Negative structure (13) describes course materials (syllabus, assessments) or session-to-session structures that appear unrelated or are confusing to students.
14	Negative professor (14) describes the instructor who may be impatient, hard to understand, does not communicate clearly, or is unable to connect with students personally.
15	Negative community (15) where students describe working on their own during class time, and/or feeling like the classroom discourages peer learning or community. Poor attendance or participation—or an overly quiet classroom also describes negative community.
16	Bored (16) Reports of disinterest, disengagement, or detachment in the class, or with course materials.
17	Math fears (17) indicate any reticence about math in general as a subject, regardless of the quality of pacing, structure, professor, or community.
18	Unmet need (18) indicates a perceived lack of support due to negative pacing, professor or structure.
19	Irrelevance (19) describes a course experience that appears irrelevant to students and does not connect with the "real world", or have practical applications.
20	Negative technology (20) indicates any technology such as clickers, online homework, or tutoring that appears unrelated to the course or the learning experience.
21	Negative coordination with workshops/co-req supports (21) Students do not see the link between in-class work and supplemental instruction, including any co-requisite work. Co-req feels like an add on to the course.
22	Complaint (22) Students mention or reference problems with the course as having to do with "other" (from math coordination of the course); "math department" "guy in charge" etc.

Q5 I also want to say this about the class :

o **Positive pacing** of a class session was positively correlated with: **Positive professor** (.361) and reporting **learning gains** (.390)

o Reports of having a **Positive professor** was positively correlated with **Named professor** (.321), **Positive community** (.304), **excitement** to learn (.347), and reporting **learning gains** (.298)

Mid-Course check-ins

can tell us a lot about how we are doing.

THANK YOU

For more information contact CETL: cetl@calstatela.edu