

Wright College
Physical Science & Engineering
Assessment Project
Fall 2017

WHAT?

Our project aims to learn how much collaboration is occurring in our courses. This includes student interaction with each other as well as with instructors. This is an effort to assess whether and how our classes are addressing the college-wide student learning outcome (#4): "Develop and demonstrate an understanding of ethical values, life goals, and interpersonal skills that will prepare students for life-long learning, employability, and effective citizenship." We have chosen to focus on how we are building our students' interpersonal skills.

WHY?

The Assessment Committee of Wright College is continuing with a multi-year assessment of the college's general education student learning outcomes. The information will be used to benchmark student results for SLO #4 and allow us to develop internal targets for improvements.

HOW?

We constructed a survey using a modified subset of questions from a survey published in *Life Sciences Education* ("Laboratory Course Assessment Survey", Corwin et al.). At the end of the Fall 2017 semester every instructor in the Physical Science & Engineering department was asked to post a link to the survey on the Blackboard site for each of their classes. (See attached SURVEY.)

WHAT WE FOUND

In our department, a total of 237 students provided responses to the survey. The sample is not truly random since it favors classes whose instructors pushed the survey and students who frequented Blackboard. However, the survey responses show that every or nearly every course was covered (including chemistry, physics, astronomy, and physical science), though physics classes had a very low response rate. (See attached DATA.)

Key findings:

- Most students (69%) claimed that they discussed aspects of the course with their classmates or instructor at least weekly. Only 5% said they had never discussed the course or did not know if they had. Our department seems to be pretty solid on this point.
- Only 42% claimed that they contributed their ideas and suggestions during class discussions at least once a week. On the other hand, just 16.5% claimed that they never contributed or did not know if they did.
- A majority (56.5%) claimed to help other students collect or analyze data at least once a week (unsurprisingly higher for most lab courses). Only 10% said they never did this or did not know (mostly from non-lab courses).
- About half (47%) claimed that they provided constructive criticism to classmates and challenged each other's interpretations at least once a week. A relatively high 23% of students never did this or did not know if they had. This might be an area to seek improvement since collaborative problem-solving is at the heart of modern science.
- About half (48%) claimed they had shared problems they encountered and sought input at least once a week. Only 13% claimed they never did or did not know if they did.
- “Never” answers were notably higher for non-lab courses such as PhySci101 and Astro201. Phys235 shows an unusually high percentage as well, but only 9 students from this course took the survey.

- For some courses, the statistics are too low to draw course-specific conclusions (e.g. Chem203, Chem212, Phys236, Phys237).
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SURVEY (re: collaboration and interpersonal skills)

In this course, I discussed aspects of this course with classmates or the instructor.

- (a) Never
- (b) One or two times
- (c) At least weekly
- (d) I don't know

In this course, I contributed my ideas and suggestions during class discussions.

- (a) Never
- (b) One or two times
- (c) At least weekly
- (d) I don't know

In this course, I helped other students collect or analyze data.

- (a) Never
- (b) One or two times
- (c) At least weekly
- (d) I don't know

In this course, I provided constructive criticism to classmates and we challenged each other's interpretations.

- (a) Never
- (b) One or two times
- (c) At least weekly
- (d) I don't know

In this course, I shared the problems I encountered during my readings and sought input on how to address them.

- (a) Never
- (b) One or two times
- (c) At least weekly
- (d) I don't know

DATA		I discussed aspects of this course with classmates or the instructor.	I contributed my ideas and suggestions during class discussions.	I helped other students collect or analyze data.	I provided constructive criticism to classmates and we challenged each other's interpretations.	I shared the problems I encountered during my readings and sought input on how to address them.
Astro201 Total: 40	Never	10.0%	17.5%	17.5%	22.5%	20.0%
	One or two times	25.0%	37.5%	37.5%	37.5%	50.0%
	At least weekly	57.5%	45.0%	40.0%	30.0%	25.0%
	I don't know	7.5%	0.0%	5.0%	10.0%	5.0%
Chem121 Total: 28	Never	0.0%	14.3%	0.0%	14.3%	10.7%
	One or two times	39.3%	50.0%	28.6%	28.6%	32.1%
	At least weekly	60.7%	35.7%	71.4%	53.6%	53.6%
	I don't know	0.0%	0.0%	0.0%	3.6%	3.6%
Chem201 Total: 72	Never	1.4%	11.1%	0.0%	6.9%	2.8%
	One or two times	16.7%	38.9%	29.2%	26.4%	36.1%
	At least weekly	80.6%	44.4%	70.8%	62.5%	59.7%
	I don't know	1.4%	5.6%	0.0%	4.2%	1.4%
Chem203 Total: 6	Never	0.0%	0.0%	16.7%	0.0%	0.0%
	One or two times	0.0%	16.7%	50.0%	16.7%	16.7%
	At least weekly	100.0%	83.3%	33.3%	83.3%	83.3%
	I don't know	0.0%	0.0%	0.0%	0.0%	0.0%
Chem212 Total: 5	Never	0.0%	0.0%	0.0%	0.0%	0.0%
	One or two times	0.0%	60.0%	40.0%	60.0%	40.0%
	At least weekly	100.0%	40.0%	60.0%	20.0%	60.0%
	I don't know	0.0%	0.0%	0.0%	20.0%	0.0%

PhySci101 Total: 45	Never	4.4%	20.0%	17.8%	22.2%	17.8%
	One or two times	35.6%	46.7%	46.7%	24.4%	42.2%
	At least weekly	60.0%	24.4%	31.1%	40.0%	35.6%
	I don't know	0.0%	8.9%	4.4%	13.3%	4.4%
PhySci111 Total: 16	Never	0.0%	0.0%	0.0%	18.8%	0.0%
	One or two times	31.3%	62.5%	37.5%	31.3%	56.3%
	At least weekly	68.8%	37.5%	62.5%	43.8%	43.8%
	I don't know	0.0%	0.0%	0.0%	6.3%	0.0%
Phys221 Total: 13	Never	0.0%	7.7%	0.0%	15.4%	7.7%
	One or two times	15.4%	23.1%	15.4%	30.8%	15.4%
	At least weekly	84.6%	69.2%	84.6%	46.2%	76.9%
	I don't know	0.0%	0.0%	0.0%	7.7%	0.0%
Phys235 Total: 9	Never	11.1%	11.1%	22.2%	33.3%	22.2%
	One or two times	44.4%	33.3%	22.2%	44.4%	33.3%
	At least weekly	44.4%	55.6%	55.6%	22.2%	44.4%
	I don't know	0.0%	0.0%	0.0%	0.0%	0.0%
Phys236 Total: 1	Never	0.0%	0.0%	0.0%	0.0%	0.0%
	One or two times	0.0%	0.0%	0.0%	100.0%	0.0%
	At least weekly	100.0%	100.0%	100.0%	0.0%	100.0%
	I don't know	0.0%	0.0%	0.0%	0.0%	0.0%
Phys237 Total: 2	Never	50.0%	50.0%	50.0%	50.0%	50.0%
	One or two times	0.0%	50.0%	0.0%	0.0%	50.0%
	At least weekly	50.0%	0.0%	50.0%	0.0%	0.0%
	I don't know	0.0%	0.0%	0.0%	50.0%	0.0%
ALL Total: 237	Never	3.8%	13.1%	8.0%	15.6%	10.5%
	One or two times	25.3%	41.8%	33.8%	30.0%	38.8%
	At least weekly	69.2%	41.8%	56.5%	46.8%	48.1%
	I don't know	1.7%	3.4%	1.7%	7.6%	2.5%