



Abstract

“Closing the loop” of program assessment involves creating solutions to concerns identified through the assessment process. One drawback of this process is that solutions are typically developed by the same people responsible for the identified issues in the first place: faculty. Biases created by the faculty’s experience and their perceived ownership of both curriculum and instruction can act as “blind spots” obscuring effective and rapid course correction. To address this, we have incorporated student focus groups facilitated by a neutral party in addition to more traditional assessments (grades, exam questions, course evaluations) as a tool to identify gaps and concerns in the Neuroscience program at WSU. Senior students enrolled in the Neuroscience Capstone course are asked to participate voluntarily in a focus group during final exam week. Participants fill out questionnaires as well as responding to questions in large and small groups. To date, this process has identified two distinct gaps in the curriculum, perceived by the students but unrecognized by faculty: no formal introduction to scientific literature in the lower division courses and a dearth of information on experimental techniques presented across the curriculum. Without student input these gaps would remain unaddressed and our curriculum would be less effective.

Background

Program assessment and assessment-based program change rely on the fundamental assumption that the same faculty who develop and teach the courses in the program are the best people to assess the effectiveness of the program and make any necessary changes. Program faculty typically have both the expert-level knowledge and the means to make change in a program’s curriculum, however it is not clear that they are the only group that should participate.

As experts in their field, and in some cases as pedagogy experts, faculty can suffer from unconscious biases that result in an expert “blind spot,” an inability to recognize the difficulties experienced by novice learners because of the large amount of information that the expert has scaffolded in context. What is obvious to an expert is NOT obvious to a novice¹, and that difference in perspective has applicability to course and program design. Therefore, our program has deliberately included student feedback about the program into our annual assessment activities.

Students’ feedback is an important measure of instructor effectiveness or program effectiveness. Most universities require students to evaluate every class they complete at the end of each semester and many programs get some form of summative feedback from students as they complete the program, often an exit survey or exit interview². However, data suggest that students suffer from extreme survey fatigue and feel as though their opinion doesn’t matter³, leading to low participation results in course and program evaluations. Anecdotally, our previous exit survey had a lifetime participation rate of below 50%. The WSU Program in Neuroscience sought to overcome these difficulties by inviting students to participate in a focus group that allowed them a chance to be heard and make more of a statement about their experiences than simply “Strongly Agree”, “Agree”, “Neutral”, “Disagree”, or “Strongly Disagree”.

Focus group interviewing was developed in the mid-20th century as a way to gauge audience response to radio and (later television) programming⁴. Broadly, a focus group is a small group of selected people who are interviewed together by a moderator. The moderator guides the conversation so that both the individual responses of the interviewees and group discussion can be utilized to gain information about the perceptions of the participants⁵. Focus group interviewing results in consistent but more detailed responses when compared to surveys, as well as a broader range of inputs as participants draw from each other’s answers⁶.

Methods

- Students enrolled in the Neurosci 490 “Senior Project” Capstone class in 2012, 2013, or 2014 at WSU were invited to voluntarily participate in a 60-90 minute focus group during the regularly scheduled final exam period for the course. The course has no final exam. Students were told that their feedback was very important to the program and that this was their chance to discuss their impressions of the program as a whole and talk about things that “weren’t on the course evaluations.”

- A standard questionnaire was developed jointly between the Neuroscience program and the Office of Assessment of Teaching and Learning (OATL) that included both individual response items and group discussion items.

- Each session began with a light breakfast and the course instructor reminded students of the purpose of the focus group (see above) and introduced the focus group team. The instructor then left the room. Each session was moderated by an OATL staff member trained in focus group moderation. Another OATL staff member participated in each session as a note-taker, recording general discussion themes and relevant quotes from students.

- A summary of the discussion notes as well as the anonymous individual response sheets from participating students was returned to the program after each session.

- Qualitative analysis of both summaries and individual responses for each session was carried out by the department to identify the students’ most strongly held perceptions and identify any areas for improvement.

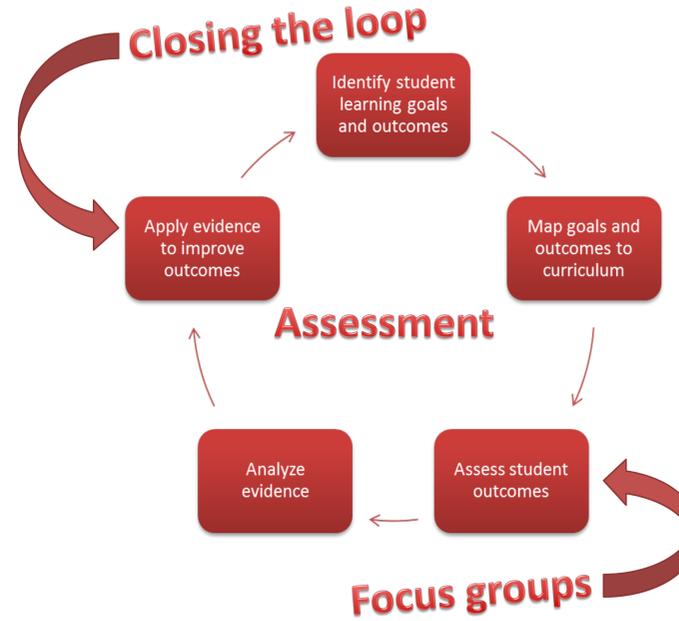


Figure 1: The Assessment Cycle. Assessment follows a predictable cycle of identification of goals, planning, assessment, analysis, and application of the evidence collected to identify updated goals. This application of evidence is often referred to as “Closing the Loop” as it is the final step before embarking on a subsequent cycle. The WSU Neuroscience program is using Focus groups as an assessment tool to measure program-wide outcomes.

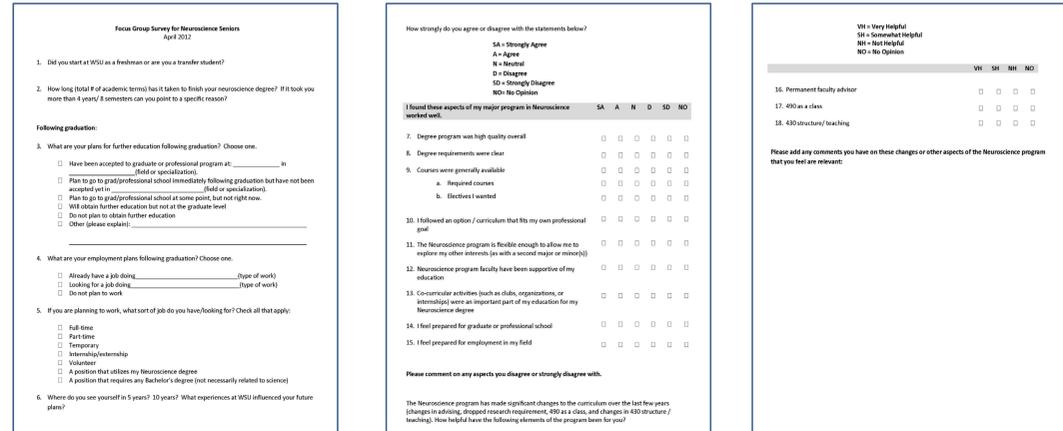


Figure 2: Focus Group Survey. Students receive this three-page survey sheet from the moderator at the beginning of the session and fill it out individually before moving on to the group discussion portion of the focus group. The same survey instrument was used 2012-2014.

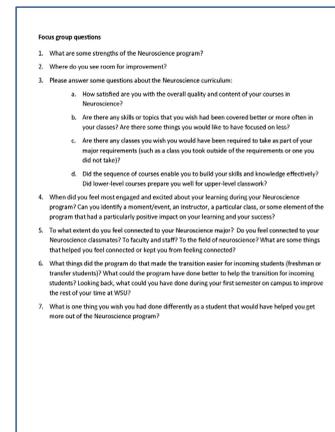


Figure 3: Focus Group Questions. These questions are read out by the moderator for general group discussion. The note-taker records student responses and emerging themes.

Results

In each of the three years that we have held a focus group with our graduating seniors we have seen the following results:

- Increased participation by students as compared to the Exit Survey used previously (see Table 1)
- Recurring themes of student concern (see Table 2)
- Feasible suggestions for addressing concerns and improving the program overall

Themes of Concern	Example Student Comments	Year	Closing the Loop
Faculty/Research	[more] interaction with research faculty who don't teach undergraduate classes and exposure/introduction to their areas of expertise	2012	<ul style="list-style-type: none"> Increase faculty participation in Neurosci 138 Freshman Seminar Neuro Club sponsored faculty talks Increase number of students doing research Developed an Experimental Techniques and Statistics in Neuroscience to introduce common research techniques in the lab setting and give students real practice analyzing Neuroscience data
	Overall, professors really know what they are talking about and are very passionate about what they're talking about. It's easier to learn from people who are excited about it.	2013	
	My professor doesn't teach undergrad, but he is so approachable. Always has something interesting to say. Good experience to have him work with us even though he isn't teaching us.	2014	
Writing	a communication class taught by a neuroscientist or a scientist would improve [the program]	2012	<ul style="list-style-type: none"> Developing a scientific reading/writing class based on the CREATE method Developing a program-wide writing program that builds on previously-learned skills Developing a program-wide writing portfolio to track and evaluate writing performance
	[I] feel a science writing course instead of a general English oriented writing course would be an improvement	2012	
	In a lot of classes, we never got writing back to improve the next assignment. In some classes, I never saw my paper again. We never see how we are supposed to improve.	2014	
	We have a lot of writing, but don't get feedback to improve. Then 490 comes along, and we have just been going through the motions with no feedback, so we're not as prepared for 490.	2014	
Timing of courses/ Course Order	Feel like there's a gap, not enough classes in the middle	2013	<ul style="list-style-type: none"> Increased elective offerings Rearranged order of Neurophysiology and Cell/Molecular Neuroscience
	Order of classes needs to change and there needs to be less time between classes	2013	
Connection	Take Neurophysics [Neurophysiology] before cell biology.	2014	<ul style="list-style-type: none"> Increased engagement through Facebook and Twitter Neuro club has developed a virtual mentoring program via Facebook Single, full-time faculty academic advisor
	More faculty support of Neuroscience Club or other events would help [students] feel more connected	2012	
	[I]feel a connection to the neuroscience field, because of research, not classes	2013	
	[Neuro club] also helps with that “gap” (in the curriculum between Neuroscience classes). I met a lot of upper classmen that helped me make decisions on curriculum.	2014	

Table 2: Student Responses. Student responses to the focus group questions have identified a number of concerns that were not obvious to program faculty. Examples of these responses have been grouped by the theme of their concern and year. “Closing the Loop” indicates program facilitated actions (some in progress) to respond to student-identified concerns.

Conclusions

Although faculty often believe that years of experience and a depth of disciplinary knowledge give them an advantage in developing a curriculum that will be successful and effective for their students, the perspective of the students participating in the curriculum is equally valuable.

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Activity	Timing	Year	% Participation
Exit Survey (online)	After Graduation	2011	<10%
Focus Group	Finals Week	2012	76%*
Focus Group	Finals Week	2013	47.8%
Focus Group	Finals Week	2014	47.8%

Table 1: Participation. Rates of student participation in end-of-program evaluations over the last 4 years. *The large number of participants in 2012 likely reflects that the scheduled exam period was on Monday in 2012, compared to Thursday (2013) and Friday (2014).