

Psychological and Brain Sciences

Introduction

The timing of this request came at an opportune moment for the department of Psychological and Brain Sciences (PBS). At the beginning of this semester, prior to the Provost's request, the Undergraduate Curriculum Task Force (UCTF) was formed to critically evaluate and potentially redesign the undergraduate Psychology curriculum. The UCTF, co-chaired by Associate Professors Andrew Cohen and Adrian Staub, works closely with Tamara Rahhal, the new PBS Associate Chair of Teaching, Learning, and Advising, and the PBS Undergraduate Studies Committee, chaired by Lisa Sanders.

Based on the Senior Survey, our recent AQAD review, and other recent self-assessments there is broad consensus among the faculty that although we serve our students well in general, there are many areas for potential improvement. In addition, the field of Psychology has changed rapidly in the recent past, yet the undergraduate major has not kept pace with these changes. Because the UCTF is charged with a comprehensive evaluation of the undergraduate program and with proposing potentially extensive changes, we expect this process to require considerable time. The UCTF's current goal is to present the PBS executive committee with a draft proposal by the end of the 2015-2016 academic year.

In light of this on-going process, this document will necessarily provide a snapshot of the UCTF's current thinking rather than a comprehensive response. With that said, many of the issues facing our department are clear and will be represented here.

Because they bear directly on the current questions, we attach and draw heavily from the following documents: The 2014 "Destination of Choice" document produced by the PBS at the request of Provost; the 2013 AQAD review of PBS; the 2014 Senior Survey; the 2012 Senior Survey department comparison (we do not have the 2014 department comparison); the 2013 Undergraduate Program Assessment; and the 2014 Recommendations for Improving Undergraduate Education in PBS. We would especially like to direct your attention to the Destination of Choice document which highlights a number of similar and related issues.

Goals for Student Learning and the Student Experiences

Because our analysis of the current curriculum builds upon our student goals, we begin with the goals for our students.

Table 1 presents a more detailed version of the Student Learning Goals presented in the 2013 Undergraduate Program Assessment. This table reflects recent work of the UCTF. The leftmost column provides Psychology-specific learning objectives for our students. These objectives are organized into five related clusters. Each of the remaining columns specifies a broad learning goal, i.e., goals common to undergraduate education. The intersection of these objectives and goals is marked by an 'x'.

Table 1. Student learning goals

Student Learning Objectives	Broad Learning Goals							
	Knowledge	Critical thinking	Quantitative thinking	Skill	Tools	Professional development	Graduate school preparation	Informed citizenship
Content knowledge								
Possess a deep knowledge in one content area (incl. diversity-related issues)	x					x	x	
<i>Possess broad knowledge of psychology and links to other areas and sciences (incl. diversity-related issues)</i>	x						x	
Understand career paths	x					x		
Application of knowledge								
Critically process media		x	x					x
Learning to learn	x			x				
Apply knowledge to societal issues (at least one of personal, social, conflict, public policy, education, etc)	x	x	x			x		x
Conduct research								
Perform (restricted) literature search				x	x		x	
Synthesize areas from a (small) literature	x	x	x				x	
Formulate research questions based on literature search	x	x					x	
Design an experiment in one content area	x			x			x	
Understand ethical issues associated with research	x						x	x
<i>Implement an experiment using technology</i>				x	x		x	
Analyze data using standard (simple) tests common in one research area using technology	x		x	x	x		x	x
Reach conclusions based on experiment results	x	x	x				x	x
Conduct research individually or in a group				x		x	x	
Disseminate scientific information								
Understand publication process	x						x	
Write a scientific article for lay and scientific audience	x	x	x	x		x	x	
Orally present results for lay and scientific audience	x	x	x	x		x	x	
Professional experience								
Work (volunteer work, practica, apprenticeships, internships, etc)	x			x		x	x	
Research (TA, RA, etc)	x			x			x	

Note: Italics indicate a goal that is less certain.

Diversity

Psychology is in a unique position to address issues of both diversity and internationalization. Given that much of the Psychology content relates directly to the study of how cultural, societal, and individual differences shape human behavior, diversity and internationalization are critical to the Psychology undergraduate curriculum and is incorporated into numerous courses. One proposal is to have courses specific to diversity issues. In Table 1, diversity is listed under content knowledge.

Internationalization

Applying psychological principles to pressing societal issues is a key learning objective for the Psychology major as shown in Table 1 (application of content knowledge). In addition, because many of our students plan on careers in the law, medicine, mental health, and related professions, we strive to connect the curriculum to real-world issues. Preparing students to become informed citizens is one of the broad learning goals identified in Table 1 (final column). Elements of this goal are found in both course content (application of content knowledge) and within the research process (conduct research).

Analysis of Current Curriculum

A principle challenge for our department arises from the size of the undergraduate major. As noted in the Destination of Choice and AQAD documents:

- Number of majors has increased from 1500 in 2005 to 1900 in 2014.
- Faculty size has remained essentially constant over the same time period.
- Psychology is the largest undergraduate major by a WIDE margin.

As a result, our student/faculty ratio increased markedly over this period and made it difficult for us to deliver the curriculum to our majors (AQAD).

Curricular coherence and accessibility

There is a disconnect between our classroom evaluations and the senior survey results. Students give high ratings to their individual Psychology courses. More comprehensive evaluations like the senior survey, however, suggest clear areas of dissatisfaction with the major as a whole. Careful analysis of these documents suggests the following potential causes for this discrepancy.

- Students enjoy the classes they enroll in, but cannot always enroll in their desired courses. This problem is worse for higher level, smaller courses and can prevent timely progress through the major. We find that many students sign up for the courses they can get into, rather than courses they wish to take, making it difficult for students to take a coherent set of classes.
- The current Psychology curriculum is very broad – Psychology is an extremely diverse field, with sometimes little overlap between areas. The undergraduate curriculum attempts to expose students to content from all sub-disciplines. This curriculum sacrifices depth, that is, deep knowledge in any one area of Psychology. Students lack opportunities to develop and explore specific academic interests and to tailor course selection to career or graduate school goals. One of the goals in Table 1 is a deep knowledge in one area of Psychology.
- Students feel ill-prepared for life after college. Our students need more professional guidance than is currently provided. Both professional development and graduate school are listed under general learning goals in Table 1.

In short, curricular coherence and accessibility is a challenge for our department and this challenge is a major motivation for the UCTF.

Clarity of communication

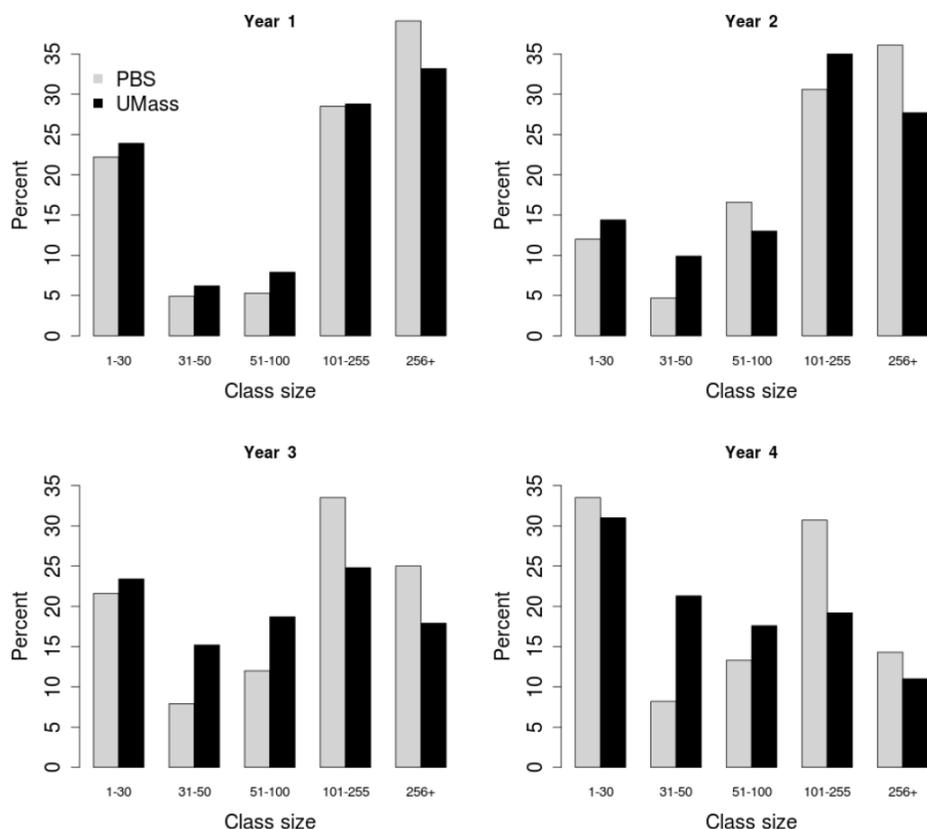
The results of the senior survey show that students are dissatisfied with Psychology advising. We regard this as unsurprising given the limited resources, 2 faculty and 12-13 peer advisors, provided to advise 1900 majors. We think the advising center does a spectacular job given the available resources. A solution to this problem will involve either (1) a dramatic change in the structure of departmental advising (not in the scope of this document), (2) an increase in resources for advising, or (3) a decrease in student body size. PBS is currently revising the departmental website, which will improve clarity of communication to students.

Class size goals by student level

Figure 1 shows the proportion of credit hours in each class size for students entering in 2010 in Psychology and UMass as reported in the Cumulative Experience Document. In general, as students progress, their class sizes tend to decrease for both Psychology and UMass. There is one notable discrepancy – Year 3 and 4 Psychology students have fewer classes in the 31-100 range and more in the 101+ range.

Again, the issue of how to maximize our faculty resources so as to provide maximal student contact with faculty, especially as students progress through the major, is a key focus of UCTF. As a starting point, Figure 1 suggests increasing class offerings in the 31-100 student range.

Figure 1. Class size for PBS and UMass by year (entering Fall 2010)



Curricular Revision Action Planning

The PBS UCTF is committed to curricular development that best serves our students. As discussed previously, these changes are potentially complex and require careful consideration prior to implementation, especially considering the size of the major. Table 2 provides a current snapshot of the UCTF's assessment of areas where the department is doing well and areas that need to be addressed. In the process of identifying the specific changes we wish to make, we will also determine which additional resources will be required and which changes can be made without additional resources.

Although it is too early to determine the scope of resources that may be needed for a curriculum change, the following resources would be instrumental for improving the undergraduate experience in the very near future.

- Additional graduate teaching assistants (e.g., to support large classes and teach lab sections).
- Resources for advising (e.g., additional faculty and advisors, including career development).
- Support for our large classes (e.g., lecturers who specialize in teaching and organizing large classes).
- Additional faculty to reduce our student/faculty ratio and improve our small-course offerings.
- Resources for lab courses (e.g., additional faculty, space, and equipment for specialized labs).
- More state-of-the art classroom space for a variety of class sizes.

The following resources would greatly help with the process of curriculum development and change.

- Consultation by experts in curriculum development.
- Administrative support for organizing and implementing changes.
- Travel funds to visit other institutions or bring in speakers.
- Course releases to help develop new courses.

Table 2. PBS UCTF preliminary evaluation

Doing well	Needs improvement
Individual instructors & courses	<p>Instruction</p> <ul style="list-style-type: none"> Challenging students (esp. in large classes) Incorporate writing into more classes More exposure to primary literature Incorporate more quantitative work throughout More independent research in courses Stress applications of knowledge
Providing knowledge breadth	<p>Knowledge</p> <ul style="list-style-type: none"> Providing knowledge depth <p>Skills</p> <ul style="list-style-type: none"> Improve writing skills Improve quantitative/statistical skills Improve critical thinking skills Improve communication skills (oral/written)
Good variety of courses	<p>Courses</p> <ul style="list-style-type: none"> Provide more lab courses Provide more statistics Provide more small to medium size courses Increase course accessibility Too much course overlap Rethink IE and connect to rest of curriculum Rethink methods (e.g., make relevant to specific student interests, standardize with statistics, before or concurrent with stats, etc) <i>An ethics course (or incorporate into others)</i> <i>More diversity-related courses (or incorporate into others)</i> <i>Provide a history/systems course</i> <i>Provide organizational psychology offerings</i>
<p>Good professional development opportunities exist</p> <p>Good internship opportunities exist</p> <p>Good RA, TA opportunities exist</p>	<p>Professional development</p> <ul style="list-style-type: none"> More professional development opportunities needed More internship opportunities needed
Numerous opportunities exist	<p>Research experience</p> <ul style="list-style-type: none"> Honors projects are currently overused, i.e., some students are doing them for the wrong reason
Serving some students very well	<p>Other</p> <ul style="list-style-type: none"> Needs to increase proportion of students served well Have students get to know at least one faculty member well Motivate good students to take opportunities earlier in education <i>Potentially add non-course-based requirements (e.g., writing assignments)</i> Raise expectations from students

Note: Italics indicate a suggestion that is less certain.