Strategic plan for the Department of Psychology and Neuroscience

Faculty of Science, Dalhousie University

Submitted to Ray Klein, Chair of the Department of Psychology and Neuroscience

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Introduction

This strategic plan is intended to be a 'living document'. It reflects the current strengths and challenges, as well as goals and suggested actions for the Department of Psychology and Neuroscience at Dalhousie University. This strategic plan should be re-visited and updated regularly as goals are achieved and new challenges arise.

Social & Physical Capital

The Department of Psychology and Neuroscience is made up of 25 full time faculty (including one whose appointment will begin in March 2015), with an additional 5 faculty with appointments of less than .5. In addition, there are a number of limited term appointments approved each year, which are essential for the department to meet its teaching obligations.

Strengths. Our faculty are experts in a number of distinct, but complementary, research areas and have a strong commitment to integrating their research interests into their training and teaching. As such, the department has clear strengths in training knowledge creators in the science of the mind, brain, and behaviour and excellent clinicians who apply this knowledge. These strengths and this approach attract strong graduate students, who are supported by what is described by most faculty members as a sustainable fiscal model. The department also educates many undergraduate students who benefit from this strong and diverse faculty and also from a departmental mindset to not just teach the facts, but to educate students in how to think critically and analytically about issues in science. Whether a cause or a consequence of all of the above, the sense of the department as being collegial is widespread. In terms of physical space, the Department of Psychology & Neuroscience occupies one tower of the Life Sciences Centre. Members of the department feel fortunate to have sufficient space within a single building.

Challenges. Our success in attracting undergraduate students, coupled with a reduction in complement over the last 10 years, poses serious challenges with respect to workload. Most faculty members feel that they are working to maximum capacity, leaving little time for innovation. Although lab space is sufficient in size, many spaces for both teaching and research are out-dated, including a lack of accessibility to those with physical disabilities; the building has not received significant renovation since the LSC was built in the early 1970s. This challenge has direct implications for the research capacity of the department, especially with respect to competing with other institutions for graduate students, and research funding dollars.

Faculty also pointed to a challenge of having appropriate teaching space, particularly given the large number of undergraduate students taught by our department. Most first and second year classes are taught in classrooms scattered across campus, and there is a pervasive lack of classrooms to hold 200+ students. A bigger challenge for our department is the lack of appropriate teaching lab space. Our first year class (1000+ students) is particularly affected by this issue, and as such, does not completely satisfy its obligations as a lab class (i.e., students spend less time doing lab activities in this class than we would like).

Identified Goal. Ensure that we have appropriate faculty, administrative support, and space to meet our teaching, research and administrative responsibilities.

Suggested Actions.

1. Lobby the Faculty of Science for faculty positions. The department must build on its established social capital to make a strong and clear case to the Faculty of Science for the need for faculty renewal. With the commitment of the Faculty of Science for faculty renewal over the next few years, we are optimistic that we will gain approval to hire the requisite faculty so that we can meet our department's teaching and administrative responsibilities, as well as excel in research.
2. Lobby the Faculty of Science for appropriate teaching and research space. We need to have a strong voice with respect to the renovation of research and teaching space within our department, as well as advocate for increased lab teaching space. In terms of research space, we need to ensure that this is included as a priority in the LSC renewal. Further, we need to clearly articulate our needs with respect to these spaces to ensure that renovations fit our needs. With several of our classrooms recently being deemed 'among the worst on campus' by a university-wide Classroom Planning Committee, we should be at the top of the list for renewal of this space.
3. Make most effective use of our support services (e.g., administrative assistants, departmental technicians, etc.) in order to address workload concerns.

Undergraduate Program

Strengths. The Department of Psychology and Neuroscience has a strong undergraduate program that consistently attracts top students. Faculty feedback pointed to widespread support for our current focus on teaching research and critical thinking skills; we educate our students to be skilled in both producing and evaluating research. Many expressed an interest in incorporating new ideas and approaches to teaching. The interdisciplinary nature of our undergraduate degree programs, particularly in neuroscience, allows our students broad exposure to diverse fields of inquiry. There was interest in maintaining and possibly expanding this aspect of our program. Given the centrality of the undergraduate program to our mission and vision and its openness to opportunity, the undergraduate program is in an ideal position to contribute to the strategic plan.

Challenges. The three biggest challenges facing our undergraduate program were identified as (1) increasing enrolments from traditional routes as well as from new programs such as the Bachelor in Medical Sciences, (2) increased workload from enrolment pressure (both in terms of teaching and administration) and (3) inadequate teaching spaces, for both large lecture and lab-based courses. Other challenges specific to particular sub-disciplines were highlighted, most notably a lack of dedicated faculty for our many developmental, neuroscience, and clinical courses, and the need for a long-term, integrated solution to teaching pressures on our undergraduate statistics courses. Course requirements for our undergraduate degrees and key pressure points for teaching are summarised in Appendix 1. Another general challenge is preparing our students for life beyond their degree, given the rapid change of pace to employment opportunities and further academic studies. Among the needs we should better address are for developing and supporting translational and entrepreneurial skills among our undergraduate students.

Identified Goal. Secure appropriate resources to teach our undergraduate program, advise our undergraduate students, and optimize their education.

Suggested Actions.

1. Conduct a comprehensive curriculum review, with the aim of streamlining offerings and building upon research strengths. The newly completed curriculum map will support this review. In the faculty retreat, there was consensus on maintaining breadth at the first and second year of the undergraduate program, and aligning our teaching more with our research interests in the third and fourth years. Consideration should be given to removing the BA option.
2. Lobby the Faculty of Science for more professor and/or more permanent instructor positions to teach in our program and address key pressure points (e.g., statistics, developmental, clinical, neuroscience offerings in future).
3. Develop online or blended courses, both to increase accessibility of our courses and to take advantage of available funding. This can build on some of the expertise gained through the development of our online Introductory Psychology course (PSYO 1031).
4. Support further development of programs that help students develop skills in translating knowledge into practical applications and make them more competitive for future employment opportunities, by exploring options such as certificates and co-ops.
5. To address workload for faculty, we need to review practices for assigning teaching assistants and increase advocacy for support of teaching at the Faculty of Science level.
6. Develop a website that provides engaging, useful, and accurate information on our undergraduate degree programs. This will a) provide guidance for students on course selection, and b) ensure that we are attracting the students who best fit with our programs.

Graduate Program

The graduate program consists of three streams: neuroscience, experimental, and clinical. The department is unique to the Faculty of Science in that it houses a health professional PhD program, specifically in clinical psychology. Changes to the graduate program must be sensitive to the different program requirements and objectives.

Strengths. The department identified two core strengths of the graduate program to be the graduate students themselves and the collegiality of faculty members. Additional key strengths were the shared-risk approach to student funding and the research-intensive nature of the program (apprenticeships, comprehensive projects). Student feedback[1] echoed these strengths and also highlighted specific programs, such as our long-standing Clinical Psychology PhD program and our newer RADIANT (Rehabilitative and Diagnostic Innovation in Applied NeuroTechnology; see Appendix 2) program, and the openness of the department to receiving student feedback (e.g., Bites and Gripes for clinical students).

[1] The Chair of the Graduate Program Committee emailed all current graduate students to request input twice during this process. A total of 10 students responded, the majority of whom were students in the Clinical program.

Challenges. One core challenge for the graduate program is the recruitment of students to the experimental and neuroscience streams. Another key challenge is the low faculty complement. Specifically, it has been difficult to (1) retain appropriate expertise for teaching statistics courses, which is required for all programs (see Appendix 2) and (2) administer the Clinical program to ensure standards for CPA accreditation and appropriate professional training are maintained. Graduate courses in clinical psychology must be taught by a registered clinical psychologist, which makes it more difficult to fill these positions at times. Course requirements for all programs are summarised in Appendix 2. Clinical students also noted that their workload was too heavy in the early years of the program when they are taking full course loads while launching their comprehensive and dissertation projects (see Appendix 2 for summary of requirements). The comprehensive projects were seen as both a strength of the graduate program and a challenge due to the high workload demands. Students encouraged a review of the comprehensive component of the graduate programs.

Identified Goal. Ensure the health of our graduate programs by recruiting the students who best fit with our programs, optimising program offerings for students in all programs, and securing appropriate expertise to train our students.

Suggested Actions.

1. Increase student recruitment by a) redesigning the website and integrating social media strategies, b) pursuing additional training and certificate programs, c) differentiating our program, including potentially renaming the comprehensive project system and the experimental psychology program to better reflect the nature of these programs d) highlighting job opportunities after graduation, including by tracking graduate students post-graduation and integrating this information into promotional materials, e) promoting in-house recruitment of strong honours students to remain in the department for graduate training, and f) ensuring that our graduate students have competitive levels of funding. Possible ways to increase graduate student stipends include, but are not limited to a) increasing the funding from our grants allocated for graduate students b) joining other departments in petitioning for tuition waivers for graduate students, particularly foreign students, and c) promoting new opportunities for graduate funding (e.g., Nova Scotia Graduate Scholarships).
2. Ensure sufficient resources to maintain the high standards of professional training for the Clinical program, and as required for CPA accreditation.
3. Review the structure of the graduate programs, including a) the comprehensive projects to ensure they are meeting the goals of the program and of students, b) formal, regular opportunities for all students to provide feedback with systems in place to act on this feedback, and c) the Neuroscience program given the dissolution of the Neuroscience Institute at Dalhousie.

Research

Strengths. The Department of Psychology and Neuroscience has clear strengths in the high calibre of research expertise and level of funding achieved to support this research. This research expertise aligns with the strategic priorities of the University (Health and Wellness), the province (Life Sciences and Health and Wellness), and the nation (Health and Life Sciences as part of Canada's Science,

Technology, and Innovation priorities). Strong research-intensive graduate programs and the advantages of a shared funding approach support our research work.

Challenges. Faculty identified clear challenges in funding, both for their own independent research, as well as for joint initiatives. Infrastructure challenges were also highlighted, both in terms of outdated physical lab spaces, as well as requisite time to manage grants (e.g., ethics). An additional challenge is the lack of statistical consultation within the department to support our research.

Identified Goal. Ensure that we have requisite funding, expertise, and infrastructure to conduct world-class research.

Suggested Actions.

1. Identify concrete points of convergence, particularly in areas of strength, and work toward funding of these areas, through both traditional and non-traditional sources of funding (e.g., CIHR and collaborative research with the community and industry). We can do so through open-invitation workshops both within and across departments during colloquium slots or at the in-house conference, as well as through hiring in these strategic areas.
2. Take advantage of grant writing expertise in the department informally through hallway discussions, formally through databases and mentoring, as well as by taking advantage of roles such as the Assistant Dean (Research) in the Faculty of Science.
3. Ensure that the Department has the requisite support in quantitative psychology and statistics to conduct our research successfully (and also to train our students appropriately, see Undergraduate and Graduate Program sections). This includes lobbying the Faculty of Science for one or more faculty-level positions in quantitative areas.
4. Promote our research expertise to a broader audience (e.g., through our own presentations and social media) in order to more readily identify and benefit from research opportunities.
5. Achieve renewal of our research lab space.

Summary of Goals and Suggested Actions.

Discussion within each section of this report identifies a goal and suggests action items to achieve that goal. We take the time here to review the over-arching action items that will allow us to move forward strategically.

Human Resources. We must ensure that we have renewal of our faculty. Hires need to be made strategically so that we meet our undergraduate and graduate program obligations, while also building on our research strengths; we will need to create a process to determine priorities across these multiple demands. We must also make most effective use of the available human resources, particularly in terms of administrative support, teaching assistance, and grant-writing expertise. We must also attract and retain the strongest graduate students who best fit our programs; students are vital in that they support both our teaching and research.

Physical capital. We must ensure that we have facility renewal, in both our lab and teaching spaces. We need to have a strong voice in the plans made for this renewal so that it best meets our needs going forward.

Capitalising on available resources. We must ensure that our undergraduate and graduate program offerings match our strengths and capacity. This will involve curriculum review at the undergraduate level, and a review of our graduate programs. We must also communicate our strengths to the broader community. Taking full advantage of web and social media tools offers one way to accomplish our goals of attracting the undergraduate and graduate students who fit most clearly with our programs, as well as bring in new research opportunities.

Appendix 1. Undergraduate Program Requirements and Pressure Points, as of November 2014, Department of Psychology & Neuroscience

	Psychology (minimum requirements)	**Neuroscience** (minimum requirements)	**Pressures for next 18-24 months**
Year 1	• **Intro to Psych & Neuro** (PSYO 1011/21/31 and PSYO 1012/22 *or* SCIE 1505)	• **Intro to Biology** • **Intro to Chemistry** • **Calculus** + **one other** MATH/STAT • **Intro to Psych & Neuro** (PSYO 1011/21/31 and PSYO 1012/22 *or* SCIE 1505)	• LTA* teaching the clinical section of Intro Psych • Increased Intro Psych enrolments (BSc Med Sci) • Lack of space for intro labs
Year 2	• **Methods in Experimental Psychology** (PSYO 2000) • **Statistical Methods** I (PSYO 2501) • **Systems Neuroscience** (PSYO/NESC 2470) • + **3 other 2000 level PSYO** courses	• **Neuroscience Principles & Methods** (NESC 2007) • **Statistical Methods I** (PSYO 2501) • **Systems Neuroscience** (PSYO/NESC 2470) • **Cellular Neuroscience** (PSYO/NESC 2570) • **Cell Biology** • + **2 other 2000 level NESC courses**	• LTA coordinating PSYO 2000 labs • PTA* instructor for Learning, one section of Development • Increased enrolment in Cellular Neuroscience (BSc Med Sci)
Years 3-4	• **8 x 3000+ level PSYO courses** (one lab course) *Honours degree* • **7 x 3000+ level PSYO courses** (two must have lab) • **Statistical Methods II** (PSYO 3502) • **Honours Thesis** (PSYO 4500) • **2 x 4000 level seminar courses**	• **8 x 3000+ level NESC courses** (two lab courses) *Honours degree* • **6 x 3000+ level NESC courses** (two lab courses) • **Statistical Methods II** (PSYO 3502) • **Honours Thesis** (NESC 4500) • **2 x 4000 level seminar courses**	• LTAs/PTAs teaching core NESC lab courses, Honours Statistics, & Clinical lab • Increased enrolment in 3rd year classes (BSc Med Sci) • Enrolment pressure on Measuring Behaviour (for Certificate) • Reduced 3rd year Developmental offerings

* LTA = limited term appointment (non-continuing, that must be requested on a yearly basis), PTA = part-time appointment (appointed on a course by course basis, also referred to as a sessional)

Appendix 2. Graduate Program Requirements, as of November 2014, Department of Psychology & Neuroscience.

Graduate Program Requirements			
	Experimental	Neuroscience	Clinical PhD
MSc Courses	P6001 P7501 P7502 P7100 (if TAing P2000) P8001 (first year only) P8002 (first year only)	N6101 N6102 P7501 P7502 P7100 (if TAing N2007) P8001 (first year only) P8002 (first year only) 1/2 credit in quantitative/analytic area	P6001 P6003 P6102 P6103 P6104 P6105 P6106 P6107 P6204 P6208 P6209 P6213 P6301 P6302 P6303 P6304 P7100 P7501 P7502 P8001 & P8002 for each residency year P8333
PhD Courses (all MSc courses must also be completed)	P8001 P8002 for two years (three if residency is 3 yrs). 1/2 credit in quantitative/analytic area	P8001 P8002 for two years (three if residency is 3 yrs).	
Electives	2 full credits (1 each at MSc and PhD)	0	3 x ½ credits
Comps	3 (PhD)	3 (PhD)	3
Practicum	None	None	~600 hrs required (~1000 hrs recommended to be competitive for internship)
TAship	1 in MSc 1 in PhD	1 in MSc 1 in PhD	2
Internship	None	None	1 year (2000 hours)

Additional information on RADIANT

Students enrolled in the Experimental or Neuroscience program may also complete certificates in RADIANT Translational NeuroTechnology (TNT1 and TNT2). They must complete all of their program requirements in addition to the TNT certificate requirements. Normally, it is expected that students will complete the TNT1 certificate during their Master's degree, and the TNT2 certificate during their PhD degree; other scenarios are possible however.

RADIANT Translational NeuroTechnology Certificates	
TNT 1	TNT 2
P7701 P7705	P7711 P7712 P7790 (4 month, full-time internship)