

**Report of the Academic Program Review Panel
On the
Department of Psychology (St. John's campus)
Memorial University of Newfoundland
9 October 2002**

Review Panel

Members: Donald W. McKay, Ph.D. (Chair)
Professor of Physiology and Senator
Faculty of Medicine
Memorial University of Newfoundland
St. John's, Newfoundland and Labrador

Dale R. Corbett, Ph.D.
Professor of Physiology (Neurosciences)
Faculty of Medicine
Memorial University of Newfoundland
St. John's, Newfoundland and Labrador

Alison Fleming, Ph.D.
Professor
Department of Psychology
University of Toronto at Mississauga
Mississauga, Ontario

Nicholas Skinner, Ph.D.
Professor
Department of Psychology
King's College, University of Western Ontario
London, Ontario

Table of Contents

TABLE OF CONTENTS	2
1.0 BACKGROUND AND PROCEDURE	4
2.0 ADMINISTRATIVE STRUCTURE	5
2.1 FORMAL LINKS OF THE PSYCHOLOGY DEPARTMENT.....	5
2.2 STRUCTURE WITHIN THE UNIVERSITY.....	6
2.3 STRUCTURE WITHIN THE FACULTY OF SCIENCE.....	6
2.4 SUPPORT STAFF.....	8
2.5 ACADEMIC STAFF.....	9
2.6 EMPLOYMENT EQUITY.....	10
2.7 STAFF RESPONSIBILITIES.....	10
2.8 RECOGNITION WITHIN THE UNIVERSITY.....	11
2.9 PROMOTION.....	11
2.10 CITIZENSHIP.....	12
3.0 UNDERGRADUATE PROGRAM	12
3.1 OVERVIEW.....	12
3.2 INTRODUCTORY PSYCHOLOGY.....	14
3.3 SERVICE TEACHING.....	16
3.4 LABORATORY COURSES.....	16
3.5 QUALITY CONTROL AND EVALUATION.....	17
3.6 UNDERGRADUATE CURRICULUM REVISION.....	18
3.7 DEPARTMENTAL NEEDS.....	19
3.7.1 <i>Space and Funding</i>	19
3.7.2 <i>Faculty Renewal</i>	20
4.0 GRADUATE PROGRAMS	21
4.1 PROGRAMS AND AREAS OF SPECIALIZATION.....	21
4.1.1 <i>Biopsychology</i>	22
4.1.2 <i>Behavioural Neuroscience</i>	22
4.1.3 <i>Applied Social Psychology</i>	22
4.1.4 <i>Developmental Psychology</i>	23
4.1.5 <i>Psychology of Perception</i>	23
4.1.6 <i>Cognitive Psychology</i>	23
4.1.7 <i>Clinical Psychology</i>	23
4.2 FINANCIAL SUPPORT.....	24
4.3 TEACHING OPPORTUNITIES.....	25
4.4 ACADEMIC ENVIRONMENT.....	26
4.5 ENHANCING THE GRADUATE PROGRAM.....	26
4.6 NURTURING THE PH.D. PROGRAMS.....	27
4.6.1 <i>Marketing all graduate programs</i>	28
4.6.2 <i>Faculty complement</i>	28
5.0 FACULTY RESEARCH AND SCHOLARSHIP	28
5.1 PUBLICATIONS:.....	29
5.2 EXTERNAL FUNDING:.....	30
5.3 FACILITIES AND INFRASTRUCTURE THAT SUPPORT RESEARCH AND TRAINING WITHIN GROUPS:.....	30
5.3.1 <i>Behavioral Neuroscience</i>	30
5.3.2 <i>Biopsychology</i>	31
5.3.3 <i>Developmental Psychology and Cognitive Psychology & Perception</i>	32
5.3.4 <i>Social Psychology</i>	33

5.3.5 <i>Clinical Psychology/Counselling</i>	33
5.3.6 <i>Introductory Psychology</i>	33
5.4 CONCLUDING STATEMENT ON RESEARCH PRODUCTIVITY	33
5.5 ELEMENTS TO PROMOTE SUCCESS IN HIRING JUNIOR FACULTY:	34
5.6 ELEMENTS TO PROMOTE SUCCESS IN FACILITATING RESEARCH ACTIVITY:.....	34
6. CONCLUSION	35
7. SUMMARY OF RECOMMENDATIONS.....	37
APPENDIX A - LIST OF DOCUMENTS RECEIVED BY PANEL.....	41
APPENDIX B - LIST OF PANEL MEETINGS AND PARTICIPANTS.....	42

1.0 Background and procedure

Guided by the Procedures for the Review of Units and Programs, Academic Program Review (APR) of the Department of Psychology at the St. John's (STJ) campus of Memorial University of Newfoundland was initiated. The Department completed a self-study in April of 2002.

The review panel (hereinafter the 'Panel') membership was in place by mid-February of 2002. The Panel Chair was selected by the Dean of Science. In advance of meeting as a group and soon after the completion of the Self-Study, each panel member received considerable documentation from the University. Additional documents were received during the Site Visit. A summary listing of documents received appears in Appendix A.

Approximately one week before the Site Visit, the Chair of the Panel met with the Head of the Department and the APR Coordinator to devise an itinerary for the Site Visit. An itinerary was planned such that the Panel would meet with the Dean of the Faculty of Science, the Head and most members of the Department who were available on campus. Invitations to meet with the Panel were extended to other staff members, representative undergraduate honour's students and graduate students. In addition, time was set aside for any faculty member, staff or student who wished to make representation to the Panel. Some minor revisions were made to the published itinerary. For personal reasons, the Associate Dean of the Division of Community Medicine and Behavioral Sciences of the Faculty of Medicine was unable to meet with the Panel. The Director of the University Counselling Centre, Dr. G. Hurley, however, was able to oblige the Panel with a meeting even though no meeting had been planned in advance of the Site Visit. The Acting Dean of Arts declined the opportunity to meet with the Panel as he was aware of no outstanding issues with the Department. Interviews with alumni were not scheduled. A complete listing of meetings and participants appears in Appendix B.

The initial meeting of the Panel was convened on the evening of 15 May 2002 by Dr. Evan Simpson, Vice-President (Academic) and Pro-Vice-Chancellor. Other participants in the meeting included Dr. C. Jablonski (Dean of Graduate Studies, Acting), Dr. G. Martin (Associate Dean for Research, Faculty of Science) and Ms. J. Bessey (APR Coordinator, Centre for Institutional Analysis and Planning [CIAP]). The Panel, in reviewing the Department of Psychology, was asked to consider such issues as the harmonization of Psychology departments between Sir Wilfred Grenfell College (SWG) and the STJ campuses, the funding base for interdisciplinary programs (e.g., Biopsychology), the likelihood of a flat budget over the foreseeable future, the comparison of the Department with other units in areas such as course delivery, the linkage between research-based graduate programs and University funding, the establishment of new graduate programs (e.g., Clinical Psychology and Psy.D.), the progression of graduate students to the Ph.D. level and the allocation of resources across the university and within the Department.

The Site Visit commenced at 0900h on 16 May 2002 and most meetings were held in SN 2059, a small classroom/meeting room that is near the Departmental office. Meetings

mostly with personnel and students of the Psychology Department continued through the day until 1830h after which the Panel members continued their deliberations during a dinner meeting later that evening. A similar pattern was followed the next day. The Panel reconvened on the morning of Saturday 18 May 2002 and toured the Departmental facilities within the Biotechnology Building. The Panel then moved its operations to a conference room located in the Faculty of Medicine. The Panel adjourned at 1430h.

2.0 Administrative Structure

2.1 Formal links of the Psychology Department

The primary administrative reporting structure for the Department is within the Faculty of Science. Undergraduate Psychology students may pursue degrees in Arts or Science, thus changes to curriculum are approved by the respective faculty councils of both Arts and Science. For practical purposes, however, Psychology is wholly administered within the Faculty of Science and members of the Department who sit on Senate do so in the name of the Faculty of Science. Four (4) seats are available to the Psychology Department on the Arts Faculty Council, but these seats are not used on a regular basis.

The School of Graduate Studies is a source of Fellowships for many Psychology students and interdisciplinary Biopsychology graduate students. The Faculty of Science currently has 3 seats on the Academic Council of the School of Graduate Studies. On an odds basis, a Psychology representative will sit on the Academic Council one third of the time.

Review of the Psychology programme at SWGC was not part of this Panel's mandate. Administratively, the SWGC operation is quite separate from the Department at the STJ campus. Faculty in Corner Brook report through the Principal, not the Dean of Science. One of its seven (7) members of faculty is a member of the interdisciplinary Biopsychology graduate programme. A soon-to-be appointed SWGC faculty member has already established a research link with at least one neuroscientist on the St. John's campus. Despite the geographic and administrative separation, changes in Psychology course content and course offerings are considered by faculty on both campuses, thus any changes proposed for the St. John's campus must consider this link. Students at the Sir Wilfred Grenfell College campus may pursue a Bachelor of Science or Bachelor of Arts with a specialization in Psychology. For Arts students only, an honours programme is also available. The Psychology programme at SWGC has little interaction with the Department on the main campus, but opportunities for increased research collaboration and intellectual exchange are apparent.

Memorial University of Newfoundland and the College of the North Atlantic (CONA) have an agreement that provides for a College/University Transfer Year program. According to the information provided on the College website, (<http://www.northatlantic.nf.ca/programs/program-details.asp?cProgCode=245>) "All courses identified in this section are developed in collaboration with the respective departments of Memorial University of Newfoundland." In this respect, Psychology 1050 and 1051 are listed by the College and are accepted as the equivalent of MUN's

PSYC 1000 and 1001, respectively. The Department Head's approval is solicited before CONA hires the instructors who teach these courses. Currently, psychology courses are offered only at select CONA campuses and are not available in St. John's or by distance education technology through CONA.

Recommendation 2.1: *Maintain strong links with SWGC and CONA to ensure the continued quality and transportability of courses.*

2.2 Structure within the University

The Faculty of Science is one of the largest academic units within Memorial University of Newfoundland both in terms of faculty size and course registrations. With some exceptions (e.g., Faculty of Medicine), most faculties, schools and other institutes of the University compete for a share of the operating budget. On the contiguous main St. John's campus, faculties and schools also compete with other units for space allocation to accommodate offices, laboratories, conferences and the like. Some space, especially classroom space, even though immediately adjacent to a given academic unit, is reserved by the University Central Booking for general course scheduling. Academic Units have no direct control over the use of this space. A classroom can be booked for times when it is not in use by a scheduled class. When devising new courses or revising existing ones, academic units are largely constrained by the timetable structure (typically 50 minute slots for Monday, Wednesday and Friday or 75 minute slots for Tuesday or Thursday).

Recommendation 2.2: *While revising the curriculum, base the changes on the needs dictated by the teaching objectives and obtain suitable space to accommodate the curricular change by obtaining some control over adjacent classroom space.*

2.3 Structure within the Faculty of Science

The Department of Psychology is one of nine (9) departments in the Faculty of Science. Science departments compete with each other for budget share, and perhaps to a lesser degree for space allocation. The current Dean of Science has instituted a process whereby the proposed budget of each department is made available to all Heads within the Faculty. This exercise in budget allocation has brought about some change to historical practice and has introduced a level of what can be described as 'transparency' in the resource allocation process.

Despite the enhanced transparency, the distribution of budget dollars within the Faculty of Science remains a considerable source of angst within the Department. The Self-Study document describes a department that receives 12% of the budget, but accounts for 25% of the undergraduate course registrations, 20% of the undergraduate degrees, 24% of the Masters degrees, 13% of the Ph.D. degrees and 7% of the graduate registrations with only 15% of the full-time faculty and 5% of the full-time staff. Thus, in the view of the Department, indices of teaching 'productivity' generally are greater than indices of 'expense'.

The Vice-President (Academic) asked Deans and Heads to look more broadly at the teaching of various subjects among comparable Canadian universities. CIAP analyzed combined graduate and undergraduate teaching at a cohort of Canadian universities including MUN. A cursory analysis of their data suggests that within the Faculty of Science at MUN, the Department of Psychology accounts for more registrations per tenure track faculty member than any other Department. On average, the Department has 1.7X more registrations than the average for the Faculty of Science and has as many as 3.6X more than one particular department. Another view of the data, however, shows that psychology programs typically register more students per faculty member. Taken in comparison, the MUN Psychology Department registers fewer students per faculty member than any other university against which it was compared. While a cursory examination of this comparison may suggest an inefficiency of the Department, this simple type of analysis may not be appropriate. The ratio of registrations in psychology departments to registrations in other science departments shows that only one university in the comparison group outperforms the Department of Psychology at MUN. This latter type of analysis suggests that the Faculty of Science at MUN may have a unique culture compared to other universities, but within the culture, the Department of Psychology is arguably the most efficient in terms of course registrations per tenure track faculty member.

The appropriate distribution of resources cannot be confined to a discussion merely within the Faculty of Science. Another analysis of the budget examines all undergraduate teaching units at MUN (excluding Medicine). Using the ratio analysis of total expenditure per lecture registration (see CIAP Report 2001-05, Academic Unit Profile 2000-2001) not only is Psychology by far the most efficient teaching unit in the Faculty of Science, but only three (3) academic units on campus (to wit, Sociology, Religious Studies and English) were more cost effective in 2000-2001. Taken over the past five (5) years, only Sociology in the Faculty of Arts is more efficient in its total expenditures per course registration.

In summary, within all departments of virtually all Faculties and Schools at the St. John's campus at MUN, only one department can repeatedly deliver its courses more efficiently than Psychology. Relative to Psychology/Other Science at a group of comparison universities, only one university appeared to be more efficient in terms of student registrations per faculty member. Yet all departments of the MUN Faculty of Science appear to have a lower ratio of registrations per tenured faculty member than do those departments in other universities.

Lower student/teacher ratios often are viewed favorably by students, their parents and the MacLean's survey. However, the data presented in the Faculty Complement External Data Comparisons (21 December 2000) do not conclusively prove that the MUN Faculty of Science has the best teacher/student ratio. The cross-university comparison reports data on a 'registrations per tenure track faculty member' basis. Not included in these data set is an analysis of the use of non-tenure track faculty (i.e., 'contractuals'). Furthermore, the cross-university comparison may point to a unique historical feature of academic staffing at MUN. Until more information is known about such factors as the use of non-

tenure track faculty at other universities, the availability of adequate classrooms, and the comparable quality of the programs, the use of cross-university data comparisons may be misleading and need to be interpreted with caution.

The Panel recognizes that budget distribution is not determined solely on the basis of numbers of teaching registrations. Some academic programmes are more expensive to operate than others. Experimental and laboratory-based disciplines generally cost more to operate than those that are not. Given that a considerable portion of the Psychology programme is experimental, the Panel is not clear as to the rationale by which the Faculty of Science budget is presently distributed among departments. The Panel was given no data to support the current budget distribution within the Faculty of Science. The Panel wonders whether some principles of budget distribution may be more historical than equitable.

Recommendation 2.3: Group Psychology in a new faculty that includes existing or perhaps new academic units that share a common body of knowledge. The creation of this new faculty will enable the redistribution of monetary and space resources within the University.

2.4 Support Staff

The Department of Psychology operates with three (3) full-time administrative support staff persons and three (3) academic support staff persons. [Note: the CIAP data suggest that Psychology employs 7 full-time staff]. An individual is employed through the Biology Department who handles much of the storeroom, purchasing, receiving, distributing and public tendering activities for the Department of Psychology. Within the Faculty of Science, only the Department of Mathematics and Statistics employs fewer staff members. At least one department within the Faculty of Arts has more staff than Psychology, although most employ fewer. With the exception of the Secretary to the Head, all remaining staff personnel have worked in the Department for more than fifteen years. Respectively, they are each very efficient in their job performance and appear to have an exceptionally low rate of absenteeism. These latter facts may be explained by the job satisfaction experienced and noted by the staff, combined with the high degree of respect that they receive from the faculty members and the Department Head. Opportunities for career advancement appear to be minimal for the academic support staff, but likely are no different than the opportunities that exist for other support staff on campus. In the not too distant past, one member of the academic support staff received the President's Award for Exemplary Service.

Aging equipment essential to a high quality teaching program is a regular source of frustration for academic support staff.

Recommendation 2.4.a: Identify and prioritize equipment needs and implement an appropriate replacement scheme. Note: In some instances such as the highly used computer lab, the replacement of computers will need to be considered as a unitary

expense. In other cases, individual pieces of equipment can be phased in on a regular basis.

Faculty members and graduate students are performing some duties that could be done by administrative staff or student employees. The result is that some opportunities are lost and initiatives not taken due to the pressure of conflicting priorities on the time available. A Graduate Research Officer could serve the Department in many ways:

- Oversee graduate student progress by ensuring that supervisory committees meet on a regular basis (e.g., every 6 months);
- Seek and publicize sources of funding to ensure that students and faculty are aware of these opportunities;
- Schedule and make all necessary arrangements for comprehensive exams, dissertations, visiting speakers;
- Process graduate student applications;
- Maintain an up-to-date website and prepare and distribute non-electronic promotional material to highlight the Department's activities; and
- Perform other research support duties for faculty members (including maintenance of safety records and regulatory documents).

Recommendation 2.4.b: Have a nonacademic staff position to deal with graduate student and research matters.

2.5 Academic Staff

Currently, the Department is comprised of twenty-nine (29) full-time tenured or tenure track faculty members and one (1) part-time tenured member. Two (2) academic staff members have full-time contracts. Nominally, two senior University administrators have appointments in the Department, but they have absolutely no function in any aspect of departmental life. Until this current academic year, the 'junior hire' who started at the level of assistant professor was appointed in 1983, with an associate professor having been appointed in 1984. Only three other tenure track faculty were even appointed between 1985 and 2001, but they left MUN many years ago. Twelve (12) of the current faculty members were hired as part of the now defunct Junior Division. Only three (3) of the tenured or tenure track academic staff members are younger than 50 years of age, and six (6) are 60 years of age or older. Seventeen (17) tenured faculty members started their teaching/research careers 30 or more years ago and are likely now eligible for retirement without actuarial reduction. Indeed, only 5 full-time academic staff members started their respective academic careers after 1975. Due to a variety of factors, including other employment opportunities, ill health and other interests and unforeseen circumstances, the likelihood is quite low that all current members of faculty will remain with the Department until mandatory retirement age is reached. However, a 'best-case' scenario, where all current members stay with the Department until age 65 shows that 6 people will have retired within the next 5 years and an additional 14 will have to leave in the subsequent five year block.

In simple terms, a minimum of 20 of 30 professors have to retire within 10 years. Within that same 10 year period, all but 3 current tenure track professors will be eligible for retirement with no actuarial penalty.

Recommendation 2.5: Start the process of faculty renewal immediately. The faculty renewal must include hiring of junior faculty now and on a regular basis for the foreseeable future. Faculty renewal must also include improved links within the University outside the Department.

2.6 Employment equity

Employment equity can be defined by a record of hiring women or men in proportion to the number of each sex who graduate with doctorates. Essentially, half of the current academic staff positions are filled by women and the two most recent tenure track positions were filled by women. In addition, the Department is hoping to fill a Tier II, Canada Research Chair (CRC) position, and the recommended candidate is a woman.

Employment equity as defined merely by a record of hiring anybody is an entirely different matter. Prior to this current academic year the record of hiring new faculty was appalling. Only five (5) tenure track faculty members were hired in the twenty year period from 1981 until 2001. All of these were hired by the mid-1980's and three of them have subsequently left the University. In the meantime, hiring elsewhere in the University has continued. An examination of recent hires from mid-1997 until September 2000 shows that within the Faculty of Science 18 academic staff were hired. Within the Department of Mathematics and Statistics alone, 8 individuals were hired in this 38-month period. Only the Science departments of Chemistry and Psychology had no new hires during this same interval. This past academic year, two tenure track assistant professors were hired and the Department has a prospect of hiring a junior member as a Tier II CRC.

Recommendation 2.6: Identify the top recruitment priorities and implement search committees immediately.

2.7 Staff Responsibilities

Academic staff responsibilities in general will be discussed in this report under the headings of undergraduate teaching, graduate teaching and research. However, one academic staff responsibility deserves special mention. For almost two decades, the Department has assigned a female member to the role of Mediator. The position was created not as a reaction to a crisis but as a proactive move to recognize the fundamental power imbalance that is often perceived between a professor and a student. The Mediator acts as an ombudsman for the informal resolution of disputes that might arise between students and academic staff, students and support staff and students and students. The services of the Mediator are not widely advertised. The Mediator is mentioned on the departmental bulletin board and on some course syllabi. The Psychology Student Society makes students aware of the service as do office staff members and presumably 'word of

mouth' among students. The Mediator appears to be successful in resolving disputes informally, but the efficacy of the Mediator has not been evaluated formally. Few complaints ever make their way to the Head for formal resolution, a fact corroborated by the Dean. Whether or not a Mediator position exists in other departments on this campus is unknown to our Panel, but the current use in Psychology appears to be a model approach for dispute resolution. The Mediator may be one important reason why undergraduate students in particular have so few reported problems with the Department or its faculty members.

Support staff responsibilities appear to be appropriate. As expected, most staff experience an uneven distribution of workload throughout the year so that on occasion they are relatively more busy than at other times. For example, the departmental receptionist enters all student grades into the Banner program at the end of each semester. To put this into perspective, this one individual enters one quarter of all grades assigned within the Faculty of Science or one out of every 14 grades entered campus-wide. Yet, the office continues to function during this time due to the efficient method of 'covering' by the two other administrative support personnel and the general competency of the staff. The department office is open and supervised from 0830h until 1700h Monday through Friday.

2.8 Recognition within the University

Opportunities for formal recognition within the Faculty are few, but do exist. The Dean of Science Distinguished Scholar Medal is awarded from time to time and the Fred Aldrich Award (for enhancing public awareness of science) is also awarded as deemed appropriate. On a University-wide basis academic staff are eligible for nomination for teaching or research-related awards. The Department boasts a University Research Professor, a Distinguished Scholar, a winner of the President's Award for Distinguished Teaching and a winner of the Fred Aldrich Award. Review of curriculum vitae suggests that the Department employs more potential winners of the aforementioned awards.

Recommendation 2.8: *Develop a culture whereby accomplishment is recognized and promoted by colleagues.*

2.9 Promotion

Promotion criteria for faculty members are established by the MUN/MUNFA Collective agreement. The route to promotion appears to favor those faculty members who have externally-funded research activity and a good record of publication. This, however, is not the only route available for promotion. A case can be made for promotion based on strong teaching in the presence of some other scholarly activity. The culture of promotion appears to be absent in the Department and possibly from the Faculty of Science. Of the current roster of 15 full professors, only 5 were promoted to full professor after the standard minimum 6-year stint as associate professor. For those who have been promoted, on average 11 years have been spent at the rank of associate professor. Even one member who was ultimately promoted to the rank of University

Research Professor spent the full six years as an associate and did not receive early promotion. Other members of the Department have languished for up to 20 years at the associate level before promotion to full professor. Some current associate professors who are no doubt deserving of full professorship have spent even more than 20 years as an associate.

Recommendation 2.9: *Develop a culture that enables faculty members to be promoted on a timely basis.*

2.10 Citizenship

On the whole, members of the Department make many, diverse and appropriate contributions to the University, the greater St. John's area, Newfoundland and Labrador and Canada. For the most part, these contributions are in keeping with the scholarly expertise of the members, but some other activities go beyond their immediate academic or professional interests. They demonstrate a commitment to the Faculty and the University, and in many cases foster appropriate interdisciplinary links and other enriching links within the community. Examples of the latter include sponsorship of a psychology prize in the regional high school science fair and some involvement with neuroscientists from the Faculty of Medicine with the annual 'Brain Bee' competition. Members and students of the Department are active in giving talks or sharing expertise in the community and around the Province. Of course, several scholars are involved nationally and internationally as members of scientific bodies and as referees of grant proposals, student promotions and manuscripts. Some members are more engaged than others.

Recommendation 2.10: *Develop a culture where outreach is a sine qua non.*

3.0 Undergraduate Program

3.1 Overview

Representations to the Academic Program Review Panel made it abundantly clear that students, faculty and administration within the Faculty of Science hold the undergraduate program in Psychology in high regard. In the Panel's view, the Department of Psychology is justifiably proud of its undergraduate program, which offers an impressive diversity of Majors and Honours degree programs in both Psychology and Behavioural Neuroscience, as well as a Joint Honours program in Biology and Psychology plus three Joint Honours programs in Behavioural Neuroscience combined with Biology or Biochemistry or Nutrition.

The most noteworthy aspect of Psychology's undergraduate program is its particularly strong emphasis on laboratory courses. As noted in the Self Study, Majors and Honours students are expected to complete six and eight "lecture plus laboratory" courses, respectively. Faculty and students were virtually unanimous in endorsing this stringent

laboratory requirement, described by a member of the Undergraduate Studies Committee as "our uniqueness and our greatest asset." Given the unusually high number of required laboratory courses, the undergraduate program at Memorial is unparalleled in Canada, and arguably the most rigorous of those with which the Panel members are familiar.

Recommendation 3.1.a: *That the laboratory emphasis in the undergraduate curriculum should be retained.*

That being said, the Panel nonetheless suggests that the Department give serious consideration to the possibility of a modest but strategic reduction in the number of required "lecture plus laboratory courses" (perhaps to four for Majors and six for Honours students). While not appreciably altering the empirical nature of the undergraduate program, such a change could be beneficial in at least two major ways. First, converting some courses to a lecture-only format could free some members of faculty to devise new courses, thereby facilitating the development of a more broadly-based and balanced curriculum. Second, decreasing the number of six-hour (i.e., lecture/laboratory) blocks of time needed by students each semester should mean that they could take a wider variety of courses than is currently the case. The desirability of both these scenarios is discussed in greater detail below.

Numerous members of faculty instruct not only the lectures but also the laboratories in their "lecture plus laboratory" courses. This fact must be viewed in its historical context. As a response to the more-than-decade-long period of virtually no hiring of faculty or support staff through the 1990's, members of faculty together with a very small group of academic support staff banded together to mount the laboratory courses as best they could, with the result that, over time, they appear to have become victims of their own success in two significant and related ways. First, the continuing capacity of the Department of Psychology -- currently the most cost-efficient unit in the Faculty of Science (and second-most in the University) according to the Centre for Institutional Analysis and Planning 2001 Fact Book, to cope with increasing student demand has consistently worked against the granting of requests for new personnel. Second, the Faculty of Science course equivalency policy which provides for teaching remissions for laboratory instruction -- typically 0.5 of a course for every scheduled three-hour laboratory slot for which the faculty member is fully and actively responsible (i.e., devising, planning, conducting, grading, etc.) -- has had an unexpected and undesirable effect on teaching loads in a number of departments in the Faculty. For example, though they are spending a great deal of time in the classroom, some faculty members in Psychology effectively have responsibility for only one course per semester (e.g., two classes collapsed into one for lecture purposes (1.0), plus two smaller laboratory sections taught at different times (0.5 each)). Such an arrangement does not represent the most effective use of instructional resources.

As teachers in the Department of Psychology are expected to supervise large numbers of graduate and honours students, any thoughts of expanding undergraduate offerings have been considerably constrained. This situation has also inadvertently led to the under-

utilization of graduate students in less-than-satisfying activities ["scut work"] such as marking objective examinations, photocopying, and monitoring televised Introductory Psychology classes (a concern raised in 1994). Many graduate students have taken MUN's Graduate Teaching Program and profess a strong desire for some teaching experience. In addition to faculty renewal (see below), in the view of the Panel one key to ameliorating the present situation is immediate approval for the hiring of a substantial number of academic support staff, thereby signaling that the Faculty of Science is ready to treat Psychology as it does other Departments which are heavily dependent on technology and which place a strong emphasis on laboratory-based coursework. Combined with (a) a small reduction in the number of "lecture plus laboratory courses" (described earlier), and (b) a more extensive and imaginative use of graduate students in the teaching function, such initiatives would have a "dominoes effect," i.e., having more laboratory sections taught by Laboratory Instructors or/and graduate students would release faculty members from laboratory teaching and grading chores and free them to work on research projects and grant applications, supervise additional graduate and honours students, and develop new courses. In time, such a change should be a win-win for all concerned.

Recommendation 3.1.b: *That laboratories be critically re-evaluated for their actual requirements with respect to faculty time and input and that due consideration be given to greater use of Laboratory Instructors and graduate students for laboratory teaching.*

3.2 Introductory Psychology

For the six academic years from 1996 through 2001, an average of 1743 students were enrolled annually in Psych 1000/1001 in the Fall semester (Self Study, Appendix B1a). Given the mean student population of 12556 on the St. John's campus for the same time period (2001 Fact Book, Table 2), at any one time very nearly 15% of all students were taking Introductory Psychology (and almost all students would take it at some point during their undergraduate years). These very large enrolments constitute a considerable service to and significant source of income for the university.

In 1994, recognizing that "*the number of students enrolling is large and the reduced faculty complement cannot possibly offer additional sections,*" the External Review Committee recommended "*that the size of the lecture sections in Introductory Psychology be increased to the maximum that room sizes permit*". To its credit, the Department responded in this direction, with the result that for the past several years approximately two-thirds of all Introductory Psychology students have been taught in 300-seat lecture theatres, most of them via televised delivery by three former Junior Division professors whose entire teaching load involves instructing in this course. In addition, a fourth member of faculty has developed Web versions of Psychology 1000 and 1001.

In its Self Study, the Department summarized the teaching of Introductory Psychology as follows:

"The delivery of Introductory Psychology has been characterized by innovation, hard work and efficiency. The innovation is demonstrated by the registration of a majority of the students in sections delivered through the medium of projected television and by the development of Web delivered courses for both Psychology 1000 and 1001. In both these forms of delivery, enormous amounts of hard work have to be put into the preparation of material for presentation and the innovation required to retain the focus and attention of the students. Hard work is also required for the delivery of the course through the normal lecture format because it is usually taught to two or three hundred students in one section. The efficiency is shown by the teaching of 1200 to 1600 students in the Fall and Winter semesters by three professors and the teaching of large sections on a per course basis. In addition to the on-campus delivery both Psychology 1000 and 1001 are delivered by correspondence each semester. The course delivery by projected television is well received by the students who perform as well in those sections as students currently and previously taught in the traditional lecture format" [p. 6]. "[The two professors who] have been involved in developing the [televised] teaching of introductory Psychology to large classes often present at conferences [e.g., STLHE] and are invited to other universities to talk about their work" [p. 16].

That Introductory Psychology is taught in an exemplary fashion is not at issue. The situation is not without its problems, however. In the 1994 External Review, the Introductory Psychology teaching group was described as feeling "[under-]appreciated" by the rest of the department, especially as this course is taken by nearly all MUN students and is the ambassadorial course for attracting majors and honours students" (p. 15). The perception of the current Introductory Psychology teachers is that little has changed in the interim. One member of the group noted that 52% of all Psychology students are in the Introductory courses. He expressed concern for the future in light of the predicted decline in homegrown university students in the next few years ("no echo in the demographic"), and underscored the need to emphasize undergraduate (and particularly Introductory Psychology) teaching. He went on to say that there is a need for more commitment to Introductory Psychology from other faculty members, and stressed that the "Achilles heel" of large class teaching is not the quality of teaching but rather the lack of reward for teachers in terms of promotion and tenure. Clearly the perceived lack of tangible appreciation for their efforts continues to be strongly felt by the Introductory Psychology group.

Recommendation 3.2.a: *That the Department and Faculty investigate appropriate rewards for large class teaching. Following the investigation, demonstrate that the reward system is implemented.*

Personal disgruntlement aside, the most pressing issue in Introductory Psychology is that the two individuals who do most of the televised teaching have been eligible to retire for some time, and the Department must concern itself now with how the course will be delivered in the future. The Panel is of the view that the present method of delivery (though perhaps unnecessarily labour intensive) should probably continue more or less in its present format so long as present personnel are willing to carry on. Simultaneously,

immediate consideration must be given to the way(s) Introductory Psychology will be taught when the current teachers retire. For instance, if TV teaching continues, hiring individuals with an expertise (or at least a demonstrated willingness) to engage in such teaching must be a priority. If a more traditional form of instruction is envisaged, those who are hired must know from the outset that teaching Introductory Psychology will be a likely expectation regardless of their area of expertise.

Recommendation 3.2.b: *That a plan be devised immediately for future Introductory Psychology teaching.*

Recommendation 3.2.c: *That other members of the Department become involved in Introductory Psychology as guest lecturers in their specialties, and that graduate students be used as tutorial instructors and mentors for Introductory Psychology students.*

3.3 Service Teaching

Thirteen non-restricted (i.e., "service") Psychology courses are listed in the MUN Calendar. However, the combination of underfunding plus a number of retirements has forced the Department to reduce the number of service courses taught in recent years (e.g., only five were offered in 2001-2002), in keeping with the recommendation in the 1994 Review. As a collectivity, the Department is disappointed at having had to take this decision, because it is proud of its history of offering non-restricted courses to the undergraduate community at MUN. The reduction of this service impairs the Department's ability to meet its strategic teaching objective of "provid[ing] courses in psychology for students who are interested in the discipline . . ." (Self Study, p.1).

Recommendation 3.3: *That non-restrictive course offerings be re-instituted as much and as soon as faculty renewal and/or increases in departmental funding permit(s).*

3.4 Laboratory Courses

As mentioned previously, emphasis on courses with a laboratory component -- the 2001-2002 MUN Calendar lists 21 such courses -- sets undergraduate Psychology at Memorial apart in Canada. Like the faculty, students are highly enthusiastic about their heavily laboratory-based program. In their meeting with the Panel, however, the honours students did make a number of suggestions for improvement: (a) instruction in the mechanics of writing a laboratory report should be provided as soon as possible in Year Two; (b) many laboratory assignments should be revised to require more extensive research literature justification; and (c) students should be required to do more in terms of searching the psychology literature, rather than relying on background research articles provided by the instructor. (One student remarked that she did not learn of the existence of PsychInfo until her final year in the Honours program.)

Recommendation 3.4.a: *That the Undergraduate Studies Committee meet with the teachers of the laboratory courses to a) instruct students in a mechanics of laboratory*

report writing, b) increase the use of research literature in lab assignments and c) increase the amount of student-conducted searching of the psychology literature.

Recommendation 3.4.b: *That the Undergraduate Studies Committee have student membership. Student members would be excluded only from the discussion of confidential/personal issues (as is the case with the student member of the Graduate Studies Committee).*

3.5 Quality Control and Evaluation

Quality of teaching was a major issue for many students and some faculty at the time of the last academic review. This concern was not raised with the present Panel, and it appears that the situation has improved considerably. Eight years ago no formal system of course evaluation existed, because of (a) restrictions in the collective agreement concerning the use of teaching evaluations, and (b) the fact that individual teachers could choose whether or not to be evaluated. In the Fall of 2001, most eligible undergraduate Psychology courses were evaluated (for the first time) by the Course Evaluation Questionnaire (CEQ), a 10-item instrument developed by a MUN Senate Committee.

According to the Self Study (Appendix D1), Question 8 of the CEQ asks students to evaluate "overall quality of teaching instruction" on a five-point scale ranging from Poor (1) to Excellent (5). The following analysis refers to the results for Question 8 only; it does not include Psychology 2440 and 4900, for which evaluation packages were "returned not administered," nor Psychology 2900 and 3750, both of which are team-taught courses, and as such exempt from having to use the CEQ.

For Introductory Psychology (Psychology 2002 and 2001), the mean score on Question 8 was 3.86/5 (based on an average participation rate of 65%). For the five (of seven) sections taught by full-time members of the Department, the mean was 4.09/5 (average participation rate 73.7%; mean number of respondents 222).

In 2000-level courses (excluding Psychology 2900), the mean for overall quality of teaching instruction was 4.19/5 (average participation rate 75.8%; mean number of respondents 65). For courses in the 3000 series, the mean was 3.61/5 (average participation rate 76.5%; average number of respondents 50). Finally, in 4000-level courses, the overall quality of instruction was rated at 4.14/5 (average participation rate 88.2%; mean number of respondents 14).

That the ratings for fourth-year (4000-level) courses were high is commendable but also not unexpected (i.e., as is the case at many institutions, ratings are often high in senior courses in which enrolments are small and the majority of students are taking courses that are central to their academic interests). For 3000-level courses, the ratings are healthy (and possibly artifactually depressed by the exclusion of the team-taught 3750). What is most encouraging is the very strong rating of teaching quality in the 1000- and 2000-level offerings, because these are courses in which enrolments are high and substantial numbers of students are not registered in Psychology programs.

Across all undergraduate courses, the mean rating for Question 8 was 4.00/5, allowing the conclusion that the university is well-served by the teaching in the Department of Psychology.

Recommendation 3.5.b: *That in the future priority continue to be given to hiring good teachers, so as to maintain the current high quality of instruction.*

(Parenthetically, it occurs to the Panel that the Department may here again be a victim of its own teaching success. The stated reluctance of many faculty to allow graduate students -- particularly Masters and pre-comprehensive Ph.D. candidates -- to teach, ostensibly because of their as-yet-unacceptable level of knowledge, may in part also reflect the faculty's awareness that they themselves are already doing a very good job of teaching so why upset the apple cart? Thus it may be important to note that in programs at numerous other universities effective undergraduate teaching is done by doctoral and senior Masters candidates.)

3.6 Undergraduate Curriculum Revision

As summarized in Appendix C2 of the Self Study, at the Undergraduate Teaching Retreat held on March 8 and 21, 2002, faculty and students made substantial progress toward "establish[ing] principles to be used in developing a contemporary, coherent and efficient undergraduate programme and to explore alternative models for such a curriculum" (p. 1). In the words of the Department Head, a "creative solution" will be found to change what one staff member referred to as a "standstill curriculum." Of particular importance is the recognition by faculty and students of the needs for: a) horizontal sequencing (i.e., elimination of content overlap in courses at the same level; b) vertical sequencing (i.e., lower level courses leading coherently to higher level courses in the same content area); and c) the opportunity for students in joint programs to obtain their courses in a timely fashion.

Recommendation 3.6: *That curriculum revision proceed apace. In this process the Department must address issues of courses and course content and ensure that course offerings are sufficiently balanced to reflect all appropriate sub-disciplines.*

First, efforts must be made to solve the "problems of [course and content] overlap" identified in the Self Study (p. 7-9), particularly the egregious example of UCC 2020, in which clear psychological content is being covered in a course which is offered for credit by a unit (the University Counselling Centre) in which the Director reports to the Dean of Student Affairs and Services, i.e., to an individual who is not an academic officer of the university (2001 Fact Book, p. 3).

Second, and most important, any revisions to the curriculum must balance the various disciplines within psychology. As at least one faculty member noted, "psychology is becoming more applied," and yet "the Department [as presently

configured] is lopsided," with "the human side . . . going down the tubes." This imbalance was illustrated for the Panel by a faculty member's observation that the courses required for Honours students to be admitted to clinical programs are not currently offered at MUN

Succinctly summarized, one end-goal of any revision to the departmental course offerings should be the development of a more broadly-based and balanced curriculum. Several related initiatives to introduce greater flexibility into program timetabling could facilitate the curriculum revision process: (a) reducing the number of required "lecture plus laboratory" courses (as outlined in earlier); (b) shortening laboratory sessions to 1.5-2 hours wherever possible (based on the Honours students' vigorous representation to the Panel that a sizeable number of experiments which are scheduled for three hours require only half that time in practice); and (c) repatriating classrooms and time slots so that Psychology laboratory sessions could be offered at various times of day rather than all having to be offered after 3 p.m., as required by the present "central registry" process.

3.7 Departmental Needs

3.7.1 Space and Funding

As one member of faculty lamented, "resources should flow to activity but they haven't," with the result that the Department is strapped for both facilities and money. For example, the Panel was told of (a) the crippling demand for research space (to accommodate newly hired professors, field researchers, and Honours students' thesis projects, (b) the need for new equipment for the undergraduate laboratory courses (e.g., new Skinner boxes for the learning labs.), and (c) the need for a full-time staff position for Introductory Psychology (specifically, an individual with graphic artistic skills). The Panel sees merit in these and many other requests too numerous to list here.

Recommendation 3.7.1.a: That the Dean of Science - who described the Department as a "very strong group" - work with the Head to devise appropriate research and office space for new faculty, allocate funding to maintain essential teaching-related equipment and hire appropriate additional staff.

Currently, the Department requires a number of paid subjects for their psychology experiments. Some institutions have developed 'subject pools' through their introductory psychology courses. The subject pool serves several purposes. It provides faculty and students with subjects for their research studies and thesis projects, respectively. The pool enables the department to husband scarce monetary resources by eliminating the present need to pay students in return for their research participation and it provides the student subjects with insight as to the workings of an experiment and other issues such as informed consent and the investigators' responsibilities.

A system which works well in a number of institutions with which Panel members are familiar gives Introductory Psychology students the option of serving as subjects in two research projects in exchange for maximum 5% bonus in course credit. The available course grade is 105%, but should a student choose not to participate at all s/he can still (in

theory) earn 100% in the course; on the other hand, it is possible for a student to earn up to 2.5% for taking part in, and answering a few short questions about, each of two studies.

Two default options are provided, i.e., a student may choose not to continue during the experiment and still receive the bonus credit, or, if s/he does not wish to be a subject but still wants the bonus, s/he can answer questions about a research study published in a reputable psychology journal. Such a system routinely generates participation rates of close to 90%.

Recommendation 3.7.1.b: *That the Department investigate the possibility of setting up a subject pool for Introductory Psychology.*

3.7.2 Faculty Renewal

Faculty renewal is clearly the most serious problem facing the Department. The 1994 Academic Review and the present Self Study both highlighted the dire consequences for the Department of the wave of imminent faculty retirements -- seven by 2007 (including, for example, two professors responsible for a significant proportion of the Developmental offerings), and eight more in the following five years (Self Study, Appendix E3, p. 2). As one member of faculty put it, without a number of immediate hires, "the Department is on the verge of collapse." The Head observed that Psychology "is crushed for teaching," a situation the Dean of Science described as "a ticking time bomb." Should it be necessary to justify the hiring requests beyond the obvious catastrophe which looms if they are not granted, attention can be directed to Table 3 in the Selected Indicators from the Academic Unit 2000-2001 (Self Study, Appendix C3), which reveals that in the Faculty of Science, Psychology has (a) the highest number of FTE graduate and undergraduate students, (b) the highest undergraduate student-teacher ratio per faculty member, and (c) the lowest expenditure per lecture registrations. The data in the Self Study (p. 19) are based on the above table, and illustrate the situation clearly in numerical fashion, i.e., in the Faculty of Science, Psychology professors teach 25% of the students with 15% of the faculty and 12% of the money. All parties seem to be in agreement about the potentially catastrophic nature of the situation.

Recommendation 3.7.2: *That the Faculty of Science immediately hire four faculty members and a minimum of one per year thereafter.*

Given the anticipated competition with other universities for new Ph.D.'s, we suggest further that the Department adopt the strategy of "getting the best candidate[s] available regardless of the area[s] of expertise (Self Study, Futures Committee Discussion Paper, Appendix C6, p. 6). (A "creative hiring practice" which works well at the institution of one of the Panel members is worthy of mention in this context. When it became apparent during the interview process that there were two outstanding and well-rounded candidates for a single position, and it was known that a second position would be available the following year, after consultation with the Dean the Department was able to offer a contract for the future position immediately, on the mutual understanding that the

contract would not take effect until the beginning of the academic year following the year for which the interview was actually taking place. Such a strategy reduces the possibility of losing good candidates to other universities in the interim.)

4.0 Graduate Programs

Graduate students are an integral part of the research enterprise of the University. Without a strong, vibrant graduate program overall research productivity declines, eventually leading to loss of productive faculty to other institutions and difficulties in recruiting new faculty. During the past decade graduate programs across Canada have been difficult to maintain because of decreased funding and lack of career opportunities for even the best trained graduate students. These problems were particularly acute at Memorial, where sources for graduate student funding are few. Moreover, the relative emphasis at Memorial, until recently, has been weighted very much toward undergraduate teaching. However, Memorial's strategic plan includes a goal to increase graduate enrollment substantially. This will help meet the ultimate objective of enhancing research productivity at Memorial by 15%.

This increased emphasis on graduate training occurs at an opportune time. The Federal Government has put considerable new funds into research, including the Canadian Institutes for Health Research (CIHR), Canadian Foundation for Innovation (CFI) and the Canada Research Chairs (CRC) program. There is increased support for training of graduate students and postdoctoral fellows within federal funding agencies (e.g., NSERC, CIHR) but also within private research foundations such as the Heart and Stroke Foundation, Alzheimer's Foundation and others. Many of these personnel programs are joint ventures between private foundations, federal agencies and industry. At the same time the looming wave of retirements at universities across Canada has begun. Provision of highly trained, Canadian graduates to fill university and other positions is essential. Thus, Memorial's efforts to revitalize and expand its graduate programs are timely.

4.1 Programs and Areas of Specialization

The Department of Psychology currently offers the degrees of Master of Science and Doctor of Philosophy in most of the traditional areas of experimental psychology (Behavioural Neuroscience, Cognition, Developmental Psychology, Perception, Social Psychology). In addition, students can enroll in a cooperative-based program in Applied Social Psychology (M.Sc.) or an interdisciplinary Biopsychology Program (M.Sc. and Ph.D.). Attempts to establish a program in clinical psychology have been hampered by loss of faculty and, until recently, difficulties in recruiting suitably qualified faculty. A plan has been devised to establish a Doctorate of Psychology (Psy. D.) program at MUN that would provide training for clinical and counseling psychologists.

The experimental graduate programs (depending on area of specialization) require 4 to 6 courses and a thesis. At the doctoral level a comprehensive exam is also required. In the 'Applied Social' program, the requirements are somewhat different. Research activity

takes place within 2 semesters of work terms and a one-semester research practicum/project.

Approximately 30 full time students are currently enrolled in M.Sc. and Ph.D. programs within the Department of Psychology. There are also 21 students (9 Ph.D. and 13 M.Sc.) in the interdisciplinary Biopsychology program, a majority of whom are supervised by faculty members within the Department of Psychology. Approximately 75 % of the Psychology graduate students are registered at the M.Sc. level, with the largest groups in Applied Social, Development and Behavioural Neuroscience.

4.1.1 Biopsychology.

The interdisciplinary Biopsychology program appears to be flourishing. Students are attracted from Newfoundland and Labrador, other parts of Canada and other countries. Several of the faculty in this area are highly successful researchers with national and international research profiles. They attract high quality students, many of whom (8/21) are externally funded by NSERC. Biopsychology has an active seminar/journal club and student morale appears very high. *Both the Biology and Psychology departments should be justifiably proud of this program, that in many ways could serve as a model for other interdisciplinary programs within the University.* A concern is that one of the most active and well known researchers in this program, Dr. John Lien, has retired. He continues to do research and attract students from around the world. How much longer this will continue is unknown. Replacing Dr. Lien now so as to build upon the excellence of this program would be prudent. Indeed, as a result of Newfoundland and Labradors' unique ecosystems the Biopsychology program has a strategic advantage over other graduate programs in the Psychology Department and other Canadian universities.

4.1.2 Behavioural Neuroscience.

The Behavioural Neuroscience program continues to be a strong, well-funded and respected group that has benefited from the merger with faculty members previously considered part of the animal learning and psychopharmacology research groups. In addition, one of the 2 'new hires' is in this area. The Department is hoping to confirm a Tier II position in Behavioural Neuroscience within the next year, which will further energize this research group. Students and faculty in this area benefit from close interactions with their Neuroscience colleagues in the Faculty of Medicine. They participate in team taught graduate courses, co-supervise graduate students and partake in a research seminar/journal club supported and organized by the Faculty of Medicine.

Recommendation 4.1.2: *Create a University-wide interdisciplinary program in Neuroscience.*

4.1.3 Applied Social Psychology.

The highly successful applied program in Social Psychology has many enthusiastic students who are sought after by provincial and federal government departments and industry. A thesis is not required for this degree, but students engage in applied research through their 2 work terms and a semester-long research practicum. The research reports

are evaluated by members of the Social Psychology group. Clearly this group should not be considered in the same light as course based master's programs with no research component. This program provides an important and highly visible source of well-trained social scientists for the government and private sector in Newfoundland and Labrador and demands continued support.

Recommendation 4.1.3: *Develop a plan to have Applied Social Psychology research reports evaluated externally.*

4.1.4 Developmental Psychology.

The faculty in the Developmental research group are well-regarded and funded. Their graduate program appears strong, with high quality students M.Sc. and Ph.D. programs. One student is supported by an NSERC PGSB.

Other groups in the Department include: Experimental Social Psychology, Perception, Cognition and Clinical Psychology. Experimental Social Psychology has 3 graduate students and the Perception and Cognitive areas have 1 student each.

4.1.5 Psychology of Perception.

Perception is no longer a major research field in North American psychology departments. Graduate students in this area could affiliate with either the Developmental or Behavioural Neuroscience groups to benefit from seminar series and more opportunities for student and faculty interaction.

Recommendation 4.1.5: *Encourage graduate students in 'Perception' to affiliate with either the Developmental or Behavioural Neuroscience groups.*

4.1.6 Cognitive Psychology.

Cognition is an area in need of revitalization. Merger of the Developmental and Cognitive groups may provide Cognitive students with some group identity. The expansion of the cognitive area may depend on hiring new faculty who have expertise in developmental psychology or neuroscience. This strategic hiring will ensure a critical mass for graduate students and faculty alike.

Recommendation 4.1.6: *Merge the Developmental and Cognitive areas, and expand expertise in cognition by hiring new faculty who have research expertise in areas such as social psychology, developmental psychology or neuroscience.*

4.1.7 Clinical Psychology.

A clinical program is needed in Newfoundland and Labrador to supply hospitals, schools, and chronic care facilities with highly qualified psychologists. Previous attempts to create such a program failed for a variety of reasons but with the addition of a new faculty member in this area (Dr. K. Hadden) a viable group appears to be emerging. The Doctor of Psychology (Psy. D.) program appears most appropriate. Currently, the Psy. D.

program at l'Université du Québec à Montréal (UQAM) is the only one in Canada. The need for an English language program is obvious. Given the success of the Biopsychology program, the Psy.D. program should also be interdisciplinary, utilizing faculty strengths in our University departments, centres and faculties. Thus members could be drawn from Psychology, the Counseling Centre, the Division of Community Health of the Faculty of Medicine, the Faculty of Education and School of Nursing. An interdisciplinary program of this sort could be marketed to the rest of Canada, and by drawing upon faculty from other academic units would not unduly drain Psychology Department resources.

Recommendation 4.1.7: *Establish an interdisciplinary Psy.D. program including one new hire in clinical psychology.* *Note: This program would be unique outside Québec and would provide an important source of highly trained psychologists for the province of Newfoundland and Labrador.*

4.2 Financial Support

The level of support within the Department varies considerably: experimental students for the most part receive funding between \$12,000-16,000/year, while several receive under \$9,000/year. Most graduate students are supported through a combination of university fellowships, teaching assistantships and supplements from faculty research grants. Students enrolled in the Master of Applied Social Psychology program receive support from their work term placements that on average pay about \$5000/year. The School of Graduate Studies (SGS) provides \$75,000/year to the Psychology Department in the form of fellowship support (\$10,500 for Ph.D., \$8,500 for M.Sc. students).

Another \$80,000 comes from the Department budget in the form of graduate teaching assistantships. Each graduate assistantship unit (GAU) is valued at \$875 and involves 40 hrs of work per term (i.e., 3-4 hr per week). All students are guaranteed a minimum of 2 GAUs during their first year in the program. Most students hold 2-3 GAUs per year but some students, especially in the Developmental area, have as many 6 per year. The time devoted to so many GAU 's may interfere with research productivity and/or timely degree completion. Some of the better-funded faculty 'top up' the support of their students by \$2,000-6,000/year. The Department does not have a minimum standard of support and will admit students with little or no financial support other than that obtained from GAUs. With the exception of the Biopsychology program (and 1 student in Developmental) relatively few students hold national awards (e.g. NSERC, SSHRC or CIHR). The financial support for Applied Social students is similar in amount to that of other graduate students: it differs in that the work term stipends tend to substitute for the support paid from faculty research grants to experimental students. Biopsychology students also receive GAUs that are provided on an equal basis from Biology and Psychology. They also receive partial or whole support from the Department of Fisheries and Oceans and/or their supervisor's research grants.

Overall, graduate student support is not nationally competitive. This makes student recruitment difficult. Few students have external awards, which in turn puts a greater

drain on internal sources of funding (fellowships, GAUs) and only a few of the faculty are sufficiently well-funded to provide top ups to their students.

Recommendation 4.2.a: *Secure more funds for graduate student support via:*

- *Recruiting high quality students who are nationally competitive for fellowships;*
- *Hiring research-oriented junior faculty who can obtain and retain grant funding;*
- *Encouraging current faculty to provide support from research grants; and*
- *Soliciting the Dean for more teaching assistantships (based on undergraduate enrolment).*

Graduate students in non-thesis applied programs (e.g., Applied Social Psychology, Psy.D.) will likely need to seek financial support in addition to what is available through the School of Graduate Studies. Financial support of students by government agencies, business and health care agencies in exchange for future work commitments could benefit both employers and students. Surprisingly, faculty members had not taken advantage of the Newfoundland and Labrador *Centre for Applied Health Research* (CAHR, www.med.mun.ca/cahr) to fund fellowships at the masters, doctoral or post-doctoral levels. The CAHR also funds research in applied health research areas. Lobbying different groups for financial support of graduate programs and developing a database about sources of funding will be required if these applied programs are to prosper.

Recommendation 4.2.b: *Organize ‘partnerships’ to fund students while enrolled in non-thesis applied programs.*

4.3 Teaching Opportunities

Many Psychology graduate students complete the Graduate Program in Teaching which is offered through the School of Graduate Studies. Despite this, and to the Panel's surprise, graduate students continue (see 1994 report, Appendix B2) to be used for mundane tasks such as correcting multiple choice exams, photocopying and invigilating exams or classes of Psychology 1000. This is not a good use of their training, nor does it enhance their career opportunities in academia. Involving students directly in teaching on a small scale (several lectures per year) with mentorship from the faculty member could give graduate students the experience and guidance they need. A student could gradually increase his or her load and build up a series of lectures that could be used as a basis for courses they might teach upon their first appointment. For example, some non-majors courses could be team taught by a small group of Ph.D. and M.Sc. students. As it is, Memorial students are disadvantaged because *real teaching experience* is one of the criteria for hiring. In the job market, they compete with candidates from other universities who receive this type of training/experience. When they are hired, those junior faculty who have appropriate teaching experience can more likely adapt to the challenges of having to start an independent research program and teaching than those who have not.

As an alternative to using graduate students, multiple choice grading could be done by computer or MUCEP students. Other personnel could be used for photocopying and exam invigilation and the monitoring of television sets.

Recommendation 4.3: *Provide graduate students with some genuine teaching experience*

4.4 Academic Environment

The Panel saw evidence of very successful graduate programs despite limited resources. The tasks of running the graduate program (e.g., student supervision, teaching, and supervisory committees) are carried by a relatively small number of faculty members. Especially in terms of numbers of faculty involved, the Panel was left with the impression that the graduate programs were somewhat neglected compared to the undergraduate program. The Department has no seminar series nor does it appear that many research groups have regular journal clubs or research seminars (Biopsychology and Behavioural Neuroscience being exceptions). Thus, students have little opportunity to interact with scientists from other institutions and have little practice giving seminars themselves. Not surprisingly, some students expressed feelings of relative isolation. Although the Department has had to be very resourceful with its limited funding and time allocation, an in-house seminar series involving senior (i.e., beyond first year) graduate students from Psychology and faculty from Psychology and other university departments should be a priority. Through the office of the Dean, funding (~\$8,000/year) could provide for up to 4 visiting speakers per year to supplement the series.

In addition to the academic stimulus, the visiting speakers program could be a *marketing initiative* if done in the following manner: The invited speakers would all be prominent **Canadian** researchers, some of whom would be NSERC, SSHRC or CIHR grant review panel members. Once individuals from other universities become aware of the Department's strengths and make some personal contacts, collaborations and graduate student exchanges will follow. This initiative would also provide much needed intellectual stimulation for both faculty and graduate students. *This sort of action is needed to raise the profile of the Department among influential scientists.*

Recommendation 4.4: *Institute a regular departmental seminar series that includes speaking opportunities for graduate students, MUN faculty members and prominent Canadian scientists external to MUN.*

4.5 Enhancing the Graduate Program

The Academic Unit Profile shows that the Department graduated 34 M.Sc. and 5 Ph.D. students in the last 5 years (1997-2001). Other departments in the Faculty of Science, such as Biology (59 M.Sc., 23 Ph.D.), Chemistry (28 M.Sc., 21 Ph.D.) and Earth Sciences (34 M.Sc., 13 Ph.D.), graduated more students, especially Ph.D. students, in the same time period.

4.6 Nurturing the Ph.D. Programs.

A number of reasons may explain the relatively low output of Ph.D.s from the Department. As mentioned earlier, funding levels for graduate students are poor compared to other Canadian Universities, making it more difficult to attract students. Although the Biopsychology group is very successful at attracting and graduating both M.Sc. and Ph.D. students, their statistics are not included in the Psychology Department averages even though many of these students are supervised by members of the Department. Furthermore, not all departmental graduate programs offer a Ph.D. The Applied Social Psychology program is a case in point.

Some faculty members in the Department feel strongly that students should obtain degrees from 2 or 3 different universities. The current reality, however, is that many institutions in Canada are holding onto their best undergraduate students. These students are often the ones who are most productive and who receive doctoral awards. As it is, students who follow a traditional M.Sc. program in experimental psychology at Memorial take 4-6 courses, write a thesis, then leave to become productive Ph.D. students at another institution. This approach needs rethinking given the obstacles (e.g., geography and financial support) in attracting first class students. Students can be encouraged to seek post-doctoral positions to broaden their research experiences.

While encouraging the best students to stay, the Department must tighten its approach to Ph.D. programs to ensure that students will have appropriate financial and academic support. Some successful graduate programs have placed a high priority on having students submit manuscripts for publication *before* writing a thesis. Evidence of research productivity is the most important factor in obtaining doctoral fellowship support. One way to facilitate this process is to identify outstanding students who would transfer directly to the Ph.D. program after the first graduate year without writing an M.Sc. thesis. Instead, they would be encouraged to produce one or two manuscripts for publication that would form part of their Ph.D. dissertation. Transfer to the Ph.D. program would have to be a unanimous decision made by the entire supervisory committee and a majority of the departmental Graduate Committee.

The above model demands that the oversight of each student is increased substantially from current practice in many programs. Some students appear not to be receiving enough direction from supervisors or their supervisory committee. In some cases, the student research projects may be unrealistic or the students may be losing focus, but, whatever the reason, a number of graduate students spend extra years in their respective programs. Faculty members outside the Department who served on supervisory committees in Psychology have commented that these committees meet rarely, if at all, before the dissertation is submitted.

Recommendation 4.6: *Devise and implement a strategy to encourage superior MUN graduate students to enter the Ph.D. program. Features of the successful 'roll over program' must include:*

- Identification of outstanding graduate students;

- Submission of manuscripts early in the program;***
- Full supervisory committee support and oversight; and***
- Application for external funding.***

4.6.1 Marketing all graduate programs.

The Department has many active scholars with good national and/or international reputations. These individuals should be attracting more highly-qualified students. Several faculty members commented on the paucity of graduate applicants. A number of factors may explain the shortage of applicants.

The Department appears not to advertise its capabilities or its people in any organized manner. Like many other units on campus, its web site is out-of-date. The Department does not have an up-to-date poster that can be sent to campuses around North America.

Few faculty members attend Canadian meetings. Attendance at Canadian meetings may be the best way to identify potential graduate students and post-docs. Furthermore, people attending Canadian meetings are the same ones reviewing NSERC, SSHRC and CIHR grant applications. Canadian meetings provide an excellent opportunity for faculty members and students to meet potential colleagues/collaborators or future seminar speakers.

Recommendation 4.6.1: Develop a comprehensive outreach/marketing plan. Features of the plan must include:

- Attendance at Canadian meetings;***
- Faculty members participation on national (grant) panels;***
- Redevelopment and maintenance of web site and poster communication; and***
- Institution of annual speakers program (at least 4 speakers/year).***

4.6.2 Faculty complement.

This Psychology Department, more than any other in the Faculty of Science, is in desperate need of new faculty members. This is long overdue and any further delay will result in a collapse of graduate and eventually undergraduate programs. New research-oriented junior faculty members will bolster the graduate programs in areas that have both strategic advantages/strengths and great need. Areas with high strategic advantage appear to be Biopsychology, Applied Social Psychology and Clinical Psychology. Behavioural Neuroscience has an opportunity to revitalize with the Tier II chair in limbic system plasticity. Finding scientists who can bridge more than one area may be necessary to strengthen groups such as Developmental and Cognition.

Recommendation 4.6.2: Immediately search for and hire at least four (4) research-oriented faculty members.

5.0 Faculty Research and Scholarship

Research productivity and scholarship are highly-valued and important to the goals of this department. As with many psychology departments, the form of scholarship and research varies across the Department and its programs.

Within the Department, strong basic research groups can be found that are productive and supported primarily by external funding. These groups train a large cohort of honours students and a somewhat smaller group of graduate students. Included are the Biopsychology group, the Behavioral Neuroscience group, and the Developmental/Cognitive/Perception Group. Members of these groups have both national and international visibility. A number of these individuals are at the top of their respective fields. In terms of many obvious indices of success, these individuals and groups are equivalent in productivity, support and training capabilities to their counterparts in other Canadian Universities.

There are, in addition, three other groups of investigators whose scholarly activity is, for the most part, different in kind but equivalent in its value to the health and success of the Department. Members of the Social group, the Clinical group, and the Introductory group are often engaged in evaluation research and report-writing. They are very resourceful and, to support their work, they primarily depend on contracts and internal grants. Some of these faculty members possess skill specializations and training in applied research and are able to provide a stimulating and supportive environment for the training of non-thesis students in applied fields. The Applied Social Psychology program is one example, and this same expertise could be applied to a new program leading to the Doctorate of Psychology (i.e., Psy. D.).

5.1 Publications:

The overall productivity of the department in terms of refereed publications and external funding is respectable, particularly in light of (a) the large number of faculty originally hired primarily in a teaching capacity and (b) the high average age of the Department members. A number of indicators of success can be found in the faculty C.V.'s and the Fact Book. Over the past 5 years (1997-2001) the faculty of 30 as a whole has published 139 separate refereed publications. When one considers each authorship separately, hence representing co-authored papers more than once, the number of authored papers is 206. This total does **not** include contract reports, book chapters, or non-refereed papers. Based on separate refereed publications, the Department as a whole has a 5-year average publication rate of 4.6 (mean); this translates to approximately 1 publication per faculty member annually. Of the five substantive areas, the three most productive groups are:

Program	5-Year Mean	5-Year Median
Biopsychology	12.5	7.5
Developmental Psychology	8.1	8
Behavioural Neuroscience	6.5	3.5

The quality of journals in which these groups publish is high and includes some of the highest impact journals in their respective fields (e.g., *Vision Research*, *Developmental*

Psychology, Child Development, Behavioral Neuroscience, Neuroscience and Biobehavioral Reviews, Hormones & Behavior, Behaviour).

Faculty members in Social and Clinical Psychology maintain a level of traditional research activity, but they are primarily involved in writing of evaluation reports for government or other institutions, as well as in publishing book chapters, handbooks for instruction, and other documents.

5.2 External Funding:

The amount of research support obtained by this department is quite respectable. This, however, varies across the Department, leaving room for improvement both in amounts and the variety of sources from which funding is obtained. At present, sixteen faculty hold operating grants or contracts. Of these, 10 hold NSERC and 2 hold CIHR grants. One member of the Department receives funding through the Centre of Excellence in Children's Wellbeing and one receives funding from the Canadian Language and Literacy Research Network. This year, the three successful applicants to NSERC (in a discipline judged by the NSERC report on reallocation to have the highest impact rating) all received a higher than average increase. This speaks to the quality of their work relative to their peers and across disciplines.

In 2000-2001 the Psychology faculty had 8 operating contracts and 13 operating grants, totaling 21 grants (\$512,000). Across Behavioral Neuroscience, Biopsychology, and Developmental/Cognitive/Perception, approximately 71% (5/7), 67% (2/3), and 83% (5/6), respectively, hold external operating grants. In Social and Clinical areas, 33% (1/3) and 40% (2/5), respectively, hold external grants or contracts, although most investigators in these groups hold small in-house grants.

Based on Fact Book data, the amount of support per faculty is lower than reported for the comparably-sized Department of Biology at MUN. Pursuing the comparison, however, psychology research tends to be less expensive and less equipment-based than is generally true for biology research. When one compares research support for the Biology Department with that obtained by the more biologically-oriented psychologists (Behavioral Neuroscience and Biopsychology), biologically-oriented Psychology faculty members appear to do better than the biologists, with more funding per faculty (compare the total support/total faculty in Biology versus total support/Biological faculty in Psychology).

5.3 Facilities and infrastructure that support research and training within groups:

5.3.1 Behavioral Neuroscience

7 faculty, including the Department Head and a 2001 retirement

The facilities available within the Biotechnology building for Behavioral Neuroscience research and training are excellent. The cooperative sharing of equipment (e.g., microscopy, histology, surgery) and behavioral testing apparatus by this group has clearly created a healthy model for science and permits the easy exchange of ideas and an excellent training environment. Evidence of this is seen in the many collaborative

projects and publications involving students and faculty alike. Evidence of the teaching success of this group is that enrollment in Neuroscience courses has been increasing over the years and the Honours students in this area tend to be among the best. This group is somewhat less successful in recruiting graduate students. At present they have 3 M.Sc. students and 3 Ph.D. students. Moreover, this group has access to facilities in the Health Sciences building (confocal microscope, first-class library) as well as to their colloquia and journal club, exposing Psychology students to medically-related research and other approaches to Neuroscience. Collaborations exist between neuroscientists in the two Faculties and Honours students in Psychology are often supervised by faculty members in Medicine.

The ease of exchange between the Department of Psychology and the Division of Basic Medical Sciences suggests that the development of a Neuroscience program across departments and faculties could be quite successful and would further enhance the profile of the neurosciences at Memorial. The continued development of this link depends largely on attracting and retaining new members of faculty. The recent hire of a junior faculty member and the potential hire of a new Tier 2 CRC in limbic system plasticity, combined with the new hire at the Sir Wilfred Grenfell campus in Behavioral Neuroscience in brain injury and plasticity, will make Memorial University a major centre in Canada in the study of learning, plasticity and the brain.

Recommendation 5.3.1: *Around a nucleus composed of new Tier 2 CRC (limbic plasticity) in Psychology and a Tier 1 (stroke and neuroplasticity) in Medicine form a ‘center’ with sufficient critical mass to apply for a Center of Excellence or Canadian Foundation for Innovation (CFI) grant. Note: This type of success may aid in the funding of a wing of a new Life Sciences building and would enhance the attraction of this group for trainees.*

5.3.2 Biopsychology

3 faculty

This interdisciplinary research group is unique in Canada, by virtue of its faculty as well as its research focus. Psychology faculty within this cluster are world-renowned as a group and draw students from all over Canada and the world, graduating 18 M.Sc. and 7 Ph.D. students since 1995. The Biopsychology group provides an excellent environment for both research and the training of students, primarily at the advanced undergraduate and graduate levels. As most of their work occurs in the field, the laboratory facilities for field work can be said to be excellent! Equipment necessary to undertake this work has been purchased either through the extensive funding received by this group or, where undergraduates are affected, by the Department and Dean’s office (e.g., replacement of new boats to transport students). Although most research is on sea animals (birds, fish, whales), work on small land mammals (voles) is also accommodated by the Biotechnology building and hence trainees working on mammals have access to all the facilities available to the Neuroscience students. Although members of faculty expressed little concern about the adequacy of laboratory and office space, the Panel found that space inhabited by at least one researcher was small, unappealing, and not really adequate as a place for many students to work.

The Psychology faculty who (along with members from Biology) form the interdisciplinary Biopsychology program are committed to and train numerous honours students and graduate students. Given the difficulties inherent in the formation of interdisciplinary programs, the Panel was particularly impressed with the clear success, cohesiveness and spirit of this interdisciplinary group.

Recommendation 5.3.2.a: *Recruit a faculty member in Biopsychology so that advanced special topics courses can be offered without jeopardizing the successes of the program.*

Recommendation 5.3.2.b: *For faculty members who perform field-based research, improve the quality of laboratory space necessary for organizing projects, analyzing data and storage of materials.*

5.3.3 Developmental Psychology and Cognitive Psychology & Perception

4 Developmental faculty and 4 faculty in cognition/perception:

This group consists of three distinct substantive areas. The Developmental psychologists are particularly active researchers who receive extensive external funding and are productive (Note: The amounts of two NSERC operating grants were increased in the last round of funding. Productivity data were mentioned earlier).

These investigators undertake their work both on site and ‘in the field’ at hospitals, schools and other institutions. The laboratory space they inhabit is varied in size, dependent on their needs, but on the whole is judged to be adequate to train students and do the research. However, in one case there was concern that the size and kind of space was not adequate to permit confidentiality for subjects. The Department Head felt the space was inadequate for another faculty member.

The sense of cohesion among the Developmental investigators is reflected in their numerous collaborations and co-authorships. The cohesion among the areas of Developmental and Perception and Cognition is, understandably, less apparent, because their fields are really quite disparate. Their formation into a ‘group’ is really a practical decision supported by the Department to create a ‘critical mass’ and to help provide a healthy intellectual experience for future graduate students. The success of this ‘group’ qua group will depend on the feelings and attitudes of its members. In some psychology departments this grouping ‘works’; in others, it does not.

As the Panel did not meet the Developmental Psychologists as a group, we can only comment that their C.V.’s were indeed impressive, their international visibility is clearly established and their funding base is similar to the other more biologically-oriented groups. Currently, this group trains 5 full-time and 3 part-time M.Sc. students, and 3 Ph.D. students and plans to admit one new student in the fall. The other two components of the group, Perception and Cognition are in need of revitalization. To enhance potential interdisciplinary strengths in these areas and to provide a ‘glue’ to the group, future hires

in cognition and/or perception should have developmental or neuroscience research orientations. This strategic hiring will ensure a critical mass for graduate students and faculty alike.

5.3.4 Social Psychology

4 faculty

The Panel met this group of researchers in the context of their graduate program in Applied Social Psychology. The faculty tend not to publish much in the traditional sense, although their recent set of papers suggests that they do maintain an interest in basic science issues. As well, they devote a huge amount of their time to training graduate students. The students undertake as part of their program two research projects, ranging from survey research they develop, analyze, and write-up to the analysis, interpretation, and presentation of large extant data sets (StatsCan, etc.). These reports are often presented to work-placement employers (industry, government, other public institutions) and are read and evaluated by the Applied Social faculty. However, unlike theses produced by students working in individual laboratories, these research reports are not included in faculty C.V.'s.

5.3.5 Clinical Psychology/Counselling

3 faculty: The Clinical group is once again beginning to develop, after the loss of a number of Clinical Psychologists. With two senior faculty members and a new faculty hire in Clinical, along with a new and exciting mission to develop the first Psy.D. program in English Canada, the clinical research group has the potential to become a strong entity. For this initiative to work, however, extensive interdisciplinary cooperation combined with additional faculty hiring is necessary. An interdisciplinary approach might tap faculty members from a broad spectrum of academic units. Possible contributors to the program include faculty members from Psychology, the University Counseling Centre, the Division of Community Health in the Faculty of Medicine, the Faculty of Education and the School of Nursing. The collaborative approach is particularly important to ensure that a professional program of this nature does not sap all of the Department's resources.

5.3.6 Introductory Psychology

5 faculty: This group of faculty are made up primarily of members from the former Junior Division. Although they were not hired in a research stream, they are actively involved in the analysis and development of large-lecture and laboratory courses for implementation in the Department. The success of this work is reflected in the very excellent Introductory courses that have been developed and in the publication of teaching manuals and in presentations at professional meetings.

5.4 *Concluding statement on research productivity*

The Department as a whole can be commended for the extent to which they have sustained their research efforts, in the context of 1) relatively low internal University

support for research, 2) a substantial group of faculty whose efforts are primarily in applied academic programs, and 3) a faculty approaching the twilight of their careers, when investigators usually begin to turn to other interests. As well, the Department Head has been consistently strong in his support of scholarly and research achievement (providing bridging monies whenever possible, supporting sabbatical leaves, finding necessary space, providing relief time to write grants, papers, etc.).

All future faculty recruits must have a strong research background. This is true especially in the social and clinical areas. The most recent ‘hires’ in the Department are good examples of how this can be done. Given the strong research culture and base for research evidenced within the Department, faculty renewal will enhance the Department’s research profile considerably. Without renewal, research activities within the Department will end soon.

Recommendations 5.4: *Hire new junior faculty members and provide them with sufficient start up funds, resources and other support to enable them to succeed as researchers.*

5.5 Elements to promote success in hiring junior faculty:

1. An aggressive recruitment policy is needed, one which advertises widely, and exploits personal contacts with colleagues across Canada and Internationally. The Department must market itself. The University can broaden the candidate pool by implementing a system whereby ‘couples’ can be made aware of other job opportunities at MUN.
2. New faculty must be provided with teaching relief during their first year. Encourage active researchers to remain after their retirements to maintain a research presence and to teach a course. This will insure that the Department is not evacuated all at once, that active research is present at all levels and that there is continuity. Senior faculty can mentor and facilitate the activity of junior faculty.
3. New faculty have to be given adequate ‘start-up’ funds to insure they get a good start before obtaining an external grant. The start-up money for at least one recent recruit was woefully inadequate and not in line with what is currently being offered at other Canadian universities. A recent hire at Erindale College, University of Toronto, in Behavioural Neuroscience was well above \$100,000+CFI. At MUN, a junior recruit in a similar discipline received \$30,000).

Recommendation 5.5: *Facilitate research activity of current faculty members.*

5.6 Elements to promote success in facilitating research activity:

1. Hire more research support staff to provide services to researchers. This would provide faculty members with more time to write manuscripts and grant proposals and engage in meaningful research activity.
2. Provide bridging funds for active researchers who have lost external grant support. The bridging funds must be sufficient to sustain meaningful research activity in the lab. In the few recent cases where bridge funding was made available, the researchers were able to reestablish external grant support.
3. Research groups should be encouraged to think in a more interdisciplinary and interdepartmental fashion to tap common interests and strengths across the campus. The clear success of the Biopsychology program and research group should be used as one model. Clusters/groups should develop themes and be encouraged to apply for research center, group, and training grants. The development of a center or cluster in functional brain and behavior plasticity across faculties is a strong theme that could be explored. As well, university-industry collaborations and university-government links could be explored more fully (e.g., Center for Applied Health Research).

To aid in this process, a person within the Department/Faculty together with his/her equivalent in the Office of Research could be designated as a point person to notify groups when calls for grants are announced. The University can consider devising a means whereby collegial research links can be quickly found. As well, better use can be made of informative web sites that provide this sort of information. Reporting from certain web sites can be individualized for different research groups.

Recommendation 5.6: *Reinstate a Departmental colloquia series.*

The overall intellectual environment of the Department will be enhanced by a regular colloquia series. Whether linked to a ‘passing by Atlantic Canada’ approach or as part of a stand alone speaker series, top rate scientists are needed to reinvigorate faculty members and inspire the graduate students. The colloquia series could integrate some speakers from within the Department and University with a few carefully selected speakers from elsewhere in Canada. This type of intellectual exchange is essential for a healthy scientific community. To improve attendance, students could be enticed to attend by providing a modest luncheon meeting where the students and speaker can meet in an informal setting. Some departments require graduate student attendance at the colloquia.

6. Conclusion

In conclusion, the Department as a whole can take pride in its ability to deliver high quality undergraduate and graduate programs and produce considerable high quality scholarship despite years of declining faculty numbers and a restrictive budget. Most faculty members were positive and, while cautious, still enthusiastic about the prospect of change. Although labeled as ‘Recommendations’ for the purposes of this document,

many of the Panel's prescriptions for change are actually 'Necessities'. Implementation of many of the Panel's recommendations will energize the Faculty to 'get out there' and remain competitive with other institutions for operating grants, contracts, training grants, quality honours and graduate students and new faculty recruits.

7. Summary of recommendations

The following is a complete listing of recommendations made by the Panel. The recommendations cannot be interpreted as solely for the Department of Psychology, but they must be considered as recommendations for consideration by the Dean of the Faculty of Science, Dean of the School of Graduate Studies and the senior administrators of Memorial University of Newfoundland in cooperation and consultation with the Department of Psychology.

Not all of the recommendations are of equal weight or urgency. Those recommendations considered of highest priority are underlined. Some of the recommendations have direct financial implications, others do not.

Most of the recommendations are directed to promote the main functions of the university, to wit, teaching and research. The Panel envisions that its recommendations when implemented will ultimately benefit both of these important enterprises.

Versions of some recommendations appear more than once. This redundancy is intentional. The Panel noted that many high priority recommendations of the 1994 report were not implemented. Perhaps the import of the 1994 recommendations were not obvious to those in positions of responsibility. Thus, repetition may serve to underscore the importance of these issues, especially the notion of faculty renewal.

Recommendation 2.1: *Maintain strong links with SWGC and CONA to ensure the continued quality and transportability of courses.*

Recommendation 2.2: *While revising the curriculum, base the changes on the needs dictated by the teaching objectives and obtain suitable space to accommodate the curricular change by obtaining some control over adjacent classroom space.*

Recommendation 2.3: *Group Psychology in a new faculty that includes existing or perhaps new academic units that share a common body of knowledge. The creation of this new faculty will enable the redistribution of monetary and space resources within the University.*

Recommendation 2.4.a: *Identify and prioritize equipment needs and implement an appropriate replacement scheme. Note: In some instances such as the highly used computer lab, the replacement of computers will need to be considered as a unitary expense. In other cases, individual pieces of equipment can be phased in on a regular basis.*

Recommendation 2.4.b: *Have a nonacademic staff position to deal with graduate student and research matters.*

Recommendation 2.5: *Start the process of faculty renewal immediately. The faculty renewal must include hiring of junior faculty now and on a regular basis for the*

foreseeable future. Faculty renewal must also include improved links within the University outside of the Department.

Recommendation 2.6: Identify the top recruitment priorities and implement search committees immediately.

Recommendation 2.8: Develop a culture whereby accomplishment is recognized and promoted by colleagues.

Recommendation 2.9: Develop a culture that enables faculty members to be promoted on a timely basis.

Recommendation 2.10: Develop a culture where outreach is a sine qua non.

Recommendation 3.1.a: That the laboratory emphasis in the undergraduate curriculum should be retained.

Recommendation 3.1.b: That laboratories be critically re-evaluated for their actual requirements with respect to faculty time and input and that due consideration be given to greater use of Laboratory Instructors and graduate students for laboratory teaching.

Recommendation 3.2.a: That the Department and Faculty investigate appropriate rewards for large class teaching. Following the investigation, demonstrate that the reward system is implemented.

Recommendation 3.2.b: That a plan be devised immediately for future Introductory Psychology teaching.

Recommendation 3.2.c: That other members of the Department become involved in Introductory Psychology as guest lecturers in their specialties, and that graduate students be used as tutorial instructors and mentors for Introductory Psychology students.

Recommendation 3.3: That non-restrictive course offerings be re-instituted as much and as soon as faculty renewal and/or increases in departmental funding permit(s).

Recommendation 3.4.a: That the Undergraduate Studies Committee meet with the teachers of the laboratory courses to a) instruct students in a mechanics of laboratory report writing, b) increase the use of research literature in lab assignments and c) increase the amount of student-conducted searching of the psychology literature.

Recommendation 3.4.b: That the Undergraduate Studies Committee have student membership. Student members would be excluded only from the discussion of confidential/personal issues (as is the case with the student member of the Graduate Studies Committee).

Recommendation 3.5.b: That in the future priority continue to be given to hiring good teachers, so as to maintain the current high quality of instruction.

Recommendation 3.6: That curriculum revision proceed apace. In this process the Department must address issues of courses and course content and ensure that course offerings are sufficiently balanced to reflect all appropriate sub-disciplines.

Recommendation 3.7.1.a: That the Dean of Science - who described the Department as a "very strong group" - work with the Head to devise appropriate research and office space for new faculty, allocate funding to maintain essential teaching-related equipment and hire appropriate additional staff.

Recommendation 3.7.1.b: That the Department investigate the possibility of setting up a subject pool for Introductory Psychology.

Recommendation 3.7.2: That the Faculty of Science immediately hire four faculty members and a minimum of one per year thereafter.

Recommendation 4.1.2: Create a University-wide interdisciplinary program in Neuroscience.

Recommendation 4.1.3: Develop a plan to have Applied Social Psychology research reports evaluated externally.

Recommendation 4.1.5: Encourage graduate students in 'Perception' to affiliate with either the Developmental or Behavioural Neuroscience groups.

Recommendation 4.1.6: Merge the Developmental and Cognitive areas, and expand expertise in cognition by hiring new faculty who have research expertise in areas such as social psychology, developmental psychology or neuroscience.

Recommendation 4.1.7: Establish an interdisciplinary Psy.D. program including one new hire in clinical psychology.

Recommendation 4.2.a: Secure more funds for graduate student support via:

- Recruiting high quality students who are nationally competitive for fellowships.
- Hiring research-oriented junior faculty who can obtain and retain grant funding.
- Encouraging current faculty to provide support from research grants
- Soliciting the Dean for more teaching assistantships (based on undergraduate enrolment)

Recommendation 4.2.b: Organize 'partnerships' to fund students while enrolled in non-thesis applied programs.

Recommendation 4.3: *Provide graduate students with some genuine teaching experience*

Recommendation 4.4: *Institute a regular departmental seminar series that includes speaking opportunities for graduate students, MUN faculty members and prominent Canadian scientists external to MUN.*

Recommendation 4.6: *Devise and implement a strategy to encourage top MUN graduate students to enter the Ph.D. program. Features of the successful ‘roll over program’ must include:*

- *Identification of top graduate students*
- *Submission of manuscripts early in the program*
- *Full supervisory committee support and oversight*
- *Application for external funding*

Recommendation 4.6.1: *Develop a comprehensive outreach/marketing plan. Features of the plan must include:*

- *Attendance at Canadian meetings.*
- *Faculty members participation on national (grant) panels.*
- *Redevelopment and maintenance of web site and poster communication.*
- *Institution of annual speakers program (at least 4 speakers/year)*

Recommendation 4.6.2: *Immediately search for and hire at least four (4) research-oriented faculty members.*

Recommendation 5.3.1: *Around a nucleus composed of new Tier 2 CRC (limbic plasticity) in Psychology and a Tier 1 (stroke and neuroplasticity) in Medicine form a ‘center’ with sufficient critical mass to apply for a Center of Excellence or Canadian Foundation for Innovation (CFI) grant.*

Recommendation 5.3.2.a: *Recruit a faculty member in Biopsychology so that advanced special topics courses can be offered without jeopardizing the successes of the program.*

Recommendation 5.3.2.b: *For faculty members who perform field-based research, improve the quality of laboratory space necessary for organizing projects, analyzing data and storage of materials.*

Recommendations 5.4: *Hire new junior faculty members and provide them with sufficient start up funds, resources and other support to enable them to succeed as researchers.*

Recommendation 5.5: *Facilitate research activity of current faculty members.*

Recommendation 5.6: *Reinstate a Departmental colloquia series.*

Appendix A - List of Documents Received by Panel

Document #	Description
1	Self-Study Report, April 2002
	Appendix B1a Undergraduate enrolment
	Appendix B1b Graduate enrolment
	Appendix B2 Report of the External Review Committee (1994)
	Appendix C1 Calendar descriptions of undergraduate programmes
	Appendix C2 Undergraduate Teaching Retreat summary
	Appendix C3 Selected indicators from the AUP 2000-2001
	Appendix C4 Examples of courses with potential overlap
	Appendix C5 External reviews of graduate programmes
	Appendix C6 Future's Committee discussion paper
	Appendix D1 Course Evaluation Questionnaire Reports Fall 2001
	Appendix D2 Memorandum on the University Assembly on Research
	Appendix D3 Faculty CV's
	Appendix D4 Department of Psychology Five-Year Plan (1995)
	Appendix D5 Academic unit profile
	Appendix E1 Comparisons in context
	Appendix E2 Statement from the University Librarian
	Appendix E3 Faculty complement: Gains and losses
	Appendix E4 Hiring freeze appointments
	Budget Request 2001-2001
2	Letter from Dr. J. Black, Dean of Arts (Interim)
3	Course Offerings List (Winter, Spring, Fall 2001) - Evans
4	Documents on UQAM Psy D. Programme
5	Summary of Psychology graduate students Spring 2002 – Malsbury
6	Samples from Psych 1000 and 1001 Web course – Andrews
7	Binder of Course Outlines and Exams

Appendix B - List of Panel Meetings and Participants

Wed, 15 May 2002

Meeting 1 – Administration

Dr. E. Simpson, Vice-president (Academic)
Dr. C. Jablonski, Acting Dean, School of Graduate Studies
Dr. G. Martin, Associate Dean, Faculty of Science
Ms. J. Bessey, Academic Program Review Coordinator

Thursday, 16 May 2002

Meeting 1 – Department Head

Dr. J. Evans

Meeting 2 – Self-study Advisory Committee (not including Dr. Evans)

Drs. R. Adamec, R. Anderson, C. Arlett and C. Button

Meeting 3 – Introductory Psychology faculty

Prof. E. Andrews, Prof. R. Gaulton, Dr. H. Rose (Absent – Prof. R. Maddigan)

Meeting 4 – Biopsychology faculty

Drs. R. Anderson and A. Storey (Regrets – Dr. W. Montevecchi)

Meeting 5 – Luncheon meeting

Drs. J. Evans, C. Harley, V. Grant

Meeting 6 – Graduate Committee

Drs. C. Malsbury, C. Button, C. Penney

Meeting 7 – Graduate Students, Applied Social Psychology

Ms. H. Etchegary, Ms. T. Rideout & Mr. C. Perrier

Meeting 8 – Graduate Students, Experimental Psychology

Ms. J. Blundell, Mr. R. Brown & Ms. R. Vernescu

Meeting 9 – Administrative support staff

Mr. C. Barnes, Ms. S. Bradbury, Ms. B. Nofle (Regrets: M. Howard)

Meeting 10 – Academic support staff

Mr. A. Earle, Ms. L. Gaborko and Mr. S. Milway

Meeting 11 – Developmental/Cognitive Psychology

Prof. E. Hannah, Drs. S. Moeser, C. Penny & M. Rabinowitz

Meeting 12 – Director of Counseling Centre

Dr. George Hurley (Regrets from Dr. M. Murray, Associate Dean, Div. of Community Health, Fac. of Med.)

Meeting 13 – Tour of facilities in Science Building

Dr. J. Evans, Head

Meeting 14 – Dinner meeting of Panel

Appendix B (Continued)

Friday, 17 May 2002

Meeting 1 – Open invitation to Department faculty, staff and students

Drs. R. Anderson, C. Arlett, Prof. R. Gaulton, Drs. K. Hadden, C. Harley, W. McKim, A. Storey, C. Walsh, Mr. K. Fowler, Ms. S. Wilhelm

Meeting 2 – Department Head

Dr. J. Evans

Note: Abbreviated meeting to accommodate longer time for Meeting 1.

Meeting 3 – Applied Social Psychology

Dr. C. Button, Prof. M. Grant, Drs. T. Hannah & K. Fowler

Meeting 4 – Recent faculty appointees

Drs. K. Fowler, K. Hadden & D. Skinner

Meeting 5 – Clinical Psychology faculty

Drs. C. Arlett, K. Hadden, R. Penney

Meeting 6 – Luncheon meetings

Initially – Dr. J. Evans, Head

Latterly – Dr. R. Lucas, Dean of Science

Meeting 7 – Undergraduate Studies Committee

Dr. R. Penney & D. Skinner

Meeting 8 – Honours students

Ms. C. Baker, Ms. C. Byrne, Mr. A. Brown, Ms. R. King, Mr. N. Rowe, Mr. R. Snelgrove & Ms. A. Squires.

Meeting 9 – Decanal exit meeting

Dr. G. Martin, Associate Dean (Research), Science

Meeting 10 – Departmental exit meeting

Meeting 11 – Dinner meeting of Panel

Saturday, 18 May 2002

Meeting 1 – Tour of Biotechnology Building

Dr. J. Evans, Head

Meeting 2 – Panel (Convened at Health Sciences Centre)