



CASE

CASE WESTERN RESERVE UNIVERSITY

REPORT OF THE SUBCOMMITTEE ON STUDENT DEVELOPMENT— GRADUATE AND PROFESSIONAL

Prepared as part of the Self-Study supporting the application of
CASE WESTERN RESERVE UNIVERSITY
for continued accreditation

HIGHER LEARNING COMMISSION
NORTH CENTRAL ASSOCIATION OF COLLEGES AND SCHOOLS

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INTRODUCTION AND MISSION STATEMENT

As an institution preparing its graduates for advanced scholarly and professional careers, Case Western Reserve University aspires for its students to develop advanced and specialized knowledge in their fields of study, to develop competencies for applying their knowledge to real world problems, and to develop values and a philosophy that leads them to contribute to the betterment of society.

Acquisition of knowledge has been the primary mission of academic programs, with the development of competencies and values often being relegated to career services and extracurricular activities. A challenge for graduate and professional programs is to integrate development of competencies and values into their academic programs to enable students to develop as “whole persons,” prepared to contribute to their professions and the civic life of their communities. In the words of President Hundert:

Education is not primarily about the transmission of information, but about the transformation of the learner. Our mission is to have a transformational impact on all who teach, learn, discover and work here, so they are prepared and engaged to serve humanity.

This aspiration to educate the whole person – to transform the learner – became the guiding theme for this study. This report begins with a review of the development of graduate and professional education at Case Western Reserve University and, in that context, a description and explanation of the rationale for the specific focus of this study. The report then reviews the professional development activities currently going on in each of the schools and colleges and the financial aid that is available to support students at Case. The relevant findings and recommendations of the 2004 Commission on Research and Graduate Education are also reviewed. The next section of the report presents the findings from a university-wide survey of self-reported student development at Case, the first in the institution’s history. Finally, the report ends with summary conclusions and recommendations for improving the development of Case’s graduate and professional students.

HISTORY OF GRADUATE AND PROFESSIONAL EDUCATION AT CASE

Except for the School of Medicine, which was established in 1843, Case’s professional schools were founded around the end of the 19th or beginning of the 20th century. During this period, some of the country’s best-known colleges – there were few universities – took on more complex roles by adding graduate and professional education and research, while others remained largely undergraduate teaching institutions.¹ Under President Charles Franklin Thwing, Western Reserve joined the university movement, establishing law, dental, and graduate schools in 1892. A school of social work, now the Mandel School of Applied Social Sciences, was added in 1914 – the first graduate school of social work to be established within a university. Schools of nursing and management became part of the university a few years later, though nursing can trace its origins to 1898. Case School of Applied Sciences did not move heavily into graduate education until the late 1940s, though its focus on engineering from its founding in 1880 constitutes a professional mission.

The independence of the professional schools was reinforced by the financial stress that the university suffered in the 1960s and 1970s, a period of declining income from many sources and of significant internal and external political challenges. The “management center” financial strategy adopted at the time to overcome those difficulties reaffirmed the cultural differences among the various schools and colleges by requiring each to balance its own budget, while allowing those units with available resources to invest in growth. Most of the professional schools have thrived in that system, while the humanities, arts, and social sciences have had a much more difficult time.

The description of the separate cultures of graduate and professional programs at Harvard by Henry Rosovsky, former dean of Arts and Sciences there, would fit Case and other universities as well. (In this instance, he uses the term “graduate” to describe both graduate and professional programs.)

1. See Richard Hofstadter, “The Revolution in Higher Education,” from *Paths of American Thought* (<http://beatl.barnard.columbia.edu/learn/documents/HofstadterRev.html>).

[The graduate student population] is extremely diverse, more diverse than the undergraduates, and it is nearly impossible to find a single denominator. Diversity has many causes: graduate students arrive socialized in various ways from their undergraduate schools; graduate education is specialized and attracts only certain kinds of individuals, committed to a particular profession and possessing certain specific talents; and each graduate school has its own culture and its own values and priorities.²

This diversity in professional cultures, the widely differing demands the respective professions make on professional education, and the independence of Case's professional schools encouraged by the "management center" concept, are all evidenced in the diversity that exists today among the professional schools and the various disciplines within the College of Arts and Sciences. In academic year 2003-2004 the School of Graduate Studies offered 39 masters degrees and 46 Ph.D. degrees in the humanities and social sciences, biological and physical sciences, engineering, management, nursing, and social welfare. (The School of Graduate Studies is the administrative home for academic master's and doctoral programs.) In addition, the Schools and Colleges offered 12 professional master's degrees and 5 professional doctoral degrees. Many combined degree programs are available combining academic and professional degrees (e.g., M.D. and Ph.D. in cell biology) or two professional degrees (e.g., J.D. and M.B.A.). Altogether, 2,057 students were enrolled in masters programs, 3,118 students were enrolled in doctoral programs, and 424 students were pursuing non-degree studies. [See appendix for complete listing of programs and enrollments.]

The **College of Arts and Sciences** offers programs leading to master's and doctoral degrees in more than 30 disciplines, from contemporary dance and clinical psychology to physics entrepreneurship and early music. The small size and specialized focus of many of the programs – and the opportunities afforded by partnerships with other University Circle institutions – contribute to the distinctiveness of graduate education in the arts and sciences at Case.

The **Mandel School of Applied Social Sciences** offers curricula leading to the Master of Science in Social Administration (M.S.S.A.) degree in social work, and to the Ph.D. degree in social welfare. Through the Mandel Center for Nonprofit Organizations, the Mandel School, the Weatherhead School of Management, The School of Law and the College of Arts and Sciences offer a joint program leading to the degree of Master of Nonprofit Organizations (M.N.O.), one of the first such programs in the U.S. The school also operates continuing education programs for social workers, nurses, and psychologists in the region.

The **School of Dental Medicine** offers a curriculum leading to the D.M.D. degree, and postdoctoral training in several dental specialties leading to the M.S.D. degree. In conjunction with its curriculum, the school also operates a dental clinic on campus where students provide faculty-supervised dental service to area residents.

The **Case School of Engineering** offers curricula leading to the M.S., M.ENG., and Ph.D. degrees in a wide range of engineering disciplines. In collaboration with the Weatherhead School of Management, the school offers a joint curriculum leading to the Master of Engineering and Management (M.E.M.) degree, a program designed in response to the need for engineering graduates with management skills and a practical understanding of the business environment.

The **School of Law** offers a broad range of courses leading to the J.D. degree, with emphasis on critical thinking and analysis, legal theory and perspectives, written and oral communication, and the skills, values, and ethics of lawyers. The school became one of the first to integrate fully the teaching of lawyering skills with legal theory through the *CaseArc* Program, introduced in 2003. In addition to the J.D. program, the school offers graduate instruction leading to the LL.M. in U.S. and global legal studies.

The **Weatherhead School of Management** offers curricula leading to the M.B.A., M.Acc., M.S., Executive Doctor of Management (E.D.M.), and Ph.D. degrees in management, organizational behavior, operations research, and other areas of business administration.

2. Henry Rosovsky, *The University: An Owner's Manual* (New York: W.W. Norton & Company, 1990), p. 133.

The school also participates in joint programs through the Mandel Center for Nonprofit Organizations and the Institute for Management and Engineering, leading to the M.N.O. and M.E.M. degrees, respectively. Through the George S. Dively Center for Executive Education, the school offers a wide range of educational programs for professional managers, including custom programs for individual client organizations.

The medical curriculum developed at Case's **School of Medicine** features an integrated, interdisciplinary approach to organ systems and has been emulated widely throughout the world. In addition to the M.D. degree, the school's pre-clinical departments offer programs leading to the M.P.H. and to M.S., Ph.D., and M.D./Ph.D. degrees in the biomedical sciences. In 2002 Case entered into an agreement with the Cleveland Clinic Foundation to create the Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, with a distinctive new M.D. program to educate physician investigators.

The **Frances Payne Bolton School of Nursing** offers three post-baccalaureate programs: the M.S.N. degree, preparing registered nurses for advanced nursing practice in more than a dozen specialty areas; the Doctor of Nursing (N.D.), a professional clinical doctoral degree for students who already hold baccalaureates in the liberal arts or sciences; and the Ph.D. in nursing for students interested in careers as nurse scientists. The school created the nation's first masters degree specialties for flight nursing and acute care nurse practitioners.

SELECTED FOCUS FOR THIS STUDY OF STUDENT DEVELOPMENT

As would be expected given the historical emphasis in American higher education, the graduate and professional programs at Case over the decades have focused largely on academics – the intellectual development of their students. As a result, many of Case's graduate and professional programs are nationally recognized for their academic excellence and the quality of their graduates. Further, relatively good information is available regarding the intellectual development of students because of multiple sources of data – entrance

exams, course grades, masters and doctoral qualifying examinations, professional credentialing exams and licensure exams.

On the other hand, relatively little is known about the personal and professional development of Case graduate and professional students. To what extent are we educating students to become “whole persons” who are well-rounded in their intellectual, ethical and social development? Are Case students experiencing the “transformation” we aspire for them to experience, to become visionary leaders in their professions and communities who contribute to the quality of life in the world community? Or are they experiencing the kind of transformation in which they lose their personal and professional idealism and succumb to the daily grind of doing what they need to do to complete their degrees and get on with their lives?

A related area of inquiry is the extent to which student development varies across the many graduate and professional programs in the university or, conversely, whether there are aspects of student development that cut across all programs and are identifiably unique to Case Western Reserve University. We begin our study by reviewing the professional development activities currently occurring in the schools and colleges.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE SCHOOLS AND COLLEGES

All of the university's colleges and graduate and professional schools currently make provisions for the professional development of their students, many in ways that uniquely reflect the cultures of their disciplines and their related professions. Professional programs integrate the development of professional identity into their programs from the outset, often beginning with a ceremonial entry into the profession. Skills and behaviors are developed through curricula, clinical experiences (both simulated and real-life), field placements, and such co-curricular activities as student organizations and mentor programs. In most traditional graduate programs, on the other hand, students develop their professional identities as scholars by demonstrating their

ability to conduct and present independent research or scholarship. Other graduate programs prepare students to be both researchers and practitioners, integrating internship placements or clinical experiences along with independent research into the curriculum.

University Resources for Professional Development

Graduate and professional students at Case have access to a number of university-wide resources that can raise awareness of issues related to their professional roles. These include a series on inventions, technology transfer, and the research commercialization process, sponsored by the Office of Technology Transfer; required training seminars on chemical, biological, and radiation safety; and the Office of Sponsored Research's regular seminar series on a range of topics, including conflict of interest, research misconduct, and proposal writing. Students have the opportunity to present their work through the university's annual Research ShowCase, a free public exhibit spotlighting the full range of faculty, postdoctoral, graduate, and professional student research at Case and its area research affiliates.

Most doctoral programs include a required teaching experience at Case or another institution as preparation for an academic position. All new graduate students with instructional responsibilities – whether as graders, tutors, laboratory assistants, recitation leaders, or classroom instructors – are required to attend an orientation and series of seminars designed to develop skills in communication and teaching. These are supplemented in many disciplines by one or more required courses in teaching within the student's department. In addition, seminars on effective teaching sponsored by the University Center for Innovation in Teaching and Education are open to graduate students as well as faculty.

Case's Career Center offers a full range of services to help students explore career possibilities and prepare for employment or further study. Although its focus has been on undergraduate placement, the center has recently added a staff member to work exclusively with graduate students. Several of the professional schools provide their own career services, as described below.

School of Graduate Studies

The School of Graduate Studies is the administrative home for academic master's and doctoral programs in the humanities and social sciences, biological and physical sciences, engineering, management, nursing, and social welfare. As such, the school assists graduate students with issues pertaining to admissions, registration, and graduation. While most opportunities for professional development are provided through individual departments or schools, Graduate Studies also offers a number of efforts to support students in all graduate programs. An Excellence in Graduate Education Fellowship is provided to support departmental efforts to socialize and prepare the students for academic and professional careers.

All departments encourage students to attend professional conferences, particularly for poster or paper presentations, and students are often published authors before they complete their degrees. The Endowment-Sponsored Mentorship Program of the School of Graduate Studies provides support for full-time students to travel to conferences at which a paper or poster will be presented. A faculty mentor must endorse the application for support, and departments are expected to contribute matching funds.

The Graduate Student Senate (GSS), the representative body for students pursuing degrees through the School of Graduate Studies, has taken an active role in providing professional development opportunities for graduate students. The GSS created an ongoing seminar series, Preparing Future Faculty, designed to give graduate students and postdoctoral trainees practical advice on academic positions. Topics have included curriculum vitae preparation and the role of faculty at different types of institutions. The GSS also administers the Verhosek Fund, which provides small grants to graduate students for conference attendance or thesis-related expenses.

The Graduate Student Senate offers opportunities for graduate students to have firsthand experience with university governance and policy-making as voting members of Faculty Senate committees – valuable experience for students seeking academic careers. Student senators have participated on university committees that

make decisions or recommendations on issues relating directly to graduate students, including custody of research data, copyright policies, electronic dissertation submissions, student health coverage, campus safety, and selection of persons to serve in senior administrative roles.

The School of Graduate Studies has also worked to improve the development of postdoctoral appointees by establishing the Postdoctoral Researchers Association and, in conjunction with the Faculty Senate, developing a set of Guidelines for Enhancing Postdoctoral Training at Case. An Office of Postdoctoral Affairs has been set up within the School of Graduate Studies whose mission is to guide the mentoring and training of postdoctoral appointees and create an appropriate supportive structure to ensure that the highest possible standards underlie the training experience.

College of Arts and Sciences

The College of Arts and Sciences (CAS) offers twenty-four master's degrees, nineteen doctoral degrees, and eight combined graduate degrees with Case professional schools. Eighteen of the CAS's twenty-two departments have graduate programs. These programs prepare students for academic, clinical, research, entrepreneurial, and museum-, school-, and performance-based careers.

Each of the departments that train graduate students emphasizes close mentoring relationships between CAS students and faculty, thorough preparation in research methods, the production of an original research project, and professional training. Despite the wide range of disciplines within the CAS, all departments cohere around the goals of training students in disciplinary mastery; the development of highly-tuned research skills; developing presentations skills through participation in local, regional, national, and international seminars and conferences; preparation for entry into the job market and careers; and fostering teaching experience. Thus, graduates are well prepared to excel in the three traditional areas of competency: research, teaching, and professional service. The following examples serve to demonstrate the range of graduate experiences that departments incorporate into their programs.

Mentoring: All departments emphasize the importance of close individualized mentoring. The relationship between the student and his or her graduate advisor is key. Some departments such as psychology have both academic and research mentors, as well as mentors who help prepare graduate students for teaching experiences. In chemistry, the research director serves as advisor and mentor, and prepares the student through direct guidance, acting as a role model, and presenting the student with increasing responsibility for research design and planning, and carrying out and disseminating research as a professional scientist. In sociology, students work closely on research projects as research apprentices under the guidance of two or more core faculty.

Professionalization: All departments encourage graduate students to present papers and research results at seminars and conferences. Art History sponsors a formal graduate student symposium that meets two or more times per month, an annual international symposium run by graduate students, and offers coursework that trains students in professional careers such as curators and administrators of museums and galleries. The English Department offers a publication seminar through which students develop and shape a paper for publication. The psychology, history, English, mathematics, statistics, theater, and anthropology departments, among others, support graduate student travel to conferences and meetings. Chemistry sponsors a third year departmental "poster party" to prepare students for professional presentations. The department also holds department-wide seminars given by outside scientists. Theater M.F.A. students are in residence at the Cleveland Play House for three years and, upon graduation, participate in a New York City Showcase performance for casting agents representing clients for Broadway, regional theater, television, and film. In addition to their conservatory training, students spend the third year in residency at the Play House as understudies and performers. The Doctor of Musical Arts program in early music requires students to demonstrate ability in both performance and scholarship. All students in the program perform in the Collegium Musicum – an ensemble for Case and Cleveland Institute of Music students that specializes in late medieval and Renaissance instrumental music

– during each semester in which they are on campus. Students in all disciplines regularly present papers at national and international conferences.

Teaching: Departments throughout the CAS offer opportunities for graduate students to teach, either as teaching assistants or as instructors of record. Graduate art and music education students' programs culminate in a student teaching experience. The Department of Psychology has a systematic introduction to teaching whereby first year students take a course in teaching, then serve in their second year as teaching assistants, giving several lectures in a course. Third-year students are encouraged to offer a one-credit undergraduate course under the mentorship of a faculty member. Fourth-year students may teach a full course under mentorship. The Department of English trains composition and SAGES instructors through a formal course and "shadowing" experiences. Faculty mentors observe all teaching assistants, critique syllabi, and write evaluations of teaching progress. Top English graduate students are offered positions as assistants to program directors within the department. Sociology offers teaching-skills seminars that include technique, strategies for assessment, and syllabus design. Mathematics and Statistics offer a formal course to train graduate teachers who assume a good portion of those departments' undergraduate teaching responsibilities.

Other kinds of regular graduate experiences include internship placements, seminars, symposia, financial support for travel to collections, archives, and national meetings, opportunities for performance and exhibits, instruction in grant-writing, course work that prepares students for professional careers and entry into the job market. Many of these experiences are in partnership with local institutions such as those in University Circle or with various Cleveland agencies, hospitals, and school districts. Some departments encourage and facilitate international placements. Departments universally include graduate students in their intellectual, professional, administrative, and social lives, treating them as professional colleagues. For their part, students in many departments engage with each other through formal reading and research groups. This list of graduate

student experiences is necessarily truncated but represents a singular dedication on the part of the College of Arts and Sciences to prepare students as nationally ranked and professional scholars.

Mandel School of Applied Social Sciences

Students enter the Master of Science in Social Administration program both with and without previous education or experience in social work; the program prepares them for advanced social work practice in a variety of settings. The curriculum addresses both foundational and advanced practice skills. Extensive field education experiences help students develop their identities as professional social workers through mentorship by experienced professionals. The school is affiliated with over 300 social service agencies in the Greater Cleveland area, and students are required to complete more than 900 clock hours of structured, supervised field education in one or more of these organizations, applying and testing the knowledge and skills learned in the classroom.

The school's new ABLE program (Ability-Based Learning Environment) guides students in the development and assessment of eight abilities necessary for effective practice. Students are required to participate in a social advocacy project to demonstrate their ability as advocates for social justice. Field education and co-curricular workshops and coaching prepare students to succeed in the world of work, and experiential course assignments help them integrate social work values and ethics. All students are required to present learning portfolios and job portfolios in which they assess their development in the eight abilities and provide evidence of attainment.

An active student organization involves students in a wide range of social advocacy projects, both in the school and in the local and national communities. Minority student caucuses help students develop their professional identity in ways that recognize the unique challenges minorities face in their professional and personal lives.

The school's Office of Career Development and Management helps M.S.S.A. and doctoral students and alumni explore their work values and preferences, develop job search skills and strategies, and access

job opportunities and networking resources. Services include career counseling, interest assessments, job listings, informational materials, and workshops on topics ranging from choosing a program concentration to interviewing and resume writing.

The Mandel School and the Mandel Center for Nonprofit Organizations host an annual Field and Career Fair for students and alumni of both programs. Representatives of organizations and agencies are invited to meet with students interested in social work field placements or nonprofit management externships as well as graduates and soon-to-be graduates seeking permanent employment. The 2004 fair drew more than 50 participating organizations, including government agencies, health care and social service organizations, arts and educational organizations, and academic institutions.

School of Dental Medicine

The annual White Coat Ceremony gives new dental students a symbolic welcome into the profession, and clinical experience begins in the first year. Collaborative programs with the Cleveland Municipal School District bring first-year dental students into contact with young patients by giving them the opportunity to apply dental sealants to the teeth of elementary school students. The dental students get experience with a non-invasive, relatively simple procedure, and the children receive preventative care without having to lose time in school.

By the third year, students move into the dental clinic on a full-time basis, and each student gets his or her own individual operator, working in a small group with clinical preceptors who are experienced practicing dentists. The school has reorganized the dental clinics into simulated private practices to give students the most up-to-date professional training they need to succeed as practitioners. Patient care coordinators function much like dental office receptionists in scheduling and keeping track of patient visits. Each patient coordinator is part of a preceptor team that includes a faculty member, who oversees and monitors the dental procedures by Case students in the clinic, 15 students, and 700 patients. Students have opportunities to work with some of the same patients throughout their four years of dental school, learning to develop patient-doctor relationships

and the interpersonal skills needed to manage a practice. The school is installing new clinic management software, designed specifically for dental schools, which will narrow the gap between the academic clinics and the kind of professional dental environment students will encounter after graduation.

The school has also incorporated practice management into its curriculum to cover the entrepreneurial and managerial aspects of dentistry. Each senior develops a business plan for a hypothetical practice under the guidance of accountants and practicing dentists, and has an opportunity to track business trends within his or her own preceptor group.

Co-curricular activities that support the development of professional identity include participation in study clubs with faculty and in the American Student Dental Association, which introduces students to professional publications and to involvement in organized dentistry.

Case School of Engineering

Both Master of Science and Ph.D. programs in engineering require students to demonstrate their ability to conduct independent research. Doctoral programs are designed to prepare students for a lifetime of creative activity in research and in professional engineering practice, either in an academic setting or another organization. Students have a range of opportunities and venues in which to present their research, from departmental research days and meetings of industrial sponsors to national and international scientific meetings. There are also less formal occasions for developing professional expertise: internationally recognized scientists are frequent visitors to Case, presenting new research findings at departmental seminars where students can meet them and discuss their work. Student chapters of engineering societies provide other opportunities for leadership and social interaction.

Proficiency in technical communication, both written and verbal, is considered an important component of professionalism. Several engineering departments offer a course in technical writing for graduate students, covering such topics as preparing technical reports and scientific papers and making effective technical presentations.

The Case School of Engineering has a small but growing graduate cooperative education program, open to both master's and Ph.D. students. Developed in response to interest by both industry and students, the program requires a minimum of one seven-month co op experience consisting of a summer and contiguous spring or fall semester. The experience can be coordinated with the student's research thesis or project. Co op at the graduate level requires strong participation with the faculty, who review potential project descriptions to determine quality, assist in identifying graduate students, and meet with the technical advisor from the organization to determine the specific aspects of the co op project. Students apply and learn new scientific, engineering, and business approaches, and are compensated at a salary that is about two-thirds of what the sponsor would offer to a new employee hired with an advanced degree.

School of Law

The School of Law has created its own rite of passage: the 2003 orientation was the first to include an induction ceremony, now an annual event, to welcome students into the legal profession. The law school integrates comprehensive training in professional skills – writing and speaking, interviewing, negotiating, counseling, trial technique – throughout its curriculum. A four-semester course that begins in orientation covers a range of professional issues, providing opportunities for students to understand better the economic, social, and political context in which they (and their clients) operate. Upper-level skills courses, many taught by practicing attorneys, teach the application of legal theory through the simulation of tasks performed by lawyers; students interview, negotiate, counsel clients, and make oral arguments.

Nearly a third of all third-year students go beyond the skills training to complete a clinic course through the Kramer Law Clinic Center. The center is an in-house, real-client clinic that provides legal services to members of the community unable to afford legal counsel; about 250 indigent clients are served each year. Under faculty supervision, students act as primary legal counsel for clients, dealing with such variables as client demands, the pressures of court deadlines, and multiple caseloads. The

school currently offers year-long clinic courses in civil, community development, immigration, and health law, with a semester-long clinic in criminal justice. A number of upper-level law courses have also added one-hour “labs,” through which students perform legal research and writing related to actual litigation and legal matters.

Co-curricular activities simulate real-life cases under the guidance of faculty and legal experts from the community. The moot court board sponsors both intramural and interschool competitions. Students refine their brief-writing and oral advocacy skills through second-year competition; the most outstanding candidates represent the school in national competition during their third year. Participation on the mock trial team gives students intensive training in trial procedures and tactics.

The law school provides comprehensive career services to its students, and has succeeded in placing nearly all its recent graduates. Every first-year student has a mandatory career counseling appointment to develop a long-range plan for employment goals. Services include one-on-one career counseling; on-campus interview programs as well as off-campus trips to Washington DC, Chicago, and New York City; participation in national and regional job fairs; workshops, panel discussions, and presentations on career-related topics; eAttorney, an on-line recruiting tool that allows students to sign up for interviews, post resumes, view job postings, and do research on potential employers; a comprehensive career services library; and a weekly newsletter containing information on employment opportunities, career workshops, and job search strategies.

Weatherhead School of Management

Students participate in the innovative Leadership Assessment and Development course in the first semester of three programs – the M.B.A., Executive Doctor of Management, and M.S. in Positive Organization Development and Change – and in the last semester of the Executive M.B.A. and Master of Nonprofit Organizations programs. The Leadership Assessment and Development program has been shown in several books and numerous academic articles and dissertations to sufficiently increase graduates' capability by adding to

their emotional intelligence and cognitive competencies. These are the competencies shown in other studies to predict managerial and leadership effectiveness. Results from numerous longitudinal studies have shown these dramatic increases to be sustained at least five to seven years after completion of the program.

The Action Learning capstone course, required for students in the full-time M.B.A. program, involves completion of a real-life consulting project, unstructured in nature, that must meet both a set deadline and the client's expectations. Through their consulting projects, students test and adjust their skills and knowledge to solve a business problem. The Action Learning program currently has about two dozen client organizations; there were 22 action learning consulting projects in progress during fall 2003.

The Weatherhead Mentor Program, open to students in the M.B.A. and other professional master's programs, matches full-time students with Cleveland-area executives and managers who help focus students' academic and career interests and assist them in setting goals and developing skills for their futures. Students and mentors are matched through the first-semester Leadership Assessment and Development course; together they set objectives for the year and participate in activities such as company tours, practice interview sessions, and meetings with professionals in each mentor's personal network. While students are not required to participate in the Mentor Program, it allows full-time students to maintain a connection to business professionals during their program, and is especially valuable for students making career transitions.

In addition to the Mentor Program, the school provides a range of career services to its students and alumni, including individualized career counseling; on-campus interviews; fall and spring career fairs; off-campus interviews at several regional and national events for M.B.A. students; WeRS (the Weatherhead e-Recruiting System), an online job search and recruiting tool; and a career services library. Student organizations and case competitions offer co-curricular opportunities to develop leadership skills and experience.

As in other disciplines, doctoral programs in management are designed to prepare students for a career in research and teaching, primarily in academic institutions but also in organizations in industry, government, or the applied social sciences. Most of the programs are relatively small, giving students the opportunity to work closely with faculty mentors.

School of Medicine

New students in the M.D. program begin their studies with the annual White Coat Ceremony, at which they receive white doctors' coats from School of Medicine alumni to welcome them into the medical profession and to remind them of the privileges and responsibilities they will have as physicians.

Medical students are introduced to clinical work and patients early in their education through the Patient-Based Program, which prepares students with the skills, knowledge, and attitudes necessary to provide supervised patient care during graduate training. Most students begin their clinical responsibilities in the first year, when each is assigned to follow a pregnant woman in the Family Clinic. Under careful supervision by the woman's physician, the student becomes part of the patient's health care team, following her throughout her pregnancy, being present during labor and delivery, and engaging in the health care of the child for several months after birth. A recently added option offers a similarly close experience with a geriatric patient.

Starting in the first year of medical school, students participate in an extensive course in physical diagnosis and history-taking under the supervision of physician preceptors, who are community-based practitioners selected for their outstanding clinical skills. In addition, throughout the first and second years, medical school students take a course, "Foundations of Clinical Medicine," which has a strong focus on professionalism. In the third and fourth years, students take seven required clerkships. During the clerkships, students join the ward teams in affiliated hospitals. They participate directly in patient care and are expected to assemble and organize data as well as present patients to the attending physicians.

The annual Irwin H. Lepow Medical Student Research Day is an opportunity for students in the M.D., M.D./M.S., and M.D./Ph.D. programs to present research they have done since entering medical school. The day includes posters and oral presentations by students and a keynote address by a distinguished medical researcher.

Outside the classroom, medical students have formed interest groups to examine specialty areas of medicine and related topics (e.g., bioethics) through discussions and invited speakers. Membership in organizations such as the American Medical Students Association, the Student National Medical Association (for students of color), and Physicians for Social Responsibility also help to shape students' identity as medical professionals.

Students in doctoral programs in the biomedical sciences develop the skills and expertise to work as researchers by performing original research under the guidance of faculty mentors. They also develop and enhance their professional skills through more informal interactions: participating in journal clubs, where faculty and students discuss current papers from the literature; meeting with invited speakers at departmental seminars; or serving as mentors to undergraduate researchers in the laboratory. The annual Biomedical Graduate Student Symposium recognizes and promotes the research accomplishments of graduate students in the School of Medicine. A student committee plans the entire event, giving students the opportunity not only to showcase their research but to develop leadership and organizational skills as well.

Frances Payne Bolton School of Nursing

Students enter the Master of Science in Nursing program with experience in patient care; the program prepares them to be professionals who can identify clinical research problems and assume leadership roles as part of an interdisciplinary health care team. Each advanced practice specialization has a professional development core, with courses in legal and ethical issues and in management, leadership, consultation, and collaboration. Other components of the curriculum include the scientific inquiry core, which develops skills in identifying and addressing clinical research problems, and the advanced practice core, which builds upon the student's existing knowledge of nursing science

to incorporate integrated health assessment and case management. Clinical courses are integral to the M.S.N. and Doctor of Nursing (N.D.) programs, and M.S.N. students work one-on-one with clinical preceptors.

Students enter the N.D. program with a variety of educational backgrounds. Those with baccalaureates in fields other than nursing receive instruction in nursing theory, professional issues, clinical skills, and the nursing sciences; students are able to sit for the Professional Nursing Licensing Examination (NCLEX-RN) at the end of the 18-month pre-licensure period. Regardless of their prior backgrounds, all students select an advanced practice specialty for the post-licensure portion of the program. Successful completion of the program requires an N.D. thesis or project that is an independent investigation of a clinically based research problem.

An integral part of the clinical courses is a service learning component in which the student partners with a community agency on a project selected by the agency. Service learning provides a linkage to the community, an appreciation of the need to work with both agencies and individual clients, and a better understanding of how community partnerships can improve health.

Students in the Ph.D. program in nursing have a required research practicum, generally beginning in the first year of study, in which the student works with a researcher for 240 hours over a 12-month period. The practicum gives students hands-on experience in various aspects of the research process, and many students assist with presentations and publications as co-authors. Doctoral students are encouraged to attend the monthly "Gold Bag" research series and to present their work at regional or national meetings and publish their research activities. Faculty support in these activities is critical to the success of the students. These experiences build self-confidence in the students, but also demonstrate the professional expectation of scholarly productivity.

STUDENT FINANCIAL AID

Financial aid adequate to attract the best students and maintain them during their post-baccalaureate studies is a necessary condition to support student development. As might be expected, the forms of financial aid vary widely across schools and programs, including tuition waivers, stipends, assistantships, paid internships, merit scholarships, and loans. In a few programs students receive full tuition waivers and stipends during the entire time of their studies, whereas some students in other programs may graduate with more than \$200,000 of indebtedness. Summary information on each of the schools and colleges follows.

Case School of Engineering

The Case School of Engineering awards up to 70 Case Prime Fellowships each year, a number that is usually sufficient to cover all entering full-time Ph.D. students in engineering and computer science. In the first year, the fellowship pays for 18 credit hours of tuition and a nine-month stipend set at \$1,650 per month for the 2004-2005 academic year. Most students are supported through research grants or contracts in the second through fifth years of their programs. The school pays for eight credits of tuition per year per student, while research grants or contracts awarded to the student's advisor pays for 10 credit hours of tuition and the student's stipend.

There is no formal program of support for students in master's programs in engineering. Some departments support their master's students through service as teaching assistants, but departmental resources are relatively scarce for that purpose. The school also supports some students in the five-year bachelor's/master's program through approximately ten Dean's Fellowships that pay for 50 percent of tuition.

College of Arts and Sciences

Support for doctoral students varies widely across the college. In chemistry and physics, all first-year students receive a stipend and tuition support from departmental funds; beyond the first year, students are supported by research grants. In astronomy, biology, geological sciences, math, and statistics, students are supported with

tuition and stipend from departmental funds throughout their programs. Awards generally carry an obligation to serve as a teaching or research assistant.

In the humanities, arts, and social sciences, support can range from full tuition and stipend to partial tuition only. English and history, for example, generally bring in a small number of first-year students with full tuition and stipend (graduate assistantships in English pay a stipend of \$13,870 for Ph.D. students and \$11,398 for M.A. students for the 2004-2005 academic year). Students in the M.F.A. program with the Cleveland Play House receive full tuition and "competitive" stipend for all three years of the program. In psychology, students receive tuition and stipend support through research assistantships or training grants; for clinical students not connected to a training grant, the department provides a full tuition waiver for the first four years and helps students to obtain paid clinical placements.

Mandel School of Applied Social Sciences

About 90 percent of students in the master's degree program in social work receive some form of financial aid, and nearly all have loans. All full-time master's students receive paid placements for their required field experience; many also receive some grant support. For 2002-2003 the average grant or scholarship in the full-time program was \$7,800; the average paid placement was \$7,200. Each year several students also receive full-tuition scholarships. Approximately 10 to 20 percent of students in the part-time program for employed social workers are funded by their agencies.

Full-time students in the Ph.D. in Social Welfare program are given research fellowships with a \$15,000 stipend and tuition waivers for six to nine hours per semester for the first two years of their studies. Part-time first-year students (i.e., those in the summer study program) are given waivers for half tuition but no stipend. Students beyond the first year can apply for fellowships and support from faculty research grants.

Frances Payne Bolton School of Nursing

About 90 percent of students in the M.S.N. and N.D. programs receive financial aid from one or more sources, and most have loans. (Some federal loans have special

forgiveness provisions for students who enter certain fields after graduation, including nursing and social work.) Students in the nurse-anesthesia program receive a third of their tuition, and students in the gerontological nurse practitioner program are eligible for half-tuition scholarships.

The school offers a few teaching assistantships for M.S.N. students who staff the Bolton School's Learning Lab and some Ph.D. students have teaching assistantships where they supervise the clinical experiences of the pre-licensure students. Some part-time students who work also get support from their employers, generally about \$2,000 to \$2,500 per year. N.D. students in the pre-licensure phase get some support from the school (\$3,500) until post-licensure, a 16-month period. After that, their support is similar to that of the M.S.N. students, and many work as nurses while they finish their degree.

Students in the Ph.D. in Nursing program are supported primarily through loans. Many of the international doctoral students in nursing have support from their governments. Most domestic Ph.D. students work as nurses to support their education.

Weatherhead School of Management

Some merit scholarship aid is available for full-time M.B.A. students, though very few receive full-tuition scholarships. About a third of full-time M.B.A. students apply for loans through the school; the average indebtedness of 2003 graduates in the full-time program was \$37,169. For part-time evening students, 38 percent are fully funded by their current employer, and another 13 percent are partially funded; employer support has been dropping, however, as companies trim fringe benefit programs. The Executive Doctor of Management program offers some partial fellowship aid, and students in Ph.D. programs are generally supported by their departments.

School of Medicine

Students in the M.D. program generally finance their education through borrowing. In general, 80 to 85 percent of students receive some form of financial aid; about 13 percent receive some merit-based aid. The average indebtedness for graduates in the class of 2003

was \$123,400. About 5 percent of medical students receive aid from the military, which provides stipend and tuition support.

Nearly all Ph.D. students in the biomedical sciences receive full support throughout their programs – tuition, stipend (set at \$22,000 for 2004-2005), and paid health insurance. Support is more variable at the master's level, however, and some departments provide little or no support to master's students.

School of Dental Medicine

Dental education at Case is funded almost exclusively through heavy borrowing. Dental education is especially expensive because of the individual equipment required, and approximately 95 percent of students at Case have loans. The median indebtedness of the class of 2003 was \$176,000, and many students owed more than \$200,000. About 13 percent of students get some funding from the military, which pays for tuition, the student's equipment kit, and a taxable stipend of \$1,100 per month. The School of Dental Medicine has only about \$200,000 per year in merit aid for all classes, which it awards in the form of scholarships of \$5,000 to \$10,000.

School of Law

About 85 percent of law students receive some form of financial aid, mainly in the form of loans; the average indebtedness of 2003 graduates who had loans was \$60,350. Approximately 50 partial tuition scholarships are awarded each year, ranging in value from \$6,000 to \$22,000. About a third of the entering class receives merit scholarships; the median amount for 2003-2004 was just under 50 percent of tuition. Approximately 25 upper-level students receive need-based grants, ranging from \$1,000 to about \$11,000. A few students work as research assistants or in other roles, but jobs are not generally part of students' aid packages.

School of Graduate Studies

The School of Graduate Studies provides a number of awards and research fellowships ranging from \$500 to \$20,000 based on students' academic promise, leadership ability, teaching excellence and financial need. The school is also the coordinating office for students applying for National Science Foundation and Fulbright Fellowships.

COMMISSION ON RESEARCH AND GRADUATE EDUCATION

During the 2003-2004 academic year a Commission on Research and Graduate Education was convened to identify and explore the opportunities and challenges associated with flourishing as a major research university. More specifically, the Commission examined ways to improve the quality and quantity of graduate students coming to study at Case, and to improve their research experience while here.

The Commission made a series of recommendations having to do with providing more adequate financial support for graduate students, including subsidizing graduate tuition and allowing students to enroll in additional courses tuition-free after completing course requirements for their degree. The Commission also recommended that mechanisms be put into place that would ensure that graduate teaching, including supervision of graduate students, is equitably considered as part of the teaching load of faculty. In addition, the Commission recommended that efforts be made to ensure that adequate mentoring of graduate students is taking place, and that this mentoring is factored into teaching responsibilities.

Finally, the Commission recommended the appointment of a full-time Dean of Graduate Studies, along with the creation of a dean's office with necessary infrastructure to provide adequate support for graduate student recruiting and support for graduate students and postdoctoral scholars.

SELF-REPORTED STUDENT DEVELOPMENT

The review of existing student development activities in Case's schools and colleges documents a wide variety of activities and experiences that assist graduate and professional students in their professional development. Some of the programs are truly innovative, both in the ways they help students take on the identities and roles of their professions and in the ways they encourage enlightened citizenship and leadership in community life. Individual programs regularly assess student outcomes and career success, and some engage students

in systematic self-assessment of their learning and professional development. While this descriptive analysis was informative, the subcommittee was interested in learning in a more systematic and cross-cutting manner about personal and professional development of Case graduate and professional students across the schools and colleges.

Prior to this study one previous attempt was made to systematically survey graduate students across disciplines and provide a comparative analysis of the results. In the spring of 1998 the School of Graduate Studies surveyed new graduates, as well as five-year and ten-year alumni, regarding the quality of their graduate experience. It should be noted that only students whose degrees were awarded by the Graduate School were included in the survey – students receiving M.D., M.B.A., M.S.S.A., D.M.D., J.D., and other professional degrees were not included. Of the 852 surveys mailed, 137 new graduates and 116 alumni responded. The survey included rating questions scaled from 1 to 5 (“excellent” to “poor”) and open-ended questions. Respondents were asked about the quality of their course work, training in critical thinking, problem solving, communication, professional socialization and their satisfaction with the mentoring they received. They were also asked whether they considered their graduate training to be better or worse than that of peers in their field. Responses were reported for schools with four or more respondents.

The average student rating of their graduate experience at Case ranged from 2.5 (good to very good) in the Weatherhead School of Management to 1.7 (very good to excellent) in the School of Nursing. Students in arts and sciences, medicine and engineering rated their experience somewhere in between. Interestingly, although Weatherhead students rated their overall experience at 2.5, they felt their program was “very good” in relation to their peers' programs, giving it a rating of 2.1. The two categories in all schools that received the best rankings were training in critical thinking and training in problem solving. Generally, questions on professional development, professional socialization, and help with employment received the lowest rankings. This held true both for new graduates and for alumni.

The Graduate School survey was informative and provided a useful launching point for the Subcommittee to survey the professional development of Case students in all of the graduate and professional programs. Until now there had not been such a broad study at Case, and no national surveys of graduate student development existed at the time of this study.

The instrument used in the 1998 Graduate School survey was revised and expanded to inquire about eight aspects of student development, and the impact various components of the Case experience have on student development (see Appendix B). Student development was conceptualized to include intellectual development as expressed in critical thinking, problem solving and communication skills; personal development as expressed in interpersonal skills, self-confidence and the ability to accomplish goals; and professional development, including teaching skills. In addition, three different components of the Case experience were examined for their impact on student development: academic course work, faculty mentoring, and interactions with other students.

All graduate and professional degree students expected to complete their programs in May and August 2004 were surveyed, along with Ph.D. students in their third year of study or beyond. Students were contacted via an email message from the interim provost in April 2004 and asked to participate in the web-based survey. A follow-up request was sent two weeks after the initial request. Respondents were entered into a drawing for a \$250 cash prize for their participation in the survey.

Of the 1,733 graduating students contacted by email, 301 (17.4 percent) completed the web survey. Response rates varied by program: 35 percent of M.N.O. students responded, whereas less than 10 percent of L.L.M., M.S.N., and N.D. students responded. The largest numbers of responses were received from Ph.D. (n=126), M.B.A. (n=45), M.D. (n=38), M.S.S.A. (n=34) and J.D. (n=23) students. Too few responses were received from students in dental medicine, nursing and engineering to make meaningful comparisons. Because of that, and the uneven subgroup sizes from the other schools, only descriptive survey data will be reported here.

Focus groups were subsequently convened in each of the schools and colleges to follow up on information gleaned from the web survey. Participants were recruited through posted announcements, official student organizations, or the dean's office, depending on the school or college. Forty-eight students participated in the ten focus groups, ranging in size from one to eight participants in each group. Because of the low survey response rate and the small number and potential selectivity of the focus groups, only general findings will be reported here, and they should be interpreted as tentative only.

Student Development

Overall, students rated the eight aspects of student development from “good” to “very good” (mean = 2.34). (Possible responses ranged from 1 to 5, including “excellent,” “very good,” “good,” “fair” and “poor,” respectively.) Students rated their intellectual development higher than other aspects of their development: critical thinking skills were rated most positively (mean = 2.01), with problem solving skills (mean = 2.11) and communication skills (mean = 2.15) being rated almost as highly. Personal development – ability to accomplish goals, develop self-confidence and interpersonal skills – received somewhat less positive ratings (mean ratings of 2.30, 2.46 and 2.53 respectively). Students rated their overall professional development similarly (mean = 2.46), but gave teaching skills a slightly less positive rating (mean = 2.70).

Comparatively speaking, students in Ph.D. programs rated their intellectual development somewhat higher than other students, whereas students in the Mandel School of Applied Social Sciences and the School of Law rated their intellectual development somewhat lower. Similarly, students in the Weatherhead School of Management rated their personal and professional development somewhat higher than other students, whereas students in the School of Law rated their personal and professional development somewhat lower.

Survey respondents were asked to indicate the three most important experiences at Case that contributed to their development. Academic activities and experiences (e.g., courses, learning analysis techniques, assignments, seminars and presentations) were cited much more

frequently than other types of experiences. Practice-based learning experiences (e.g., internships, working in the lab, off-campus projects, summer jobs, assistantships, working on teams) were mentioned next most frequently. Students felt the most important benefits of these experiences were knowledge and technical skills, followed by practical experience. Professional growth was mentioned less frequently.

In an effort to explore whether some aspects of the Case experience had a negative impact on student development, respondents were asked to note any negative experiences they had had. The most frequently mentioned negative was unprepared professors (n = 26) followed by non-supportive administrators (n = 17), poorly organized career fairs (n = 11) and poor course scheduling (n = 8). Stress, decreased self-esteem and isolation were mentioned by eight students.

Students rated their overall preparation for their current or anticipated job from “good” to “very good” (mean = 2.28), and their preparation at this stage of their careers similarly (mean = 2.22). Students in the School of Medicine felt most prepared overall, whereas students in the Mandel School of Applied Social Sciences felt least prepared. On the whole, students felt their training at Case was “about the same” or “better” than that of their peers at other institutions (mean = 2.64), with Law students giving somewhat lower ratings than students in other programs. As to whether they would recommend their program at Case to prospective students, respondents answered “definitely would” or “probably would.” Students in the School of Medicine gave somewhat higher ratings to this question, and students at the Mandel School gave somewhat lower ratings.

Focus group participants felt strongly that teaching was an important part of job preparation for students in academically oriented fields. Some students felt their teaching experience helped them master the material. Students reported that they learned how to teach primarily by modeling their professors and experienced graduate students.

Career services in the schools and colleges were criticized by some focus group participants for lack of preparation

for job searching (CV preparation, interview skills, etc.) and, most especially, the apparent lack of effort going into the identification of potential job opportunities in non-traditional fields and in locations outside of Northeast Ohio. The expertise of the faculty was pointed to as an important potential resource of information on these issues. By way of contrast, students in the Mandel School praised their Office of Career Services for the frequent and tailored workshops they provide to students.

Academic Course Work

Overall, student ratings of their course work ranged from “good” to “excellent” (mean = 2.34). Students felt the currency of the subject matter in their courses had more impact on their development than any other single factor (mean = 1.91). Students also felt their studies provided them a broad understanding of their fields (mean = 2.14) and that they were intellectually challenged (mean = 2.27). Students gave somewhat lower ratings to the effectiveness of teaching methods used (mean = 2.57) and the quality of feedback received (mean = 2.80), although on average ratings were still in the range of “good” to “very good.” Students in Ph.D. programs rated the impact of their course work on their development slightly higher than students in other programs, whereas social work students rated the quality and intellectual challenge of their course work somewhat lower.

The majority of students in the focus groups felt the quality of their classroom-based learning was very high, with excellent teachers. Students in the Weatherhead School of Management, Mandel School of Applied Social Sciences, and Case School of Engineering felt their best teachers were those who had “real” work experience to bring into the classroom and whose teaching related directly to the skills and knowledge needed in their professions. Across *all* professional programs, focus group participants reported their practice-based learning experiences – internships, clerkships, assistantships, performances – were critical to their professional development.

Students in the Mandel School of Applied Social Sciences and in the performing arts in the School of Graduate Studies felt they were not being challenged enough academically and that they were not adequately prepared for licensing exams or future jobs. Students in

the Weatherhead School of Management felt grade inflation and lack of standards was a problem in their program, as well as for M.B.A. programs nationally, leading to a poor reputation that reflects negatively on well-prepared students.

Rigor of grading and grade inflation were also concerns, resulting in a lack of differentiation in student performance which some students believed limited their ability to convey the degree of their competence to prospective employers.

Faculty Mentoring

Overall, students rated the impact of faculty mentoring on their development as “good” to “very good” (mean = 2.63), but it was nevertheless perceived somewhat less positively than the other components surveyed. “Help with future employment” received substantially lower ratings (mean = 3.10), lower than any of the other items in the survey in fact, whereas accessibility of faculty was rated more positively (mean = 2.26). Medical students generally rated faculty mentoring higher than students in other programs, whereas law students gave faculty mentoring somewhat lower ratings.

Participants in the focus groups felt the general level of faculty mentoring on technical issues was quite high. However, sometimes good mentors were not thought to be fulfilling the non-technical mentoring needs of students. Students expressed a wish for more frequent “almost peer” interactions with faculty where they can ask questions and get feedback on substantive areas and on their professional development. Students viewed the general lack of faculty accountability for mentoring and teaching as a major impediment to their development as students. In one program students perceived criticism from their professors as “judgment” and a challenge to their professional and scholarly development, and consequently no longer trusted them as their mentors.

Although students felt faculty expertise was high, quality and level of feedback received from faculty both in and out of the classroom was a major source of concern for some focus group participants. Feedback on classroom activities, written work, internship performance and dissertation work was inconsistent and generally lacking.

As several students put it, they are in graduate school for a reason, and it is much better to get criticized now than it is to go out into a professional setting and look bad because they are unprepared. On the other hand, some students thought faculty and administrators were too critical and had a negative impact on their self-confidence and achievement.

Focus group participants from the School of Dental Medicine praised their administration for its responsiveness to student concerns, reflected in significant improvements to the program. On the other hand, students in the School of Engineering, the Mandel School of Applied Social Sciences, and the performing arts, social sciences, and humanities in the College of Arts and Sciences felt their concerns were sometimes ignored by administrators. Some students reported that their failed efforts to bring about program improvements led to low morale and apathy.

Interactions with Other Students

Students were generally positive (mean = 2.45) about the impact of interactions with student peers on their own professional development. Medical students rated the interactions with their peers somewhat more positively than did students in other programs, whereas law students gave somewhat lower ratings. Students reported peer interactions had more impact on their intellectual and personal development than their professional development.

Some students expressed concern for international students who are struggling with cultural adjustment and language barriers. Teachers were sometimes observed to use culturally specific references that made it difficult for students not proficient in English to understand and remain engaged in the learning process. Students from the School of Nursing praised their administration for their efforts to train faculty to be more culturally competent; however, the results were perceived to be somewhat uneven.

CONCLUSIONS

The schools and colleges at Case are already engaged in a wide range of activities to support and further student development, and students report their experience of these activities and their own intellectual and professional development is “good” to “very good.” Students clearly feel their experiences at Case do more to strengthen their intellectual development than their personal and professional development. There seems to be some variability across the schools and colleges, with Ph.D. students feeling more positive about their intellectual development than students in the professional schools, particularly students in social work and law. On the other hand, students in some of the professional schools, particularly the Weatherhead School of Management, rated their personal and professional development quite positively, whereas students in the Law School rated their professional development less positively. On the whole, however, students across the board rated their intellectual, personal and professional development as “good” to “very good.” (As noted above, too few responses were received from students in the School of Nursing, the School of Dental Medicine, and the Case School of Engineering to include them in the comparative analysis.)

Course work clearly had more impact on student development than either faculty mentoring or interactions with other students. This is consistent with the finding that students felt they developed intellectually more than personally or professionally. Practice-based learning experiences were particularly valued by students in the professional schools, and students pursuing academic careers felt teaching experience was critical to their development.

Faculty mentoring was seen to have less positive impact on student development than course work and interactions with other students. While faculty members were recognized for their technical expertise, students expressed a need for more critical and constructive feedback on their work, and more interaction that would strengthen their personal and professional development. Administrators’ lack of responsiveness to students’ expressed need for program improvements was cited by some students as a negative aspect of their experience at Case.

While student development of Case’s graduate and professional students is generally “good” to “very good,” this study nevertheless points to areas of strength and areas in need of improvement in the various programs across the university. Clearly much can be learned from the successes within the schools and colleges. While some of the differences among programs may be attributable to historical and cultural differences among the disciplines and professions, and to the different roles they play in contemporary society, this study suggests aspects of students’ experiences at Case that can and should be strengthened. This study also raises the question as to whether there should be more uniformity in the experiences of Case graduate and professional students – should there be something common and distinctive about the Case experience that all students experience during their graduate and professional studies? More specifically, what is it about the transformational learning experience at Case that we would aspire for all of our graduate and professional students to have? And what do we need to do to insure that all Case students have that experience?

It is important to keep in mind that the findings noted above are only trends, based on a relatively small number of responses. Few if any of the comparisons reached a level of statistical significance. Too few responses were received from students in the schools of dental medicine, nursing and engineering to make comparisons. Likewise, responses in specific disciplines within Ph.D. programs were too few to make meaningful comparisons. On the other hand, the findings are consistent with those from the 1998 survey conducted by the School of Graduate Studies, lending support to the validity of the present survey.

The trends noted above provide an initial cross-cutting glimpse of self-reported development of Case graduate and professional students. At the most general level, students feel that their Case experience is most effective in helping them develop intellectually in the knowledge of their fields, and somewhat less effective in supporting their professional and personal development. In the final analysis, students in all schools and colleges overwhelmingly said they “would” or “definitely would” recommend their program at Case to prospective students with the same interests. Since no standardized national survey of graduate and professional student

development was available at the time of this study, it is impossible to make comparisons of student development at Case with student development at other institutions.

RECOMMENDATIONS

- Define more specifically what is unique and distinctive about “the transformative Case experience” that cuts across graduate and professional programs, and create mechanisms to insure that students have ample opportunities to integrate this unique perspective into their intellectual, professional and personal development.
 - Establish a President’s Commission on Graduate and Professional Education to study in depth the current experiences of graduate and professional students, to envision the transformative educational experience that we aspire the Case experience to be, and to recommend broad changes in academic and student development activities to achieve this vision.
 - Develop a cross-disciplinary learning experience for graduate and professional students that would build on the synergies of cross-disciplinary interactions, and engage students in envisioning a creative contribution to society and putting it into action.
 - Offer a series of lectures and special events by noted Case faculty and administrators, as well as national and international leaders that define, demonstrate and model “the Case experience.”
 - Give several awards each year for original contributions by students that exemplify the unique qualities of Case graduates – for example, best community project, scientific discovery, creative work, or knowledge dissemination.
- Regularly obtain more comprehensive and comparative information on the academic, professional and personal development of graduate and professional students at Case, to provide a better basis for analyzing and enhancing the development of students.
 - Participate annually in a new Graduate and Professional Student Survey³ developed by Duke University and MIT and available to all AAU institutions. This would provide comprehensive standardized information about Case students that would permit comparisons across programs within Case as well as comparisons with other institutions.
 - Improve the response rate on surveys of student development by creating an expectation of participation.
 - Include graduates 2-5 years out in future surveys of student development.
 - Use qualitative research methods to study student development at Case in more detail.
- Create opportunities for faculty to develop their mentoring skills, incentives for mentoring their students, and mechanisms for accountability.
 - Ask the University Center for Innovation in Teaching and Education to provide training to assist faculty in developing effective mentoring abilities.
 - Improve faculty skills in providing critical constructive feedback to students.
 - Factor in student mentoring as part of workload.
 - Conduct regular student evaluations of faculty mentors analogous to course evaluations.

3. The new Graduate and Professional Student Survey may be obtained at <http://web.mit.edu/surveys/grad2004>

THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

- Encourage schools and departments to expand their notions of student development to include professional and personal development.
 - Ask the University Center for Innovation in Teaching and Education to offer seminars on student development and techniques for supporting students' personal and professional development.
 - Build on successful student development innovations from within the university, for example, the Weatherhead School of Management.
- Foster a sense of community across the disciplines at Case with the ultimate goal of creating spaces where students can develop the broad perspectives and skills that are possible only through interdisciplinary give and take with their peers.
 - Provide more visible equity and transparency in funding for scholarships.
 - Offer more interdisciplinary functions.
 - Advertise university functions and events so people easily can identify those they are interested in attending.
- Improve career services provided to students.
 - Offer workshops on interviewing skills and interview preparation that are discipline and work field specific, including non-academic career tracks for the traditionally academic disciplines.
 - Provide concrete support for students in their job searches, including coaching, resume preparation, and networking.
- Improve practice-based learning experiences.
 - Have clearer goals and expectations and closer monitoring of ongoing placements.
 - Set standards which the agencies and the students are expected to meet.
 - Require continuous evaluation by students and supervisors during the placement so students and their agencies have an opportunity to address learning needs.

THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

Wallace J. Gingerich, *Chair*

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Thomas Csordas, *Vice-Chair*

Professor and Chair, Anthropology, College of Arts
and Sciences

Richard E. Boyatzis

Professor and Chair, Organizational Behavior,
Weatherhead School of Management; *liaison from
Steering Committee*

Alison Hall

Associate Professor of Neurosciences and Associate Dean
for Graduate Education, School of Medicine

Erin Hewitt

J.D./M.B.A. Student; President, J.D./M.B.A. Student
Association (class of 2004)

Kimberly Hyde

Ph.D. Student, Art History; President, Graduate
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Thomas P. Kicher

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of Engineering

Lenore A. Kola

Former Dean, School of Graduate Studies; Associate
Professor, Mandel School of Applied Social Sciences

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Student, M.D./Ph.D. Program; *liaison from Steering
Committee* [is no longer at Case]

Marsha A. Pyle

Associate Professor and Associate Dean for Education,
School of Dental Medicine; *liaison from Steering
Committee*

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THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

APPENDIX A

Graduate and Professional Enrollment, Fall 2003							
Case Western Reserve University							
Note: Students in dual degree programs are counted in both programs.							
	Master's Programs			Doctoral Programs			
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	
College of Arts and Sciences							
Anthropology	1	2	3	21	9	30	
Art History and Art:							
Art Education	7	3	10				
Art History	6	7	13	5	12	17	
Art History and Museum Studies	16	5	21		7	7	
Communication Sciences	13	6	19	1	1	2	
English	5	7	12	4	28	32	
French	1		1				
History	5	1	6	2	22	24	
Music:							
Early Music	1		1	1	4	5	
Music Education	9	8	17	2	5	7	
Music History	2		2	1		1	
Political Science	2	3	5		1	1	
Psychology	3	1	4	25	12	37	
Sociology		1	1	9	16	25	
Theater Arts:							
Contemporary Dance	6		6				
Theater Arts	16		16				
Astronomy							
Biology	6	6	12	10	2	12	
Chemistry	2		2	62	27	89	
Geological Sciences		1	1	3		3	
Mathematics / Applied Mathematics	2		2	7	1	8	
Physics	8	5	13	42	3	45	
Statistics	1	1	2	12	3	15	
Subtotal, Arts and Sciences	112	57	169	207	153	360	

THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

APPENDIX A (CONT.)

Graduate and Professional Enrollment, Fall 2003 (Cont.)							
Case Western Reserve University							
Note: Students in dual degree programs are counted in both programs.							
	Master's Programs			Doctoral Programs			
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	
Case School of Engineering							
Aerospace Engineering		1	1	2		2	
Biomedical Engineering	23	11	34	85	22	107	
Chemical Engineering	2	13	15	23	9	32	
Civil Engineering	3	2	5	11	1	12	
Computer Engineering	9	9	18	9	7	16	
Computing and Information Science	14	16	30	23	4	27	
Electrical Engineering	21	13	34	18	9	27	
Fluid and Thermal Engineering Science	2	1	3	1		1	
Macromolecular Science	5	4	9	42	3	45	
Materials Science and Engineering	10	16	26	16	5	21	
Mechanical Engineering	23	24	47	27	25	52	
Systems and Control Engineering	1	3	4	12	6	18	
Master of Engineering and Management	33	1	34				
Master of Engineering		30	30				
Subtotal, Engineering	146	144	290	269	91	360	
Mandel School of Applied Social Sciences							
MS in Social Administration	218	69	287				
PhD in Social Welfare				5	43	48	
Subtotal, Applied Social Sciences	218	69	287	5	43	48	
School of Dental Medicine							
Doctor of Dental Medicine				281	4	285	
MS in Dentistry	24	10	34				
Subtotal, Dental Medicine	24	10	34	281	4	285	

THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

APPENDIX A (CONT.)

Graduate and Professional Enrollment, Fall 2003 (Cont.)							
Case Western Reserve University							
Note: Students in dual degree programs are counted in both programs.							
	Master's Programs			Doctoral Programs			
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	
School of Law							
Juris Doctor				712	3	715	
Master of Laws in US Legal Studies	33	2	35				
Master of Laws in Taxation		16	16				
Subtotal, Law	33	18	51	712	3	715	
Weatherhead School of Management							
Master of Business Administration	417	365	782				
Master of Accountancy	30	1	31				
Master of Nonprofit Organizations	35	23	58				
Master of Science in Management:							
Information Systems		2	2				
Operations Research	12	2	14				
Supply Chain Management	2		2				
MS in Organization Development / Analysis	24		24				
Executive Doctor of Management				48	3	51	
PhD in Management:							
Accounting				4	6	10	
Economics				1	1	2	
Entrepreneurship				1		1	
Management				1	3	4	
Management Information Systems				12	1	13	
Marketing				2	2	4	
Operations Research				11	7	18	
Organizational Behavior				23	25	48	
Subtotal, Management	520	393	913	103	48	151	
Frances Payne Bolton School of Nursing							
Master of Science in Nursing	53	108	161				
Doctor of Nursing (ND)				110	52	162	
PhD in Nursing				13	56	69	
Subtotal, Nursing	53	108	161	123	108	231	

THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

APPENDIX A (CONT.)

Graduate and Professional Enrollment, Fall 2003 (Cont.)							
Case Western Reserve University							
Note: Students in dual degree programs are counted in both programs.							
	Master's Programs			Doctoral Programs			
	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	
School of Medicine							
Doctor of Medicine				558	7	565	
Anatomy / Applied Anatomy	29	11	40	3	1	4	
Anesthesiology	23		23				
Biochemistry / Biochemical Research	9	2	11	33	4	37	
Bioethics	25	11	36	1	1	2	
Biomedical Sciences Training Program				34		34	
Biophysics and Bioengineering				4	5	9	
Cell Physiology				1	15	16	
Clinical Research Scholars Program	2	9	11				
Environmental Health Sciences		2	2	2	3	5	
Epidemiology and Biostatistics	14	17	31	30	28	58	
Exercise Physiology	1	2	3				
Genetic Counseling	8	1	9				
Genetics				49	1	50	
Master of Public Health	31	17	48				
Medical Scientist Training Program (MD/PhD)				59	9	68	
Molecular Biology and Microbiology				14	5	19	
Molecular Virology	1		1	9	1	10	
Neuroscience and Bioengineering					1	1	
Neurosciences				22	10	32	
Nutrition / Public Health Nutrition	23	13	36	8	1	9	
Pathology	1		1	15	4	19	
Pharmacology				12	22	34	
Physiology and Biophysics	1	4	5	6	2	8	
Systems Physiology				2	5	7	
Subtotal, Medicine	168	89	257	862	125	987	
GRAND TOTAL (unduplicated count)	1,172	885	2,057	2,546	572	3,118	

THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

APPENDIX A (CONT.)

Graduate and Professional Enrollment, Fall 2003 (Cont.)							
Case Western Reserve University							
Note: Students in dual degree programs are counted in both programs.							
	Master's Programs					Doctoral Programs	
	Full-Time	Part-Time	Total			Full-Time	Part-Time
Non-Degree Students							
School of Graduate Studies	13	206	219				
Mandel School of Applied Social Sciences		9	9				
School of Dental Medicine		13	13				
School of Law		2	2				
Weatherhead School of Management	31	120	151				
Bolton School of Nursing	2	28	30				
Total Non-Degree	46	378	424				

APPENDIX B

GRADUATE AND PROFESSIONAL STUDENT SURVEY

Case Western Reserve University

Please take a few moments to respond to this survey, which is designed to help the University learn more about the professional development of its graduate and professional students as they near the end of their programs. Your answers will be used to evaluate and improve programs and services. Your participation is voluntary; a decision not to participate involves no penalty and will not affect your standing at Case in any way. Your responses will be treated confidentially. Only summary information will be reported, and no individual’s answers will be identified in any report.

At the end of the survey, you will have the opportunity to enter your Case network ID in order to be entered in a drawing for a \$250 cash prize. Providing your network ID is entirely voluntary; it will be entered into a file separate from the survey responses. The ID information will be used only for purposes of the prize drawing, and then will be erased. To qualify for the drawing, you must complete the entire survey.

If you have any questions about this project, and our interest in using the results, please feel free to contact Professor Wallace Gingerich, Mandel School of Applied Social Sciences, at (216) 368-0313 or wjg4@case.edu. If you would like to talk to someone else at Case about this study or research participant rights, please contact the university’s Office of Research Compliance at (216) 368-4510 or cwru-irb@case.edu.

Q1 By checking this box, you agree to participate in the survey.

Yes, I want to take the survey.

Q2 Expected degree (check all that apply):

- | | | | | | |
|----------------------------|---------------------------|----------------------------|------------------------------|---------------------------|-----------------------------|
| <input type="radio"/> DDS | <input type="radio"/> DMA | <input type="radio"/> EDM | <input type="radio"/> JD | <input type="radio"/> LLM | <input type="radio"/> MA |
| <input type="radio"/> MS | <input type="radio"/> MFA | <input type="radio"/> MAcc | <input type="radio"/> MBA | <input type="radio"/> MD | <input type="radio"/> MEngr |
| <input type="radio"/> MEM | <input type="radio"/> MN | <input type="radio"/> MPH | <input type="radio"/> MSMgmt | <input type="radio"/> MSN | <input type="radio"/> MSODA |
| <input type="radio"/> MSSA | <input type="radio"/> MSD | <input type="radio"/> ND | <input type="radio"/> PhD | | |

Q3 Anticipated graduation date: _____

Q4 Field of study: _____

Q5 Which best describes the current state of your employment plans after graduation? (mark only ONE)

- _____ Will continue in current employment
- _____ Have accepted a position
- _____ Pursuing further graduate training (e.g., degree program, residency, postdoctoral fellowship)
- _____ Considering one or more specific offers
- _____ Still searching for preferred position
- _____ Will begin searching after graduation
- _____ Not planning on employment immediately after graduation
- _____ Other (please describe) _____

THE SUBCOMMITTEE ON STUDENT DEVELOPMENT – GRADUATE AND PROFESSIONAL

APPENDIX B (CONT.)

Q6 If you are currently employed or have an offer of employment, to what extent was your Case degree required to obtain your position?

___ Essential ___ It helped ___ Neutral ___ Not required ___ No relation between degree and job

Q7 Please describe your experience in your graduate or professional program at Case.

	Excellent	Very Good	Good	Fair	Poor	Not Applicable
Evaluate the courses you have taken in terms of:						
Up-to-dateness of subject matter						
Providing a broad understanding of your field						
Effectiveness of teaching methods used						
Level of intellectual challenge						
Quality of feedback to students						
Evaluate the impact of your experiences at Case on your:						
Critical thinking skills						
Problem solving skills						
Communication skills						
Teaching skills						
Professional development						
Interpersonal skills						
Self-confidence						
Ability to accomplish goals						
Evaluate the mentoring you have received:						
Accessibility of faculty						
Quality of individual attention						
Helping you to become a professional						
Help with future employment						
Evaluate the impact of other students on your:						
Personal growth						
Intellectual growth						
Professional development						
Evaluate your overall preparation for:						
Your current or anticipated job						
This stage of your career						

APPENDIX B (CONT.)

Q11 What are the three most important experiences at Case (academic, professional, social, or other) that contributed to your professional development?

1. _____
2. _____
3. _____

Q12 What did you gain from each of the above experiences?

Experience 1: _____

Experience 2: _____

Experience 3: _____

Q13 Were there any experiences that had a negative impact on your professional development?

Q14 What could your program have done differently to improve your professional development?

1. _____
2. _____
3. _____

Q15 Compared to the training of peers in your field, do you consider your graduate or professional education at Case to be:

_____ Much better _____ Better _____ About the same _____ Worse _____ Much worse _____ Can't judge

Q16 Where do you work or expect to work? (Please mark ONE)

- _____ Academia
- _____ Private sector organization (for-profit)
- _____ Government, public service
- _____ Other non-profit organization
- _____ Self-employed
- _____ Other (please describe): _____

Q17 Would you recommend your program at Case to a prospective student with your interests?

_____ Definitely would _____ Probably would _____ Probably not _____ Definitely not

Q18 Gender: _____ Male _____ Female

Q19 Citizenship status (please mark ONE):

- _____ U.S. citizen
- _____ U.S. permanent resident (green card holder) and citizen of another country
- _____ Citizen of another country with a student visa or other non-immigrant visa

APPENDIX B (CONT.)

Q20 If you are a U.S. citizen or U.S. permanent resident, what is your ethnicity (mark all that apply):

American Indian/Alaska Native

Asian or Pacific Islander

Black/African American

Hispanic/Latino

White, non-Hispanic

Other

[Submit survey]

Thank you!

As our thanks for your participation, you can enter your Case network ID in order to be entered in a raffle for a cash prize of \$250. Providing your network ID is purely voluntary; it will only be used to inform you of your prize if you win. Your network ID will not be stored with your responses. Multiple entries will be deleted.

If you do not wish to participate in the raffle, simply close this window.

Case network ID: _____

Thank you again for your participation.