

**Handbook for Ph.D. Students
Learning Sciences Program
Summer 2009**

The information in this handbook is current as of August 2009.

In the spirit of design (and iterative design), this handbook is a living document. Policies of the Learning Sciences Program do change. Substantive updates, revisions, and corrections will be provided to students through email; however, please consult this handbook on a regular basis to remain aware of policy and procedure issues.

Contents

I.	Introduction	4
II.	Courses	5
III.	Research	7
IV.	Participation in Community Activities	8
V.	Admission to Candidacy	9
VI.	Written Qualifying Exam	10
VII.	Second year research presentation and paper	13
VIII.	Dissertation Proposal and Defense	14
IX.	The Ph.D. Dissertation and Defense	15
X.	Teaching	17
XI.	Advising	18
XII.	Annual Performance Review	20
XIII.	LS Policy on Residence at Northwestern	21
XIV.	Financial Support	22

I. Introduction

This handbook has been created to give students information regarding the policies, expectations, and conventions of the Learning Sciences Program. It is designed to supplement and clarify information provided in The Graduate School Bulletin. Every student is responsible for reading the general policies for the Ph.D. in The Graduate School Bulletin and the specific policies on the Learning Sciences Ph.D. program in both the Grad School Bulletin and this handbook.

Every effort has been made to make this handbook as complete, clear, and accurate as possible. If you have any questions about the contents of this handbook or the Graduate School Bulletin, you should address them to the Program Coordinator or your Graduate School Advisor.

II. Courses

Courses are an important part of the education of a Ph.D. student. Students are expected to take courses during the first three years of their graduate career. Every student is required to take courses that fulfill specific requirements for breadth and depth in the three pillars of the Learning Sciences (cognition, social context, and design), and in research methods. Students are also expected to take coursework and continue reading beyond these specific requirements. In particular, students should take coursework that is directly relevant to their research.

Course Requirements

The following are the course requirements for LS students entering in the fall of 2004 or later. Substitutions may be made, and specific requirements may be waived by permission of the Program Coordinator and the student's advisor.

Foundations

LRN_SCI 403: Cognitive Science Foundations of the Learning Sciences

Cognition

LRN_SCI 401: Knowledge Representation for the Learning Sciences

Social Context

LRN_SCI 402: Social Dimensions of Teaching and Learning

Design

LRN_SCI 425: Introduction to Design for the Learning Sciences

TWO of the following:

LRN_SCI 429: Design of Learning Environments

LRN_SCI 426: Constructionist Approaches to Designing Learning Environments

COMP_SCI 430: Design of Interactive Learning Environments

COMP_SCI tbd: Projects with NetLogo

Other courses by approval of advisor and coordinator

Methods

Introduction to Research Design

Field Methods

Qualitative Data Analysis

Stats 330-1 as well as Regression Analysis for Educational Research (preferred) or Stats 330-2. Alternatively, students may take Psych 450, Psych 451, and Psych 453, preferably in that sequence.

Seminars and other non-required courses

Five seminars are required across years 2 & 3. Any non-required LS course and any graduate-level course in other departments can be used to fulfill the seminar requirement.

Grading Policy

Grades are one of the ways that faculty provide feedback to students about the quality of their work and their progress toward a Ph.D. Therefore, it is important that students understand the standards of grading in the LS program.

The Learning Sciences faculty has adopted the following scale for grading in graduate courses:

A	Excellent
A-	Very good
B+	Good
B	Acceptable
B-	Barely Acceptable
C	Poor
F	Fail (no credit)

It is expected that PhD students will produce work at the B+ level or higher. Students who receive more than the occasional grade of B or lower should be aware that they are not performing at the level that the faculty expects of PhD students.

III. Research

Research is an essential element of the Learning Sciences doctoral program. The primary goal of the program is to prepare students to be independent researchers in the Learning Sciences. There are a variety of ways in which students learn to conduct research, including formal coursework in research methods. However, the most important way in which students learn to conduct research is through mentored participation in research themselves. We often refer to this training as “research apprenticeship.”

Students are encouraged to begin to participate in research activities as early as possible in their graduate career. In the early stages, students may simply attend research meetings. Then, they may take responsibility for research activities under close supervision, gradually taking on more responsibility and more autonomy, until they are prepared to conduct independent research. Since students enter the Learning Sciences Program with very different levels of preparation for conducting research, there is no single path. Students should develop an individual plan for engaging in research in consultation with their advisor(s).

Students are required to begin participating in research in the winter quarter of their first year. To fulfill this requirement, students must minimally attend weekly meetings of one or more research groups or meet with a faculty member on a regular basis to discuss research. It is expected that the amount of research activities and the level of responsibility will increase steadily over time. This requirement applies regardless of whether a student is registered for an independent project during the quarter. A first year student who is not registered for an independent study may fulfill the research requirement simply by attending the meetings of a research group. **(But to be clear, a student’s goals should not solely be to attend meetings but rather to begin developing, implementing, and conducting research.)** A student who is registered for an independent study might engage in 10-15 hours of research activities including data collection or data analysis a week.

Beginning in the winter of the first year and continuing through the first year summer, each student must have a “Learning Sciences Research Form” signed by his or her first year advisor at the beginning of each quarter. At the beginning of the quarter, the student will describe a plan for the research activities he or she will engage in. This plan can include attending research meetings, engaging in independent studies, developing projects, and so on. At the end of the quarter, the faculty member should revisit the form with the student to discuss progress, and again sign the form. The completed “Learning Sciences Research Form” is to be submitted to the Learning Sciences Coordinator at the conclusion of each quarter. (Note: Copies of the form are available from the Learning Sciences Program Assistant.)

IV. Participation in Community Activities

The Learning Sciences Community

The Learning Sciences Program at Northwestern is a learning community made up of graduate students, research scientists, post-doctoral fellows, undergraduates, and professional staff. The Ph.D. students play an important role in this community. The LS community is enriched by their presence, and the grad students' education is enriched by participation in the community. To maintain the health of that community, the faculty have the following expectations of all Ph.D. students:

- Students will be present in Annenberg Hall as much as possible during working hours throughout the school year and the summer.
- Students will attend and actively participate in all public events sponsored by the Learning Sciences Program and SESP, including brown bags, colloquia, job talks, and dissertation defenses.
- Students will participate in public events sponsored by the other programs associated with the school (e.g., HDSP, IPR, MPES, CLOC), the Cognitive Science Program, or other units on campus that are relevant to their particular interests and research.
- **Students who have personal or family reasons for exceptions to these expectations should consult with their advisors.**
- **There is a strong expectation of participation in the community with the goal of fostering an environment conducive to effective and innovative research programs.**

The Broader Research Community

As part of their career development, Ph.D. students should participate in the broader research community by attending and presenting at research meetings (conferences and workshops), publishing papers, participating in the organization of meetings, and reviewing for publications and conferences. Students should consult with their advisors and faculty about an appropriate plan for them to participate in the broader research community, including understanding which conferences, workshops, and publications are appropriate for their research interests and career goals.

To encourage students to attend research meetings, the School of Education and Social Policy offers \$250 per year to each student to attend the conference of his or her choice. The Program Assistant has a form that students can use to apply for this funding. This form must be approved by the Program Coordinator. The fiscal funding year is September 1st – August 31st and thus applications for funds must be received by end of day August 31st for travel during that year.

In addition, the Graduate School offers travel support for students who are presenting at a conference, and this support can be used to supplement the SESP support. For information on this travel support, check the Grad School website. <http://tgs.northwestern.edu>. Grants for travel from September 1 through August 31 are awarded on a rolling basis throughout the academic year, or until funds are depleted. The final deadline for receipt of all 2009/2010 conference travel grant applications is Friday June 11, 2010.

V. Admission to Candidacy

Admission to candidacy is an important milestone on the road to a Ph.D. In the Learning Sciences Program, admission to candidacy occurs after a student has completed several requirements:

Step 1: Qualifying

- The written qualifying examination;
- The second year research presentation and paper;

Step 2: Admission to candidacy

- The Graduate School residency requirement (see TGS handbook for details);
- The Graduate School and Learning Sciences course requirements;
- The Dissertation Proposal and Defense;

In the Learning Sciences program, admission to candidacy has two steps. The first step is called *qualifying*, which is ordinarily completed prior to the beginning of the third year. Qualifying is based on an evaluation of the students' work in the first two years, including coursework, the second year research presentation and paper, the written qualifying exam, and participation in research activities. At the completion of the qualifying process, students whose work meets the standards of the Learning Sciences faculty are invited to continue into the third year. Two important considerations in this evaluation are: (1) Has the student demonstrated the breadth and depth of understanding necessary to be a successful researcher in the Learning Sciences? (2) Has the student demonstrated the ability to conduct research of sufficient quality to complete a dissertation within a reasonable period of time with a reasonable level of faculty supervision?

For policies on qualifying exam requirements, please see:
<http://www.tgs.northwestern.edu/studentsvcs/doctoral/admissiontocandidacy/>

The second step toward admission to candidacy involves the completion of the residency requirement, all coursework requirements, and the dissertation proposal. Ordinarily students complete these requirements during the third or fourth year. (See the TGS handbook for the deadline for admission to candidacy.)

Students should be aware that within the LS Program, we use the term "qualifying exam" differently from the Graduate School. What the Graduate School calls the "qualifying exam," we call the "Proposal Defense." There is no graduate school paperwork for our internal written qualifying exam. However, when a student schedules a proposal defense, he or she must fill out the form entitled "TGS Ph.D. Prospectus." Please note that this form is available online through The Graduate School's website.

VI. Written Qualifying Exam

While the written qualifying exam is an important element of the process of qualifying for candidacy, it is only one component of the review that faculty conduct. As part of the progress review conducted at the end of the second year, faculty also take into consideration a student's performance in courses and in their research as evidenced both by their second year research presentation and the report of his/her advisor. There is no pre-determined number of students who "pass." All students who are judged to be performing at an appropriate level will continue into the third year of the program. Occasionally, there are students whose performance does not indicate that they will be able to successfully complete a dissertation of the quality expected by the Learning Sciences Faculty, and they are not invited to continue in the program. If the faculty do not feel that they have enough evidence yet to make a decision, a student might be asked to conduct an additional task by a specified deadline, at which point their case will be reviewed again.

While faculty fully expect that students who are invited to continue into the third year will successfully complete a Ph.D., it is important to remember that students are not accepted to candidacy until they have completed their residency and course requirements, and their committee accepts their dissertation proposal.

The written qualifying exam is a two-day take-home exam. It consists of three questions developed collaboratively by the Learning Sciences Faculty. One question is devoted to each of the pillars of the Learning Sciences: Cognition, Social Context, and Design.

The written qualifying exam is designed to take 16 hours, with the expectation that students will work for eight hours a day over the two days of the exam. Students are not encouraged to work more than 16 hours on the exam.

Students are strongly encouraged to draw from literature on research and theory in the Learning Sciences in their answers. Students should cite the work of others appropriately. Students are encouraged to use APA format and include complete citations, but because of the limited time available, incomplete or improperly formatted citations will be accepted without loss of credit.

Students must work on their own without the assistance of anyone. Students are not allowed to discuss the contents of the exam or their responses with *anyone* (even people who are not associated with program or not involved in the field). Students are permitted to access print and online resources, including books, journals, websites, and their own notes; they are not permitted to ask for help or advice from other individuals (eg. faculty, colleagues, friends, etc.).

Except in rare cases, the faculty will not answer any questions about the intent of a question. If a student feels that there is a problem with a question that requires clarification or correction, he or she should contact the LS Program Assistant, who will

contact the Program Coordinator. The faculty will only respond to requests for clarification if they feel that it is absolutely necessary. In these cases, the same information will be shared with all students.

Students are expected to compose their answers during the exam period. They are not permitted to compose answers from text written prior to the exam.

Students may conduct their work in a location of their choosing. They are entitled to an office to themselves for the duration of the exam. Every effort will be made to keep the volume down in the halls and to ensure access to printers. Usually, students who choose to work in Annenberg are able to work in their own office, which their officemates vacate during the exam. If two students who will be taking the exam share an office, arrangements will be made for one student to work in another office. Students must keep the LS Program Assistant informed about where they are working. **If they will not be working in Annenberg Hall, they must provide a phone number where they can be reached during the exam.**

Students should take every precaution against technical problems. They are discouraged from using unfamiliar hardware or software for the exam. Students are responsible for testing any hardware or software in advance. Students should take precautions to insure that they are making back up copies of their work at regular intervals (at least once an hour). They should also make arrangements to copy their work to another computer periodically (every 4-6 hours). Students may email copies of their answers to the LS Program Assistant periodically as a way of backing up their work to another computer. Allowances will only be made for students who experience technical problems if they have taken these precautions. If you do experience a technical problem, contact the LS Program Assistant, who will contact the Program Coordinator.

Students can pick up hardcopies of the exam at 9 a.m. on the first day of the exam from the LS Program Assistant. They will also receive a copy of the exam via email, but to be sure that they receive it on time, they should pick up a hardcopy.

Students will be given a numerical identifier when they receive their copy of the exam. This identifier should appear on the first page of each answer. Students' names should not appear anywhere on the exam.

Students must email their answers to the LS Program Assistant by 5 p.m. on the second day of the exam. Answers must be submitted in either Microsoft Word (DOC), RTF, or html formats. **The answer to each question should be submitted in a separate file. The name of the file should include the student ID number and the question (e.g., "Design_q_ID12.doc").** Students should stay accessible by email and phone until they have received confirmation from the LS assistant that their answers were received and could be read.

Each question is graded by several LS faculty members. Grading is double-blind. Graders do not know who wrote each paper. Each grader only grades one question and

does not see the answers to other questions. Students do not find out who graded which question. Each answer is converted to PDF by the LS assistant before they are sent to the faculty readers to make sure that any identifying information that may be left in the file by the word processing software is removed. The LS assistant is the only person who knows which students are assigned which ID until after the exams are fully graded. Questions are graded using the following numerical scale:

10 is reserved for truly outstanding
9 is very good
8 is good
7 is OK
6 is barely passing
5 is insufficient
4 is weak
3 is poor
2 is very poor
1 is awful
0 does not respond to the question in any way

Historically, there have been four possible outcomes of the exam: pass, conditional pass, conditional fail, and fail. Even a student who fails the written exam may be invited to continue in the program. A student who receives a conditional fail is considered to have failed the exam but is offered an opportunity to demonstrate that the exam does not reflect their actual abilities. Upon completing the condition, the student's failure is reconsidered. A student who receives a conditional pass is considered to have passed the exam overall but needs to complete additional work in a particular area before being admitted to candidacy. Upon completing the condition satisfactorily, the student is considered to have passed. The faculty may redefine these outcomes or define new ones as circumstances merit.

VII. Second Year Research Presentation and Paper

As part of the qualifying process, students are required to conduct a research project that they write up and present publicly.

As part of this research, a student must formulate a question or hypothesis and pursue it using an appropriate research methodology. The paper and presentation should ground the research in the existing literature, describe and justify the research design, present the findings, and describe limitations and next steps. In the presentation and the paper, students will be evaluated on the quality of the research and on the clarity, coherence, and organization of their communication.

The presentation is a 20-minute presentation to the Learning Sciences community modeled on a conference presentation. The model for the paper is a journal submission. It should be written in accordance with APA guidelines. As many faculty as are able will attend the presentations and participate in their evaluation.

The paper is due and the presentation takes place at the end of the summer of the second year. The paper due date and presentation schedule will be announced at the beginning of the summer quarter. Two faculty members, including the student's primary advisor, will evaluate each paper. The faculty readers will be selected by the Program Coordinator in consultation with the advisor.

VIII. Dissertation Proposal and Defense

The dissertation proposal is a document that describes and justifies a plan for a research project to be completed by the student. This research project will be the basis for the Ph.D. dissertation. The proposal must lay out a line of research that will make a substantial contribution to an important area of the Learning Sciences. It must explain how the research builds on prior work in the field and describe the plan of research in sufficient detail to allow a faculty committee to determine if the work is designed appropriately to meet its goals, and if its results will represent a sufficient contribution to the Learning Sciences to merit a doctorate from Northwestern's Learning Sciences Program.

The dissertation proposal is reviewed by a dissertation committee. The dissertation committee is chaired by the student's advisor. At least two of the members on a student's dissertation committee must be LS professors. The remaining requirements for the composition of a committee is specified in The Graduate School Handbook.

When the dissertation committee feels the student is ready, a proposal defense is Scheduled. The scheduling of this defense should be done in consultation with the advisor and the committee. Details of the scheduling should be provided to the LS assistant.

Note: The composition of committee and schedule of the defense must stay in line with requirements outlined in The Graduate School handbook.

Outcome

At the conclusion of a proposal defense, a student may pass or may be required to revise the proposal document and/or defend it again.

Once a student has passed the proposal defense and completed the other requirements for candidacy, he or she is admitted to candidacy. Again, students are responsible for knowing the requirements for candidacy and for obtaining any necessary paperwork for scheduling a defense from the Graduate School. Students should be aware that what we call the "Proposal Defense" within the Learning Sciences Program is called the "Qualifying Examination" by The Graduate School.

IX. The Ph.D. Dissertation and Defense

The Ph.D. dissertation is the culmination of a graduate career. A dissertation represents a substantial piece of work that makes a contribution to the field of Learning Sciences. The dissertation is submitted to the student's dissertation committee for review.

Once the committee has determined that the dissertation is ready to be defended, the student can schedule a dissertation defense.

Scheduling and preparation

Graduate students must consult with the LS Program Assistant in scheduling the defense to make sure it does not conflict with any major holidays or SESP events. Once it is scheduled, the Program Assistant adds it to the SESP calendar and gives advance notice to the LS academic faculty.

The PhD defense time and date must be announced 2 weeks in advance to all LS faculty, postdocs, and Ph.D. students via email. The student should send all the information (date, time, location, title, committee members, and abstract) to the LS Program Assistant, before this 2-week deadline. The Program Assistant will send the notification. The Program Assistant will also send an advance notification and a reminder 2-3 days in advance.

A hardcopy of the dissertation must be given to the LS Program assistant at least 2 weeks before the defense, and it must be made available electronically, so that all interested faculty may read it in advance.

The defense itself consists of a public presentation followed by private discussions.

Public Presentation

The primary audience for the defense presentation is the LS faculty. Other members of the LS community (students, postdocs, and other researchers) are invited to attend the defense presentation as observers. Only faculty members and members of the students' dissertation committee are invited to ask questions or comment at the defense presentation.

The defense presentation consists of:

- A 45 minute presentation that presents and defends the findings of the dissertation. Students should be careful to allocate sufficient time to present their findings. Questions during this time will be limited to clarification questions.
- A 15-20 minute question-and-answer session between faculty and committee members and the student.

A faculty member who is not a member of the student's committee will serve as the chair of the defense presentation. The chair will keep time and serve as moderator for questions.

At the conclusion of the public presentation, the observers leave the room.

Private Discussion

If any faculty member requests it, there may be an additional question-and-answer session with the student after the outside observers leave. This session is limited to 15-20 minutes. Following this private q-and-a, there is a private discussion among the faculty and the students' dissertation committee without the student in the room. This discussion provides an opportunity for the faculty to provide their feedback on the defense and/or the dissertation to the dissertation committee. There is no pre-determined time limit for this discussion.

Following this discussion, the student is invited to return to the room for a discussion of the dissertation with the dissertation committee and any faculty who choose to attend. There is no pre-determined time limit for this discussion.

Outcome

At the conclusion of the discussion, the student leaves the room for a period during which the committee makes a decision about the outcome of the defense.

A student may pass the defense with no conditions, or may be asked to revise the dissertation, repeat the defense presentation, repeat the discussion, or some combination of these or other conditions that the committee feels are appropriate.

Submission of the dissertation

Once the dissertation has been approved by the committee, the student prepares the dissertation for submission. Students should obtain guidelines for submission from The Graduate School and be aware of all deadlines for submission.

X. Teaching

To support their professional development, all LS PhD students are required to serve as a teaching assistant (TA) for at least two courses during their graduate career. As part of this apprenticeship, students should expect to be involved in all aspects of the planning, management, and assessment in collaboration with the professor. In their second teaching assistantship, students can expect to be responsible for teaching at least one class session or week of the course.

Students are encouraged to TA beyond their requirement and they will be paid an honorarium of \$2000. Students whose source of support is a graduate school TA-ship are not eligible for this supplement. Some sources of fellowship funding do not allow students to receive any supplementary funding.

XI. Advising

The Advisor

A Ph.D. advisor plays a very important role in a graduate student's life and career. The Ph.D. advisor supervises the student's research, provides guidance on academic and career issues, and serves as the chair of the student's dissertation committee. Because the advisor plays such a critical role, it is important to find the best possible match for both research interests and personality.

The First Year Advisor

Beginning in Fall 2004, entering students select, under the advisement of the Program Coordinator, a first year faculty advisor. This advisor may not be specifically investigating topics that a student is directly interested in – rather, the assigned advisor's purpose is intended to assist in introducing the student to the broader LS community. The role of the first year advisor is to provide the student with general advice about classes, curricular decisions, research brainstorming, and other aspects of the LS and Northwestern community. The assignment of a first year advisor does not represent a commitment beyond the first year by either the student or the faculty member. Thus, this should not preclude students from looking for a more permanent advisor whose research interests him or her. Oftentimes, the student discusses with their first year advisor possibilities for who might serve as a permanent advisor. Again, the role of the first year advisor is merely to provide helpful advice to students as they begin their graduate career. (Note: Students enter the program with varied expectations as to whom they wish to work with. The assignment of the first year advisor is intended to help integrate students into the community, and is not intended to obviate students' preferences for who they might select as a more permanent advisor as early as they wish in their first year.)

Selecting a Permanent Advisor

By the beginning of the summer following the first year, a student should select a permanent advisor. (In some cases, a student may be co-advised by two faculty members or a student may continue to have more than one advisor into the second year.) The annual performance review form for the first year requires a student to identify an advisor and obtain the advisor's signature.

A faculty member becomes a student's advisor by mutual agreement. A faculty member is not obligated to advise any particular student nor to continue advising a student if the advisor is not satisfied with the quality of the student's work. Before selecting an advisor, a student should have a clear idea from the faculty member what he or she expects of the student, how the advisor expects the student to be funded, and how they will work together (e.g., how often they will meet and in what settings). In the case of students whose advisor will be supporting them with a research assistantship, the student and advisor should have a clear understanding of what the student will be expected to do for the research assistantship and the relationship between that work and their dissertation research.

It is not uncommon for students to switch advisors during their second year. There are many valid reasons for changing advisors, so students should be aware that they have the option. However, changing an advisor is likely to slow a student's progress toward a degree and has practical implications. If a student has made commitments to complete work with or for an advisor, the student should make every reasonable attempt to fulfill

that commitment as part of the plan for switching advisors. A student who is considering changing his or her advisor should consult with the Program Coordinator to develop a plan for making the change and to make sure the student understands the implications of the change. If the Program Coordinator is directly involved, the student should consult with the Dean or another tenured faculty member.

XII. Annual Performance Review

Every spring, each student is required to submit an annual progress report describing the progress that student has made during the past year and the student's goals for the coming year. The faculty review these reports and other evidence of students' progress, including course work, research activities, publications, presentations, and other professional activities. Following this review, each student receives a letter with feedback from the faculty about the student's progress and suggestions for the coming year. Students whom the faculty feel are not making satisfactory progress will be notified of this as part of this review process.

Note: Late submission of the annual progress report is frowned upon and discussed as part of the performance review procedures.

XIII. LS Policy on Residency at Northwestern

Summer Residence

The summer quarter is part of the academic year for Ph.D. students in the Learning Sciences. Students are expected to be engaged in research and scholarship full-time during the summer. Except for students participating in field work or internships that require them to be elsewhere, students are expected to be present on campus during working hours throughout the summer. Eligibility for summer funding is contingent on residency. However, students are entitled to time off for vacation time during the summer. The length and timing of that vacation should be set in consultation with your advisor.

Leaving Northwestern Prior to Completion of Degree

In recent years, LS Ph.D. students have occasionally requested permission to leave the Chicago area before completing the requirements for the degree and to continue working on their degrees from remote locations. These departures typically happen for one of two reasons. Either the student has a personal reason to be away from Evanston for extended periods of time or the student accepts a job before they have completed their degree.

This is a matter of serious concern for the faculty. We understand the competing pressures in students' lives and recognize their need to make decisions that balance those pressures according to their personal priorities. However, the faculty believe these absences carry significant costs for the students' career development. It is our experience that students who leave take longer to complete their degrees, have a much higher likelihood of never completing their degrees, and tend to produce lower quality dissertations. Students who leave early lose the opportunity for informal exchange with faculty and other students, miss opportunities to attend talks and meet with visitors, and lose the chance to gain valuable experience mentoring more junior students. The faculty and university make substantial investments of time and resources in graduate student education. We feel a great loss when students do not complete their degrees, and we are disappointed when students do not work at the level of their potential.

In addition, the absence of senior graduate students comes at a substantial cost to the LS community. The faculty believe that the ongoing success of the Learning Sciences Program depends on our maintaining an active, vibrant community in Annenberg Hall, so the departure of senior graduate students is a serious concern for us.

Note: This concern does not apply to students who must take a temporary leave from the program for medical or personal reasons. This applies to students who are active in the program but are requesting to be absent from campus for extended periods of time.

XIV. Financial Support

All Ph.D. students in the Learning Sciences Program are guaranteed four years of 12-month per year funding, contingent on their making satisfactory progress toward the Ph.D. This funding includes tuition and stipend.

For the most part, the amount of school year stipends is the same, regardless of their source, and is based on a level established by The Graduate School and the School of Education and Social Policy.

There are several sources of student fellowships that have different conditions. These are described in general below, but students are responsible for investigating and understanding the details of their funding.

University Fellowships

University Fellowships (UF's) are awarded and funded by The Graduate School. Nearly all first year LS students are supported by University Fellowships. UF's are provided by The Graduate School as part of their support for the program. A student who is being funded on a university fellowship must be in good academic standing and is not permitted to engage in outside work for income. Students who are awarded a UF receive a letter from The Graduate School describing the requirements and conditions associated with that funding. Any questions regarding these requirements and conditions should be addressed to the Program Coordinator or The Graduate School.

Three-month summer UF's are available for students who are being supported by a TA-ship during the year, or for students who have no other sources of funding for the summer months. A student must apply during the spring quarter for a summer UF.

First year University Fellowships include an automatic 3-month summer fellowship. In many cases, students are able to supplement a summer UF with other funding, such as a partial RA. First year students should contact their advisor about the possibility of supplementary summer funding. If the advisor is unable to provide supplementary funding, the student should contact the Program Coordinator, who may be able to locate a source of supplementary funding.

Research Assistant

Most students in the program are supported by a Research Assistant fellowship (RA) after the first year. RA's are funded by grants from outside sources, including but not limited to the National Science Foundation or private foundations. Most RAships require work on a research grant in exchange for the tuition and stipend. The stipend is based on half-time (20 hours/week) employment. In some cases, a student's own dissertation research fits within the work plan for a grant, so the RA directly supports his or her research. In most cases, a student will be expected to do some work that is not directly related to his or own research in exchange for the funding. However, a PI is not permitted to require more than 20 hours of work per week from an RA. In general, students on RAships are funded by a project on which their advisor is a principal investigator. However, occasionally a student will be funded as an RA on another faculty member's grant. In all cases, the student should have a clear arrangement with the faculty member providing the funding about the particular hours he or she is expected to work and what work he or she is responsible for.

A special type of RA is provided by a training grant. The primary goal of a training grant is to support students' graduate education ("training"). Since a training grant does not usually have the same sort of a work plan as a research or development grant, a graduate student funded through a training grant usually has fewer work responsibilities under the grant than he or she would on a research grant. However, students on training grants may have specific work responsibilities in addition to their own research and training, so students on training grants should discuss any requirements of the fellowship with the director(s) of the training grant.

Most RA fellowships have requirements and conditions imposed by the external sponsor. In general, these fellowships do not permit students to perform outside work for pay. A student should consult with the PI of the grant providing his or her RA-ship about requirements and restrictions.

Teaching Assistants

A Teaching Assistant (TA) Fellowship is provided to a graduate student in exchange for assisting an instructor with teaching a course. Like an RA, a TA requires specific work. A student funded as a TA should clarify what his or her responsibilities are with the instructor. Typically it involves helping to plan the course, facilitating course organization and communication with students, preparing materials for the class, grading and providing feedback to students, and assisting with in-class instruction. Students funded on a TA fellowship are required to TA one course per quarter while they are on the fellowship. Sometimes, a student who is funded as a TA for a whole year will not need to TA all three quarters.

TA fellowships are awarded by the School and funded by the Grad School. Students should check with the Grad School for the requirements and conditions associated with TA fellowships.

Other Fellowships

Additional fellowship opportunities are available from both university and outside sources. These include both research and dissertation year fellowships. A research fellowship is typically awarded by an outside organization to a student directly, based on a program of research he or she proposes. While outside research fellowships are awarded directly to students, they are typically administered by The Graduate School, meaning the money is given to The Graduate School, who pays the tuition and stipend from that award. The Graduate School also offers internally-funded research fellowships to students engaged in field research. Even though all Ph.D. students are guaranteed four years of funding by the program, they are encouraged to seek research fellowships because of the prestige and the flexibility they bring to the student.

Dissertation year fellowships are awarded to students to support their final year in the program. The goal is to support students in writing up their dissertation. Usually, dissertation year fellowships require that a student has completed the bulk of their research and typically ask for a letter from the advisor indicating that the student is expected to complete all the degree requirements during the funded period. Dissertation year fellowships are designed to free students from other concerns in order to focus on completing the dissertation. The Graduate School offers several different dissertation year fellowships, as do outside organizations, such as the Spencer Foundation.