Faculty Meeting Agenda
1 November 2004

Call to order at 4:10 p.m., Sinclair Auditorium
Refreshments will be served at 3:30 p.m.

1. **Minutes**

   Corrections or approval of the 13 September 2004 faculty meeting minutes.

2. **Memorial Resolution**

   - Professor Steven Sarnetz will give the memorial resolution for Robert (Boss) Cutler, professor of music

3. **Committee Motions**

   - Educational Policy Committee - Ed Kay/John Pettegrew
     1. Study Abroad Proposal
     2. Eckardt Scholar program
     3. Graduation requirement of 2.0 in RCEAS majors

   - Graduate & Research Committee - George White
     1. New Ph.D. in Learning Sciences and Technology Proposal
     2. International Business Concentration of the MBA Program
     3. CoEd Change in International Program Residency Requirement

   - Rules and Procedures Subcommittee
     1. Changes to R and P.
        a. Delete defunct committees
        b. Make changes to remove ‘the Forum’ and add the Student Senate

3. **Unfinished Business**

4. **New Business**

5. **Committee Reports**

   a. Rules and Procedure Subcommittee - Rosemary Mundhenk
      Discussion of the Report on Governance
   b. Faculty Steering Committee – Alwyn Eades
      Promotion and Tenure
   c. Faculty Compensation Committee - Frank Gunter

6. **President’s Report**

7. **Provost’s Report**
8. **Adjournment**

Please note the following meeting dates for 2004/2005. Refreshments will be served at 3:30 p.m. and all meetings will begin at 4:10 in Sinclair Auditorium.

- 6 December 2004
- 7 February 2005
- 21 March 2005
- 2 May 2005
Lehigh University

MINUTES OF THE FACULTY MEETING

1 November 2004

Presiding: Gregory Farrington (Sinclair Auditorium)

President Farrington called the meeting to order at 4:10 PM.

1. Minutes. The minutes of the September 13 2004 faculty meeting were APPROVED.

2. Memorial Resolutions. Professor Steven Sametz read a tribute to Robert (Boss) Cutler, late Professor Emeritus of Music, who then MOVED that his remarks be incorporated in these minutes [see Attachment 1] and that a copy be sent to the family. The President declared the motion APPROVED by acclamation and the faculty STOOD for a moment of silence in memory of Robert (Boss) Cutler.

Professor Edwin Kay read a tribute to Samuel Gulden, late Professor of Computer Science and Engineering and Mathematics, who then MOVED that his remarks be incorporated in these minutes [see Attachment 2] and that a copy be sent to the family. The President declared the motion APPROVED by acclamation and the faculty STOOD for a moment of silence in memory of Samuel Gulden.

3 Committee Motions. Professor Kay, on behalf of the Educational Policy Committee, MOVED a change requiring a 2.0 GPA in RCEAS majors. The motion was SECONDED and PASSED [see Attachment 3]. Professor Kay then MOVED a change to R&P 3.1.6 requiring a 3.0 GPA for non-Lehigh Study Abroad programs. The motion was SECONDED and PASSED [see Attachment 4].

Professor Jill Schneider, on behalf of the Graduate and Research Committee, MOVED a new PhD program in Learning Sciences and Technology. The motion was SECONDED and PASSED [see Attachment 5]. Professor Schneider then MOVED a change to the International Business core in the MBA program. The motion was SECONDED and PASSED [see Attachment 6]. Finally, Professor Schneider MOVED a change in the residency requirement for the International Program in the College of Education. The motion was SECONDED and PASSED [see Attachment 7].

Professor Rosemary Mundhenk, on behalf of the R&P Subcommittee MOVED to delete from R&P 1.2.5 the description of and reference to the now defunct University Committee on Human Relations. The motion was SECONDED and PASSED [see Attachment 8]. Professor Mundhenk then MOVED to delete from R&P 1.2.5 the description of and reference to the now defunct Academic
Computing Council. The motion was SECONDED and PASSED [see Attachment 8]. Finally, Professor Munchenk MOVED to delete from R&P 1.2.5 the description of and reference to the now defunct Forum and replace them with 'Student Senate.' The motion was SECONDED and PASSED [see Attachment 8].

4. **Unfinished Business.** None.

5. **New Business.** None.

6. **Committee Reports** Professor Alwyn Eades, on behalf of the Faculty Steering Committee, engaged a discussion on faculty governance [see Attachment 9]. In response to the question of how often a new faculty governing body would meet, Professor Barbara Traister remarked that that was beyond the scope of the current task force. That would be the charge of the group that writes the constitution of the new governing body.

Professor Frank Gunter expressed opposition to the proposed Financial Resources Allocation Committee stating his belief that the Financial Compensation Committee should not go quietly. Professor Traister said she believed the new committee would have a louder voice. Professor Gunter replied that he did not want to see FCC disappear, and that he was uncomfortable with the idea of staff and students populating the new committee.

Professor Bob Folk urged faculty to stay with the current system and make it work better. He said the faculty need an independent voice and urged faculty to join AAUP.

Professor Gunter asked about the next step. Professor Eades replied that the existing document was a statement of general policy.

Professor Bob Thornton suggested that the first question on the survey to be completed by faculty be broken into two questions. Professor Eades agreed.

Professor Rich Aronson asked about the incentives for faculty to participate in the new structure.

Professor Traister remarked that the vision is not to remove the faculty's voice, but to have governance work through a small group of faculty 'up to speed' on the issues.

Professor Thornton asked if the referendum method would be available for 'big issues.' Professor Traister replied in the affirmative.

Professor Alastair McAulay noted that not everyone on FFPOC agreed with the proposed governance structure.

Professor Jim McIntosh wondered how junior faculty would be brought into the new
governance structure

Professor Steve Thode asked what governance the faculty gains.

Professor Traister replied that the administration will share governance with the faculty.

Professor Eades closed the discussion

Professor Eades then provided a point of information. The Board of Trustees has reviewed the document proposing changes to R&P for promotion and tenure. The document has been returned to the faculty with recommended changes. A new committee will be appointed to craft a new document.

7. President's Report. President Farrington encouraged all faculty to vote in the general election tomorrow.

8. Provost's Report. The new provost, Mohamed el-Aasser, was greeted with applause. The provost said he was humbled by the warm response to his appointment.

The provost stated several priorities. First is developing the right environment for successful faculty and staff (including the care and feeding of junior faculty). Second is defining the distinguishing features of Lehigh and its programs. Elevating the College of Arts and Sciences is a big priority as is the integration of 20/20 activities. Third is the learning experiences of students. The provost wants to see greater integration of programs and more co-curricular activities.

The provost announced that the search for a new dean of the Rossin College of Engineering and Applied Science is underway. The search committee is due to report to the provost by December 6.

The provost expressed a desire to build a corps of academic affairs that involve collaborations across disciplinary and college boundaries.

Finally, the provost noted that it is time to look at a form of faculty governance that will be beneficial in the future.

The meeting stood adjourned at 5:43 PM.

__________________________________________
Stephen F. Thode
Secretary to the Faculty
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The faculty of Lehigh University notes with profound regret the passing of Samuel Linial Gulden, Professor of Mathematics and Computer Science and Engineering

Sam Gulden was born on 25 April 1927 in Brooklyn, NY. His wife, Susan, passed away in July, 1986, and he is survived by his daughter Naomi. He earned a Bachelor of Science in Mathematics at the City College of New York in 1949 and a Masters of Science in Mathematics at Princeton University in 1950. He joined the Lehigh faculty as an instructor of Mathematics in 1953 and rose through the ranks to become a full Professor of Mathematics. From 1979 to 1982 he chaired the Division of Computer and Information Science in the Department of Mathematics. From 1983 until his death he held a joint appointment in the Mathematics Department and the Computer Science and Engineering Department.

Sam was instrumental in bringing Computer Science to Lehigh. Building on the Information Systems program, then housed in the Department of Philosophy, he shaped the curriculum that in its broad outlines, is still in place today.

Sam served as a full time faculty member for 52 years. It is likely that he was the longest serving faculty member in Lehigh history. He taught a dizzying array of courses in both mathematics and computer science, covering most of the undergraduate material in both disciplines. Many of us on the Lehigh faculty are his former students. We remember his lectures for their clarity. Mathematics is a discipline that demands perfection in its presentation. Sam, without the aid of notes, wrote lectures that often achieved that perfection. When he turned his attention to Computer Science, the computer - actually the compiler - demanded perfection. Again Sam frequently achieved perfection in his lectures.

Sam's first love was teaching. His long history at Lehigh was a long history of overloading his teaching schedule. The night before his sudden death he was preparing a lecture for the following day. He strove to draw the student to the intellectual task of learning computer science or mathematics by putting in it such a beautiful light that they could not help but be attracted to the subject. In this he succeeded.

Sam had a second love, research. He loved research but cared little about embellishing his record with publications. His first publication was a mere abstract, published while he was an undergraduate and co-authored by E. Post, a famous mathematician. The abstract was a seminal work in the area of logic. His research spawned seven doctoral dissertations in mathematics, seven doctoral dissertations in computer science, and 30 masters theses in computer science. He published six journal articles, and was active until the end. His earlier work in mathematics was in topology, and he returned to this subject last fall, when he was an active participant in a research seminar on this subject in the Mathematics Department. His participation included presenting some of his own research on the subject.

Sam was a highly observant orthodox Jew. For many years he belonged to a small congregation, Agudas Achim, in Allentown. Sam was very well read in Jewish religious texts and became the spiritual leader of Agudas Achim. It is fitting that we finish this resolution with the Hebrew phrase: יִכְרֶה צְדֵיכַי בְּטוֹבָה. This can be translated as 'The memory of the righteous is a blessing.'

Edwin J. Kay
Donald J. Hillman
The Academic Policy Committee moves that:

A student must obtain GPA of 2.0 in the "major courses" to graduate in Engineering. Each major has its own rules for determining "major courses" as follows:

ChemE: For the purposes of this proposal, the "major courses" in ChemE consist of all Math, Chemistry, Physics, and Chemical Engineering courses taken to satisfy the major.*

CompE: For the purposes of this motion, "the major courses" for Computer Engineering consist of all those ECE and CSE courses that are taken to satisfy the major.*

CEE: For the purposes of this motion, the "major courses" for Civil Engineering and Environmental Engineering majors consist of all courses with a CEE prefix taken to satisfy the major.*

CSE: For the purposes of this motion, the "major courses" for Computer Science consist of all CSE courses taken to satisfy the major, plus ECE 33 and ECE 201.*

EE: For the purposes of this motion, the "major courses" for Electrical Engineering consist of all ECE courses and technical electives taken to satisfy the major.*

Mat Sci: For the purposes of this motion, the "major courses" for Material Science and Engineering consist of all MAT courses taken to satisfy the major.*

MEM: For the purposes of this motion, the "major courses" consist of Mech 2, 12, 102, ME 10, 21, 121, 104, 211, 231, 252.

IE I&SE: For the purposes of this motion, the "major courses" for both the IE and I&SE degrees consist of all those courses with an IE prefix **

* Excluding free electives, but including technical and professional electives
** Including technical electives, professional electives and free electives

Rationale: Currently, there is no RCEAS requirement for graduation beyond the university-required 2.0. Students can graduate and have graduated with a considerably lower "major gpa". Currently, there is a student with a 1.5 gpa in his "major" but with an overall gpa greater than 2.0. It is inappropriate to award an engineering degree to such a student.
Recommendation to EPC for revision to R&P 3.1.6
September 29, 2004

Current: 3.1.6 Study abroad
A student who wishes to study abroad under the auspices of any non-Lehigh program
and who wishes to have the academic work taken in that program count towards a
Lehigh degree must have a cumulative GPA of at least 2.7. Any student with less than
this and who believes for good reason that there are extenuating circumstances may
appeal to the committee on the standing of students for an exception to this rule before
leaving to study abroad. Advance approval of the registrar must be obtained for the
transfer of credit.

Proposed: 3.1.6 Study abroad
A student who wishes to study abroad under the auspices of any non-Lehigh program
and who wishes to have the academic work taken in that program count towards a
Lehigh degree must have a cumulative GPA of at least 3.0, or an average of a 3.0 gpa
during the two regular semesters prior to submitting an application to study abroad.
Any student with less than this and who believes for good reason that there are
extenuating circumstances may appeal to the committee on the standing of students for
an exception to this rule before leaving to study abroad. Advance approval of the
registrar must be obtained for the transfer of credit.

Rationale:
The stronger foreign programs require a 3.0 GPA. Lehigh would like to eliminate some
weaker programs that have a lower required GPA. Lehigh currently includes these
weaker programs to have some programs available to students with a GPA lower than
3.0.

Many students studying abroad have found the programs academically very challenging.
We want to maximize the chances of academic success in these programs.

The current standard of a 2.7 GPA has been eroded by grade inflation. When that
standard was adopted, the average GPA at Lehigh was approximately 2.75; it is now
3.05.

A higher GPA would require greater academic commitment from the students. Indeed,
the source of the (few) severe behavior problems on these programs has been students
with a GPA less than 3.0.
Proposed New Degree Program

College of Education

Learning Sciences and Technology Ph.D. Degree

1. Proposed new program mission statement

The Learning Sciences and Technology (LST) Ph.D. program focuses on the systematic study of the psychological, social, and technological processes that support learning. This incorporates three major components: socio-cultural context, cognition, and designing for learning. We seek to identify, describe, and apply what we know about learning from two distinctive—but highly related—perspectives: human and technological. Our investigations recognize the importance of the socio-cultural context of learning and the professional and personal needs of teachers and learners, whether they are face-to-face or separated by many miles and time zones. We see the human and the technological as inextricably intertwined in designing for learning and seek to explore ways to make the most of what the past has shown us while addressing the challenges the future poses. Using a multidisciplinary, integrative research model, the program engages in active pursuit of ways to enhance what we know about how learning occurs in diverse settings, including traditional ones (like school classrooms and business training programs) and less traditional ones (like online museums and virtual worlds).

2. Rationale for proposed new program

Increasingly, technology permeates all aspects of society. As its influence increases, it affects what we can do, how we do it, and how we interact with one another. For instance, computer-mediated communication, once rare and now so pervasive in society, has had a profound effect on social and cultural interaction.

Clearly, technology also affects education. Computer-supported collaborative learning environments, three-dimensional workspaces, and electronic performance support systems are but a few of the ways in which technology facilitates new ways of communicating and learning. At the same time, such uses of technology make new demands on educators and learners and require that we learn more about how we may apply what we know about cognition, social learning, and information processing to such settings and investigate new applications of existing knowledge.

It is here that the learning sciences enter. The learning sciences seek to bridge the gap between theoretical perspectives and applied educational research. By nature, the field draws on a wide range of academic disciplines. Theoretical and empirical investigations in cognition and how we process information help to guide new ways to approach teaching and learning. We wish in particular to explore how technology influences both process and outcome.

It is our desire to compete with leading doctoral programs in the field. We examined Northwestern’s Learning Sciences program, Stanford’s Learning Science and Technology Design program, University of Georgia’s Applied Cognition and Development program, University of Washington’s Cognitive Studies in Education, University of California—Berkeley’s Cognition and Development program, MIT’s Media Lab, and Indiana’s Learning Sciences program. By offering a doctorate in Learning Sciences and Technology, we align ourselves more closely with prominent programs at competitive peer institutions, while building collaborative partnerships across Lehigh University. Creating cross-college and cross-department collaboration is a key component of many recent university initiatives.
3. Description of proposed new program

A. Admissions criteria (required for graduate programs only)

(1) minimum requirements

Post-bachelor's degree regular admissions students must have at least one of the following:
(1) undergraduate GPA of at least 3.0 out of 4.0.
(2) GPA of at least 3.00 for the last two semesters of undergraduate study.
(3) scores at or above the 75th percentile on the GRE.
(4) GPA of at least 3.00 on a minimum of 12 hours of graduate work at other institutions.

Post-master's degree regular admissions students must have at least one of the following:
(1) graduate GPA of at least 3.0 out of 4.0.
(2) scores at or above the 75th percentile on the GRE.

These conditions are necessary but not sufficient (see graduate handbook). Admission is competitive from the pool of applicants. In addition, applicants must supply other admissions materials, as described below.

(2) background courses required

None. Admits may, however, be required to take additional courses to remediate specific academic deficiencies.

(3) required examinations (for example, GRE, GMAT, and the like)

GRE

(4) language requirements for foreign students

TOEFL (Test of English as a Foreign Language): minimum score of 600/250 (paper-based / computer-based test). TOEFL subtest scores: reading 56/22, listening 56/22; and structure/writing 55/22. Within one calendar year of admission, must score at least 50 on the TSE (Test of Spoken English).

(5) application process for interdisciplinary programs

To be considered for admission, applicants for all concentrations in the LST doctoral program must submit:
- GRE scores.
- At least two letters of recommendation.
- Official transcripts from all colleges/universities attended.
- A statement identifying the concentration in the Learning Sciences and Technology (LST) doctoral program they wish to pursue and why they wish to pursue that particular concentration.
- A brief narrative telling why they believe Lehigh is the best place for them.
- A statement of what they hope to be able to do with the degree when they finish.
- A clearly identified research interest and a clear linkage between that interest and the research agenda (research, publications, presentations) of a specific faculty member in the area of concentration.
- Two reprints or copies of publications or extended student papers indicating strong writing ability and the potential to develop persuasive written arguments in English.
Admission is to graduate study in one of the approved formal concentrations in LST. Admission to a concentration is based on the applicant meeting the admissions criteria established by the faculty in that concentration and is determined by the concentration’s admissions procedure. On admission, an applicant is assigned a faculty advisor in the concentration. This person is the program advisor for that student, but not necessarily director of that student’s Qualifying Activity, nor dissertation advisor (although that advisor may serve in these capacities if advisor and student concur).

Transfer between Concentrations

Students admitted to a concentration who have completed at least 9 hours of coursework toward the LST degree but who have not yet completed the Comprehensive Activity may petition to transfer to another LST concentration. This petition, which requires the signature of the present concentration advisor, indicates the reason for the change and builds a case for consideration by the new concentration’s program faculty. Petitioners must provide all normal admissions materials specified by the concentration to which they wish to transfer and transfer are governed by a concentration’s prescribed admission/transfer process.

Concentrations are not required to accept petitioners. If the faculty in a concentration agree to accept a petitioner, that student may be required to take additional coursework or to demonstrate additional competencies as part of transferring. If such additional coursework or demonstrations require credit-hour registration, these credits may be in addition to the 72-hour and 48-hour minimums.

Students who petition following completion of the Qualifying Examination should be aware that different concentrations may have different procedures for completion of the Qualifying Examination and transfer students may be required to retake at least a portion of that examination. Once a transfer student has completed all required additional coursework and demonstrations, he or she is assigned a new advisor.

(6) Admission deadline

Admission once per year: Completed application due February 1

B. Specific degree requirements

Doctoral Degree (if that is the proposed new degree program):

(1) Language requirement

No foreign language requirement.

(2) Qualifying and/or general examination requirements (if both required, describe each below)

Qualifying Project

The qualifying project is designed to demonstrate that a currently enrolled LST student is likely later to be capable of completing a high quality dissertation in a timely fashion. In general, the Qualifying Project should be designed to require students to apply the same types of research and writing skills such students will need to complete their dissertations. The Qualifying Project typically takes the form of a small empirical pilot study on the same topic as the intended dissertation. This pilot study enables the student to answer some question or set of questions that help in the design of the later dissertation.

The Qualifying Project is completed under the direction of a faculty member in the concentration and its success is judged by a Qualifying Project Committee composed of at least three members.
Once a student completes the Qualifying Project satisfactorily, he or she is reclassified from graduate student to doctoral student and moves on to complete study in the concentration.

Comprehensive Examinations

The intent of Comprehensive Examinations (also called General Examinations) is to measure both breadth and depth of understanding. These examinations may be either written or oral, or both, and are tailored to the individual student's program of study. Comprehensive Examinations are designed to measure both mastery within the concentration and mastery across the LST field (as acquired in the LST Core and in other cross-discipline courses and experiences).

Student success on Comprehensive Examinations is judged by a committee of at least three members. Once a student completes Comprehensive Examinations satisfactorily, he or she moves on to dissertation proposal, completion, and defense.

(3) Course/credit requirements (attach new course proposal for each new graduate course)

<table>
<thead>
<tr>
<th>Degree at admission</th>
<th>Foundational Courses</th>
<th>Cross-discipline Credits</th>
<th>Concentration Credits</th>
<th>Total Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor's</td>
<td>15</td>
<td>24</td>
<td>33</td>
<td>72</td>
</tr>
<tr>
<td>Master's</td>
<td>15</td>
<td>9</td>
<td>24</td>
<td>48</td>
</tr>
</tbody>
</table>

For those admitted with a bachelor's degree

1. 72 credits past the bachelor's (minimum)
2. 15 credits of required foundational coursework
   - LST 401. Overview of Learning Sciences, and Technology (3) [new course]
   - LST 403. Learning Environments (3) [new course]
   - Qualitative research methods course (for example, Educ 405 [new course]) (3)
   - Statistics/quantitative research methods course (for example, Educ 409, 410) (3)
   - Diversity/multicultural perspectives course (for example, Educ 471) (3)
3. 24 credits of cross-discipline coursework or directed research
4. Successful completion of a qualifying examination
5. 33 credits of concentration coursework or research credits (requirements vary by concentration, qualifying and dissertation credits included)
6. Successful completion of a comprehensive activity
7. Dissertation proposal, completion, and successful defense

For those admitted with a master's degree

1. 48 credits past the master's (minimum) [42 credit minimum if applicable master's from Lehigh]
2. 15 credits of required foundational coursework
   - LST 401. Overview of Learning Sciences, and Technology (3) [new course]
   - LST 403. Learning Environments (3) [new course]
   - Qualitative research methods course (for example, Educ 405 [new course]) (3)
   - Statistics/quantitative research methods course (for example, Educ 408, 409, 410) (3)
   - Diversity/multicultural perspectives course (for example, Educ 471) (3)
3. 9 credits of cross-discipline coursework or directed research
4. Successful completion of a qualifying activity
(5) 24 credits of concentration coursework or directed research (requirements vary by concentration, qualifying and dissertation credits included)
(6) successful completion of a comprehensive activity
(7) Dissertation proposal, completion, and successful defense

As noted in *Details of the Proposed Program* below, the LST program has an approved list of cross-discipline courses, including courses made available by departments and programs that do not yet have a concentration, but have agreed to participate in the LST program and have received formal approval for such participation. While concentrations may require coursework within their own areas as part of cross-discipline coursework, they are expected to assure that students take at least half the hours in this category outside the concentration. The intent is to broaden student awareness and skill in LST content areas.

Concentrations are also responsible for listing the courses they require of their students. Below are presented the course requirement details of the concentrations for Ed Tech (Concentration name: *Instructional Design and Development*) and TBTE (Concentration name: *Teaching, Learning, and Technology in School Settings*). Full catalog descriptions of these courses are provided in Appendix C.

### Specific Ed Tech *Instructional Design and Development* concentration course requirements:

#### For those admitted with a bachelor's degree

<table>
<thead>
<tr>
<th>EdT cross-discipline credits (24)</th>
<th>EdT concentration credits (33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 credits from the cross-discipline course list</td>
<td>EdT 438. Development 3: Advanced Development of Instructional Resources and Technologies (Subtitle) (3)</td>
</tr>
<tr>
<td>Statistics course (Educ 409, 410, 411, or equivalent) (3)</td>
<td>EdT 415. Topics in Educational Technology: [Subtitle] or TBTE 415. Technology in School Settings: [Subtitle] (3 total)</td>
</tr>
<tr>
<td>Elective from cross-discipline course list (3)</td>
<td>Field experience (Educ 493, 494, or 495; or EdT 490), additional topic seminars (EdT 415 or TBTE 415), Qualifying Project (Educ 486), Dissertation proposal or maintenance of candidacy, or electives (12 total)</td>
</tr>
</tbody>
</table>

#### For those admitted with a master's degree

<table>
<thead>
<tr>
<th>EdT cross-discipline credits (5)</th>
<th>EdT concentration credits (24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EdT 422. Design 1: The Systematic Design of Instruction (3) [May be waived for students with strong prior degree work in Ed Technology, freeing up an additional 3 credits of cross-discipline coursework]</td>
<td>EdT 425. Design 2: Applied Instructional and Interface Design Principles (3)</td>
</tr>
<tr>
<td>EdT 435. Development 2: Interactive Multimedia Programming for Learning (3)</td>
<td>Statistics course (Educ 409, 410, 411, or equivalent) (3)</td>
</tr>
<tr>
<td>Elective from cross-discipline course list (3)</td>
<td>Elective from cross-discipline course list (3)</td>
</tr>
</tbody>
</table>
6 credits from the cross-discipline course list

Field experience (Educ 493, 494, or 495; or EdT 490), additional topic seminars (EdT 415 or TBBT 415), Qualifying Project (Educ 486), Dissertation proposal or maintenance of candidacy, or electives (9 total)

**Specific TBTE Teaching, Learning, and Technology in School Settings concentration course requirements:**

For those admitted with a bachelor's degree

<table>
<thead>
<tr>
<th>TBTE cross-discipline credits (24)</th>
<th>TBTE concentration credits (33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBTE 406. Tools for K-12 Teaching and Learning (3)</td>
<td>TBTE 486. Curriculum Design and Innovation (3) [course change, see Appendix B]</td>
</tr>
<tr>
<td>TBTE 407. Designing for K-12 Teaching and Learning (3)</td>
<td>Statistics course (Educ 409, 410, 411, or equivalent) (3)</td>
</tr>
<tr>
<td>Field experience (Educ 493, 494, or 495); (6 total) [May be reduced or waived if prior experience in schools warrants freeing hours for additional cross-discipline coursework]</td>
<td>Research methods / Statistics course elective (3)</td>
</tr>
<tr>
<td>12 credits from the cross-discipline course list</td>
<td>TBTE 415. Technology in School Settings: [Subtitle] or EdT 415. Topics in Educational Technology: [Subtitle] (3 total)</td>
</tr>
<tr>
<td></td>
<td>Elective from cross-discipline course list (3)</td>
</tr>
<tr>
<td></td>
<td>Field experience (Educ 493, 494, or 495), additional topic seminars (TBTE 415 or EdT 415), Qualifying Project (Educ 486), Dissertation proposal or maintenance of candidacy, or electives (15 total)</td>
</tr>
</tbody>
</table>

For those admitted with a master's degree

<table>
<thead>
<tr>
<th>TBTE cross-discipline credits (9)</th>
<th>TBTE concentration credits (24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field experience (Educ 493, 494, or 495); (3) [May be waived if prior experience in schools warrants freeing hours for additional cross-discipline coursework]</td>
<td>TBTE 486. Curriculum Design and Innovation (3) [course change, see Appendix B]</td>
</tr>
<tr>
<td>6 credits from the cross-discipline course list</td>
<td>Statistics course (Educ 409, 410, 411, or equivalent) (3)</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>TBTE 415. Technology in School Settings: [Subtitle] or EdT 415. Topics in Educational Technology: [Subtitle] (3 total)</td>
</tr>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Field experience (Educ 493, 494, or 495), additional topic seminars (TBTE 415 or EdT 415), Qualifying Project (Educ 486), Dissertation proposal or maintenance of candidacy, or elective (9 total)</td>
</tr>
</tbody>
</table>

(4) **Master's degree requirements** (If student fails to complete doctorate)

Students who fail to pass the Qualifier Project or Comprehensive Examinations or who choose to discontinue graduate study prior to completing all the requirements of the LST Ph.D. degree may apply for an M.S degree in LST, provided they have completed 30 hours (minimum) of coursework from approved categories in the LST Ph.D. curriculum, including: (1) 15 credits in LST Foundational Courses and (2) at least 15 credits from courses listed on the cross-discipline courses list and/or through directed research.

There is no thesis requirement for the degree; it is a coursework-only masters. The degree is in LST and carries no concentration subtitle.

Awarding of such degree shall be dependent upon the student meeting all relevant university and College of Education requirements for master's degrees.
There will be no formal admission process for the Masters of Science in LST; it will only be an option for those who are admitted to the LST Ph.D. program but fail to complete it. (See attached formal proposal for this MS degree, Appendix A)

(5) Faculty available to direct dissertations

8 faculty members: Drs. Ward Cates (full), Lynn Columba (assoc), Judy Duffield (assoc), Warren Heydenberk (assoc), Mary Jean Bishop (asst), Alec Bodzin (asst) Kathryn DiPietro (asst), and Andy Walker (asst).

(8) Expected time to complete the degree

Bachelor’s at admissions: 5-6 years for full-time students; 7-8 years for part-time students

Master’s at admissions: 4-5 years for full-time students; 6-7 years for part-time students.

C. Details of the Proposed Program (any information not supplied elsewhere on this form but important to the consideration of the proposed program)

The LST program will be guided by a Steering Committee with a representative from each approved concentration. LST Steering Committee members are elected or appointed by the program faculty in their concentrations. Each serves a two-year term on the committee and may be reelected or reappointed.

Procedure for Adding Cross-discipline Courses

Adding existing courses to the cross-discipline course list is handled within the LST program, with the provision that courses approved for inclusion on the cross-discipline course list must conform to university and College of Education requirements for doctoral program coursework standards and requirements. Faculty, programs, or departments wishing to add courses submit those courses to the LST Steering Committee using a Cross-discipline Course Addition form.

If a course to be added to the cross-discipline course list is a new course, it must go through the university new course approval process first. Each year the LST Steering Committee will review the cross-discipline course list to determine how well courses are meeting program needs.

Procedure for Adding New LST Concentrations

At the time of initial proposal, the LST program has only two concentrations, both in the College of Education. We anticipate, however, that additional concentrations will be added in future. This section describes the procedure by which concentrations may be added.

LST concentrations may be of two types: self-contained and interdisciplinary. A self-contained concentration is one where all of the faculty in that concentration are housed in the same program or department. An interdisciplinary concentration is one in which the faculty in that concentration come from different programs or departments (including programs and departments housed in different colleges). An example of an interdisciplinary concentration might be intellectual property issues in e-learning. Such a concentration might involve faculty from multiple departments and colleges.

A new LST concentration is proposed as a new program, and complies with all university procedures for establishing new academic programs.
D. Implementation Plan (how the degree will be put into place, including initial admissions)

The LST doctoral program would begin advertising in fall 2004 and would admit its first class in February of 2005. Foundational courses would be offered in summer and fall 2005. In preparation for that start, the College of Education has just hired a new senior faculty member in the TBTE program with responsibilities in the LST program. In addition, the College has hired an additional research methodologist (assistant professor) to help support research methods teaching in the College.

4. Academic impact

A. Is the proposed new program interdisciplinary?

That is its intent. For now, however, it only involves TBTE and Ed Tech—two programs in the same general discipline (Education). We propose that the LST program start small and build slowly as collaborative relationships across departments and colleges mature. While the program, as proposed here, has only two concentrations—both in the College of Education—we hope ultimately to have additional concentrations from across campus. At that point, it would become interdisciplinary.

B. Identify any known effects of the proposed new program on other programs at the University.

TBTE and Ed Tech’s LST students will share courses and will be eligible to take courses from the cross-discipline course list. When additional concentrations from other colleges join LST, they will have similar commitments. For that reason, all new concentrations will comply with university approval procedures (including completing and submitting appropriate GRC forms).

C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:

(1) Who was consulted?

Since the proposed LST only involves College of Ed programs right now, only TBTE and Ed Tech were consulted on all specifics. A workgroup of faculty have been working on this degree program for almost two years. Barbara Malt (Psychology) became a member of that workgroup in January 2004 because of the Psychology department’s interest in the program.

Over the past year, we have met with faculty from numerous departments across campus, including presentations at meetings of all four colleges. Faculty in the three other colleges have provided input and advice on various drafts of this proposal and have expressed interest in participating in the program at various levels (from simply allowing LST students to take their courses to serving as members of LST doctoral committee to ultimately formulating new concentrations). No department in any of the other three colleges is, however, ready to propose a concentration yet. For this reason, we have created a procedure for the addition of new concentrations (discussed under Details of the Proposed Program above).

(2) Is the proposed new program acceptable to all other programs affected?

Yes.

(3) Will any changes be required in the affected programs? If so, please describe below:

Yes. One previous course in TBTE’s former doctoral program to be modified to accommodate the new LST focus. Five new courses to be added. Teaching responsibility for four of these five initially to be distributed across the two program faculties (TBTE and Ed Tech) with the fifth
presently a College of Education periodic offering. Two of the five courses have been offered previously under the Educ 491 number and are now being "regularized."

Currently, TBTE is not admitting new students to its existing Curriculum and Instruction Ed.D. program. When the new TBTE LST concentration is approved, it will become the only TBTE doctoral program to which students will be admitted. Ed Tech has an active Ed.D. program to which it admits new students each year. When the new Ed Tech LST concentration is approved it will similarly become the only Ed Tech doctoral program to which students will be admitted. Both TBTE and Ed Tech will phase out their former doctoral programs as students complete their degrees.

D. Does the proposed new program affect the University’s commitment to diversity in any way? If so, please describe below:

No.

5. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement if provided by LTS)

Library collections at Lehigh are strong in psychology and related applied fields including school psychology, learning disabilities, linguistics and learning theory as well as information science and human behavior. Library resources to be funded to support faculty and student research for the PhD. in Learning Sciences include two journal subscriptions (a multi-year commitment) and the purchase of a selection of monographs (1990 to present) in learning theory and related fields to supplement an already strong collection in the psychology of learning. The journal subscriptions in 2004 prices would amount to at least $897 annually for combined access to the electronic and print copy of Cognition and Instruction (Lawrence Erlbaum Associates, Inc.) and Instructional Science (Kluwer Academic Publishers). The book purchases are projected to total $1406 and represent materials from major academic publishers that are gaps in the collection.

(2) Computer impact statement (attach statement if provided by LTS)

Adding the LST program should not increase demand on technology resources beyond our normal capacity.

(3) Faculty impact statement (how proposed program affects load on existing faculty or requires new faculty)

The Ed Tech program faculty has been covering all the courses in their concentration as part of handling their existing doctoral program — including the one “new” EdT course — so this adds no new load. The TBTE faculty are adding one new course to their concentration, so this adds some new load. Both programs will have responsibility for covering the three new LST foundational courses. Of these, Educ 405 has been taught once by College faculty already as an Educ 491 seminar. The other two represent new load.

A new position in TBTE has been funded and a search is underway now for an August 2004 hire. This person would have teaching and advising responsibilities in the TBTE LST concentration. In addition, the Dean of the College of Education has agreed to supply funding to hire adjuncts to cover courses to assure these new courses could be taught by qualified faculty. This may entail covering existing courses to free up faculty in the two programs to teach LST foundational courses.
As noted above, the College has just hired a research methodologist. Adding this assistant professor should help meet demand for research courses.

(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)

This program should place no new demands that are not met by existing facilities.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:

As noted above, the Dean of the College of Education is committed to the LST program and will provide resources to help cover its needs. In addition, LST program faculty will pursue outside funding to support full-time LST graduate students.
Appendix A
Proposed New Learning Sciences and Technology Masters of Science Degree Program
College of Education

1. Proposed new program mission statement

[See above.]

2. Rationale for proposed new program

[The Learning Sciences and Technology Ph.D. has already presented a rationale for its existence (see above).]

It is possible that students who enroll in the LST doctoral program will not, for one reason or another, be able to complete their doctoral degree work. They should however, have strong enough preparation in LST to complete a master's degree.

Having an LST master's degree that is a generalist degree and for which only students previously admitted to the LST Ph.D. may apply should accommodate the academic needs of students who do not complete their doctoral work in the LST doctoral program.

3. Description of proposed new program

A. Admissions criteria (required for graduate programs only)

No external applicants will be accepted for this master's degree and no procedure for admitting anyone other than previously admitted LST students to the program will exist. Only students in a concentration in the Learning Sciences and Technology Ph.D. program who cannot complete (or choose not to complete) their doctoral program are eligible to complete the proposed M.S. in Learning Sciences and Technology.

The admission requirements are the same as for that degree, therefore [see above].

B. Specific degree requirements

Master's Degree (that is the proposed new degree program):

(1) New and/or existing course/credit requirements (attach new course proposal for each new graduate course)

Students must complete a minimum of 30 hours of coursework from approved categories in the LST Ph.D. curriculum, including: (1) all 15 credits in LST Foundation, and (2) at least 15 credits from courses listed on the cross-discipline courses list and/or through directed research.

Awarding of this master's degree shall be dependent upon the student meeting all relevant university and College of Education requirements for master's degrees.

(2) Thesis requirement

There is no thesis requirement for the degree; it is a coursework-only masters. The degree is in LST and carries no concentration subtitle.

(3) Comprehensive examination requirement

There is no comprehensive examination requirement.
C. **Details of the Proposed Program** (any information not supplied elsewhere on this form but important to the consideration of the proposed program)

No additional.

D. **Implementation Plan** (how the degree will be put into place, including initial admissions)

[See above in full LS1 new degree proposal]

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4. **Academic Impact**

A. Is the proposed new program interdisciplinary?

[Yes, see above for details.]

B. Identify any known effects of the proposed new program on other programs at the University.

[Discussed above.]

C. If there are known effects individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:

(1) Who was consulted?

All faculty in both academic programs participating in this proposal, a formal workgroup including faculty outside the College of Education, and all four colleges through presentations to their faculty.

(2) Is the proposed new program acceptable to all other programs affected?

Yes.

(3) Will any changes be required in the affected programs? If so, please describe below:

[Yes. See above.]

D. Does the proposed new program affect the University's commitment to diversity in any way? If so, please describe below:

No.

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5. **Resource Impact**

A. Provide impact statements in the four areas listed below:

(1) **Library impact statement** (attach statement if provided by LTS)

[See above.]

(2) **Computer impact statement** (attach statement if provided by LTS)

[See above.]

(3) **Faculty impact statement** (how proposed program affects load on existing faculty or requires new faculty)

[See above.]
(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)

None.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:

As noted above, the Dean of the College of Education is committed to the LST program and will provide resources to help cover its needs. In addition, LST program faculty will pursue outside funding to support full-time LST graduate students.
Appendix B
Learning Sciences and Technology Doctoral Program
College of Education
Course Additions and Changes: 5 new courses + one course change

Proposed New Courses

New Course #1

1. Proposed new course number and course description (as it will appear in course catalogue):

LST 401. Overview of Learning Sciences and Technology (3)
Foundations and key concepts in Learning Sciences and Technology. Cognition and brain-based research
with a focus on technology’s role in learning.

2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and
number of contact hours per week:

Lecture & discussion, online activities. 3 contact hours per week (or equivalent online experience)

3. Rationale for proposed new course:

This is a foundational course required of all students in the new Learning Sciences and Technology
doc toral program. It acts as the introduction to the field and helps to orient newly admitted students to the
LST program.

4. Academic impact on programs affected by new course:

A. Is the proposed course to be cross-listed?
   No.

B. Identify any known effects of the proposed new course on other programs at the University.
   Currently both Educational Technology (EdT) and Technology-based Teacher Education (TBE) have
   proposed concentrations in the proposed LST doctoral program. Students admitted to LST in
   either concentration would be required to take this. In future, should other areas on campus get
   concentrations approved, their students would also take this course.

C. If there are known effects, individuals in charge of the affected programs must be consulted
   about the proposed new course and the following information provided:

   (1) Who was consulted?
   All faculty in both programs (EdT and TBE) were consulted. All faculty in the other three
   colleges who expressed potential interest in proposing a concentration in future were consulted at
   several meetings. Barbara Malt served on our LST workgroup, acting as a representative from
   Psychology, a department with particular interest in possible future participation.

   (2) Is the proposed new course acceptable to all other programs affected?
   Yes.
(3) Will any changes be required in the affected programs? If so, please describe below:
No.

D. Does the proposed new course affect the University’s commitment to diversity in any way?
If so, please describe below:
No known effects.

5. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement if provided by LTS)
See library impact statement under main new degree proposal (attached).

(2) Computer impact statement (attach statement if provided by LTS)
None. Uses existing technology resources.

(3) Faculty impact statement (how proposed program affects load on existing faculty or requires new faculty)
Dean has assigned new full-time faculty position to program to help cover new courses, in addition to agreeing to provide adjunct support as needed.

(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)
None. This course does not require any additional facilities

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Dean, College of Education
New Course #2

1. Proposed new course number and course description (as it will appear in course catalogue):

LST 403. Learning Environments (3)
Social, cognitive, and physical factors in teaching and learning. Systems theory applied to learning settings. Special emphasis on motivational theories.

2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:

Lecture & discussion, online activities; 3 contact hours per week (or equivalent online experience)

3. Rationale for proposed new course:

Also a foundational course in the proposed Learning Sciences and Technology doctoral program. This course addresses the practical application issues in educational settings.

4. Academic impact on programs affected by new course:

A. Is the proposed course to be cross-listed?
No.

B. Identify any known effects of the proposed new course on other programs at the University.
Currently both Educational Technology (EdT) and Technology-based Teacher Education (TBE) have proposed concentrations in the proposed LST doctoral program. Students admitted to LST in either concentration would be required to take this. In future, should other areas on campus get concentrations approved, their students would also take this course.

C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new course and the following information provided:

(1) Who was consulted?
All faculty in both programs (EdT and TBE) were consulted. All faculty in the other three colleges who expressed potential interest in proposing a concentration in future were consulted at several meetings. Barbara Malt served on our LST workgroup, acting as a representative from Psychology, a department with particular interest in possible future participation.

(2) Is the proposed new course acceptable to all other programs affected?
Yes.

(3) Will any changes be required in the affected programs? If so, please describe below:
No.
D. Does the proposed new course affect the University's commitment to diversity in any way? If so, please describe below:

No known effects.

5. Resource impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement if provided by LTS)

See library impact statement under main new degree proposal (attached).

(2) Computer impact statement (attach statement if provided by LTS)

None. Uses existing technology resources.

(3) Faculty impact statement (how proposed program affects load on existing faculty or requires new faculty)

Dean has assigned new fulltime faculty position to program to help cover new courses, in addition to agreeing to provide adjunct support as needed.

(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)

None. This course does not require any additional facilities.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:

Dean, College of Education
### New Course #3

1. **Proposed new course number and course description (as it will appear in course catalogue):**

   **Educ 405. Qualitative Research Methods (3)**
   Foundations of qualitative design as research methodology for answering questions in education. Topics include history, philosophy, types, methods, applications, and critical reading of qualitative research reports. Emphasis on developing key researcher skills of gaining entrance, collecting, analyzing and interpreting data, establishing credibility, and writing and publishing results.

2. **Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:**

   Lecture & discussion, online activities; 3 contact hours per week (or equivalent online experience)

3. **Rationale for proposed new course:**

   A third foundational course in the proposed Learning Sciences and Technology doctoral program. This course addresses qualitative research methodology and complements the statistics course. These two courses (or approved equivalents) are required of new LST students. This course introduces them to methods often employed in research studies in LST.

   This course was offered in summer of 2003 under the Educ 491 workshop number.

4. **Academic impact on programs affected by new course:**

   **A. Is the proposed course to be cross-listed?**

   No.

   **B. Identify any known effects of the proposed new course on other programs at the University.**

   Currently both Educational Technology (EdT) and Technology-based Teacher Education (TBTE) have proposed concentrations in the proposed LST doctoral program. Students admitted to LST in either concentration would be required to take this course (or an approved equivalent). In future, should other areas on campus get concentrations approved, they may elect to have their students take this course.

   **C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:**

   (1) **Who was consulted?**

   All faculty in both programs (EdT and TBTE) were consulted. All faculty in the other three colleges who expressed potential interest in proposing a concentration in future were consulted at several meetings. Barbara Malt served on our LST workgroup, acting as a representative from Psychology, a department with particular interest in possible future participation.

   (2) **Is the proposed new course acceptable to all other programs affected?**

   Yes.

   (3) **Will any changes be required in the affected programs? If so, please describe below:**

   No.
D. Does the proposed new course affect the University's commitment to diversity in any way? If so, please describe below:

No known effects.

5. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement if provided by LTS)
See library impact statement under main new degree proposal (attached).

(2) Computer impact statement (attach statement if provided by LTS)
None. Uses existing technology resources.

(3) Faculty impact statement (how proposed program affects load on existing faculty or requires new faculty)
Dean has assigned new full-time faculty position to program to help cover new courses, in addition to agreeing to provide adjunct support as needed.

(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)
None. This course does not require any additional facilities.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:

Dean, College of Education

================================================================================================
New Course #4

1. Proposed new course number and course description (as it will appear in course catalogue):

TBTE 415. Technology in School Settings: [Subtitle] (1-3)
Focused examination of problems, key issues, and approaches to the use of technology in school settings.
Topics will vary (for example, Technology’s Role in Facilitating School Restructuring; Teaching for Brain-based Learning; Enhancing Gifted Education Through Technology). May be repeated for credit as topic varies.

2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:

Mode may vary. Possible modes include: Lecture & discussion, 1-6 contact hours per week for half a semester; Lecture & discussion, 1-3 contact hours per week for an entire semester; Combination of face-to-face sessions and asynchronous learning (online materials, streaming videos, etc.)

3. Rationale for proposed new course:

As a variable-credit course, this permits the faculty to expose students to highly focused treatments of selected issues. We may offer the course more frequently (for instance, twice in the same semester on different topics, or two sections concurrently on different topics for an entire semester), and still maintain the same faculty load. This increases program flexibility and exposes LST doctoral students (as well as masters students) to a wider variety of content than we have been able to do in the past.

This course is parallel to EdT 415 Topics in Educational Technology: [Subtitle]. LST students in the TBTE and EdT concentrations are required to take topic seminars and this increases the number of such seminars available to them, as well as the diversity of topics covered.

4. Academic impact on programs affected by new course:

A. Is the proposed course to be cross-listed?

No.

B. Identify any known effects of the proposed new course on other programs at the University.

Currently both Educational Technology (EdT) and Technology-based Teacher Education (TBTE) have proposed concentrations in the proposed LST doctoral program. Students admitted to LST in either concentration would be required to take this. In future, should other areas on campus get concentrations approved, they may elect to have their students take this course.

C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new course and the following information provided:

(1) Who was consulted?

All faculty in both programs (EdT and TBTE) were consulted. All faculty in the other three colleges who expressed potential interest in proposing a concentration in future were consulted at several meetings. Barbara Malt served on our LST workgroup, acting as a representative from Psychology, a department with particular interest in possible future participation.

(2) Is the proposed new course acceptable to all other programs affected?

Yes.
(3) Will any changes be required in the affected programs? If so, please describe below:

No.

D. Does the proposed new course affect the University's commitment to diversity in any way? If so, please describe below:

No known effects.

5. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement if provided by LTS)

See library impact statement under main new degree proposal (attached).

(2) Computer impact statement (attach statement if provided by LTS)

None. Uses existing technology resources.

(3) Faculty impact statement (how proposed program affects load on existing faculty or requires new faculty)

Dean has assigned new full-time faculty position to program to help cover new courses in addition to agreeing to provide adjunct support as needed.

(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)

None. This course does not require any additional facilities.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:

Dean, College of Education

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New Course #5

1. Proposed new course number and course description (as it will appear in course catalogue):

EdT 482. Critical Reading and Writing in Educational Technology (3)
Using literature to build persuasive written arguments. Searching and identifying promising sources,
distilling research findings, synthesizing literature to support an argument, and organizing written
materials to enhance persuasiveness. Suited to those writing qualifying projects, dissertation proposals,
dissertations, funding proposals, conference proposals, and journal articles. Prerequisite Educ 403.

2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and
number of contact hours per week:
Lecture & discussion, online activities; 3 contact hours per week (or equivalent online experience)

3. Rationale for proposed new course:
Critical Reading and Writing in Educational Technology has been offered twice as an Educ 491
Advanced Seminar and needs to be formally added to the curriculum. We see this course as being of
great value to our students, particularly those in the LST doctoral program.

4. Academic impact on programs affected by new course:

A. Is the proposed course to be cross-listed?
   No.

B. Identify any known effects of the proposed new course on other programs at the University.
   Currently both Educational Technology (EdT) and Technology-based Teacher Education (IBTE)
   have proposed concentrations in the proposed LST doctoral program. Students admitted to LST in
   either concentration would be required to take this. In future, should other areas on campus get
   concentrations approved, they may elect to have their students take this course.

C. If there are known effects, individuals in charge of the affected programs must be consulted
   about the proposed new course and the following information provided:

   (1) Who was consulted?
   All faculty in both programs (EdT and IBTE) were consulted. All faculty in the other three
   colleges who expressed potential interest in proposing a concentration in future were consulted at
   several meetings. Barbam Martin served on our LST workgroup, acting as a representative from
   Psychology, a department with particular interest in possible future participation.

   (2) Is the proposed new course acceptable to all other programs affected?
   Yes.

   (3) Will any changes be required in the affected programs? If so, please describe below:
   No.
D. Does the proposed new course affect the University's commitment to diversity in any way? If so, please describe below:
No known effects.

5. Resource impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement if provided by LTS)
See library impact statement under main new degree proposal (attached).

(2) Computer impact statement (attach statement if provided by LTS)
None. Uses existing technology resources.

(3) Faculty impact statement (how proposed program affects load on existing faculty or requires new faculty)
Dean has assigned new fulltime faculty position to program to help cover new courses, in addition to agreeing to provide adjunct support as needed.

(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)
None. This course does not require any additional facilities.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Dean, College of Education
Proposed Course Changes

1. **Current course number, title, course description, and credits (from present course catalogue):**

   **TBTE 480.** Advanced Doctoral Seminar in Curriculum and Instruction (with subtitle) (3)
   Seminar on special topics such as curriculum management, integration of curriculum, middle school curriculum, etc. May be repeated for credit. For doctoral students or with consent of the instructor.

2. **Proposed course number, title, course description, and credits (as it will appear in course catalogue):**

   **TBTE 480. Curricular Design and Innovation (3)**
   Curricular models and their features, with a focus on how curricular design promotes learning in K-12 settings. Special emphasis on technology-enabled curricula, designing for brain-based learning, and curriculum's role in innovation.

3. **Nature of proposed change(s):**

   **A. Course title change? If so, provide rationale below:**
   Yes. The Technology-based Teacher Education program will be responsible for the Teaching, Learning, and Technology in School Settings concentration of the proposed Learning Sciences and Technology doctoral program. The current course title (and description) were designed for our previous doctoral program, a program for which we have discontinued admission.

   **B. Course number change? If so, provide rationale below:**
   No.

   **C. Change in course credits? If so, provide rationale below:**
   No.

   **D. Change in course description? If so, provide rationale below:**
   Yes. The new description is more specific and focuses on the need to address curriculum’s relation to cognition, learning, and technology.
   This course satisfies concentration coursework requirement for proposed Learning Sciences and Technology doctoral program. Complements existing courses in curriculum for current TBTE masters and doctoral students.

   **E. Other change(s)? If so, please describe below and provide rationale for each change.**
   No.

4. **Resource impact**

   **A. Provide impact statements in the four areas listed below:**
   (1) Library impact statement (attach statement, if provided by LTS)
   See library impact statement under main new degree proposal (attached).
(2) **Computer impact statement** (attach statement, if provided by LTS)

None. Uses existing technology resources

(3) **Faculty impact statement** (how proposed program affects load on existing faculty or requires new faculty)

Course likely to be offered no more frequently than every other year. Dean has assigned new fulltime faculty position to program to help cover new courses, in addition to agreeing to provide adjunct support as needed.

(4) **Facilities impact statement** (how proposed program affects load on existing facilities or requires new facilities)

None. Uses existing facilities.

B. **Provide a statement indicating who will assume financial responsibility for any new resources required:**

Dear, College of Education
## Appendix C

### Courses Currently Included on LST Cross-discipline Course List

| Educational Technology Courses |  |
|--------------------------------|  |
| History and overview of the field with consideration of key learning theories and principles that guide designers and developers. Identification of prominent figures and organizations, key issues and terms, and useful resources in the field. Consideration of forces affecting adoption of innovation with a focus on future directions in teaching and learning with technology. | Introduction to creating educational applications utilizing sound, video, graphics and other digital resources. **Prerequisites:** EdT 432 |
| Advanced seminar examining theories of socio-historical psychology and their application to educational technology. Topics vary: for example, Vygotsky's Theories Applied to Educational Technology, Communication Theories Applied to Educational Technologies, Group Dynamics Theories Applied to Educational Technologies. **Prerequisite:** EdT 401. May be repeated for credit under different topic. | Focus on using more sophisticated Website and digital resource development-and-manipulation tools to create multimedia learning materials. Topics will vary (for example, Database-Driven Web Development; Assistive Devices for Special Populations; Programming Hand-held Devices; Audio Resource Development; Media Production for Instructional Programming). **Prerequisites:** EdT 435. May be repeated for credit under different subtitle. |
| **EdT 415. Topics in Educational Technology: [Subtitle] (1-3)** | **EdT 470. Technology Across the Curriculum (3)** |
| Current issues and practices related to the use or adoption of educational technology. Topics vary (for example, The Role of Educational Technology in Teaching Persons with Special Needs; Educational Technology in the Workplace; Managing Educational Technology Product Development). May be repeated for credit as topic varies. | Curricular issues related to using technology in various school settings. Technology's varying roles in schools. Emphasis on instructional and curricular concerns and how technology affects educational decisions. |
| Introductory exploration of instructional design models and philosophies and their implications for teaching and learning using technology. Heavy focus on instructional message design. Applies perception theory, communication theory, and learning theory to the design of instructional media. Students in this course design instructional materials employing the theories and guidelines explored. **Pre/co-requisite:** EdT 401 | Logistics of implementing technology in educational settings. Covers staffing, budgeting, and facilities development and management, staff development, and proposal preparation. |
| **EdT 425. Design 2: Applied Instructional and Interface Design Principles (3)** | **EdT 482. Critical Reading and Writing in Educational Technology (3)** [new course, see Appendix B] |
| Exploration and application of design models for learning. Special emphasis on graphical user interfaces in education and training. **Prerequisite:** EdT 422. | Using literature to build persuasive written arguments. Searching and identifying promising sources, distilling research findings, synthesizing literature to support an argument, and organizing written materials to enhance persuasiveness. Suited to those writing qualifying projects, dissertation proposals, dissertations funding proposals, conference proposals and journal articles. **Prerequisite:** Educ 403. |
| Advanced instructional design and interface issues. Design of instructional environments. Selection of instructional metaphors. Impact of the interface on the user, and demands of designing for newer learning technologies. **Prerequisite:** EdT 425. | Approaches and techniques applicable to empirical research studies in educational technology, both quantitative and qualitative. Students design and carry out small-scale investigations of research questions and hypotheses related to educational technology and write up research reports of their findings and conclusions. **Prerequisites:** EdT 425 plus Educ 403. |
| Introduction to resource development and HTML editing tools used in the creation of eLearning Websites. Covers fundamentals of HTML and commercial Web-creation software packages; scanners and digital video cameras; and use of digital resource creation-and-manipulation programs. **No prerequisites** | Project-based design and development. Students work in teams to design and develop internal or external instructional technology projects under the direction of a faculty member. **Prerequisites:** EdT 425 and EdT 435. |
Technology-based Teacher Education Courses

**TBTE 406. Introduction to Testing and Evaluation (3)**
Construction and evaluation of the teacher-made test; Selection of published tests and interpretation of individual and group results. Use and misuse of tests in assessing achievement.

**TBTE 408. Tools for K-12 Teaching and Learning (3)**
Application of technology in school-based instructional settings. This course addresses the use of technology tools and resources to enhance and manage learning. Students will demonstrate skills in design and development of Web sites, evaluation and use of educational software, production and integration of digital media, and other key competencies.

**TBTE 407. Designing for K-12 Teaching and Learning (3)**
Theoretical, philosophical, and curricular foundations of instruction. This course explores theories of learning and their application, implications for the use of technology and standards-based education. Special emphasis on planning, developing, and assessing instruction. Prerequisite: Successful completion of TBTE 406.

**TBTE 410. The Writing Process (3)**
Developmental characteristics of children's writing and relationships among writing, spelling, and reading. Predictors of writing achievement. Teaching strategies and activities and evaluation criteria will be emphasized. K-12.

**TBTE 412. Curriculum and Instruction in Social Studies (3)**
Curriculum, content, teaching strategies, and instructional materials of the social studies field. Emphasis will be placed on organizing content, using appropriate methods, and evaluating and analyzing for social studies at the elementary, middle, and high school levels. Attention will be given to examining textbooks, courses of study, and teacher-made materials.

**TBTE 415. Technology in School Settings: [Subtitle] (1.5)**
Focused examination of problems, issues, and approaches to the use of technology in school settings. Topics vary (for example, Technology's Role in Facilitating School Restructuring; Teaching for Brain-based Learning; Enhancing Gifted Education Through Technology). May be repeated for credit as topic varies.

**TBTE 420. Reading in Elementary Education (3)**

**TBTE 422. Language Arts in Elementary Education (3)**
Principles of language learning and the development of communication skills in elementary schools. Methods of teaching listening, speaking, handwriting, spelling, punctuation, and grammar. Selection of appropriate materials and textbooks.

**TBTE 424. Children's Literature in Elementary Education (3)**
Role of literature in the instructional program of the elementary schools. Use of trade books for individualized instruction in reading language arts, mathematics, science, and social studies.

**TBTE 426. Science in Elementary Education (3)**
Principles of the elementary science program. Demonstrators and discussions of appropriate materials and techniques for teaching science concepts to elementary school students. Enrollment limited to available lab space.

**TBTE 428. Mathematics in Elementary Education (3)**
Mathematical skills and concepts for the elementary school program. Sets, systems of numeration, experience with numbers, operations with numbers, number concepts and numerals, and elements of geometry.

**TBTE 440. Reading and Critical Thinking in Middle Level and High School Education (3)**
Focuses on expository reading development in content areas such as language arts, mathematics, science and social studies. Practical teaching strategies in critical areas, such as comprehension and study skills. Review of research and methods for improving the reading development of students.

**TBTE 442. English in Middle Level and High School Education (3)**

**TBTE 446. Science in Middle Level and High School Education (3)**
Curricula, philosophy, methodology, strategies, and safety in the teaching of middle and high school science. Emphasis on laboratory and instructional technology, at-risk and underrepresented students, and current models of science education. Permission of the instructor. Enrollment limited to available lab space.

**TBTE 448. Mathematics in Middle Level and High School Education (3)**
Curricula, instructional activities, and manipulative aids applicable to mathematics courses in middle level and high schools. Teaching strategies and materials appropriate for teaching mathematics will be emphasized.

**TBTE 466. Programs for Gifted and Talented (3)**
Characteristics of gifted children; teaching gifted children; programs for the gifted in elementary and secondary schools.

**TBTE 471. School Curriculum (3)**
Curricular innovations. Applications of curricular designs K-12. Subject matter and course design. Integration and importance of the fine arts and physical education in the curriculum.

**TBTE 473. Curriculum Construction (3)**
Theoretical models of curriculum design and evaluation. Scope sequence, articulation, continuity, and balance in designs. Organizing for curriculum planning, development, implementation, and change. K-12.

**TBTE 480. Curricular Design and Innovation (3)**
Curricular models and their features, with a focus on how curricular design promotes learning in K-12 settings. Special emphasis on technology-enabled curricula, designing for brain-based learning, and curriculum's role in innovation.
### College of Education Courses That Fulfill LST Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educ 403</td>
<td>Research (3) [research course elective]</td>
<td>3</td>
<td>Basic principles of research techniques of gathering and analyzing data; design of studies in education. Emphasis on critical reviews of research reports representing various methodologies. Research report required.</td>
</tr>
<tr>
<td>Educ 408</td>
<td>Introduction to Statistics (3) [Statistics course elective]</td>
<td>3</td>
<td>Organization and description of data. Principles of statistical inference including hypothesis testing, interval estimation, and inferential error control. Emphasis on application.</td>
</tr>
<tr>
<td>Educ 409</td>
<td>Analysis of Experimental Data (3) [Statistics course elective]</td>
<td>3</td>
<td>Emphasis on analysis of variance designs including one-way, factorial, nested, and repeated measures designs. Introduction to multiple regression and the analysis of covariance. Prerequisite: Educ 408 or consent of instructor.</td>
</tr>
<tr>
<td>Educ 410</td>
<td>Univariate Statistical Models (3) [Statistics course elective]</td>
<td>3</td>
<td>The univariate general linear model. Principles of expressing models and hypotheses about those models. Emphasis on similarity among the analysis of variance, multiple regression, and the analysis of covariance. Examples of non-standard models and generalization to complex designs. Prerequisite: Educ 409 or consent of instructor.</td>
</tr>
<tr>
<td>Educ 411</td>
<td>Multivariate Statistical Models (3) [Statistics course elective]</td>
<td>3</td>
<td>The multivariate general linear model. Principles of expressing multivariate models and hypotheses about those models. Emphasis on similarity among the multivariate analysis of variance, multiple regression, and the analysis of covariance. Examples of non-standard models and generalization to complex designs. Prerequisite: Educ 410 or consent of instructor.</td>
</tr>
<tr>
<td>Educ 461</td>
<td>Single-Subject Research Design (3) [research course elective]</td>
<td>3</td>
<td>Experimental design with small N's. Topics include design theory and application, experimental validity (internal, external, statistical conclusions and construct validity) and an overview of data analysis procedures.</td>
</tr>
<tr>
<td>Educ 471</td>
<td>Diversity and Multicultural Issues (3) [Diversity course elective]</td>
<td>3</td>
<td>Examination of the influence of culture, gender, and disabilities on behavior and attitudes. Historical and current perspectives on race, culture, gender, and minority group issues in education and psychology. Lecture/small group discussion. Course is restricted to graduate students in the College of Education only.</td>
</tr>
<tr>
<td>Educ 486</td>
<td>Doctoral Qualifying Research Project (1-3) [research course elective]</td>
<td>1-3</td>
<td>Design and implement research project under faculty supervision to meet requirements for doctoral programs. May be repeated for credit.</td>
</tr>
<tr>
<td>Educ 491</td>
<td>Advanced Seminar: (with subtitle) (1-6) [elective]</td>
<td>1-6</td>
<td>Intensive study and discussion of a specialized area. Title will vary. May be repeated for credit as title varies.</td>
</tr>
<tr>
<td>Educ 493</td>
<td>Internship: (with subtitle) (1-6) [field experience]</td>
<td>1-6</td>
<td>Opportunity for students to apply theory to practice in a variety of educational settings. Students will be supervised in the field and participate in seminars dedicated to addressing specific concerns and issues encountered during their experience. Prerequisite: consent of the program director.</td>
</tr>
<tr>
<td>Educ 494</td>
<td>Field Work: (with subtitle) (3) [field experience]</td>
<td>3</td>
<td>Identification of significant problems in an educational environment. Review of the literature, and development of appropriate research plans.</td>
</tr>
<tr>
<td>Educ 495</td>
<td>Independent Study: (with subtitle) (1-6) [elective]</td>
<td>1-6</td>
<td>Individual or small group study in the field of specialization. Approved and supervised by the major advisor. May be repeated.</td>
</tr>
<tr>
<td>Educ 496</td>
<td>Doctoral Research Seminar (3) [research course elective]</td>
<td>3</td>
<td>For doctoral students. Research design and application to various kinds of educational problems; data selection and analysis. Criticism and evaluation of student proposals. May be repeated for a maximum of nine credits.</td>
</tr>
</tbody>
</table>
Appendix D

A Sampling of LST Dissertations at Other Universities


Reformers have often looked to curriculum materials to influence teacher practices and found instead that it is the materials that wind up changing while local practices remain unaffected. Many efforts to shape student learning by limiting practitioner discretion over the curriculum; others have enlisted teachers in the development of locally relevant solutions. This dichotomy reveals a tension for curriculum designers between the desire to preserve the core ideas of the reform and the need to accommodate its inevitable adaptation by practitioners. It also presents a design challenge: Is it possible to design curriculum materials that are sufficiently flexible to be adapted for use in a diverse range of classroom settings yet sufficiently resilient to retain the core principles of the reform? This dissertation examines how three urban middle school teachers used a common set of curriculum materials to enact a 10-week classroom science project. I introduce a scale for characterizing teachers’ degrees of reliance on the materials, describing how they offload, adapted, and improvised with curriculum materials. I also develop the Design Capacity for Enactment framework: an analytical tool for examining the factors that influence teacher-tool interactions. Findings suggest that features of the curriculum design, teacher knowledge, skills, and commitments all play important roles in shaping outcomes; however, they are insufficient to explain similarities and differences in teachers’ usage of materials. To address this, I introduce pedagogical design capacity, a notion that characterizes teachers’ capabilities to use specific personal and material resources to craft instruction. Through descriptive cases, I illustrate how pedagogical design capacity accounts for similarities and differences in teacher practices across variations in knowledge, skill, and commitments. Furthermore, the analysis describes how the nature of the designs themselves influence the ways teachers perceive and mobilize curriculum materials. Pedagogical design capacity not only helps identify patterns in practice across diverse contexts and outcomes; it also points to strategies for crafting designs that support the constructive processes in which practitioners are engaged when implementing curriculum reforms.


Research on the learning of high school mathematics and on learning in general suggests that students may acquire knowledge more efficiently when presented with worked examples rather than the traditional lecture and then practice format. Good worked examples facilitate the development of mathematical schemas while a means-end approach may retard schema development. Previous studies on worked examples have generally been conducted in an individual learning situation rather than in a typical classroom setting. Five studies are reported here. In four of the studies, students were given worked examples as part of the regular algebra curriculum in class. These studies ranged from two days to thirteen days. Students in three algebra classes in an urban public high school were assigned to either a worked example or a conventional practice learning condition. In the fifth study, 24 students enrolled in pre-algebra at the same school were instructed, interviewed, and tested individually: misunderstandings by language group and ethnicity in translating English expressions into equations were investigated along with the effect of worked examples in this study. All but one posttest measure in the five studies, students in the worked example condition did as well or better than students in the practical condition. A number of these differences were statistically significant ($p < .05$). Low achievers benefited more from the worked examples than high achievers and in some cases performed as well as high achievers in either instructional group. Additionally, students in the worked example learning condition completed the lessons more quickly, completed more homework, and worked more independently allowing the instructor to attend to difficulties of individual students. Worked examples illustrating translation from English expressions to mathematical equations were especially effective. No differences by language were found.


This dissertation describes how to build conceptual parsers (that is, natural language understanding systems built on semantic and pragmatic principles) that are embedded into application programs. A new architecture for building such parsers, indexed concept parsing, is described. Indexed concept parsing is a case-based reasoning approach to parsing in which underlying target concepts (that is, conceptual representations of the application program identified as important to recognize) are associated with sets of index concepts. Each index concept is associated with sets of phrasal patterns. At run time, the parser looks for phrasal patterns in input text, and the index concepts recognized thereby are used to appraise the best matching target concepts. The architecture defines a range of parsers in which the complexity of the index concept representations can vary according to the needs of the application program: index concepts can be key words, synonym sets, representations in an abstraction hierarchy, or representations in a partonomic hierarchy. Indexed concept parsing was developed to build parsers for Casper, an interactive learning environment designed to teach customer service representatives how to solve customer problems, and TransAsk, a multimedia system for transportation planners. Indexed concept parsing proved robust (for example, the Casper parser had an accuracy rate
ranging from 83-98%), yet required minimal knowledge representation. A methodology for building an indexed concept parser is given, and evaluation metrics are described. Another parser, based on Direct Memory Access Parsing (DMAP), and developed for the Creanimate biology tutor, is also described as well as a DMAP parser for Casper. Indexed concept parsing and DMAP are contrasted as architectures for building embedded conceptual parsers.


Though notoriously difficult, real-time programming offers children a rich new set of applications, and the opportunity to engage bodily knowledge and experience more centrally in intellectual enterprises. Moreover, the seemingly specialized problems of real-time programming can be seen as keys to longstanding difficulties of programming in general. I report on a critical design inquiry, into the nature and potential of real-time programming by children. A cyclical process of designing, testing, and evaluation of computational environments led to two design innovations: (1) a language in which declarative and procedural descriptions of computation are given equal status, and can subsume each other to arbitrary levels of nesting, (2) a 'live text' environment, in which real-time display and intervention in, program execution are accomplished within the program's body itself. Based on children's use of these tools as well as comparative evidence from other media and domains, I argue that the coordination of discrete and continuous processes should be considered a central Big Idea in programming and beyond. In addition, I offer the theoretical notion of the 'steady frame' as a way to clarify the user interface requirements of real-time programming, and also to understand the role of programming in learning to construct dynamic models, theories, and representations. Implications for the role of programming in education and for the future of computational literacy are discussed. (Copies available exclusively from MIT Libraries. Rm 14-0551, Cambridge MA 02139-4307. Ph 617-253-5668; Fax 617-253-1690.)


The passion school concept is a model for comprehensive progressive education that uses deep learner interests to drive work on serious learning objectives. Conceived by Roger Schank and Allan Collins as a natural synthesis of Cognitive Apprenticeship and Goal-Based Scenario theory, the passion school model is meant to provide specific guidance for progressive pedagogy and for structuring learning environments centered in classrooms organized as communities of common interest (rather than age-based communities). The defining principles for passion schools are: (1) that students are assigned to curricula on the basis of their interests; (2) that students learn through active engagement in meaningful work in interaction with expert adults and more and less advanced students; and (3) that through this work, learners grapple with important ideas, including adult-defined core competencies such as those found in state and national standards. This line of inquiry and development is framed as a design experiment, a cycle of design, enactment, evaluation and redesign. The goal, ultimately, is to specify the parameters for a fully-fledged passion school, with these parameters grounded in several cycles of increasingly refined designs and tested by real-world enactments. The dissertation focuses on the most recent cycle of the passion curriculum design experiment, and an evaluation addressing the effective use of motivation in the guidelines for passion curriculum enactment. Formative findings suggest specific directions for refinement of the guidelines. This dissertation represents the foundational work of developing a system for designing curricula in a passion school. The dissertation presents the passion curriculum design approach as a whole, including design principles, guidelines for enactment, and a thorough illustration of the approach in action via an enacted prototype passion curriculum: the Video Crew.


The relationship among prior knowledge, learner variables and interactive reading instruction on multimedia reading outcomes was explored. An animated agent was specifically designed to provide students with interactive support for the reading and strategic processing of multimedia text. Forty-five students (aged 9-11 years) were randomly assigned to read a multimedia science lesson with interactive agent support (treatment) or with no reading support (control). Performance on three indicators of reading performance were assessed: short answer, multiple choice, and graph questions. Comparisons of pre to post test gains between the two learning conditions indicated that students reading with interactive agent support scored significantly higher on the short answer questions. A significant interaction was found between gender and the learning condition for the multiple choice questions, indicating that girls did best in the treatment condition, while boys did best in the control condition. No significant differences were found between the treatment and control on the graph interpretation questions. Additional analyses of session transcripts, interviews, observations, and case studies identified several variables that were associated with more and less successful multimedia reading outcomes. In the context of these findings, specific design and instructional implications are recommended as well as directions for future research.

This thesis examines the use of spatial analogies to facilitate children's memory for and mental transformation of spatial locations. Previous research has demonstrated that children have difficulty using relative spatial position to distinguish between visually identical locations in space. Research on children's understanding of analogy has shown, however, that children are capable of managing multiple spatial relations when the relations are embedded in the context of a familiar analogy. I suggested that spatial analogies such as "Italy is shaped like a boot" may be extremely serviceable in helping children to distinguish and to transform identical spatial locations tasks that they typically find difficult. The series of three experiments reported here tested the hypothesis that spatial analogies highlight the spatial relational information that is crucial for remembering and mentally transforming spatial locations. Experiment 1 revealed that 4- and 6-year-olds who searched for a sticker hidden within a small configuration of locations subdivided the locations according to whether they were located in the right or left half of the configuration instead of subdividing them into the conceptual parts suggested by the spatial analogy. Experiment 2 demonstrated that older (7-year-old) children who studied and mentally transformed arrays of locations were more successful in recognizing the outcome of the transformation (picture selection) than anticipating the new position of single locations selected at random (item location). Using a spatial analogy to describe the array did not eliminate this task-related difference and errors suggested that children's performance was guided by the basic spatial properties of the array and not the analogical relation. Finally, Experiment 3 tested the influence of spatial analogies on children's ability to distinguish between a much larger number of identical hiding locations. Children who were asked to find a sticker hidden in 1 of 27 identical locations were more successful when they associated the configuration of locations with a familiar concept. Taken together, these findings suggest that children resort to basic strategies when faced with simple memory tasks but that spatial analogies provide a powerful source of information when children are faced with the difficult task of remembering and transforming complex spatial information.


Simulation technology promises significant changes in the training of health care professionals, heralding a new era for medical education with the advent of new teaching tools for learning basic physical exam skills to surgical procedures. However, these new tools require evaluation. This study evaluated a newly developed pelvic examination simulator. The simulator consists of a partial mannequin constructed in the likeness of an adult female instrumented with several electronic sensors that communicate indirectly with a graphical interface providing the user with immediate visual feedback regarding performance. A randomized field study with eighty-seven medical students was conducted over an eight-week period in a pre-existing medical school course designed to teach medical students the essentials of physical examination. Patient educators provided both content material and hands-on experience for the students during special sessions, which allowed for implementation of a controlled study with evaluation from patient educators. Analysis of the simulator as a teaching tool showed that students trained using the simulator readily used the device as a self-learning and self-assessment tool. In contrast, students trained using traditional teaching methods were heavily dependent on physician instructors for guidance and feedback. Students using the simulator were more likely to take on a teaching role with their classmates, demonstrating the simulator promotes group learning as well. In addition, student evaluation by patient educators showed that students who were trained using the simulator learned skills that were accurate and transferable to real-life clinical situations, and were rated significantly higher on rapport when compared to their classmates who were trained using traditional teaching methods, p < .05. As an assessment tool, measures of performance developed from raw simulator data were shown to be valid when compared to other known assessment methods, p < .05. In addition, the simulator distinguished between expert and novice users, p < .06, and tracked student learning over a period of time, establishing a learning curve. This study has demonstrated that the simulator is a reliable teaching and assessment tool with construct and criterion-referenced validity. Further studies on content validity must be done.


In recent years, there has been a growing fascination with decentralized systems and self-organizing phenomena. Increasingly, people are choosing decentralized models for the organizations and technologies that they construct in the world, and for the theories that they construct about the world. But even as decentralized ideas spread through the culture, there is a deep-seated resistance to such ideas. In trying to understand natural systems, people often assume centralized control where none exists (for example, assuming that a 'leader bird guides the rest of the flock'). And in constructing artificial systems, people often impose centralized control where none is needed (for example, using top-down, hierarchical programming structures to control a robot's behavior). To probe how people think about decentralized systems, and to help them develop new ways of thinking about such systems, I developed a massively-parallel programming language with which people can easily create and experiment with decentralized systems. The language, which I call 'Logo (pronounced star-logo), allows users to control the actions and interactions of thousands of artificial 'creatures' on the computer screen. For example, a user might write simple programs for thousands of artificial 'ants,' then observe the colony-level behaviors that arise from all of the interactions. High-school students have used 'Logo to construct and explore a variety of decentralized microworlds. One pair of students programmed the motion of cats on a
highway, exploring how and why traffic jams form. Another student used LOGO to construct a simple ecological system with turtles and grass. Based on my observations of these students (along with self-observations of my own LOGO projects), I analyze the nature of the centralized mindset, arguing that people tend to assume patterns are formed by lead or by seed. In addition, I discuss how people, through engagement in new types of activities (such as LOGO explorations), can begin to move beyond the centralized mindset. (Copies available exclusively from MIT Libraries Rm 14-0551 Cambridge MA 02139-4307 Ph. 617-253-5558 Fax 617-253-1680.)


In today's business environment, organizations are confronted with many forces of change (e.g., volatile market conditions, new technologies, radical new strategies, new competitors, etc.). To respond to these challenges, companies often use formal processes to define new ways of working, and to effect large-scale change across a diverse and global workforce. In many cases, however, these processes fail to achieve the desired impact. Why are the results of formal processes often so disappointing? In this study, I argue that workers need specific kinds of process-related knowledge to interpret and enact new processes. Identifying and designing for these kinds of knowledge is a crucial enabler of successful process implementation in organizations. To understand process knowledge, I investigate the work practices of product developers in the Xerox Corporation as they grapple with a new process called Time To Market (T²M). Through this study, my research team and I helped co-design a new learning intervention called Goal-Based Event Learning (GBEL) for the Xerox product development community. GBEL was designed to support employees as they construct knowledge about processes and learn how to relate that knowledge to their work. The purpose of this study is to examine how knowledge is interpreted and enacted in the context of their work, and to identify the kinds of knowledge that are needed for process interpretation and enactment. I use these findings to discuss how organizations could do a better job of implementing formal processes.

Watson, J. B. (1997). The Effect of Metacognitive Cues and Probes on Use of Learner Control Features in an Online Lesson for Distance Students, Claremont Graduate University and San Diego State University.

The purpose of this study was to determine whether the addition of simple metacognitive prompts and probes to a computer-based multimedia tutorial for 5th graders on basic science concepts would: (a) promote more navigational behaviors appropriate to review of tutorial content; (b) aid the determination of a user's level of metacognitive awareness; and (c) improve performance on post-test measures of comprehension. In education, the term 'metacognition' can be defined as 'awareness of one's own knowledge or problem-solving abilities. In an effort to enhance learners' metacognitive ability, a number of researchers have explored ways to induce learner reflection on instructional content and activities. Teachers can help students operate at a higher cognitive level and have a positive effect on student results by providing "prompts," such as higher-order questions, direct instruction, and practice in thinking skills, and encouragement to reflect through discussion and "thinking aloud." (Beeth, 1998). Metacognitive cues or prompts can be used within software applications to encourage users to think about how they are learning or thinking about instructional content. Embedded cues have shown to improve posttest performance (Hannah, Hill & Land, 1997). In contrast to cues, metacognitive probes attempt to assess learner awareness of their own knowledge of understanding (O'Neil & Acedi 1998).

Current controversies regarding educational testing and student performance make it more important than ever to understand how student metacognition is related to instructional activities in self-study environments and how metacognitive 'awareness' is related to performance on outcome measures. This understanding is also important in light of the increasing use of technology in the classroom. Further, the effects of computer-based metacognitive prompts and probes on children remain largely unexamined by research. This research contributes to the educational community on a few different levels. The results may aid educators in understanding more about the metacognitive abilities and cognitive development of their students, advance educational software development through understanding the potential benefits of metacognitive prompts, and contribute to the body of research about young learners.


This dissertation hypothesizes that when an individual perform a novel, complex task, assigning a specific, difficult learning goal is superior to assigning an outcome goal or telling the individual to do your best. It also hypothesizes that the positive effect of a learning goal on complex task performance is mediated by enhanced self-efficacy and strategy development. The study combines research streams in the educational literature (Dierck & Dweck 1978; 1980) with 20 years of research on goal setting (Locke & Latham, 1990) in the organizational behavior literature. By doing so it resolves the seeming disparity between the effectiveness of goal setting and current research on the bouncy conditions of goal setting's usefulness (Wood et al., 1997; Kanfer & Ackerman, 1989). The study uses a 2 (task complexity) by 4 (goal condition) by 3 (time) factorial design. Subjects were 148 business school students performing a class scheduling task. Variables studied were performance, goal commitment, self-efficacy, and strategy use. Data were analyzed using analysis of covariance and multiple regression. The results support the hypotheses.

Graduate & Research Committee: New Program Form (9/17/04 rev.)
Graduate and Research Committee

Proposed Program Changes

1. Name and summary of current program:

   International Educational Leadership Doctoral Program
   A doctoral program designed for international school heads which delivers courses online during the academic year and on-site at Lehigh University during summers.

2. Proposed program changes (as they will appear in the catalog):

   The residency requirement for doctoral students enrolled in the International program within the College of Education would be:
   - Two semesters of full-time graduate study or at least 18 hours of Graduate study within a twelve-month period OR
   - 21 credits of graduate study within a fourteen-month period that includes two consecutive summers in which 9 credits are taken in at least one of those summer sessions.

3. Description of proposed change(s):

   Students enrolled in this program must attain a minimum of 21 credits in 14 calendar months. Such a change would require students to be enrolled in two consecutive summers, while maintaining continuous course and credit enrollments during the fall and spring between summers.

4. Rationale for proposed change(s):

   Given that our graduate students in the International doctoral program are only in residence during the summer months, we are proposing a change in the residency requirements that would apply specifically to these students.

5. Academic Impact Statement:

   a. Is this proposed program change interdisciplinary? No.

   b. Identify any known effects of the proposed program change on other programs at the University. N/A

   c. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed program change and the following information provided:

   (1) Who was consulted?
       The College of Education Faculty
(2) **Is the proposed program change acceptable to the affected programs?**
   Yes.

(3) **Will any changes be required in the affected programs? If so, describe.**
   None.

   d. **Identify any known effects of the proposed program change on the University's commitment to diversity.**
   It will allow for international students to fulfill the residency requirements and complete their degree.

6. **Resource Impact Statement:**

   a. **Provide each of the following:**

      (1) **Library impact statement**
      None

      (2) **Computer impact statement**
      None

      (3) **Faculty impact statement**
      None

      (4) **Facilities impact statement**
      None

   b. **Provide a statement indicating who will assume financial responsibility for any new resources required:**
Name of current program: MBA Program

Description of Proposed Change: Change in number of required credits for the International Business concentration in the MBA Program.

Structure for International Business Concentration:

Current:  
- GBUS 473 – International Finance
- GBUS 475 – Global Marketing Strategies
- 6 credits of international business electives

Proposed Structure:  
- GBUS 473 – International Finance
- GBUS 475 – Global Marketing Strategies
- 3 credits of international business electives

Students may choose from the same set of electives as is currently in place including: GBUS 474 – Legal Aspects of International Business, GBUS 476 – Globalization and Management of Technology and MSE 446 – International Supply Chain Management. The department also offers courses under special topics such as “Doing Business in Europe” that can supplement the catalog offerings.

Rationale: This concentration area is an important area for the MBA Program. However, there is only a small contingent of students who have chosen International Business for their concentration. Therefore, it is difficult to offer a full selection of electives on a regular basis due to low enrollments. Reducing the number of electives in the concentration will allow us to offer elective courses on an alternating year basis to increase enrollments without impacting a student’s ability to graduate on time.

Academic Impact:

Is this Program Interdisciplinary: No the concentration is not interdisciplinary.

Identify any affects on other programs in the University: None

Identify any known effects of the changes on the University’s commitment to diversity: None

Resource Impact:

Library - None
Computing – None
Faculty - The change will allow for more effective use of faculty resources.
Facilities – None

Financial Responsibility – There should be no financial impact from this change.
May 5 2004

To: College of Education Faculty
From: Ed Shapiro, Chairperson
Re: Proposed Change in Residency Requirement for International Doctoral Program

Currently, the University residency requirement for doctoral students is

either two semesters of full-time graduate student or 18 hours of graduate study
within a 12-month period.

Given that our graduate students in our International doctoral program are only in residence
during the summer months, we are proposing a change in the residency requirements that would
apply specifically to these students. We are proposing that these students must attain a minimum
of 21 credits in 14 calendar months, which includes two consecutive summers of 9 credits each.
Such a change would require our doctoral students to enroll for full time study (9 credits) in each
of two summers, while maintaining continuous course and credit enrollments during the fall and
spring between the summers.

Proposed Motion:

The residency requirement for doctoral students enrolled in the International program
within the College of Education would be:

1. Two semesters of full-time graduate study or at least 18 hours of graduate study within
   a twelve-month period OR
2. 21 credits of graduate student within a fourteen-month period, that includes two
   consecutive summers in which 9 credits are taken in at least one of those summer
   sessions.
To: Lehigh University Faculty
From: Rules and Procedures Subcommittee

In our efforts to bring R&P up-to-date, we will make the following motions at the November University Faculty Meeting.

1. Motion to delete from R&P 1.2.5, Faculty Committees, the following description of the defunct University Committee on Human Relations and to delete reference to this committee in list of committees in 1.2.5:

1.2.5.6 University committee on human relations

The right of every member of the university to equal opportunity for participating in university activities is affirmed. Therefore, no group, organization, or department of the university shall practice discrimination against anyone by reason of race, creed, color, sex, or national origin. This statute shall not prohibit the formation of religious groups whose members come together for common religious observances or discussions.

The university committee on human relations shall comprise eight members; two shall be appointed by the president, two shall be elected by the faculty, and four shall be elected by the Forum. The committee will elect its own chairperson.

The elected faculty members shall serve two-year non-concurrent terms.

The university committee on human relations shall recommend appropriate legislation to the Forum and/or to the faculty; it shall report infractions of university policy regarding discriminatory practices to the committee on discipline; and it will report to the president on equal opportunity procedures and practices relating to employment.

Rationale: The committee no longer exists. Its functions are now performed under the University Harassment Policy and by the Personnel Committee and the Employee Relations Advisory Committee.

2. Motion to delete from R&P 1.2.5 (Faculty Committees) the following description the defunct Academic Computing Council and to delete reference to this council in committee list in 1.2.5

1.2.5.7 Academic computing policy council

The academic computing policy council is constituted as an advisory board to the president on academic computing policy. It is composed of the vice provost for information resources as chairman, a faculty member appointed by the educational policy committee, seven faculty members elected by the university faculty for staggered
two-year terms, one undergraduate student chosen annually by the Graduate Student Council. The seven elected faculty members will be apportioned as follows: two from the College of Arts and Sciences, College of Business and Economics, College of Engineering and Applied Science; one from the College of Education.

The faculty members on the council shall submit to the committee on educational policy, through the committee on educational policy appointee, an annual report of the council's activities. This report in turn will be transmitted to the university faculty. The undergraduate and graduate students will be responsible to report regularly to their parent bodies.

The responsibilities and duties of the academic computing policy council shall include:

1. Advise the president and vice president for academic services on major policy directions for academic computing throughout the university.

2. Participate in the policy formulation of academic computing initiatives at the university, including those designed to further the use of the computer for research and teaching.

3. Evaluate the impact of these initiatives on the resources and other aspects of the university.

4. Recommend priorities for implementation.

5. Consider specific issues referred to it by the president or the vice president for academic services.

**Rationale:** The council no longer exists. The functions of the Academic Computing Policy Council have been absorbed by ACIS and various advisory committees.

3. Motion to remove references to the University Forum and to replace them with “Student Senate” from the following passages in R&P:

1.2.5.2 **Student appraisal of instruction**

The committee on student appraisal of instruction shall consist of four faculty members, one from each college elected by the university faculty for staggered three-year terms. one of whom shall serve as chairperson, and four student members elected by the Forum.
1.2.5.3  Board of publications

One student member shall be appointed by the Forum, and the other four student members shall be appointed by the board of publications. Members of student publications, except for the representative from the division of journalism, and faculty or student members of the Forum, except for the one student appointed by the Forum, are ineligible for membership.

1.2.5.4  Committee on undergraduate awards and prizes

The committee on undergraduate awards and prizes consists of three appointed faculty members, one of whom acts as chairperson; a representative from the office of the dean of students; the director of the division of intramural and recreation; and the registrar, who serves as secretary. Two students (in good standing) shall be appointed by the Forum, each for two-year staggered terms.

1.2.5.5  Visiting lecturers committee

The committee is charged with the responsibility of arranging a series of programs featuring visiting lecturers, of administering the funds for the series, and coordinating lecture programs of student government groups.

The membership for the committee shall consist of the following: a faculty member from each of the three (undergraduate) colleges elected by the entire university faculty for two-year staggered terms; two students from each of the colleges elected by the students within the respective colleges; a representative of the Forum; a representative of the Student Activities Council; a graduate student representing the Graduate Student Council; and the adviser to the committee, a representative from the dean of students office. The committee shall select a chairperson from among its student members.

Rationale: The Forum is defunct.
Faculty Governance at Lehigh University

Report of the Faculty Governance Review Committee

A.

In response to the first part of our charge—"assess the state of faculty governance"—and mindful of the faculty responsibilities articulated in the "Policy Structure" of the University (http://www.lehigh.edu/~policy/university/structure.html), the FGRC has concluded that the current system of faculty governance is no longer functioning effectively. Our conclusions are based on a survey of faculty opinion, questionnaires sent to standing committees, conversations with faculty and administrators, and meetings in college and university-wide settings. Our proposals for improving faculty governance are threefold.

I. We recommend a reaffirmation by the faculty and the administration of the principle of shared governance, a reaffirmation that we suggest might be articulated in a preamble to Lehigh governance documents.

II. We recommend a faculty governance structure based on governance by a representative body of faculty members, elected by the faculty. This representative governance would replace our current system of governance by the faculty as a committee of the whole.

III. Whatever model of representative government is selected, we recommend a number of specific changes (primarily but not solely to the committee structure) to be incorporated into the new government's constitution.

I. PREAMBLE

The FGRC adopted the preamble below as a guide to our deliberations. We believe that it embodies the key features needed in a statement affirming the principles of shared governance.

Preamble

The core objective of Lehigh University is superb teaching and research. A university succeeds in its mission to the extent to which it can take full advantage of the free interchange of knowledge and ideas inherent in a community of scholars. This requires collegiality and a strong sense of joint purpose and responsibility among all the members of the community. It also depends on the free flow of information and ideas and the implementation of a governance system that empowers individuals to voice their concerns, analyses, and recommendations, and to participate meaningfully in decisions that affect the teaching and research of the university.
The variety and complexity of the tasks performed by institutions of higher education produce an inescapable interdependence among the Board of Trustees, administration, faculty, staff, and students. The governance structure must reflect that, although each component has responsibility and authority over different aspects of institutional life and function, the interests of all components are related and intertwined.

The Board of Trustees is the final institutional authority with all the powers provided to directors by law, with a special responsibility to insure the long-term health and viability of the institution. The Board has the authority to do all things deemed necessary and expedient in the governance, management, and control of the business and affairs of the University, including the establishment of the University’s general, educational, and financial policies. The Board delegates responsibility for the daily administrative and educational functions of the University to the components below.

The President is the chief executive officer of the University and the official advisor to and executive agent of the Board of Trustees and its Executive committee. The President has general superintendence over all institutional affairs, ensuring that the Board remains fully informed.

The Provost and Vice President for Academic Affairs is the chief academic officer of the University. He/she supervises the academic programs of the University and directs the Deans, the faculty, and other academic personnel. In addition, the Provost supervises non-curricular areas of the University such as Student Life, Library and Technology Services, and Admissions/Financial Aid.

The Deans are responsible for the curricular, research, and financial leadership of their respective colleges.

The Faculty, together with the University Administration, is responsible for formulating policies and procedures that promote the academic and research missions of the University, in particular policies pertaining to the admission, registration, curriculum, instruction and discipline of students; the appointment, promotion, tenure, and dismissal of faculty; the assurance of academic freedom; and the furtherance of scholarship and research.

II. REPRESENTATIVE GOVERNANCE

Representative governance at Lehigh will have several benefits:

- A new model for governance will force both faculty and administrators to think explicitly about faculty and administrative authority and about the responsibilities of shared governance, allowing both sides to go beyond reflexive blaming of the other.
- Representative governance designates a small group of elected faculty who are responsible for representing faculty interests in important matters necessary to the successful running of the university, particularly regarding undergraduate and graduate instruction, research, and faculty personnel policy.

- Representative governance can create clear lines of faculty accountability. If an issue of faculty concern arises, a representative government with transparent constitutional rules makes it clear how to place the issue on the agenda for appropriate discussion and decision.

- Representative governance can clarify appropriate channels of communication between the faculty and the administration.

- Representative governance can assure a forum in which the elected faculty regularly convene to discuss and vote on matters within faculty jurisdiction. (Any faculty member is welcome to attend these meetings and to speak, but only those elected would have a vote.) Faculty votes would no longer depend on the idiosyncrasies of attendance at university faculty meetings.

- Representative governance can commit administrators and elected faculty to working together on governance issues rather than functioning by means of an alternative shadow structure of administratively appointed ad hoc committees.

- Representative governance acknowledges that the majority of faculty, due to heavy workloads and involvement in a variety of academic activities, do not attend to university issues except in moments of crisis.

Devising an organizational structure for the faculty representative body will be a complex task. For example, there is a natural tension created by the desire for maximum representation and the desire for efficiency. An efficient representative body will have to respond equally well to local, university-wide and interdisciplinary concerns. And in order to be truly representative, incentives to attract faculty leaders and discourage the emergence of 'career representatives' will be required. We have found a number of different models of representative faculty bodies operating at other universities. In an appendix to this report we provide a survey of the range of options available and an initial assessment of the advantages and disadvantages of each option.

Although all these models of governance are worthy of consideration, our committee wishes to express our preference from among them. After careful consideration, we conclude that for Lehigh a hybrid model would be best, with a faculty representative body consisting of individuals elected from divisions or colleges, plus representatives of standing governance committees of the University. Adoption of this model would result in the major change in faculty governance occurring at the university level, where dissatisfaction with our current governance system is greatest. Changes in the
contributions to governance made by the standing committees would be largely confined to redirecting these committees toward policy analysis and giving greater autonomy for implementing policy to the colleges.

III. UNIVERSITY FACULTY STANDING COMMITTEES

Whatever form of representative governance is selected (departmental representation, congressional model, or hybrid model), we recommend that the following changes be made to the governance structure.

1. The standing governance committees of the university faculty will be:

   Executive Committee
   (Chair, past Chair, Vice-Chair, Secretary of the representative body, plus the
    standing committee chairs, the Provost and the President)

   Educational Policy
   (chair of the four College Policy Committees, plus one faculty member elected
    by each college, the Deans, the Provost, and non-voting student members)

   Graduate and Research Policy
   (current membership plus the Vicer Provost for Research and the Director of
    Graduate Student Life)

   Financial Resources Allocation Committee
   (six elected faculty, the Vice President for Finance and Administration, the
    Provost, two staff and two students)

   Faculty Personnel
   (current membership)

   Recruitment, Retention, and Diversity
   (six elected faculty, the Provost, the Dean of Admissions, the Dean of
    Students, the Director of Athletics, the Associate Vice President for Human
    Resources, and two students)

2. These committees will review and evaluate current policies and practices and, consistent with the “Policy Structure,” recommend policy changes for consideration by the faculty representative body, administration, and Board of Trustees. The university faculty standing committees will be relieved of the burden of reviewing every action taken by a college faculty, unless those actions have curricular implications for other colleges. For example, the colleges will have the authority to make catalog changes.
3. Responsibility for faculty representation to issue-specific advisory committees (Library Users, Continuing Education, Summer Sessions, Honorary Degrees, Lehigh Abroad) and other university committees with faculty membership (Student Appraisal of Instruction, Board of Publications, Undergraduate Awards and Prizes, Visiting Lecturers, Human Relations) will devolve to the policy committees or nominating committees of the individual colleges. Faculty will continue to be elected in the college faculties to serve on the University Committee on Discipline, and the Discipline Appeals Committee.

4. The Executive Committee will be the major point of formal contact between the faculty and the administration. In the spirit of shared governance, the Executive Committee will convene each spring/summer to discuss the university agenda for the upcoming year, and meet regularly throughout the academic year. The faculty members of this committee will bring to the President and Provost issues of faculty concern and the Provost and President will send issues needing faculty attention through the faculty members of the Executive Committee to the faculty governing body.

5. We suggest that a single committee concerned with the allocation of the financial resources of the university replace the current faculty compensation (FC) and financial planning and operations (FPPOC) committees that have access only to information specific to their charge. With access to information regarding university-wide financial resources and budgets, the Financial Resources Allocation Committee will advise the administration and the Board of Trustees on policies and practices concerning the University’s financial planning and resource allocation. The primary purpose of the committee is to ensure that both the immediate and long-range concerns of faculty, staff, and students are represented in the financial operations of the University (operations including but not limited to: the annual budget process; compensation; staffing levels; enrollment, tuition and financial aid; capital improvements; and long-range planning).

In order to encourage a robust community discussion and in the spirit of shared governance, we propose that the new committee include elected faculty (6), staff (2 appointed by ERAC), students (2 appointed by the Student Senate), the Vice President for Finance and Administration, and the Provost.

6. The Recruitment, Retention and Diversity Committee will develop, review and evaluate policies and procedures related to faculty recruitment, hiring, and retention, and student recruitment and retention. A high priority for this committee will be the identification and implementation of proactive strategies for achieving a diverse faculty and student body.

7. In the spirit of shared governance, the designated administrative members of the standing committees will be voting members and expected to participate actively in scheduled meetings of those committees. (Note: since these committees will be concerned primarily with policy issues they may meet somewhat less frequently than they do now.)
8. In the spirit of shared governance, representatives of Ed Pol, GRC, and FRAC will meet with the relevant committees of the Board of Trustees, and the Chair and Vice-Chair of the Executive Committee will attend full meetings of the Board. (Ed Pol and GRC would alternate sending their chairs and vice chairs to both Academic Affairs and Student Affairs; FRAC chair and vice-chair would attend both Finance and Physical Planning and Plant.) This system would permit two years of continuity for faculty who meet with the Board and its committees.

9. Given the role of standing committees in policy formulation, ad hoc faculty committees at the university level would be largely unnecessary. If an ad hoc committee is needed to address a particular issue, the appropriate administrator and the Executive Committee will consult on the ad hoc committee’s charge and its membership.

10. The Executive Committee will be responsible for preparing a slate of nominees for election to the six faculty university standing committees (see #1) each spring. These slates should be prepared with an eye to balancing the committees across the ranks and colleges of the University and to selecting faculty well qualified to serve on the committees for which they are nominated.

11. Release time and/or secretarial support will be provided for elected faculty whose positions in the governance system warrant such assistance (at a minimum, the chair of the representative faculty body.) Such support recognizes in a material way the importance of leadership in faculty governance and the toll such service temporarily takes on faculty productivity.

12. A representative governance system must build in a system of term limits that allows continuity of representation but prevents a cadre of "governance professionals" from developing.

13. A representative governance system must have clear procedures for convening a meeting of the full faculty for discussion and votes on issues of extraordinary importance for the faculty and the institution. Likewise, such a system must have procedures that allow faculty to call for referenda votes for matters of extraordinary importance.

14. A new governance system should include provisions for review by the university faculty after a trial period of three to four years.

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B.

In response to the second item of our charge--"assess the state of Chapter 3 of R&P"--the Committee has reviewed Chapter 3 for clarity, accuracy, and consistency. While this chapter contains much necessary information, in many places it is neither clear, accurate, consistent, nor current. In order to meet the aspirations of the University as articulated in the Preamble, changes in both content and form are desirable. Information regarding
educational requirements and procedures established by the Faculty should be removed from R&P and included in other relevant university publications such as the University Catalog and student handbook (see C below). The faculty would maintain its current responsibilities with regard to modifications or additions to these requirements and procedures. Items currently in R&P, Chapter 3 that should be retained in the faculty governance and procedures document (the new articulation of R&P) include:

Those recorded in 3.2.1 through 3.2.2.1 (rules pertaining to course changes, changing prerequisites, and cross-listing courses—changes to be initiated by the faculty)

Those in 3.6 through 3.7.3.6 (rules governing experimental courses and those governing the administration of quizzes and examinations—rules to be observed by the faculty in the conduct of their pedagogy).

Those in 3.18.4 through 3.19 (faculty policies concerning continuing education).

Those recorded in 3.20.6 (faculty responsibility for proposing candidates for honorary degrees).

We recommend that the following material be included in the undergraduate student handbook: 3.2.3 through 3.5 (curriculum transfers, roster of studies, attendance, pass-fail system, auditing, vagabonding); and 3.12 through 3.13 (petitions, course designations on transcript).

We recommend that the material contained in 3.21 ff. (graduate studies regulations) be included in a graduate student handbook.

The remaining material in Chapter 3 should be included in the University catalogue.

These recommendations pertain specifically to the information contained in the sections identified above. In each case, the actual text of R&P should be edited and rewritten to make it clear, accurate, consistent and stylistically suitable to the publication in which it will now appear.

C.

In response to the third item of our charge—"recommend the future structure of R&P"—our guiding principle is that we in no way recommend altering the existing responsibilities of the faculty with regard to academic policy, curricula, the instruction and discipline of students, and faculty personnel decisions. With that caveat in mind, the committee recommends that the material contained in the current R&P be separated into several documents, each prepared for a different primary audience. This separation
would make each document more accessible and manageable and easier to keep up to date.

All these policy documents should be available on the Lehigh Policy Web Site and linked to one another, making this site the one comprehensive source of all policies and regulations that govern the citizens of Lehigh University. In addition, each separate document should be published in hard copy and distributed to its appropriate university audience.

The minutes of the faculty governing body are the official record of the recommendations, resolutions, and decisions of the faculty. The Secretary of the faculty governing body and the Secretary of the Board of Trustees coordinate to ensure that those items needing Board approval are sent to the Board, and that the Board's action is reported back to the faculty governing body and recorded in its minutes. The Provost's office, in consultation with the Secretary of the Faculty and the Secretary of the Board, is responsible for placing final decisions—both those that needed Board approval and those that did not—into the appropriate documents for publication in a timely fashion.

Suggested documents include:

Faculty Governance and Personnel Document: This document whose primary audience is the University Faculty (and which might retain the name R&P) would contain

a) the constitution of the representative body and the description of the committee structure and committee responsibilities (material contained now in R&P, Chapter 1).

b) faculty personnel materials including tenure and promotion regulations (material now contained in R&P, Chapter 2) and policies pertaining to faculty currently in the Human Resources Handbook (such as FML, pensions, retirement).

c) curricular responsibilities pertaining chiefly to the faculty (the material from R&P, Chapter 3 described in B. above).

The responsibility for maintaining and disseminating this document would be located in the Provost's Office. The Secretary of the faculty governing body would transmit faculty actions and decisions to the Provost and the Secretary of the Board of Trustees who would take them, when necessary, to the Board for approval. Once approved, the new policies or changes would be inserted in the faculty governance document. Changes made during the previous academic year would become effective on August 1 which should coincide with the release of the annual updated document.

University Catalogue: This document, whose primary audience is students and faculty, should continue to be the primary source for all policies and regulations affecting academic programs, courses and curricula. Material from R&P, Chapter 3, as described in B. above should be included in the Catalogue. The Office of the Registrar should continue to be responsible for its revision and annual publication.
Undergraduate Student Handbook: This document, whose primary audience is the undergraduate student body, should serve as the primary source for student policies. It should be revised along the lines recommended by the Student Life Policy Review Committee and contain, among other information, material now in R&P, Chapter 4, and material from R&P, Chapter 3, as described in B, above. The Student Affairs Office, in conjunction with the administrator responsible for undergraduate student issues in each College Dean’s office, should continue to be responsible for the Undergraduate Student Handbook and update it annually by August 1.

Graduate Student Handbook: This document, whose primary audience is the graduate student body, should serve as the primary source for University-wide graduate student policy and for College-specific graduate student policies and regulations not contained in the University Catalogue. It should be revised and expanded along the lines recommended by the Student Life Policy Review Committee. The Student Affairs Office, in conjunction with the administrator responsible for graduate student issues in each College Dean’s office, should be responsible for the Graduate Student Handbook and update it annually by August 1.

The Preamble (if adopted) would introduce the Lehigh Policy Web Site and be followed by the all-university policies (Harassment, Academic Freedom, Policy Structure). The preamble and the all-university policies would introduce each of the printed documents recommended above. The office responsible for keeping each document updated would also be responsible for insuring that the annually revised printed copies and the master web document were in agreement.

RECOMMENDATIONS FOR IMPLEMENTATION

We suggest that a series of steps be taken to bring the recommendations contained in this report before the faculty for their action.

1. The President, the relevant committee of the Board of Trustees, and the R&P subcommittee should receive the draft report of the FGCR (by or at the October Board meeting).

2. Once they have responded to it, the FGRC will discuss that response, make any final changes to its report and formally submit it to the President. The FGRC report will also be posted on the Web so that faculty can read and respond to it.

3. Subsequently, the Steering Committee (or its R&P sub-committee) will convene a meeting of the University Faculty to discuss the report. At that time or shortly thereafter, the Steering Committee should arrange for a faculty vote on whether to endorse the report and, thus, pursue the implementation of a representative governance system, committee reform, and the transformation of R&P into several discrete documents, each directed toward a particular constituency.
4. Given faculty endorsement, one committee should be appointed by the Steering Committee to write the constitution of the representative governing body and another to rewrite the relevant sections of Chapters 1 and 3 of R&P and to incorporate the new tenure and promotion document. Obviously, the two committees will need to work together to produce a final document by which the Lehigh faculty would govern itself.

5. Once such drafting is complete, the University Faculty, using the procedures for emendation and voting already established by former R&P review committees, will vote on whether to approve the new governance document as a substitute for R&P and, if approved by the Faculty, it will be submitted to the Board of Trustees for review and approval.

Submitted by the Faculty Governance Review Committee:

Ray BeII (thb02)  Slade Cargill (gsc3)
John Chen (jcc6)  Joe Hartman (jch6)
Ned Heindel (ndh0)  Tom Hyclak (tjh7)
Art King (ak0)  Mike Raposa (ml0)
Hannah Stewart-Gambino (hwsl)  Barbara Traister (bht0)

Acknowledgements

The committee would like to acknowledge a great deal of assistance in the preparation of this report. The “Statement on Government of Colleges and Universities” of the AAUP and the Lehigh University Bylaws provided ideas and sometimes language that we have adopted in the preamble. During open meetings and discussions in College faculty meetings, individual members of the Lehigh faculty and administration have offered comments and suggestions, many of which are incorporated in this document. The chairs of standing faculty committees, the Deans, the Provost, and the President have all met with us. Senior Vice President Nelson Markley and the chairs of the other ad hoc R&P review committees gave us substantial help in conceptualizing the framework for communication of the materials now contained in R&P (recommendations which comprise Section C of this report). The current chairs of FCC and FPPOC, Alastair McAulay and Laura Katz Olson, along with Peggy Plympton, Vice President for Finance and Administration, have counseled us on the name and scope of the proposed Financial Resources Allocation Committee. Emeritus Professor James B. Hobbs shared with us his intimate knowledge of R&P and his corrections to that document. In response to our invitation, Frank Roth, University Counsel, has sat patiently through most of our deliberations and offered help whenever asked.
Appendix

THREE POSSIBLE MODELS FOR REPRESENTATIVE FACULTY GOVERNANCE

The following document describes and analyzes three prototypes of representative faculty governance. They differ along two dimensions: models for representation and models for faculty responsibility. The first dimension offers a range of choices concerning what faculty represent—territorial units (for example, departments, divisions or colleges), or functional units (university committees), or a combination of both. The second dimension offers choices concerning for what faculty are elected—either to specific tasks (for example, election to the position of “senator” or to a specific committee) or to a representative body whose faculty leadership (perhaps in consultation with the Provost and President) assigns them representative tasks (committees or task forces). It is important to note that a new governance structure can vary along both of these dimensions, and any model can “mix and match” across the two.

This document lays out three typical models found in other colleges and universities, and analyzes them according to a number of fundamental values that are desirable in any structure of faculty governance—representativeness (the structure represents as wide a range of faculty as possible), responsiveness (the structure provides robust mechanisms for responding quickly and adequately to faculty concerns), accountability (the structure has clear mechanisms for holding the faculty responsible for representing the faculty and dealing effectively with faculty concerns) and efficiency (the structure does not waste faculty time or require more faculty inputs than necessary). One purpose of this document is to show that the four values exist in tension with one another (for example, representativeness and efficiency are often pitted against one another so that structural changes that result in gains in one can lead to reductions in the other). Ideally, a governance structure optimally balances all four.

MODEL I: DEPARTMENTAL REPRESENTATION One representative from each department is elected to the representative body. Major university committees would be elected as they currently are. This model can either include additional members representing the major committees [i.e. the Chair or past Chair] or not.

Advantages

- **Representativeness** - because most of the day-to-day curricular and research work of the university occurs at the departmental level, it is generally considered the smallest unit of the university. Because basic curricular decisions and allocation of much of the faculty time (teaching, leaves, departmental service) are made in departments, these are the units closest to the issues that affect the central educational mission of the university.

- **Responsiveness to local concerns**

Disadvantages
• **Efficiency** – Given the number of departments at Lehigh, this model is likely to yield the largest representative body, making it potentially more unwieldy than others. In addition, it is possible that a model that responds overwhelmingly to local concerns will bog down into many debates of small issues.

• **California-Rhode Island Problem** – there are two variants of this problem in this model – small versus large departments, and the CAS with 18 departments versus the CoS with one department.

• **Greater likelihood of “career senators”** – this follows, in part, from the California-Rhode Island problem. In either small departments, or young departments, or departments with a low proportion of citizen-minded faculty – there is a greater likelihood that a small number of faculty will emerge as willing volunteers for service on the university representative body. If service becomes the portfolio of only a few – particularly if the few are those with the most “free time”, meaning those who are not actively engaged in curricular innovation or research – then the prestige and effectiveness of the body suffers.

• **Reduction of Interdisciplinarity** – a departmentally-based representative model will reinforce the voice that Chairs already have through the four Dean’s Advisory Councils, strengthening the boundaries between disciplines. Conversely, because the model does not call for positions allocated to centers, institutes, or interdisciplinary programs, the traditional departmental focus (and perhaps turf-protecting) will not be balanced with other views.

• **Greater likelihood of parochial, rather than university, focus** – it is natural for departmentally-based representatives to view their function as representing departmental interests and thus feel accountable to departmental concerns rather than university interests.

• **Further reduction of the prestige of the major committees** – if the major committees are not explicitly represented in the elected body, the likelihood of successfully drafting good faculty to serve on them is further diminished. Or, if the work of the committees bogs down in debate between turf-protecting departmental representatives, fewer faculty will see service on the committees as rewarding or interesting.

**MODEL II: CONGRESS** A fixed number of representatives are elected from each college, and they are then redistributed by the faculty leadership to the committee structure. In this model, there is no distinction between committee members and elected representatives to the elected body – to be elected means that one is both a “senator” and assigned to a major committee.

**ADVANTAGES**

• **Strengthens both the power of the Nominating Committee as well as the Faculty Leadership** – If the Nominating Committee and the Chair of the representative body were strong leaders, this system would raise the prestige, visibility and power of at least the top faculty leadership.

**DISADVANTAGES**
• **Efficiency** – Although the total number of faculty serving on major university tasks would remain roughly the same, the representative body would be relatively large.

• **Little representativeness, particularly on committees** – this model includes no deliberate departmental or divisional representation, making representation of departmental or divisional concerns idiosyncratic, at best – depending on who is elected at any given moment, and depending on where individuals are assigned.

• **Voter disenchantment** – faculty will lose the sense that they are voting for someone in particular for a specific task. Because the voter cannot know what committee assignment their candidate will be selected for, there is a likelihood that more faculty will choose not to vote. (“I like this person for Faculty Compensation, but definitely not for EdPol.”)

• **Concentrates power in a small number of hands** – this is the flipside of the advantage of strengthening the prestige, visibility, and power of the top faculty leadership. Depending on the particular individuals at any given moment, their skills and their agenda – this can either work quite well or not.

**MODEL III: HYBRID** This model is based on a mix of territorially-based elected officials – i.e. divisional or college-based – and representatives of the major committees. Both the “senators” and the committee members are elected by the faculty, with one representative – for example, the past Chair – of each major university committee serving on the elected body alongside divisional/college reps.

**ADVANTAGES**

• **Balances efficiency with representativeness** – the numbers of territorially-based representatives can be small – for example, 4 CAS, 3 CEAS, 3 CBE and 1 CoE (based on the relative sizes of the faculties in the respective colleges) – and the number of representatives from the major university committees is fixed (67). In addition to the faculty representatives, this model also would include the Chair, Past-Chair, and Faculty Secretary (who could be charged with chairing the Nominations Committee). This model is small enough for discussion to be meaningful and substantive, while representing both divisional/college interests.

• **Responds to local as well as university-wide concerns** – the territorially-based representatives will be accountable for bringing local interests to the agenda, while the representatives from the committees will be accountable for bringing the work of the committees to the floor for discussion, debate and revision. This model more successfully blends the mix of departmental (or at least divisional) concerns of faculty with the university-wide business focus of the committees.

• **Simultaneously strengthens local accountability and committee prestige** – Both the college representatives and the committees will share in the responsibility for making governance work, making both kinds of service potentially rewarding.

• **Can respond to interdisciplinarity** – because the representatives will represent slightly larger constituencies (i.e. divisions), they should be better suited to examine cross-disciplinary issues and opportunities. In addition, the participation
of the committee representatives, who will bring the valuable knowledge of the rules and procedures of such areas as undergraduate and graduate curricular innovation, makes finding successful solutions to faculty issues more likely.

DISADVANTAGES
Committee representation depends on idiosyncrasy of past-Chair rotation, as now
Charter of Lehigh University

AN ACT

To erect and establish at, or near, the borough of South Bethlehem in Northampton County, at polytechnic college, for the education of youth, of the name, style and title of the Lehigh University.

preamble

Whereas, Asa Packer of Mauch Chunk, Carbon County, Pennsylvania, has donated the sum of five hundred thousand dollars, for the purpose of founding and endowing a polytechnic college, to be located at South Bethlehem, in the County of Northampton, and has also given fifty acres of land, as a site for the college buildings and park grounds, and is desirous of having the institution incorporated, by legislative enactment, under the name of Lehigh University.

And Whereas, The said donor has appointed William Bacon Stevens, of Philadelphia, Asa Packer of Carbon County; John W. Maynard, Robert H. Sayre, John Fritz and William H. Sayre, Junior, of Northampton County; Joseph Harrison, Junior, of Philadelphia, and G. B. Linderman, Robert A. Packer and Harry E. Packer of Carbon County, trustees of and for said institution; therefore,

college established

Section 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, that there be and hereby is erected and established, at or near, the borough of South Bethlehem, in Northampton County, for the education of youth, the name, style, and title of which college, and the constitution thereof, shall be, and are, as follows:

title

Article 1. The said college shall be, hereafter and forever, known and called by the name and style of the Lehigh University.

management

Article 2. The said university shall be under the management, direction and government of a board of trustees, consisting of ten persons, as hereinafter mentioned, one of whom shall be, by them, elected president of the board.

first trustees

Article 3. That the first trustees of said university shall consist of the following persons: William B. Stevens; Asa Packer of Carbon County; John W. Maynard,
Robert H. Sayre, Junior, of Northampton County; Joseph Harrison, Junior, of Philadelphia; G. B. Linderman, Robert A. Packer, of Carbon County; which said trustees, and their successors, to be elected, in the manner hereinafter mentioned, shall forever hereinafter be one body politic and corporate, in deed and in law, to all intents and purposes whatsoever, by the name, style and title of the Lehigh University, at South Bethlehem, in the County of Northampton, Pennsylvania; by which name and title, the said trustees, and their successors, shall be competent and capable, in law and in equity, to take to themselves, and their successors, for the use and benefit of said university, any estate, in any messuages, lands, tenements, hereditaments, goods, chattels, moneys, or effects, by the gift, grant, bargain, sale, conveyance, assurance, will devise, or bequest, of any person, or persons, whatsoever, and in the same property and effects to sell, rent, and dispose of, as occasion may require, for the use of said university, in such manner as to the said trustees, or a majority of them, at a legal meeting of the board, shall seem most beneficial to the institution, and to receive the income, rent issues and proceeds, to the use and support of said university; and by the same name, to sue and be sued, plead and be impleaded, in any courts of law, or equity, and in all manner of suits, or actions, whatsoever, and generally, by and in the same, to do and contract, all and every, the business touching, or concerning the business interests of the institution, as fully and effectively as any natural person, or body politic, or corporate, within the Commonwealth, have power to manage their own concerns, and to hold, enjoy and exercise all such power, authorities and jurisdictions, as are customary in other colleges in these United States.

Article 4. And that the said trustees shall cause to be made, for their use, one common seal, with such devices and inscriptions thereon, as they shall think proper, under and by which deeds, diplomas, certificates, and acts of the said corporation, shall pass and be authenticated; and the same seal, at their pleasure, from time to time, to change and alter.

Article 5. And there shall be a meeting of said trustees, at least once in every year, in the borough of South Bethlehem, at such time and place as the said trustees, or a quorum of them, shall appoint, of which notice, in writing, shall be given by the secretary, at least twenty days before the time of such intended meeting; a majority of the board of trustees, when so convened, shall constitute a quorum, for the transaction
of business, and a less number shall have power to adjourn, from time to time, when a like notice shall be given to absent members, at least ten days before the adjourned meeting, signed by the secretary, president, or two members of the board; and the board of trustees at their annual meeting, and at adjourned meetings, as occasion may require, or a quorum so convened, shall be capable of doing all the business and concerns of said university, not otherwise provided for in this act, and particularly of making ordinances, for the government of said institution; of filling vacancies in the board of trustees, occasioned by death, resignation, or otherwise; of electing, or appointing, the principals and professors of said university; of fixing the amount of their salaries and stipends, and removing them for misconduct, neglect of duty, or breach of the laws of the institution, or for any reason they, the majority, may deem sufficient; of appointing committees of their own body to carry into execution all, and every, the resolutions of the board; of appointing a treasurer, secretary, steward, managers, and other necessary and customary officers, for taking care of the establishment, and managing the concerns of the corporation.

Article 6. That the head, or chief master, of the institution, shall be called and styled the president of the university, and the masters thereof shall be called and styled professors; but neither principal nor professor, while they remain such, shall be capable of holding the office of trustees; the president and professors, or a majority of them, shall be called and styled the faculty of the university; which faculty shall have the power of enforcing the rules and regulations, adopted by the trustees, for the government of the pupils, by rewarding, or censuring them, and finally, by suspending such of them as after repeated admonitions, shall continue disobedient and refractory, until a determination of a quorum of the trustees can be had; and of granting and confirming, by and with the approbation and consent of a board of trustees, signified by their mandamus, such degrees in the liberal arts and science, to such pupils of the university, or others, who, by their proficiency in learning, or other meritorious distinctions, they shall think entitled to them, as are usually conferred and granted in other colleges of the United States, and to grant to such graduates diplomas, or certificates, under their common seal, and signed by the faculty, to authenticate, and perpetrate the memory of such graduation.
Article 7. No misnomer of the said corporation shall defeat, or annul, any gift, grant, devise, or bequest, to, or from, the said corporation; provided, the intent of the parties shall sufficiently appear of the gift, grant, will, or other writing, whereby any estate, or interest, was intended to pass to, or from, the said corporation; nor shall any dis-user, or user, of the rights, liberties, privileges, jurisdictions, or authorities, hereby granted to the said corporation, of any of them, create, or cause, a forfeiture thereof, and the donations of the founders of the Lehigh University including the plots of ground mentioned, so long as the same are held, or used, for the purpose of the institution, shall be free and exempt from taxation.

James R. Kelley,
Speaker of the House of Representatives

David Fleming,
Speaker of the Senate

Approved - The ninth day of February, Anno Domini one thousand eight hundred and sixty-six.

A. G. Curtin
(Governor)
2.2.1.1 Incorporation by reference:
The provisions set forth in section 2.2 of Rules and Procedures are incorporated by reference in all faculty contracts. Modifications or amendments to this section are modifications or amendments to faculty contracts and are effective on the date they are approved by the board of trustees unless an otherwise effective date is indicated.

Rationale (given in a footnote):
16. Strictly speaking, faculty appointments, as the term is used in these sections, are not necessarily equivalent to contracts. Therefore, this terminology must be changed.

2.2.1.4 Faculty Responsibility
Because the faculty are the most qualified to judge the academic competence, they are assigned the principal responsibility in making recommendations affecting the status of a faculty member.

2.2.1.4 Faculty Responsibility
[The clause is deleted in its entirety.]

Rationale:
This statement has been eliminated by the Academic Affairs Committee because it is not true. Strong departments are generally capable of making excellent recommendations on tenure and promotion, while weak departments are not necessarily able to. All departments are susceptible to difficulties in judgment that stem from personal connections to candidates. It is for these reasons that the process of review for tenure and promotion involves overlapping layered reviews at several levels, each of which may consider the importance of a case from different perspectives. Therefore, stating that the department alone is best qualified to judge a candidate is not true.
Prominent Female Astronomer Leaves Harvard Over Tenure Dispute

BY SCOTT SMITH

An prominent female astronomer has left Harvard University over tenure disputes. The Harvard Astronomy Department, which includes a number of world-renowned researchers, has faced controversy in recent years over its handling of tenure decisions.

The astronomer, who has not been named, said she was denied tenure after a review that she believes was biased. She accused the department of not considering her contributions to the field and of favoring male colleagues over female colleagues.

Harvard's policies on tenure and promotion are designed to ensure that all faculty members are evaluated fairly and without discrimination. The department has been working to address these concerns and improve the process for all faculty members.

The astronomer said she was disappointed with the university's handling of her tenure application and decided to leave. She has accepted a position at another university where she plans to continue her research.

Harvard University's Provost, Athanasia Assis, said the university takes the issue seriously and is committed to ensuring a fair and transparent tenure process for all faculty members. The university has launched an internal investigation into the astronomer's concerns and will take action to address any issues that arise.

The astronomer's departure is a blow to the Harvard Astronomy Department, which is already facing challenges in retaining and promoting female faculty members. The university has made efforts to improve diversity and inclusion in its departments, but more work needs to be done to create a more equitable environment for all faculty members.
Faculty Governance at Lehigh University

The Traister task force on faculty governance recently submitted a report recommending major changes in governance at Lehigh.

The Traister report can be found at:
http://www.lehigh.edu/~pres/fg/
or can be accessed from the policy web page.
http://www.lehigh.edu/~policy/

There is already a forum for comments and feedback, on the Web
Here is how to access the Web site:
Log in to the Campus Portal
At the top right of the Portal home page, click on groups'.
Click on "Groups Index".
On the left hand side click on 'Academic'. Then on the right hand side of the same page, click on 'Faculty Governance'.
The first time you get here you will be asked to join the group. It will be a little quicker to get in on subsequent visits.

After the discussion today, there will be a faculty poll. Please note that this is not a binding vote. It is a survey to guide the next steps in the process of developing concrete and detailed proposals. The poll will be held electronically from November 8 to November 19. Between today and the start of the survey next week we hope that members of faculty will use the comments site (see above) to continue today's discussion.

The questions to be asked on the poll (subject to late editorial changes) are:

1. Do you generally agree with the Report's assessment that governance currently is a problem at Lehigh and endorse the Preamble's notion of Shared Governance (Section I)? Yes No

2. Do you agree with the Report's recommendation of a "hybrid" form of faculty governance, composed of both a representative body and standing committees, as outlined in section II? Yes No

3. Do you agree generally with the Report's recommendations for restructuring University Standing Committees (section III)? Yes No

4. Considering the Task Force's Report as a whole, are you willing to accept the Report as the basis for the next steps in developing a new system of faculty governance at Lehigh? Yes No