Excerpt from Proposal for Interdisciplinary Studies of Writing
Research Grant for Writing in the Disciplines (WID) and
Writing Across the Curriculum (WAC):
Integrating Critical Thinking in Pharmacy Student Writing Assignments Using the
University’s e-Portfolio System

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[EXCERPT FROM PROPOSAL: Project Summary]

Part 1: Overview (no more than 300 words)

The College of Pharmacy is designing a new curriculum to be implemented in 2008–2009 for Doctor of Pharmacy (Pharm.D.) students. As preparation for the curricular redesign, this project proposes to collect and integrate information that will address three areas of curricular need: writing, critical thinking and the use of e-portfolios.

Traditionally, pharmacy programs, in general, have been weak in writing. The Pharmacy program at the University of Minnesota is no exception. Students are asked to complete a few short reports and also document patient care notes in a computerized system. However, there is not a purposeful integration of writing in our current curriculum. At present, there is one major writing initiative. Fourth year U of M Pharmacy students complete a Pharm.D. Project, including a written paper. Faculty members have reported that many students are poor writers and lack the analytical skill demanded by the Project. As a result, there is currently discussion about eliminating this requirement.

A second, related problem concerns critical thinking. Critical thinking is articulated in the College’s General Abilities Based Outcomes. While there is a universal belief that critical thinking abilities are important in caring for patients, instruction related to critical thinking does not occur. In addition, critical thinking is not consistently woven through the program or explicitly assessed.

The final problem relates to accreditation standards. The Pharm.D. Program is accredited by the Accreditation Council for Pharmacy Education. New accreditation standards will go into effect in July of 2007. In the most recent revision of the Standards, the use of portfolios was mandated. The College is currently debating the best methods for use of the University’s e-portfolio system to collect student work and document student capabilities.

This project proposes to address issues related to writing, critical thinking and e-portfolios. Specifically, it will tackle the following questions: How can writing be used in the College of Pharmacy to develop and assess critical thinking? How can writing be documented and evaluated over a Pharmacy student’s academic career using an e-portfolio system?
Part 2: Project Description

In April, a research assistant (RA) will be hired. The RA may be a pharmacy student, should a suitable candidate be found. However, the Job Center will also be used to post the position to curriculum and instruction students, students in writing programs and other related fields of study.

Dr. Kristin Janke, Assistant Dean for Educational Development, will direct the project and hire and supervise the RA. Dr. Janke has a personal interest in writing and teaches in two courses (for non-pharmacy students) that use weekly writing assignments. Dr. Janke also sits on the College’s Curricular Reform Task Force (CRTF) and the College’s Assessment Committee, which will enable this project to be placed on agendas for discussion in a timely manner.

Due to the timeline of curricular reform, the majority of the work on this project must occur during the summer. In May of 2007, a literature review will be conducted, with the help of the research assistant. Articles will be sought in four areas.

1. The development of critical thinking through writing.

   For example, what is the link between critical thinking and writing? What types of writing help students to “flex” their critical thinking “muscles”? What are the essential elements of a writing assignment that aims to develop critical thinking?

2. The assessment of critical thinking abilities as demonstrated by student writing products.

   For instance, how can writing assignments be used to assess students’ critical thinking abilities? Can changes in critical thinking be demonstrated over students’ academic careers by assessment of student writing products? How can grading and feedback on writing assignments optimally influence the development of critical thinking skills?

3. The integration of writing in health professional curricula.

   For example, how can relevant writing exercises be designed to best prepare future health professionals? In order to manage faculty workload, how is grading and feedback efficiency gained? How can curricular (vs. course) level writing outcomes be measured?

4. The documentation of writing longitudinally in e-portfolio systems.

   For instance, how can e-portfolios be used to collect, share and evaluate student writing samples? How can e-portfolios be used to encourage self-assessment of writing? How can e-portfolios be used for institutional reporting (i.e. to collect and collate performance across students and across the curriculum)?

The research assistant will be responsible for conducting searches and categorizing the articles located. The research assistant will also work with Dr. Janke in evaluating the literature based on quality of the research findings, the ability to modify and/or replicate in pharmacy and other health professions classes and other trends/issues that emerge. A review will be written and
submitted for publication to the *American Journal of Pharmaceutical Education*.

In the summer of 2007, with consultants from the Center for Writing (Dr. Katie Levin) and the University’s portfolio initiative (Kari Branjord and Paul Treuer), a proposal will be developed for the integration of writing across the new curriculum, specifically targeting critical thinking skills, and utilizing student e-portfolios for documentation and assessment. In the development of this proposal, Dr. Janke and the RA will be interviewing faculty and meeting with appropriate college committees to assess opportunities and obtain feedback on drafts of the proposal. In addition, the research assistant, under the direction of Dr. Janke, working with Dr. Katie Levin (Center for Writing) and using the literature identified, will develop sample writing assignments and establish the variables and rubrics for grading. The sample assignments would be piloted with six pharmacy students. The students would be asked to complete the assignment and the rubrics would be used by three faculty members to grade their work. A focus group of the faculty evaluators and project staff would be convened to improve the rubrics and assignments, based on the piloting experience.

In addition, an evaluation plan for assessing the success of the new writing initiative will be outlined. The plan would include checkpoints at the end of each year and a full assessment with the first graduating class. This plan would be included in the proposal. To assist in developing the evaluation plan, colleagues from the Center for Teaching and Learning will be consulted, along with the College of Pharmacy’s Assessment Committee.

The proposal will be brought forward to the Curricular Reform Task Force (CRTF) for consideration in the fall of 2007. Prior to implementation of the new curriculum, opportunities will be identified to incorporate a number of the writing assignments within pharmacy courses in 2007–2008.

**Project Summary**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Activity</th>
<th>Est. RA Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2007</td>
<td>RA Hired</td>
<td>0 hours</td>
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<tr>
<td>May 2007</td>
<td>Literature searches, reading/evaluation, organization and article drafting/revision</td>
<td>120 hours</td>
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<tr>
<td>June 2007</td>
<td>Finalizing article, holding faculty/committee meetings, drafting of proposal, drafting of assignments/rubrics, incorporation of feedback</td>
<td>80 hours</td>
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<tr>
<td>July 2007</td>
<td>Piloting of assignments and rubrics, faculty focus group, further refinement of proposal, assignments and rubrics</td>
<td>40 hours</td>
</tr>
<tr>
<td>Aug. 2007</td>
<td>Development of evaluation plan, drafting of abstract for AACP presentation (see below), meeting with AHC, preparation of workshop outline and materials (see below)</td>
<td>40 hours</td>
</tr>
<tr>
<td>Sept. 2007</td>
<td>Proposal submitted</td>
<td>0 hours</td>
</tr>
<tr>
<td></td>
<td><strong>Total Est. RA Hours</strong></td>
<td><strong>280 hours</strong></td>
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**Part 3: Relevance and Plans for Dissemination**

Writing opportunities in the (current) College of Pharmacy curriculum are not optimal, and
frustration with writing is high. However, with proper sequencing of writing opportunities and adequate development of assignments and rubrics, positive advances in student writing and critical thinking can be achieved in the new curriculum. This project is designed to generate excitement about writing by engaging faculty and committees in proactive discussion and planning, supported by information from the literature.

In addition to advancing writing, completion of this project will also address issues related to the development and assessment of critical thinking skills and the use of e-portfolios to document student abilities. Completing this project will also introduce and connect the College with several important resources within the University, including the Center for Writing, the Center for Teaching and Learning and the e-portfolio team.

The results of this project will be submitted for presentation at the Annual Meeting of the American Association of Colleges of Pharmacy. All 98 U.S. colleges of pharmacy must meet accreditation standards related to critical thinking and e-portfolios. An articulation of the available research supporting the use of writing in the development of critical thinking skills, in addition to an example of a practical implementation plan, would be highly valued.

Programs in the Academic Health Center (AHC) also struggle with issues related to writing, critical thinking and the use of e-portfolios. The AHC’s Office of Education will be contacted and the results of the project will be shared. To distribute the results more broadly with the AHC faculty, a workshop session will be submitted for the Best Practices—Teaching in the Health Professions Conference in May 2008.

In addition, to disseminate results within the University, a workshop on “Writing, Critical Thinking and e-Portfolios in Writing-Light Disciplines” will be planned with the Center for Writing. Through contacts at the Center and College of Pharmacy faculty on the Duluth campus, offers to present at the coordinate campuses will be made.