

A Writing Proficiency Examination for Pharmacy Students

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Background Paper II emphasizes the importance of students' ability to communicate in writing. How can students' proficiency in written communication be assessed accurately? A writing proficiency examination assesses students' writing ability in an accurate and equitable way, so that students who are not proficient writers can take further coursework to improve their skills. At the Massachusetts College of Pharmacy and Allied Health Sciences, the Writing Proficiency Requirement has been a graduation requirement for students since 1991. Students must pass the Writing Proficiency Examination, or successfully complete the follow-up course for the exam, in order to graduate. This paper will describe the nature of the Writing Proficiency Examination and how it is administered and graded, explain the assessment criteria, and outline what the outcome of having the Exam has been.

INTRODUCTION

In 1991, the Faculty of Massachusetts College of Pharmacy and Allied Health Sciences voted to adopt a writing proficiency requirement. This requires students to pass a Writing Proficiency Examination or successfully complete the follow-up composition course for the exam in order to graduate. This paper will describe the nature of the Writing Proficiency Examination and how it is administered and graded, explain the assessment criteria, and discuss the outcome of having the Exam.

The Writing Proficiency Exam requires students to write an essay which is similar to a review article on a biomedical topic. This assesses students' level of preparation for the writing which they do in advanced courses and during their clinical work, and later as professionals. To prepare for the exam, students read three or four articles on a health-related topic. The articles are distributed two weeks prior to the examination. One of the articles is written for a general audience, or is a review article written in a clear style. The other two or three articles are more difficult articles written for a professional audience. They are taken from pharmacy journals, medical journals, nursing journals, or other health-related publications such as the *Hastings Center Report*.

In the essay exam, students must demonstrate their ability to synthesize and respond to the ideas in the articles. Students must take and support a clear stand on the issue being discussed, using a style appropriate for a general audience. The topics concern current controversial health-related issues, and the articles reflect different points of view on the issues. (See Appendix A for a list of exam topics.) A faculty committee grades the exam. Students who fail must successfully complete a follow-up course to improve their writing skills. If they do not complete the course successfully, they must re-take the exam. Although other writing proficiency exams may include a portfolio option, this has not been done for practical reasons. A portfolio option means students offer a number of compositions written in their classes as evidence of their writing skills. However, transfer students are unlikely to be able to provide a portfolio of pharmacy or biomedical compositions. Therefore, all students are required to take the Writing Proficiency Exam as the most equitable solution.

ADMINISTRATION OF THE EXAM

The Writing Proficiency Exam is administered by the exam coordinator, a composition professor with experience in scientific and technical writing. The Exam is administered twice a year, at the beginning of Fall and Spring term. The number of students taking the Exam has ranged from a low of 140 to a high of 245. The average number of students per session is 175. Students are allowed to take the Writing Proficiency Exam once they have completed credit for Expository Writing I and II, two college composition courses. Students sign up for the exam by filling out a form with their name, student ID number, and other data. Students register for the Exam two weeks prior to taking it. When students register, they are given an informational packet on the exam, a practice exam on a previous year's topic, a list of the grading criteria, and the packet of articles which they will read for that exam session. New topics and articles are used for each session. These topics are chosen by the exam coordinator. The research librarians do a search of the literature for related articles. The exam coordinator chooses which articles to use.

In order to ensure that students write their own exams, they present their photo ID at the exam to verify their identity, since faculty proctors may not know a student. Proctors check to make sure students have only their copy of the articles with them, not previously written drafts. At the exam session, students are presented with the essay topic for the first time. They are given two hours in which to write the exam. (Students with documented learning disabilities get more time in a separate room.) Students put their ID only on their blue books, because the exams are graded anonymously. Students who pass have fulfilled the Writing Proficiency Requirement. Students who fail must take an additional composition course, Expository Writing III, for further work on their individual writing problems. If students receive a grade of C or better, they have fulfilled the writing proficiency requirement, and do not repeat the exam. Students who take the course with less than a grade of C may re-take the exam after completion of the course. Students may not re-take the exam without having taken the course.

Passing the writing proficiency requirement is a prerequisite for Pharmacy Ethics, a required fourth-year course with substantial writing. Completing the writing proficiency requirement assures that students who are weak writers

improve their writing before doing clinical work, and before graduating.

GRADING OF THE EXAM

Packets of exams are distributed to teams of two graders. After the first packet is read, graders exchange packets. Grade sheets are submitted to the exam coordinator, with one or two brief sentences commenting on grades given (ex. Grade = 1 (fail) no clear stand taken; follows organization and content of articles too closely without synthesis; occasional plagiarism). No comments are written on exams to avoid prejudicing the second or third reader. The exam coordinator records the grades and assigns a third reader to exams with one pass and one fail grade. When all the exams have been graded, the exam coordinator reads all the failing exams, with the graders' comments. This is to make sure that those exams do in fact meet the criteria for a failing grade. The exam coordinator also reads all the tie exams, to make sure the exams which passed meet the criteria for a passing grade.

After each exam, graders attend a norming session to learn how to grade that particular exam. Prior to attending the session, graders read the list of criteria used to grade exams. In the norming session, graders read a set of example exams from that exam session. These exams are selected by the exam coordinator as typical examples of well-written or badly-written exams. The graders assign grades to the example exams. Then the graders discuss the grades they assigned and their reasons for giving them. Graders who are more or less lenient than the group as a whole can adjust their standards to assure more uniform grading.

The norming sessions help train faculty who have not been graders before. They also help all graders establish uniform standards for each exam. Discussion of writing problems in the norming session helps faculty deal with typical student writing problems in a consistent way. At what point are students' grammar problems unacceptable? If a student seemed to misunderstand or misrepresent information from one of the articles, should the student fail? If a student paraphrased information but did not attribute the source in one place, does the student fail? If the student did this in four places? Is one copied sentence with no quotation marks or attribution cause for failure? Are six? Is the inability to synthesize cause for failure?

Graders are paired by discipline and experience: liberal arts, science and math, pharmacy, nursing, and library faculty grade the exam. Graders are usually paired with a partner from another discipline. Graders who have not graded the Writing Proficiency Exam before are usually paired with an experienced grader. Graders are encouraged to fail borderline exams, so that an experienced third reader and the exam coordinator can help decide whether the exam should fail. They are also encouraged to call the exam coordinator with any questions. Pairs of graders are almost always within one grade of agreement. If one grader assigns a 2-, the other grader is most likely to assign a grade between 1+ and 2.

ASSESSMENT CRITERIA

Assessment criteria were developed by the Composition faculty as the Writing Proficiency Exam was piloted over the course of three years before implementation. They reflect an attempt to articulate what qualities were present or absent in the writing of students who did very well on the exam, barely passed the exam, or failed the exam. A grade

of four is given for outstanding work, three for good work, two for acceptable work, and a grade of one means the student has failed the exam and must take the follow-up course. Students are given a copy of these criteria as part of the informational packet they receive along with the articles. (See Appendix B for a list of criteria.)

RESULTS

Is the Writing Proficiency Exam valid? That is, does it identify all students who are weak writers, and only students who are weak writers? Does it predict which students will write well in advanced courses, and which will need help with their writing in order to succeed in these courses? The validity of the Writing Proficiency Exam was assessed by comparing the performance of students who had passed the Writing Proficiency Exam with that of students who had failed, and taken the follow-up course, Expository Writing III. Their performance was compared in advanced courses which require excellent reading and writing skills (Ambulatory Pharmacy, Pharmacy Ethics, and Interpersonal Communication). Were students who failed the Writing Proficiency Exam in fact weaker writers than students who passed? Did Expository Writing III help these students acquire skills needed to pass these courses? An analysis of 279 student papers written for Ambulatory Pharmacy over a period of several years was done. Analysis of these papers confirmed that some students need skills covered in Expository Writing III. Of the 279 papers, 12 percent (34) received a grade of less than 80 percent. Of these 34 papers, 25 had been written by students who had failed the Writing Proficiency Exam and taken Expository Writing III. The problems presented in these weak papers were analyzed. The most common were related to use of correct and appropriate style, avoidance of plagiarism, and ability to translate technical information for a general audience. These topics are covered in Expository Writing III and tested on the Writing Proficiency Exam. The weakest papers were written by students who had not taken Expository Writing III. There was also a correlation between the grade assigned in Expository Writing III, and the grades assigned in Pharmacy Ethics and Interpersonal Communication.

Of the students in these courses, 77 percent received grades within a half letter grade in both courses (for example, a student who scored C in Expository Writing III scored a C, C-, or C+ in Ethics,) and 65 percent received Interpersonal Communication grades within half a letter grade of their Expository Writing III grade. Less than 10 percent of students received a grade more than one full letter grade away in either Ethics or Interpersonal Communication and Expository Writing III.

DISCUSSION

The fact that the students who failed the Writing Proficiency Exam did not perform as well in the advanced courses as students who passed demonstrates that the Exam does in fact single out students who need additional work. How well students do in Expository Writing III predicts how well they will do in these advanced courses. Although the Expository Writing III students did not do as well as other students on average, they did succeed in these courses. Their papers were not as polished as those of other writers, but some did write good papers. Even the weaker papers showed evidence that the students had grasped important concepts. This suggests that Expository Writing III helps students

acquire the skills they need, and that more of them would be deficient without the exam and follow-up course.

Having a Writing Proficiency Requirement has several disadvantages. Administering and grading the Exam requires time and effort on the part of the faculty. Each packet of exam papers takes several hours to grade, and each grader grades two packets of exams per session. Offering Expository Writing III also requires the time of several composition faculty. Some students who fail the Exam are resentful and very willing to share their unhappiness with the exam coordinator, who must convince these students that improving their reading and writing skills is actually a good idea.

However, not having a Writing Proficiency Exam forces faculty to deal with weak writers in their courses. If we expect students to master written communication as a desired outcome of pharmaceutical education, we must be able to assess their level of writing. Helping students whose writing is weak improve their proficiency will help them complete their studies successfully, and function as professionals when they graduate. In addition, having a cross-disciplinary assessment team grade the exams helps raise faculty consciousness about what constitutes good student writing. It strengthens faculty confidence in their ability to assess student writing. Discussions in norming sessions give rise to interesting cross-disciplinary discussions about student writing. These discussions permit faculty to see the commonalities that exist across disciplines. All this in turn should make faculty more receptive to integrating writing into their classes, improving student writing through additional practice.

In Pharmacy programs which don't have faculty who teach composition, there are obstacles to setting up a Writing Proficiency Exam. Most pharmacy faculty would probably not have the expertise, time or inclination to set up and coordinate a Writing Proficiency Exam or teach the follow-up writing course. However, pharmacy faculty could work with composition faculty in other programs. Composition faculty familiar with scientific and technical writing, particularly in the sub-field of the health sciences, could collaborate to implement a Writing Proficiency Exam and a follow-up writing course.

Students who are strong in math and science, but who do less well in language intensive courses, will continue to be admitted to Pharmacy programs. Turning a blind eye to their deficiencies as writers rather than providing the help they need does a disservice to them, and to the profession.

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References

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APPENDIX A.

The students have written on topics such as these:

Topic 1: When it's clear that patients are not going to recover, but are going to die in a short time, how should they be cared for, particularly in terms of pain management? Who should make decisions about patient care, and on what basis?

Topic 2: How great is the risk of contracting AIDS from occupational exposure to HIV? What can or should be done to protect health professionals from this risk?

Topic 3: What should health professionals do to encourage organ donation? Why is encouraging families to donate terminal patients' organs difficult? What can be done to alleviate the shortage of donor organs?

Topic 4: What evidence exists that a patient's mental state helps determine the course of his or her disease? What can be done to improve the patient's prognosis if this is true?

Topic 5: How should breast cancer be diagnosed and treated? What screening techniques should be used, starting at what ages? How aggressively should recurrent breast cancer be screened for and treated?

Complete exam question for Spring 1996:

Schizophrenic patients are often poor, homeless, and aren't compliant about taking medication to control their disease because medications to treat schizophrenia have major side effects, and are also expensive. What should be done to assure the best possible care of schizophrenic patients? Imagine that you are writing a newspaper article answering this question. Explain to the reader in general, nontechnical terms:

- What kinds of medications are available to treat schizophrenia—medications' advantages, disadvantages, and relative cost. What can be done to help schizophrenic patients afford their medications? What the results are when patients can't afford medications. What can be done to reduce homelessness and lack of access to treatment among schizophrenic patients?

Support your explanation from all four articles. Make sure you paraphrase the information and reference; correctly using the correct page number and authors' names.

Here are examples of reference forms for the articles: for Carpenter and Buchanan "Schizophrenia," *New England Journal of Medicine*, March 10, 1994

Use reference form: (Carpenter and Buchanan, 686)

for Soumerai *et al.* "Effects of Limiting Medicaid Drug-Reimbursement Benefits On the Use of Psychotropic Agents and Acute Mental Health Services by Patients with Schizophrenia," *New England Journal of Medicine*, Sept. 8, 1994

Use reference form: (Soumerai *et al.*, 650)

for Cotton "Public Pressure Ends 'Bundled' Drug Program, but How Much Cost Will Drop Remains Unclear," *Journal of the American Medical Association* Feb. 20, 1991

Use reference form: (Cotton, 837)

for Cat on *et al.*, "Risk Factors for Homelessness Among Schizophrenic Men: A Case Control Study," *American Journal of Public Health*, Feb. 1994

Use reference form: (Caton *et al.*, 265)

APPENDIX B.

Grading Criteria:

4 = Writers took a clear stand on the topic. The organization was coherent. There was much good supporting evidence from all the articles, and there was no problem with content accuracy. Citation

form was consistently used, clear and correct. There was an excellent balance of evidence from the articles, and thoughtful discussion of the ideas in the articles. The writers' ideas were well supported, well presented, and interesting. The writers' style had no grammatical mistakes and was appropriate for the topic.

3 = Writers took a clear stand on the topic. The organization was coherent. There was much good supporting evidence from all the articles, and there was no problem with content accuracy. Citation form was consistently used, clear and correct. There was good supporting evidence from all the articles. The writers' ideas were well supported and well presented. The writers' style had no grammatical mistakes and was appropriate for the topic.

2 = Writers took a clear stand on the topic. The organization was reasonably coherent and did not simply follow the organization of the articles. The writers seemed to understand the articles, and they were able to represent the content with reasonable accuracy. Evidence from more than two of the articles was used. Citation

form was used correctly. There were no major grammar problems; the writers' meaning was always clear. If there were minor grammar problems, they didn't occur frequently enough to interfere with clarity or correct style.

1 = Writers fail the exam for any of the following reasons, or a combination of these reasons: Writers did not take a clear stand on the topic, or did not support their stand with evidence from the articles. Writers used evidence from only one or two articles, or very minimal evidence from any other articles. Writers did not clearly show the connection between their ideas and the ideas from the articles. Writers simply summarized ideas from the articles without discussing them and relating them to the topic. The content of the articles was not stated with sufficient accuracy. The language of the articles was not sufficiently paraphrased; direct quotes were too long, too frequent or used without quotation marks. Citation form was not correctly used. Grammar problems were severe, frequent, or both.