Systematically Improving Writing Outcomes in Undergraduate Health Sciences Education Programs

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A FEW QUESTIONS FOR OUR AUDIENCE...
Agenda

- Writing in the health sciences and in educational programs
- Model for mapping the state of writing
- Present findings from a pilot study of the state of writing in the Health Sciences major at JMU
- JMU Health Sciences Department’s response to these findings
- Q&A / Discussion
DOES WRITING REALLY MATTER?
Yes!
Health care professionals...

- Apply to jobs
- Document treatment decisions
- Compose policies and procedures
- Communicate in writing with patients, clients, and colleagues
- Create educational materials
- Publish research results, case studies, and articles
## Writing in health sciences education:

### Assignment types:
- Analytical essays
- Research papers
- Position papers
- Personal reflections / journals
- Proposals
- Clinic notes
- Resumes and cover letters
- Professional philosophies
- Client education materials

### Assignment purposes:
- To cultivate critical thinking
- To facilitate inquiry and analysis
- To encourage self-reflection
- To assess learning
- To develop communication skills
- To prepare for professional responsibilities
BUT HOW DO WE IMPROVE WRITING OUTCOMES IN OUR PROGRAMS?
Outcome

Assessment

Intervention
Evidence-based practice (for writing interventions):

- Implement research-supported pedagogical best-practices
- Utilize context-specific expertise
- Take into account the values and preferences of students and faculty
Systemic variables:

- Size/culture of the institution
- Mission/values of the department or program
- Administrative structures
- Availability of funding
- Curricular requirements
- Characteristics of student body
- Professional backgrounds/ideologies of faculty
- Student-faculty ratios
A MODEL FOR:

a) Mapping the state of writing in a particular program
b) Identifying “impact opportunities” where small changes might affect the entire system
Pilot study participants

- 20 (of 44) Health Sciences major faculty, who had taught between summer 2014 and spring 2015
- 14 full-time and 6 part-time faculty
- Teaching experience ranged from less than one year to more than 15 years
- Represented 19 different Health Sciences major classes at all 4 course levels
Instruments

**14-question online survey**
- Assignment types
- Teaching and grading practices
- Ratings of student writing abilities
- Attitudes toward writing instruction, student writing, and their own writing

**10-question follow-up interview**
- Perceptions of the state of writing
- Impressions of students’ writing abilities, preparation, attitudes, and barriers to success
- Purposes of writing assignments
- Strategies and resources used to help students improve as writers
- Kinds of support they want/need as writers and writing instructors
Data analysis

- Quantitative survey data exported into SPSS and analyzed
- Qualitative survey data exported into NVivo 9 and coded by category
- After transcription, interview data exported into NVivo 9 and thematically coded
PILOT STUDY FINDINGS
The ability to write well is important for scholars and professionals in the field of Health Sciences.

In general, my students are prepared to do the writing required of them in my classes.

Students who graduate with a Health Sciences major are adequately prepared for the writing they will do in graduate school or their professions.
Impact Opportunity #1: Writing objectives and standards

- No formal course objectives focused on writing
- Uncertainty about students’ prior writing instruction
- Widespread inconsistency in:
  1. Beliefs about what constitutes “good writing”
  2. Grading practices for writing assignments
  3. Standards for student writing
Qualities listed in top 5 grading considerations vs. Qualities said to characterize “good writing” in the health sciences

- Ability to synthesize information
- Supporting ideas with evidence
- Accuracy of citations
- Audience awareness
- Clarity
- Complexity and merit of ideas
- Concision
- Following instructions
- Formatting
- Grammar, punctuation, and spelling
- Knowledge of disciplinary conventions
- Organization
- Source selection and integration
- Style and tone
- Knowledge of disciplinary conventions

Number of respondents:
Impact Opportunity #2: Targeted instruction, practice, and feedback

- Citations and APA
- Finding appropriate sources
- Relying on copy-paste or summary
- Synthesizing and connecting ideas
- Plagiarism
- Critical reading
- Marshalling evidence to support ideas
- Inability to summarize

Number of respondents who referenced issue in interviews
Impact Opportunity #3: Faculty development in writing instruction

- Reported that they know how to provide quality feedback on writing assignments. (50%)
- Reported that they have adequate time to provide feedback on writing assignments. (35%)
- Reported that they feel the need to comment on every error when grading writing assignments. (35%)
- Said they want help designing writing assignments, teaching writing, and/or providing feedback on writing. (60%)
Systemic barriers

- Large class sizes and heavy teaching loads
- Curriculum is not sequential
- Some participants believe it is not the Health Science faculty’s job to teach writing
Health Sciences Writing Committee

Initial Goal:
Develop a clear set of writing objectives for the Health Studies concentration of the Health Sciences major
Evidence-based approach

Phase 1: Research
- How is writing used in undergraduate and graduate health sciences education?
- What kinds of writing do health professionals do?
- What are the writing objectives and competencies required by accrediting bodies and educational associations in the health sciences?
Phase 2: Matrix Creation

- Used information from phase 1 and Bloom’s taxonomy* to identify a set of knowledge, skills, and attitudes (KSAs) for writing
- Created a matrix with scaffolded KSAs for each course level
- Revised matrix to account for systemic variables, including:
  - the program’s curricula
  - the students’ strengths and weaknesses reported by faculty in the study
  - class sizes

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<tr>
<th>Level</th>
<th>Knowledge</th>
<th>Skills</th>
<th>Attitudes</th>
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<tbody>
<tr>
<td>100-level</td>
<td>Recognizes audiences and purposes of academic and professional writing tasks in the Health Sciences</td>
<td>Performs prewriting activities (such as freewriting, cluster mapping, and outlining) to facilitate writing</td>
<td>Perceives writing as a process (not merely a product)</td>
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<td>200-level</td>
<td>Recognizes common features of scholarly and scientific writing in the Health Sciences (e.g. concision, objectivity, formal language, formatting guidelines)</td>
<td>Drafts, reviews, and revises written work before submitting it</td>
<td>Believes that writing is a skill that can be improved, not an innate ability</td>
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<tr>
<td>300-level</td>
<td>Differentiates the characteristics of various academic writing tasks and genres (e.g. reflection papers, critical analyses, and research papers)</td>
<td>Engages in substantive revision of writing (e.g. reorganizing, developing ideas, resolving gaps and inconsistencies)</td>
<td>Values the connection between scholarly writing and advancing the science of one’s discipline</td>
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<tr>
<td>400-level</td>
<td>Recognizes the organizational and rhetorical strategies used by scholars and professionals in the Health Sciences</td>
<td>Produces writing in scholarly and/or professional genres (e.g., journal articles, case studies, literature reviews, or proposals)</td>
<td>Seeks out mentorship in writing and scholarly development</td>
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Looking ahead

The Health Sciences Writing Committee may...

- Solicit feedback from faculty and revise the matrix
- Conduct a study of student writing, in order to establish a baseline prior to interventions
- Provide development opportunities to help faculty use the matrix to inform writing assignments and instruction
- Create writing rubrics for each course level, based on the matrix
Directions for future research and recommendations for implementation:

- Use this model in to explore the state of writing in your program
- Collaborate with other faculty (writing center administrators, librarians, or composition scholars)
- Work with other programs to aggregate data
- Adapt the instruments for use among students, alumni, or administrators

Download instruments here: http://works.bepress.com/malenke/1/
QUESTIONS?