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ABSTRACT

Problems faced by graduate students in research and writing and ways to improve competence in these areas are addressed. Student problems were identified through formal/informal interviews and work with graduate students over a 12-year period. In the first step of choosing a topic, students may be worried that the topic is too broad, narrow, or unimportant. The literature review is sometimes the largest difficulty to be encountered. Some students are unaware of all of the possibilities offered in the library in addition to the card catalog: indexes, microfilm, microfiche, government document sources, and computerized databases. The fewest problems are encountered in synthesis of previous research or collection and analysis of data, because these areas are likely to be included in a graduate research course. The last step, overall synthesis and the process of summarizing, drawing conclusions, and offering recommendations, is often a difficult one. Problems with writing style and form are common. Approaches to address these problems may include (1) teaching research and research writing skills by incorporating assignments in introductory graduate courses or (2) a mentoring program to bridge the gap between thesis research and research and writing for publication. (SW)

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The Fourth, Composite "R" for Graduate Students: Research

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The Fourth, Composite "R" for Graduate Students: Research

Abstract

Research (with writing for publication as an end product) is an integral part of professional life. It serves as a medium for continued intellectual and professional growth, and as a standard by which that growth is made. However, research and research writing are not innate abilities. They are skills that should be taught and/or enhanced in conjunction with other aspects of professional development thought to be necessary components of a graduate student's training.

Based on information derived from interviews and personal observations, an approach was developed to promote the acquisition of research and research writing skills within the framework of graduate training.

The Fourth, Composite "R" for Graduate Students: Research

No profession is static; every profession changes continuously, affected by new information, new ideas, new theories, new practices. To remain current, one must be able to process all that information in a systematic and meaningful way, judging its accuracy and merit, and integrating it with what one already knows; in short, one must do research. Change brings with it both questions to be answered and problems to be solved. Research training, according to Seyfried (1935), should help the student learn, first, to identify a problem, and second, to solve it. He stated:

> Although it is defensible for an educated [person] to plead that [he/she] does not know the solution to a particular problem within [his/her] field, it is inexcusable, as a rule, . . . to confess that [he/she] does not know how to proceed to solve or to find a solution to it. (p. 21)

According to Rosenfeld (1983), learning to do research "provides us with the tools for examining the information we possess, for gaining new information, and for checking information provided by others" (p. 36).

Most graduate programs require a thesis, dissertation, or other major research project (hereafter collectively referred to as thesis) prior to completion of a graduate degree. Among the reasons given in the literature (Almack, 1930; Cheatham, Edwards, & Erickson, 1982; Rist, 1983; Teitelbaum, 1982) are that the thesis serves as:

1. a contribution to knowledge, both the knowledge of the student and that of mankind in general.
2. a means of establishing or maintaining the scholarly reputation of a particular discipline and, as a result, the members of that discipline.

3. a means of maintaining the reputation of a department or institution for rigor and quality.
4. a tool to be used to determine if the student is truly a scholar, and thereby, deserving of the graduate degree which would label him or her as such.
5. a practicum experience in which the student learns the craft of qualitative methods of research; a preparation for future research and writing, possibly for publication.

In some ways the thesis serves a function similar to that of a licensing examination. Satisfactory performance on a licensing examination usually means "this person has sufficient knowledge and skills to carry out the tasks required of the profession." Satisfactory completion of a thesis should mean "this person has sufficient knowledge and skills to conduct research and be a scholar."

The origin of the thesis, according to Almack (1930), bears out this similarity. Twelfth century scholars, after sufficient study, preparation, and supervised practice, produced a thesis, or statement of belief, which they were required to defend before a jury of masters. This practice was created to parallel the completion requirements of the craft guilds of the day. A candidate was required to produce one item, such as a piece of jewelry, to be submitted to the judgment of a jury of masters within the candidate's craft guild. The thesis was the scholar's "product." If that product was judged to be satisfactory, the candidate was declared a master of his craft.

The severity of the master jury's judgments served to maintain the quality and prestige of the craft and its members. Current practice presumes that the awarding of the degree based in part on a thesis will,

in itself, maintain that quality and prestige, both of the "craft" and of the institution.

Post-graduate, professional research, as the natural next step in the process, derives purpose from some of the above list as well--it should serve as a contribution to knowledge, and can maintain the scholarly reputation of the individual as well as of the discipline and the institution with which the individual is affiliated.

However, research and research writing are not innate abilities, nor are they necessarily abilities that students will have acquired prior to entering graduate school. Many undergraduate programs require only a minimal level of competency in the use of the English language, with little attention given to research skills. Unfortunately, graduate programs may operate on the assumption that, once a person has progressed through the system far enough to qualify for graduate work, that person will be proficient at research and writing. Further assumptions that may not be based on reality are that graduate courses in research will teach anything that needs to be learned in the area of research and research writing.

As a result, one of the questions most often heard from the many graduate students who encounter major difficulties or minor snags in the process of writing a thesis, or conducting a major research project, or writing up the results of such a project is, "Why didn't anyone tell me that before?" The question is ubiquitous, arising at every stage of the research and writing process.

Formal and informal interviews, observations, and consulting work with graduate students over a twelve-year period served as the basis for the following compilation of concerns faced by the graduate student

researcher and writer. The "solutions" were derived from a survey of several texts on research methods, form and style, and writing methods which span a wide range of years (Allen, 1974; Alsip & Chezik, 1974; American Psychological Association, 1983; Balian, 1982; Campbell & Ballou, 1978; Coyle, 1980; Dugdale, 1962; Helm & Luper, 1971; Hendricks & Stoddart, 1948; Hillestad, undated; Isaac & Michael, 1981; Martin, 1980; Noland, 1970; Perrin, 1959; Sternberg, 1981; Walker, 1984; Williams & Stevenson, 1940).

The Problems

Topic selection is one of the first worries to be encountered. Students are concerned about choosing a topic that may be too broad, too narrow, too unimportant, and even too interesting. They seem not to be aware that personal interest should be a primary criterion for topic selection. Other factors to consider are whether or not the student has an adequate background to deal with a particular topic; what value, other than personal interest, the topic will provide both the student and others; and the practicality of the topic of choice--does the student have adequate time and financial resources as well as access to appropriate subjects, equipment, instruments to conduct an adequate study?

The literature review is usually the next, and sometimes largest, problem area to be encountered. What is an adequate literature review? A few students have expressed surprise at the rejection of approaches such as "Sixty references ought to be enough," or "I've spent over three hours in the library--that ought to be plenty." Some have erred in the other direction: "I couldn't find enough references on infant day care centers, so I searched out some on preschool, public school, and

continuing education. Maybe I can use them for contrast." Others who were willing to do a thorough, and appropriate, literature search were hindered by a less than adequate knowledge of how to go about it. They were unaware of all of the possibilities offered just in the library beyond the card catalog offerings. Some did not know how much gain could be made by searching through indexes (such as Education Index, Social Sciences Citation Index, Science Citation Index), or consulting microfilm, microfiche, and government document sources. Unknown, too, were the possible advantages or the procedures for using database computer searches.

The fewest problems are encountered in the next segment of the research project--the student's own contribution, whether it be the synthesis of previous research into a manageable unit that can be applied to a specific problem or the collection and analysis of new data--because this segment is likely to be included in a graduate research course. Problems encountered here are ones of applying general knowledge to a specific situation, rather than of having little or no knowledge to begin with. Not only are students able to ask the right questions, they also know whom to ask, and feel comfortable doing so. In other words, they usually are aware of what they should know as well as what they could not have been expected to know.

The last step, the overall synthesis of old with new, of problem with possible solution, of what is with what needs to be, can be an absolute morass of problems. Further, the problems involved in this segment are usually the least adequately handled. Student reaction to the process of summarizing, drawing conclusions, and making recommendations have ranged from the belief that it is a tradition which

has long since lost its relevance and value, to the assumption that its purpose is to save the reader from having to read the rest of the paper.

Students who have problems with this segment may fail to see it as the "then and therefore" portions of an "if-then-therefore" statement: "If the problem is A, and other researchers have found B, and I also found B, then B may be a solution to A; therefore B should be tried again," or "If the problem is A, and other researchers have found B, and I found C, then the solution to A may lie somewhere between B and C, or within a combination of B and C, or perhaps in D, therefore more research should be done."

Finally, form and style rears an ugly head. At the mere mention of these words some faculty groan, some graduate students turn pale. Why should any particular referencing style be used? Why is formal style required instead of informal style? What is the difference between formal and informal writing? (One student claimed, "Just try to sound boring--that's formal writing.")

An understanding of the reasons behind the rules can help students who have problems with form and style. For example, accuracy (not tedium) is the reason for using past tense; objectivity for avoidance of first person; consistency and replicability for care in describing methods and findings and in referencing.

Each of the problems just described can be troublesome. When most, or all, of the problems are encountered en masse, perhaps for the first time in a student's academic career, and in connection with the largest and most important assignment yet to be tackled, they can seem insurmountable. For some graduate students, the thesis is the only major research assignment in their program. It may also be their first

assignment in formal writing. It is also, often, an assignment to be completed under a certain degree of time pressure. Under such conditions, the results can be less than satisfactory. Students may learn, as if by rote, to apply a specific rule to a specific situation without understanding either the situation or the rule, or knowing how to generalize to other situations. The thesis itself may be of a poorer quality than the efforts and general academic abilities of the student should reflect. Finally, the ability of the graduate to conduct research and publish the results may be seriously impaired.

A Solution

Because most programs of graduate study are already so dominated by required courses that little room is left for additions, an ideal solution would be to insure that all students are given training in research and research writing as part of the baccalaureate degree program. However, a solution more within the control of graduate faculty is to add research and research writing skills to the list of those abilities to be taught within the graduate program, but in a form other than additional coursework.

Instructors of the introductory courses in a graduate program could begin the process of teaching research and research writing skills by incorporating assignments which would require the student to perform either simple research projects, or perhaps portions of what could become more complex projects. For example, the student could be given practice in formulating research topics, or just compiling a comprehensive list of references for a particular topic. Each succeeding course could add to the skills learned in previous courses until the student would be required, at the end of the program, to take the final step, rather than

the quantum leap, which would be required to begin researching and writing for the thesis.

The form and style of the assignments should be the same as that required for a thesis. Students would have the opportunity to get used to the "sound" of formal writing style, and any problems encountered could be systematically eliminated. The student's own writing style within the formal style framework could be developed and enhanced over time.

In addition, a program of mentoring could be instituted to help bridge the gap between thesis research and research and writing for publication. Mentoring can take many forms. A formal mentoring program might incorporate one or more co-authored articles as part of the student/thesis director relationship. A student could work with one faculty member on the thesis and others on co-authored articles. A student could author an article and submit it for consideration for publication under the direction of a faculty person.

Mentoring may simply take the form of deliberate attempts at communication. That is, faculty members could make a point of sharing what they are doing in their own programs of research, and why--in short, they could serve as highly visible role models. Informal discussions involving faculty research could result in benefit to the faculty member, as well, in the form of input and ideas from a fresh vantage point.

The problem is obvious: many students are uncomfortable with the research process, at best, and at worst, incompetent. The remediation outlined here would involve an additional investment of time and effort on the part of some graduate faculty, while others could simply go on doing what they have been doing all along. It would involve concentrated

effort and cooperation among the faculty within a graduate program to bring research to the fore as an important, and achievable, skill. The benefits, however, could accrue both to students and to faculty--enhanced skills and enriched opportunities for research and growth.

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