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Measuring entry characteristics of writing program participants: Apprehension and previous exposure to specific writing strategies.

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MEASURING ENTRY CHARACTERISTICS OF WRITING PROGRAM PARTICIPANTS: APPREHENSION AND PREVIOUS EXPOSURE TO SPECIFIC WRITING STRATEGIES

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by

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THESIS ACCEPTANCE

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Arts in English, University of Nebraska at Omaha.

Committee

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Abstract

This investigation is a descriptive study designed to evaluate the effectiveness of the Daly-Miller Writing-Apprehension Scale (DMWAS) and the Student Exposure Survey (SES) in describing entry level characteristics of students entering Methodist College of Nursing and Allied Health (NMC). Results from the study will be used to design a student outcomes-based evaluation component for a Writing Across the Curriculum program. The following assumptions were tested:

1. NMC students, who have chosen careers in health care, will report higher apprehension than University of Nebraska at Omaha (UNO) students, who are entering a variety of other occupations.
2. Exposure to specific writing strategies will vary according to demographic groups.
3. Results of the DMWAS and SES data will be useful in designing baseline graphics from which student outcomes criteria can be established and against which outcomes-based assessments can be performed in the future.

The method of the study was to administer the DMWAS and the SES to two classes of Introduction to Health Sciences at NMC and to three classes of English 115 at UNO. Total apprehension scores and subscores representing survey items

clustered into categories of confidence, evaluation, and enjoyment of writing were calculated for each student. An independent t test was used to compare scores of NMC students to those of UNO students. Scores from the SES for NMC and UNO students were also compared by t test, as were demographics with only two alternatives (sex, high school graduation status). All other demographics were compared by a one-way analysis of variance.

Results of the study indicated no significant difference in total mean scores or in cluster scores for the DMWAS between NMC health professions students and UNO students. Results indicated no significant difference in SES scores between NMC and UNO students nor among demographic groups. DMWAS test results yielded data for designing individual student writing apprehension profiles, class writing apprehension profiles, class writing apprehension profiles by cluster scores, and a total group apprehension profile. SES results yielded data for designing a profile of writing experiences of students entering NMC.

The study concluded that the DMWAS and the SES are useful in measuring entry level characteristics of students entering NMC and that they will be included in the student outcomes assessment component of the Writing Across the Curriculum program.

Preface

The Context of the Study

I first became interested in the Writing Across the Curriculum movement two years ago when three concerns converged in my professional world at Nebraska Methodist College of Nursing and Allied Health (NMC). These were concerns about the quality of student writing, concern over students' learning expectations, and concern with the role that our institution should play in developing articulate health care professionals.

Expressions of dismay over the quality of student writing come to me from the faculty. I am the Academic Skills Specialist at NMC. My responsibilities include helping students build the basic skills needed to succeed in college classes. My services are sometimes accessed directly by students in response to their own recognized needs and sometimes sought as a result of a faculty referral, a formal process in which an instructor discusses an area of concern with a student and fills out a form describing the concern, naming the appropriate resource person to consult, and bearing the student's signature. When students sign the referral form, they are not committing to see the consultant but are merely documenting that they are aware of the instructor's perception of a problem and of the source of help. These referrals often

elicit a kind of grudging response from the students who would rather deal with a consultation in the student services department (however pointless they may consider it) than face the "Didn't-I-tell-you?" potential of a referral ignored. To me, on the other hand, written referrals are of great value. They demonstrate the discrepancy between student and faculty views of what students need for academic success. Students feel they need "study skills" and will of their own volition seek help from me in this area. Instructors feel students lack "writing skills." They use the term to mean different things, some referring to poor grammar and mechanics, others to incoherence of thought, poor organization, or inability to properly use and cite source materials. There is general agreement among faculty, however, that student writing needs improvement.

The concern over students' learning expectations is my own and has grown out of my work with students who have come to me for study skills help. I have come to understand that by "study skills" students most often mean memory devices. The attitude that learning is a process of memorizing lecture notes for the purpose of passing objective tests is wide-spread. Students will commonly complain that they knew everything in their notes but failed a test, because on the test the instructor "worded it differently." It is not unusual to find that a student who has read a textbook

chapter in order to answer specific questions on a study sheet, afterwards, with the open book in hand, will be unable to identify for me the main concepts of the chapter. They are most comfortable memorizing lists of things and seek out lists in their reading assignments. They are least comfortable discussing such matters as the purpose of the course or the use of course objectives as guides to test preparation. I have had students take umbrage at my suggestion (no matter how graciously I think I posed it) that a more personal involvement with the course material might be useful. When I demonstrate techniques for this involvement such as writing marginal comments connecting nursing text readings with imagined clinical patients or writing reading logs that document personal reactions to assigned readings, some students begin to make changes in their study habits. Others get a glazed look in their eyes or glance at their watches with that "Well, gotta run" expression. One countered with a slight edge in her voice that it was "unfair" to have to write about something before the instructor has taught it to you.

I am concerned that students view their role as learners as a passive role, and that we as instructors are responsible for this perception. We are neglecting the countless opportunities to engage our students in writing activities that will help them learn how to learn. We have

relied so heavily on the traditional lecture and multiple choice test that we have come to equate teaching with telling and have reduced assessment to a computer-scored process of choosing from four alternatives for every answer. We may claim that we have written an objective test that requires critical thinking, but by that we often mean simply that our answer alternatives include not three wrongs and a right, but two wrongs, a minimally right, and a really right! Students are expecting to learn by memorizing the facts we dispense to them, and we are doing little to change this expectation.

The third concern, which deals with the role of our institution in developing professional members of the health care community, was brought to my attention by our Dean of Academic Affairs, Dr. Dennis Joslin. In discussing this role, he introduced me to the concept of Writing Across the Curriculum, and I began to see more clearly the connections between student writing and student learning. I was meeting with Dr. Joslin to discuss my plan to begin graduate work in English in pursuit of a doctorate in Composition and Rhetoric. I was expecting to have to sell him on the idea, since I had been hired for my work and degrees in education and might understandably be expected to complete doctoral studies in that area. My interests had been drawn, however, to our students' writing problems, and I was already

convinced, though I was not sure why, that investigating these would also shed light on the learning problems I was seeing. Dr. Joslin approved my plan without argument. He suggested, in fact, that it was timely, since he had been wanting to study the possibility that we as a college should be taking a greater responsibility toward preparing our students for the kinds of writing required in health care careers. When I left his office, I had an approved plan for doctoral studies in English and a new project assigned to me. In the coming year I was to study the possibility of a Writing Across the Curriculum (WAC) program for our college and submit a report. If my findings supported the idea in a way that convinced Dr. Joslin of its feasibility, I would be given a second year to design a detailed plan for implementing a cross-curricular writing program.

The Setting

Nebraska Methodist College has been a baccalaureate degree-granting institution since 1989. For ninety-eight years prior to that it was a school of nursing which trained students to become registered nurses. In addition to reincorporating as a college, the institution has added programs in allied health fields. Currently those programs are Respiratory Care, Radio Sonography, Radiation Therapy, Chemical Dependency Counseling, and Addiction Studies. All programs of study include a combination of professional

courses taken at NMC and general studies courses taken at, for the most part, the University of Nebraska at Omaha (UNO) or Metropolitan Community College (MCC), referred to as "support institutions." Each program requires one semester of freshman composition, which is taken at a support institution. No additional English courses are required, although they can be used to fulfill a three-hour humanities requirement. Many of the professional courses require a traditional research paper, which must conform to the rules of the Publication Manual of the American Psychological Association. One course requires a rough draft of the research paper. Several nursing courses require journaling. Nothing in these facts seemed to me to contraindicate the potential for a successful writing program.

In my year of preparatory studies, I became convinced that four factors would prove to be important supports to a successful implementation of WAC. The first of these is the formal organizational structure of the college, a committee structure that provides for both division (program)-specific and all-college communication. Faculty Senate includes all instructors from all divisions and is the forum for discussing academic matters affecting the college as a whole. Academic Council is made up of all Division Chairpersons and the Academic Dean. Matters that will

potentially affect divisions differently are dealt with first in Academic Council and then introduced in each division by the Division Chairperson. College Forum includes staff from Student Affairs and Continuing Studies as well as all faculty. Members of College Forum are assigned to committees which serve the College President in an advisory capacity. Consequently, faculty from all academic divisions are well acquainted and have established working relationships with one another and with the Student Affairs and Continuing Studies staff. This is especially helpful to me in gaining faculty support for the program, because, while I hold academic rank and teach classes, I am a member of the Student Affair Division.

A second factor that should favorably affect the implementation of a WAC program is the attention given to the quality of teaching at NMC. While faculty are encouraged to conduct research, they are also rewarded for teaching performance. A "Master Teacher Award" is presented annually to the teacher chosen by students, faculty, and administration for exemplary performance as a teacher. Faculty development workshops frequently focus on teaching strategies, and each year a number of NMC instructors present sessions on classroom and clinical teaching practices at national conferences. It is realistic to believe that the climate at our college which fosters

quality teaching will be supportive of instructors who focus their attention on new strategies as a part of the writing program.

A third favorable factor is the use of journaling in several nursing classes. There are those among the faculty who already believe that writing has value in helping students come to terms with new experiences. These instructors read the journals regularly and add marginal comments, dialoging with students through the shared texts. The tenets underlying WAC which are discussed in the body of this paper are exemplified in these journaling experiences. A cadre of believers is already at work.

Finally, the interest of Dr. Joslin, our Academic Dean, is central to the program's success. Not only did he suggest the initial study, but he holds the key to its being presented to the necessary bodies on a schedule that will pace it to correspond appropriately to other patterns of change and growth in the college. A study of WAC history turns up many programs that made bright beginnings with little involvement beyond the faculty level. The programs that have survived to become a lasting part of their institutions, however, have, for the most part, been those that gained a commitment from administration early on (McLeod 339). Dr. Joslin's belief that writing is a concern

of the whole college is invaluable to the long-term success of WAC at our college.

The report that grew from my initial inquiring into cross-curricular writing programs concluded that a program could be designed which would have a very healthy chance at survival, given the factors discussed above. In response to the report, Dr. Joslin gave me a second year to work out a specific program plan for evaluation by the Academic Council. The primary elements of that plan are discussed briefly below.

The Need

At the 1992 conference of the Council on College Composition and Communication, Dr. Richard Larson of Lehman College, City University of New York reported on the results of a study on college writing funded by the Ford Foundation. In its inquiry into freshman writing classes, the study revealed that these courses, usually taught by graduate assistants, tend to share the following characteristics:

(1) great diversity as to approach, content, focus, and objectives of the course;

(2) predominant tendency to focus on form over substance in student writing;

(3) indifference to the formulation of thought;

(4) indifference to the quality of thought;

(5) indifference to what the written product might do to or for the reader;

(6) indifference to teaching what it means to think and write;

(7) "sublime" indifference to evaluation of the program.

The study concluded that "the future of the teaching of writing in American colleges should be in the disciplines." Dr. Larson supported this conclusion by saying that writing in the disciplines tends to enlarge students' habits of thinking, to reinforce good writing by exposing students to more situations connecting writing to learning experience in their chosen fields, and to foster discipline-specific writing skills by requiring them to write for an expert in the field.

The Underlying Theories

Because the three tenets on which the NMC writing program will be based are discussed at length in the body of this paper, I include them here simply as statements.

1. Writing is a set of skills best taught by attention to the complex processes it involves, especially through writing experiences relevant to the learning context which engage the student in writing to organize experience.

2. Writing is a learning strategy; therefore, when we as instructors fail to draw on the learning potential of writing experiences, we are neglecting a valuable resource for the teaching of our subjects.

3. Each discipline has its own forms of discourse which are best taught by an expert in that discipline who receives theoretical and practical support for this task from a professional in the field of composition.

Year 1: Training, Program Planning, and Initial Implementation

NMC faculty will be introduced to WAC concepts and strategies in faculty workshops two days in length to be held in an off-campus retreat setting. Approximately one-third of the faculty will be trained in the first session, with groups of similar size being trained in the second and third years of the program. An expert in implementing cross-curricular writing programs will conduct the workshops during the first three years. In subsequent years, when training is largely a matter of introducing newly hired staff to the program and expertise has developed within the college faculty, training sessions will be conducted by NMC faculty members.

During the two-day workshops, participants will become familiar with the general purposes of WAC programs and with a wide variety of teaching strategies that can be used

toward those purposes. In the course of the workshop, instructors will design a plan to incorporate WAC strategies into one of the classes they will be teaching in the coming semester. From this group of trainees, an initial WAC committee will form to take responsibility for planning in greater detail the objectives, design, and assessment criteria of the college-wide program. Their plan, subject to Faculty Senate approval, will establish such specifics as whether the program will include writing-intensive courses or rely on each class incorporating some writing strategies. They will determine whether some specific writing experiences will be established for various course levels or will be left to the discretion of each teacher. They will design mechanisms to allow for such program supports as peer critiquing and writing portfolios, and they will determine what kinds of program documentation will be required. During this year of program development, the Workshop Group I will be teaching from the writing-infused course plans which they developed at the initial workshop.

Year 2: Expansion

In the second year of the program a second faculty group numbering about one-third of the total faculty will attend the training workshop. Training will differ from the Year 1 session only in that it will be tailored to the specifics of the NMC writing program design that results

from the Year 1 work of the WAC Committee. During this year a rotation process will begin in WAC Committee membership to ensure a mixture of newly trained and experienced WAC participants each year. In this second year of the program, a subcommittee will be formed for the purpose of supporting and coordinating faculty research and writing projects related to the WAC project. Throughout Year 2, approximately two-thirds of the faculty, Workshop Groups I and II, will be teaching from writing-infused course plans.

Year 3: The Role of Evaluation

Faculty training and program implementation will be in full swing in Year 3, when Workshop Group III infuses its courses with writing activities and the WAC committee as well as its research subcommittee are established parts of the college structure. Now it will remain an on-going challenge to keep all of the balls in the air, so that instructors continue to use writing to accomplish the objectives of the program, continue to derive support and guidance from the WAC committee, and continue to supply outcomes data to drive committee decisions. The key to program maintenance is a carefully designed evaluation component that allows every semester's efforts to result in a clearer understanding of how the program affects students and why. Instructors who discover that the writing activities they used did not produce the results they

expected make a significant contribution to the big picture with the unanticipated outcomes, if these are not shuffled aside as something that "didn't work" but are mined for every nugget of understanding they can contribute. Our "failures" teach us to vary the activity or modify the assessment procedure or recognize a factor that was being overlooked. Our outcome measures can provide the energy that fuels the program if we always value them for their potential to show us what to do next.

The Systematic Evaluation Plan

Nebraska Methodist College subjects all functions of the institution to an annual formal evaluation process referred to as the Systematic Evaluation Plan (SEP). The SEP was established as a mechanism to document the ways in which the institution is meeting its goals or is falling short of meeting these goals. In response to the current focus of national and professional accrediting agencies (Nichols 7), NMC has implemented an evaluation program based on outcomes assessment. A requirement of the SEP is that every department and program articulate the means of assessing the outcomes or results of their activities. An additional requirement is that the department or program use the results of these assessments as a basis for revising and improving their function.

In complying with the SEP, the WAC program at NMC will need an evaluation component that specifies how it will measure its effectiveness in terms of outcomes. This study will explore the role that measures of student writing apprehension and student exposure to specific writing strategies might have in the design of that component. Specifically, it will investigate the usefulness of the Daly-Miller Writing-Apprehension Survey and the Student Exposure Survey. It will explore the possible baseline data to be derived from the instruments and consider how future student outcomes can be measured against these data. The results of this study will direct the development of the NMC WAC program evaluation plan.

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I wish to thank Dr. Irvin Peckham, Dr. Thomas Walsh, and Dr. Kathleen Danielson of the University of Nebraska at Omaha, and Dr. Margaret Dubes, Dr. Roger Koehler, and Jeannette Searson of Nebraska Methodist College. They have contributed patient guidance and invaluable insights and have given generously of their time and expertise.

MEASURING ENTRY CHARACTERISTICS OF WRITING PROGRAM PARTICIPANTS: APPREHENSION AND PREVIOUS EXPOSURE TO SPECIFIC WRITING STRATEGIES

This study is a step toward addressing student writing as an all-college concern at Nebraska Methodist College of Nursing and Allied Health (NMC). This is a descriptive investigation intended to lay the foundation for future evaluation of a Writing Across the Curriculum program. The purpose of the study is to evaluate the effectiveness of the Daly-Miller Writing-Apprehension Scale (DMWAS) and the Student Exposure Survey (SES) in describing specific entry level characteristics of students new to NMC. A sample of students enrolled in their first semester of course work at NMC and a sample enrolled in their first semester at the University of Nebraska at Omaha (UNO) were assessed for writing apprehension and were surveyed concerning the types of writing activities they encountered in high school and college experiences prior to enrollment in their current classes.

I anticipated that NMC students, who have chosen careers in health care, would report higher apprehension than UNO students, who are entering a variety of other occupations. I based this assumption on John Daly and Wayne Shamo's findings that apprehension levels relate to occupational choice, with higher apprehension scores

corresponding to choice of occupations perceived to require little writing.

I hypothesized that levels of writing exposure would vary according to demographic groups identified within the samples, expecting to find lower exposure scores for older students and for those who did not formally graduate from high school. Since the SES assesses for students' exposure to teaching strategies which current composition theorists view as effective, I expected scores to reflect a rise in the use of these strategies in classrooms in recent years. I also believed that exposure scores would be higher for students who had completed more semesters of college and lower for students whose primary language at home was not English.

I expected the results of the study to establish the usefulness of the DMWAS and the SES in providing base-line data for the future evaluation of the WAC program at NMC. I hoped that the two tools would also prove useful in providing data that would influence decisions of the WAC committee in tailoring the writing program to the specific needs of NMC students.

In the course of this paper I will review briefly the history of the Writing Across the Curriculum (WAC) movement and the cross-curricular writing movements that preceded it. I will discuss the three basic tenets that will drive the WAC program at Nebraska Methodist College and support the

inclusion of an apprehension measure in the outcome assessments of a program based on these tenets. I will discuss the use of an exposure measure to determine the extent to which changes in apprehension scores relate to WAC experiences. I will present the tools and methods of the study and the results of the data analysis, then discuss the findings and their implications for the design of the evaluation component of the Nebraska Methodist College WAC program.

WAC History

The view that writing is best taught in its application to other fields is not a recent innovation of composition theory. Its persistent recurrence since the 19th century demonstrates that the modern WAC movement is not merely a fad but the current expression of a need recognized by educators even before the widespread compartmentalization of universities. A review of the directions taken in response to this need sheds light on the theories that shape current efforts.

In his 1866 manual, English Composition and Rhetoric, Alexander Bain advised looking beyond the English class for practice exercises in writing. The writing of themes, in particular, he said, "belongs rather to classes in scientific or other departments than to a class in English composition" (6). However, university education as Bain

knew it was about to undergo extensive change in response to a changing society. These alterations would further separate academic departments and exacerbate the problem that Bain was addressing.

David Russell traces the debate on who is responsible for the teaching of writing from the birth of the modern university in the late 19th century. Until that time universities drew their students from an elite, fairly homogeneous segment of the population. Instruction was traditionally based in rhetoric, with writing and reciting an integral part of most course work. After the turn of the century, universities adjusted their programs in order to prepare a formerly excluded population for a wide range of professions spawned by industrialism. The new university was compartmentalized, forms of instruction began to favor less personal, lecture-centered approaches, and writing instruction became the responsibility of the English department, where it became the poor cousin of literature.

Departmentalization met with resistance. David Russell identifies two basic sources of recurring reform efforts: the "gentile tradition," supporters of the humanities and elevated standards of taste, and the "Deweyan-influenced progressives," who, in their quest for a democratic education that joined the arts, the sciences, and manual education, were the inspiration behind three movements to make writing a cross-curricular concern. Russell labels the

progressive movements, "cooperation, correlation, and communications" ("Writing Across the Curriculum in Historical Perspective" 56). In each of them we see the concerns that underlie the modern WAC movement.

The cooperation movement, adopted by the National Council of Teachers of English (NCTE) as a part of its reorganizational plan in 1917, promoted the incorporation of teaching of writing into the teaching of all classes on the grounds that "language and thought are inseparable and that communication [as a social transaction]. . . forms and improves society" (60). Over 300 schools and universities had adopted cooperative programs by 1922.

In the 1930s and 1940s Ruth Mary Weeks led a movement based on the concept of interdisciplinary courses planned and taught by teams of teachers who correlated English with other subjects. Thirty secondary schools participated in an eight-year correlated curriculum project; but, according to Russell, the movement did not survive the upheavals of educational reform that followed World War II, when the new communications movement diverted the attention of educators from Week's approach.

The communications movement was a part of the many educational reforms designed to meet the needs of the swelling, heterogeneous college enrollment after the second world war. It promoted written and verbal communication as essential to all areas of education and "to the future of

democratic society itself" (61). NCTE and the Speech Association of America sponsored the project jointly in 1947; while many of the resulting programs failed to go beyond a single freshman level course, some college-wide programs resulted. Russell cites Colgate's Functional Writing Program and Berkeley's Prose Improvement Committee as examples of successful efforts that survived into the 1960s and developed approaches that are used in current WAC projects.

Begun in 1949, the Functional Writing Project focused on writing as a multiple-stage process integrally related to learning (Russell, "Writing Across the Curriculum and the Communications Movement" 186). Writing experiences became progressively more complex and introduced students to discipline-specific conventions. In the following year, Berkeley instituted its Prose Improvement Committee on similar premises – the close relationship of writing and learning and the importance of integrating writing in learning experiences throughout the university. The tenets of these projects were to surface again and again and remain the strongest arguments for writing in all classes.

Writing as a cross-curricular concern received new impetus during the 1960s from the work of James Britton, Tony Burgess, Nancy Martin, Alex McLeod, and Harold Rosen. Together they investigated writing skills in children and adolescents in England (Britton et al. xi). Originally part

of a Language Across the Curriculum movement that explored the relationships among talking, writing, and understanding, this investigation became a separate "Writing Across the Curriculum" project in 1971 and was funded under that name by the Schools Council at the University of London Institute of Education. Directed by Nancy Martin, the project collaborated with teachers in the schools to make practical application of the research done to that point.

By the mid 1970s, interest in the movement spread to Canada, to Australia, and then to the United States, with Rutgers University holding the first summer institute in 1976 and a second, with emphasis on writing in the humanities, in 1977. By the following year, when the Annual Conference on College Composition and Communication focused on the movement as its conference theme, nearly 200 institutions with representatives at the conference reported some level of current involvement with a WAC program (Parker and Goodkin 10-12).

Programs have varied in their approaches. Some have focused primarily on the role of writing in the teaching-learning process with the intention of promoting a university-wide shift toward process-centered classroom practices that foster critical thinking and student involvement (Langer and Applebee 8-9). Others have taken a narrower approach, identifying specific skills to be addressed and assessed each semester or, at the extreme,

requiring campus-wide attention to correctness in written products (Connolly and Vilardi).

Programs have varied, too, in their levels of success. On many campuses, WAC efforts have been relatively short-lived, depending for survival on the energy of a small cadre of enthusiastic supporters who are unable to establish the institutional support that will assure continuation of the program. History demonstrates that lasting programs are sustained with the help of deep commitment from administrative levels of the institution, while programs that rely primarily on the energy and involvement of the instructors and coordinators fall victim to staff changes and budget shifts (Cornell and Klooster 10-11).

WAC failures have been attributed to obstacles that range from lack of support within the English department itself, where the teaching of writing is often the duty of graduate assistants, to the hopelessly unassailable compartmentalized structure of the university system (Young and Fulwiler 288-89). Failures have been related to factors as pragmatic as teacher work loads (Cornell and Klooster 10) and as political as the control of entrance into discourse communities, that is, excluding others from the more prestigious professional communities by limiting opportunities to acquire the characteristic linguistic practices of those communities. Russell (Historical Perspective 62-65) considers remedial writing programs and

policies which shift all responsibility for the development of writing skills to the primary and secondary schools to exemplify these exclusionary practices. In institutions with successful WAC programs, on the other hand, students learn from within the discipline how to use its special language. Instructors in the discipline share the responsibility for this development.

In spite of the failure of a number of WAC programs, successful programs continue to demonstrate that the goals of WAC are attainable and are worth the commitment they require. Art Young and Toby Fulwiler report on 14 programs that "tell us of a renewed academic spirit on college campuses, of a genuine sense of interdisciplinary community, of increased opportunity and expectations for student writers, of increased commitment to undergraduate teaching by faculty" (287). Milton Glick attributes the writing program at the University of Missouri-Columbia with improving teaching and learning experiences campus-wide (53). Christopher Thaiss of George Mason University, in a Chronicle of Higher Education interview, says of that campus's 12-year-old program that it fosters communication between faculty and students and serves "to personalize curriculum and make students more a part of the institution" (Watkins A13).

In 1987 a survey of all two-year and four-year colleges and universities in the United States and Canada drew

responses from 427 campuses with currently functioning WAC programs (McLeod and Shirley). The survey indicates that a cross-curricular approach can overcome the obstacles and succeed. Sixty of the programs have been operating for seven or more years. It also indicates that increasing numbers of colleges are recognizing the need for addressing writing as a campus-wide concern. Seventy-eight institutions reported that their programs were less than two years old, and another 102 colleges were just starting programs at the time of the survey.

WAC at Methodist College

The Writing Across the Curriculum project proposed for Nebraska Methodist College is based primarily on three contentions which are supported by current composition theory: (1) Writing is a set of skills best taught by attention to the complex processes it involves, especially through writing experiences relevant to the learning context which engage students in writing for the purpose of organizing experience. (2) Writing is a learning strategy; therefore, instructors who fail to draw on the learning potential of writing experiences are neglecting a valuable resource for the teaching of their subjects. (3) Each discipline has its own forms of discourse which are best taught by an expert in that discipline who receives theoretical and practical support for this task from a

professional in the field of composition. Each of these statements will be examined in terms of some of the underlying research.

Statement 1: The Writing Process

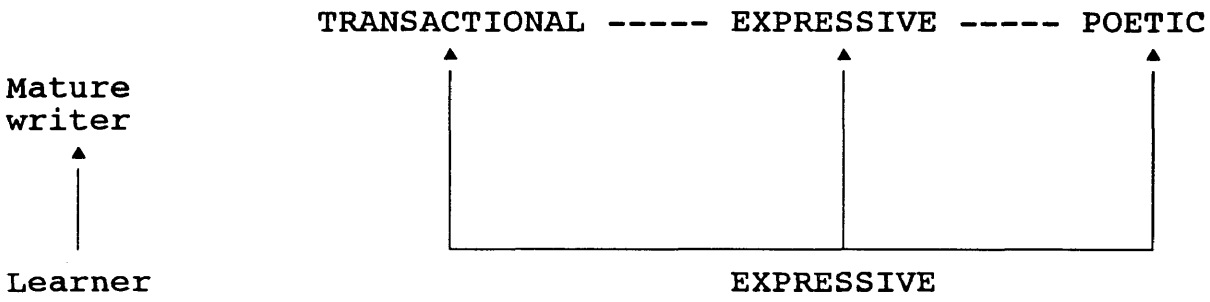
In the 1960s James Britton and his colleagues Tony Burgess, Nancy Martin, Alex McLeod, and Harold Rosen conducted an investigation into the development of writing skills in children and adolescents in English schools. A primary concern of the study was to determine a way of classifying writing in terms of the nature of the writing task, the kinds of demands which the task made on the writer. The researchers sought a method of classification that would relate to the process of writing. They rejected the traditional rhetorical categories of exposition, argumentation, description, and narration on the grounds that these categories describe finished products of accomplished writers but make no reference to the process of writing; that they define distinct intended effects on the audience when there can, in fact, be varying intentions within each of the categories; and that they offer no insight into the developmental stages of a maturing writer.

After looking empirically at 2,122 pieces of writing by students 11 to 18 years of age representing four grade levels in 65 schools, the team identified the following variables to be represented in their classification model:

> (a) whether the writer became involved in the task set or performed it perfunctorily;
>
> (b) [the writer's] expectations with regard to the reader – usually the teacher (. . . a writer's sense of audience);
>
> (c) the teacher's expectations with regard to the class – as a group and if possible as individuals;
>
> (d) function – that is, the demands that different tasks make upon the writer (a story, a poem, a history essay, a science report, etc.);
>
> (e) the varying language resources which individual writers bring to their writing (how far, for example, these resources include reading experience);
>
> (f) whether the writing is a means to some practical end or not. (Britton et al. 10)

They eventually narrowed the scope to those variables that could be represented on two dimensions, which they labeled "function" and "audience," abandoning, for the purposes of this study, concerns of the writer's language resources. Drawing on research in the development of speech, they created a model which would characterize adult writing and account for the developmental stages in children's writing (see Figure 1). The model might be described as a continuum along which are ranged three terms that characterize the

varying demands that a writing task places on the writer; the expressive, the transactional, and the poetic functions of writing.



(Britton et al. 83)

Figure 1. The expressive as a matrix for the development of other forms of writing.

At the center of the continuum is expressive writing, "thinking aloud on paper" (89), the kind of writing that helps the writer come to terms with personal thoughts and feelings, to deal internally with new information or structure knowledge in a new way. Britton's* insights into the role of expressive writing in exploring, organizing, and internalizing new knowledge are a cornerstone of the Writing Across the Curriculum movement. Britton's study articulates

*Hereafter "Britton" refers to Britton et al.

a view of writing that justifies its use in every classroom as a learning strategy.

Expressive writing's central position in the model underscores the importance of a writer's comfort and familiarity with this function as a basis for movement toward the ends of the continuum. This is the other side of the WAC coin; while students are writing to learn, they are continuing to grow in their ability to write. In one direction, the continuum moves toward transactional writing, "language to get things done: to inform . . . to advise or persuade or instruct" (88). At the opposite end lies poetic writing, in which writers use language to create works of art. The choices that writers make in forming written communication vary in relation to the three types of writing and are largely influenced by an awareness of the expectations of the reader, what Britton calls a "sense of audience" (15). Britton hypothesized that writing development is a complex process of differentiation during which the maturing writer learns to consider the demands of the task and the audience to distinguish with increasing sophistication kinds of writing that range from the expressive toward an ever-growing array of possibilities in the transactional and poetic directions.

The expected pattern for the fostering of that development in young writers would begin with extensive expressive writing and move toward a gradual increase in

later years in analogic speculative, persuasive, and poetic writing. One would also expect continued opportunities to develop maturer levels of expressive writing, since this remains the function of incorporating new learning into an individual's existing knowledge structure. College level students might use the first few minutes of each class session to write briefly about the concepts they recall from the previous class. An instructor might ask students to follow each reading assignment with a journal entry recording personal reactions to the readings. Mature writers can continue to develop expressive writing skills that will support their learning and direct their thinking.

Britton's study showed, however, that most school writing was done in the transactional mode with the perceived audience being the teacher as examiner. Expressive writing, occurring usually in connection with the perceived audience of teacher as trusted friend or as part of a teacher-learner dialogue, was found rarely in school writing, ranging from 6% in first-year writing to 4% in the seventh year. This small amount occurred almost exclusively in the English or religion classroom. Britton's concern with these findings lie at the heart of the WAC movement:

> Our disappointment arises from our belief that expressive writing . . . may be at any stage the kind of writing best adapted to exploration and discovery. It is language that externalized our

> first stages in tackling a problem or coming to grips with experience. (197)

Britton's study suggests that this almost exclusive emphasis on transactional writing for teacher-examiner inhibits the growth of mature writing skills in any function, because it ignores the developmental process essential to that growth.

> It fails to value the thinking-on-paper role of expressive writing and the essential groundwork that function lays for the student's coming to trust writing as a process of understanding, first and foremost his own understanding, then, by increments, that of an audience which he learns to identify with increasingly fine distinction.

Britton's study indicates that students may arrive at the college level with little exposure to those learning experiences that best foster maturation in the writing process. While the study focuses on writing development in young students, not on college students, it describes circumstances that not only offer some explanation to those who lament the low level of writing skills among college students, but also presents a model that supports the writing-to-learn/learning-to-write emphasis of the WAC movement.

This theoretical model leads to questioning the practice of isolating writing instruction in English classes and focusing on one kind of audience. If the maturing

writer is to adjust to varying audience requirements and writing modes that shift from expressive toward poetic and transactional, then the entire curriculum takes on significance as an arena of valuable writing experiences.

The shift in the attention of composition specialists from rhetorical forms to developmental stages and from product to process gave rise to a re-evaluation of the traditional educational practices in which English departments teach writing primarily in terms of mechanical correctness and adherence to established forms and in which instructors in other disciplines confine their use of student writing to assessment.

There was a movement away from regarding writing "merely as the transcribing of thought onto paper or the application of form to content," toward seeing it "more properly as a complex, recursive interaction of thought and language" (McClelland and Donovan 3). This move is at the heart of modern theories of writing instruction. Maxine Hairston described the shift toward process-centered instruction as the most prominent development in a shift away form the "current traditional paradigm" (16) toward an emerging paradigm that presents writing as "a disciplined, creative activity that can be taught" (24). Research on the process of writing suggested new possibilities for the role of instructors in engendering mature writing. Increasingly, those new possibilities seemed to lie beyond the confines of

the English department and at the heart of student learning experiences throughout the academic setting.

Apprehension and the Writing Process

Studies of apprehension indicate that students who view writing in terms of a recursive process that serves to clarify thinking will report low writing apprehension compared to students who are inclined to apply the process in a less exploratory way and to those who focus on the rules and mechanics of grammar over writing process.

Cynthia Selfe determined that high writing "apprehensives" tended to ignore considerations of audience and concerns of organization that related to the purpose of the assignment. They became almost immediately concerned with completing the task as quickly as possible; the relatively small amount of time they spent in predrafting considerations (less than half the time that low apprehensives devoted to this stage) was spent in mental planning with no reliance on exploratory writing to organize their thinking. Low apprehensives gave extensive consideration to the audience represented by the assignment, organized their approach to the writing in terms of this audience, and devoted a considerable part of their composing time to the use of "a variety of very effective written prefiguring strategies to help generate ideas, to help expand and develop ideas, to help plan and organize initial

essay plans, and to help inspire later reorganizations of initial plans" ("The Composing Process" 10). In interviews high apprehensives reported that fear of writing led to procrastination of writing assignments and avoidance of classes that require writing, while low apprehensives expressed confidence in their abilities to use writing to solve the problems posed by the assignment and to experience success at writing tasks.

Roy Fox speculated that focusing instruction on the mechanics of usage in the teaching of composition is less effective in reducing apprehension than techniques which he called "student centered" (40) that are more consistent with current composition theories emphasizing development of comfortable, successful experiences in the writing process. These techniques included teaching strategies incorporating large group, small group, and paired student activities into each writing assignment. Strategies included using language in group and paired problem-solving activities, clarifying assignment objectives in group discussions, and relying on peer evaluation groups as a part of a multiple draft writing process. Test results showed that the total student-centered group as well as the identified high apprehensives in that group reported significantly lower levels of apprehension than the total group and than high apprehensives who received instruction focusing on mechanics and correctness. An evaluation of post-test essays

indicated that the student-centered approach resulted in writing samples judged as better than those produced by the more traditional approach, although the difference was not statistically significant. Fox's research suggests that, as regards apprehension, writing can best be taught through attention to the process and that this attention to process may even improve the quality of student writing.

The implication that improved skills, but not necessarily more writing courses, can benefit students who fear writing supports the use of a measure of apprehension in evaluating the cross-curricular approach to writing planned for Nebraska Methodist College. When Michael Reed examined the effects of a number of factors on writing apprehension, he found that, while students with more writing skills were less apprehensive, those who took more writing courses reported higher levels of apprehension. Reed speculates that more writing courses might involve more teacher evaluation and that this evaluation causes the apprehension. He also speculates that apprehensive students may not score well on placement tests and are, therefore, channeled into more writing classes. These additional classes, however, do not provide the kind of experiences that reduce the fears of the apprehensive students.

The process approach of the WAC program planned for Nebraska Methodist College would be expected to provide such

experiences, and a measure of apprehension could be one measure of its effectiveness.

Statement 2: Writing to Learn

The second contention underlying the Nebraska Methodist College WAC proposal is that writing is a valuable learning strategy that should be exploited in all classrooms. Robert Parker and Vera Goodkin, in The Consequences of Writing, examine the social, active nature of learning and identify characteristics of learning and writing that support a commitment to linking writing and learning experiences in all classes for the benefits writing can bring to learning and for the ways in which regular and practical involvement in learning through writing will foster growth and maturation of writing abilities. First, they emphasize the social nature of learning, describing it as an act in which social processes become, through "reconstruction," internalized by the individual. The learner is involved in doing something, which he afterwards can do in his mind. Thought is equated with "internalized action" (53-54). The generalizing, clarifying, categorizing, etc., that occur in social interactions are thus internalized in the individual's thinking processes.

Writing engages learners in these same processes of analysis and clarification as they manipulate new information — new experience — to a point where they can

shape it in terms of their own understanding. Writing facilitates the internalization process in a kind of concrete, "viewable" form of the thinking process which leaves its own record as it occurs, a record that allows for immediate and on-going adjustment as one level of clarification triggers another or modifies a former level. If thought is internalized action, then writing might be seen as externalized thought, a process by which one's thought can be examined, an invaluable tool to learning.

Secondly, Parker and Goodkin discuss a "from-to" focal shift as characteristic of learning. The learner moves "from" what is known "to" what lies beyond his knowledge in the task or problem of the learning situation. The attention of the effective learner is primarily on the total activity. This orientation on the total activity is so important, according to these researchers, that if it is reversed, if the learner is required to attend to any great degree on the basics that underlie performance, "performance breaks down because [the task] loses its purpose and its meaning" (54).

Writing moves from the learners' levels of knowing to the meaning that they are creating in their written products. In a writing task, attention is drawn away from the underlying grammatical conventions, which become secondary, at best, to the total task of grappling with the production of a new structure of meaning. The learning

value in the total task (the mental grappling that is supported by language conventions, but which requires at least a temporary suspension of attention to them) is a resource for learning and a logical application of the writing process to settings outside the English department. Writing activities such as lab journals in a biology class or brief written responses to the discussion in an ethics class, if they are not evaluated in terms of conventional form and mechanics, can facilitate exploration of new information at a personal level that fosters learning.

As the third characteristic, Parker and Goodkin cite Piaget's contentions that new information must be used and must be applied to another goal (ideally a goal of the learner's choosing) in order to be known. Facts or experiences that do not attach themselves to some other construct, that do not become useful in some way to the learner, will not become a part of that learner's knowledge. Writing experiences can be designed to require the writer/learner to use new information or experiences in the construction of something personally meaningful, as when a nursing instructor requires a student to write a care plan analyzing the rationale behind the specific care that student will deliver to an assigned patient in the next day's clinical experience.

Research provides some insight into the connections between writing and learning. In <u>How Writing Shapes</u>

Thinking: A Study of Teaching and Learning, Judith Langer and Arthur Applebee conceptualize the role of writing in thinking as resulting from some combination of the following factors:

> (1) the permanence of the written word, allowing the writer to rethink and revise over an extended period;
>
> (2) the explicitness required in writing, if meaning is to remain constant beyond that context in which it was originally written;
>
> (3) the resources provided by the conventional forms of discourse for organizing and thinking through new relationships among ideas; and
>
> (4) the active nature of writing, providing a medium for exploring implications entailed within otherwise unexamined assumptions. (Langer and Applebee 4-5)

In their study of the way writing assignments support learning, they became convinced that reforms in the teaching of writing which have grown from recent research on the composing process and new directions in composition theory have implications for all classrooms. The standard lecture and objective test may seem like efficient ways to "cover" large chunks of information, but their failure to engage the learner with the learning process in the personal way that writing can is their great weakness. The composing process

is a critical thinking process, clarified and shaped by the nature of written language. As instructors find ways to foster maturation in the writing process, they are seeing the cross-curricular value that the process holds for student learning.

In "Writing as a Mode of Learning," Janet Emig traces a correspondence between certain attributes of writing (both process and product) and some specific learning strategies. She demonstrates the relationship of writing to all three of Jerome Burner's categories of representing and dealing with reality: "enactive – we learn 'by doing;' iconic – we learn 'by depiction in an image;' and representational or symbolic – we learn 'by restatement in words'" (125), relating these to a cyclic eye, hand, and brain involvement in writing which makes it "a uniquely powerful multi-representational mode of learning" (125). She cites the roles of each hemisphere of the brain in writing as an important integrative process for the learner and suggests that writing is unique in providing the learner with immediate feedback and reinforcement in the form of a product, a hard copy, one might say, of the process. Writing engages the learner by requiring decisions and commitments as the writer-learner traces connections and establishes relationships.

Apprehension and Writing to Learn

Studies conducted by Mike Rose into the inhibitions on writing of rigid adherence to rules and inflexible plans support the belief that writing for a variety of purposes in a range of learning contexts can reduce anxiety. Rose found that student writers who were subject to writer's block – an inability to write unrelated to general writing ability – tended to operate with a consciousness of rigid rules or to rely on planning strategies that stood in the way of accomplishing the writing task. The blocking experience led to a mistrust of the writing process and an aversion toward writing. Students who did not block saw the writing process as adaptable to the task. They felt free to select or reject rules of composition (such as "write only what you know about" [396-97]) as the rules facilitated or inhibited the task at hand. Rose expressed the attitude of non-blockers in terms of a more general rule: "If a rule conflicts with what is sensible or with experience, reject it" (397). Non-blockers also viewed writing itself as a way out of a potential block. While Rose did not test students for apprehension, he connected blocking with an aversion to writing. His study seems to support the belief that students who have applied the writing process to a variety of purposes outside the English classroom, who have come to value it as a learning tool and to use it while focusing on the learning goal, will be less inclined to be inhibited by

rigid rules and will report lower levels of apprehension with writing tasks. When student attention becomes focused on the total task, when students move from attending to the underlying grammatical conventions to the task of structuring meaning, one might expect, in view of Rose's study, to see them less inclined to writer's block, less averse to writing tasks, and, by extension, less inclined to report writing apprehension and more capable of learning new information.

Statement 3: Discourse Communities

A third assumption of the NMC writing program is that each discipline has its own form of communication which is best taught by experts in that field. Richard Freed and Glenn Broadhead describe the formation of "discourse communities" as a process of standardization which develops through the journals, texts, dictionaries, and various media of communication of a discipline (155). This standardization contributes to the autonomy of the discipline, separating it from similar communities and fostering the development of networks within the community. While English departments have historically assumed primary responsibility for developing "scholarly writing," the discourse of the academy, current theory recognizes that distinct discourse communities exist from profession to

profession, or discipline to discipline, both within and outside of the academy.

Freed and Broadhead emphasize the importance of acknowledging and understanding the relationship of the developing writer to the discourse community of his field of study:

> We need to know how [discourse communities] condition and influence not only the written products composed within them, but the behaviors, attitudes, and strategies that ultimately produce those products, which in turn define the communities themselves . . . . They legislate conduct and behavior, establishing the eminently kosher as well as the unseemly and untoward. (156)

The effects of these communities on writers are not limited to formal policy such as style guides and formalistic practices but include undocumented matters of tradition and habit and uncontested assumptions regarding knowledge and beliefs. "As applied to the writing process, discourse communities reflect a writer's overall environment for thinking, composing, and revising" (151).

Arthur King Jr. and John Brownwell describe a discipline as a discourse community which is, among other things, a "specialized language or other system of symbols . . . a heritage of literature and artifacts and a network of

communications . . . a valuative and affective stance" (15). They describe a shared body of knowledge and assumptions that entail a characteristic manner of communicating and a communal set of values and emotional attitudes. They argue that the teacher's role is to design for the students "encounters" (65) with this community which will initiate them into that discipline's methods of discovery, interaction, and communication.

While Peter Elbow argues that non-academic writing plays a role in student development that cannot be accomplished by academic writing, he also says that those students who must at some point learn to write in the manner of their disciplines will probably best learn those writing skills outside of the English department. "To write like a historian or biologist involves not just lingo but doing history or biology – which involves knowing history and biology in ways we [English teachers] do not" (138).

Susan Miller developed an independent study in which five students compared the writing needs they encountered in second semester course work to the writing preparation they had been given in a first semester writing course for "well prepared" (Anderson et al. 11) freshmen. The students reported finding a considerable discrepancy:

> [W]e encountered many classroom cultures that defined both learning and "academic literacy" very differently than our writing course had. The

> "discourse community" defined in composition was rarely reproduced later because students and teachers in other introductory level courses operated in two very separate and often conflicting rhetorical worlds. (11)

The differences they noted were not limited to considerations of characteristics of scholarly writing in various fields but involved the role that writing and the learner were expected to take in acquiring knowledge. While Miller saw in the students' responses ways in which she might modify her course to address some of the discrepancies, the study also suggests that instructors in other areas of the curriculum could profitably draw on Miller's learning model. This model centers on the learner as active participant in a learning process in which "both learning and knowledge reside in shared language" (30). A collaborative effort between the content area expert and the composition theory expert, which a successful WAC program should facilitate, might be expected to diminish this gap between "classroom cultures" and draw students into their intended discourse communities while also fostering growth in the use of writing for its cognitive value.

Apprehension and Discourse Communities

A measure of writing apprehension should reflect to some degree the level of success a student feels regarding

his transition into the discourse community of his future profession. John Daly and Wayne Shamo demonstrate that a factor in career choice is a match between an individual's perception of the writing demands of an occupation and that individual's comfort with his own writing ability. Their study shows that subjects with high apprehension scores rate as desirable those occupations which they perceive as requiring little written communication and subjects who scored low for apprehension rate occupations with perceived high writing demands as the most desirable. Additionally, their study shows that subjects with high and low apprehension differed in the way they valued all occupations, with high apprehension correlating with lower desirability for all occupations (55-56). This would suggest that faculty within a discipline perform an important task in providing students with experiences to initiate them into the written discourse of their field. A cross-curricular writing program that does this successfully could lead to reduced writing apprehension as students complete increasing numbers of professional courses.

The Writing Apprehension Test

Students with high apprehension toward writing might be expected to avoid writing experiences in the classroom and to avoid writing tasks in their personal and professional lives. A writing program which seeks to help students value

writing for its role in organizing experience and supporting learning as well as for the role it plays as an entre into the discourse community of the student's chosen profession could establish as a goal or measurable outcome the reduction of writing apprehension. WAC is a process approach to writing which should lead to a student's increased comfort with the process. The premise that specific kinds of writing experiences in the context of a variety of learning situations will lead to development and maturation of writing skills as the student learns to use and value those skills suggests that the student would also learn to feel less fear in the exercise of those skills. A measure of the student's apprehension upon entry into the program and again at graduation or at specified intervals between entry and graduation might be expected to reveal important information as to the success of the program in reaching its goals.

In "Reticence: Pathology of the Normal Speaker," Gerald Phillips defines the person with high speech apprehension as "a person for whom anxiety about participation in oral communication outweighs his projection of gain from the situation" (40). John Daly and Michael Miller related this definition to comparable feelings about written communication and designed the Daly-Miller Writing-Apprehension Survey (DMWAS) as an instrument to measure a general anxiety about writing (Daly and Miller

242-43). Modeled after communication apprehension measurement instruments, the DMWAS began as a list of 63 statements about writing, randomly positive and negative, to be rated on a five-point scale ranging from "strongly agree" to "strongly disagree." The survey was administered to 164 undergraduates in basic composition courses and communication courses. After factor analysis, the 26 items with the highest reliability (.60 or above) were selected for the final instrument. These items are concerned with anxiety as it relates to the process of writing in classroom, home, and work settings and to the evaluation of writing by teachers, peers and professionals (see Appendix A).

Daly and Miller reported instrument reliability of .940 using a split-half technique in which the scores on the first half of the test are compared to the total test scores as a measure of the test's consistency. Test-retest reliability, a comparison of scores from repeatedly administering the test, was .923. Instrument validity, the degree to which this test measures apprehension, was determined by administering a 20-item version of the instrument (6 items regarding classroom behaviors were omitted) to 176 adults who also completed a questionnaire concerning the writing requirements of their jobs. The results, discussed elsewhere in this paper, showed a significant effect for writing apprehension on perceived

occupational writing requirements at a .05 level. Subjects who scored high in apprehension assigned low desirability ratings to occupations that they felt required considerable writing. Subjects with moderate and low apprehension scores assigned comparatively higher desirability ratings to writing-intensive occupations. This test correlated closely with the 26-item test, indicating that the DMWAS is measuring an attitude of fear or dread of writing.

The Student Exposure Survey

In order to later evaluate the effectiveness of the WAC program at NMC, it is important to know how familiar students are upon entry with the writing practices that would characterize the approach to writing in which the faculty would be trained at WAC workshops. These include experiences with freewriting, writing multiple drafts, peer critiquing, writing to different audiences, and collaborative writing. I would expect an inverse relationship between such practices and apprehension scores. Program evaluation will include assessment of students new to and those graduating from the college each year of the program. A measure of program effectiveness will be the rate at which increased exposure to the WAC writing experiences correlates to deceases in writing apprehension. Freshman scores will provide a baseline, and seniors

graduating in the first year who were not exposed to the program will serve as a control group.

The Student Exposure Survey was designed by Cynthia Selfe and George McCulley to measure student perceptions of the teaching strategies used by faculty who had participated in Writing Across the Curriculum workshop at Michigan Technological University. The study was intended to reveal which writing activities the students had experienced and how many times students had experienced each activity. The survey consists of a list of 16 writing activities that were taught in Writing Across the Curriculum workshops developed by Toby Fulwiler. These activities represent teaching strategies informed by current composition theory emphasizing writing process (see Appendix B). Students indicate whether they have never experienced the activity or whether they have encountered it one to two, three to five, or six or more times. The survey was piloted with 84 students. These students were also asked to indicate how confident they were that their answers regarding number of classes were accurate. This was to determine whether uncertainty and forgetting might interfere with test results. Students indicated high confidence at a rate of 77 percent and low confidence on only 2 percent of their answers. Selfe and McCully reported no reliability or validity information for this instrument.

Method

Design

This is a descriptive investigation. In order to determine the usefulness of the Daly-Miller Writing-Apprehension Survey and the Student Exposure Survey in describing entry-level characteristics of college students, I administered the surveys to both sections of the Introduction to Health Sciences class at NMC and to three sections of Freshman English 115 at UNO. All surveys were administered during the spring term of 1992. Introduction to Health Sciences is a prerequisite to most professional courses at NMC, so students typically take this course during their first semester at the college. Freshman English 115 at UNO was chosen to serve as a comparison group of students likely to be in their first year of college who are planning careers in fields other than health care. UNO English 115 is apt to include more students who are beyond their first semester than is Introduction to Health Sciences, since NMC students are assigned a more strictly structured sequence of courses. To clarify any effect this might have on the results, I added an item asking number of semesters of college course work completed to the demographics section of the SES. During the administration of the SES, all participants were asked to exclude the current semester in their answers so that the exposure score would not be influenced by the fact that all UNO subjects

were currently enrolled in writing classes but many NMC students were not.

I hypothesized that NMC health professions students would report significantly higher apprehension than UNO students and that exposure scores would vary significantly according to subject demographics regarding sex, age, whether or not the subject was a high school graduate, years since high school graduation, semesters of college completed, and language spoken at home. I also expected to establish the usefulness of the DMWAS and the SES in providing base-line data for the future evaluation of the NMC WAC program and for making specific decisions regarding the initial program design and later program revisions.

For each subject, I calculated a total apprehension score and cluster scores, that is, partial scores derived by grouping survey items by topic. I used item clusters designated by Cynthia Selfe, Michael Gorman, and Margaret Gorman in their 1983 study of the relationship of apprehension to exposure in students at Michigan Technological University. They clustered the items according to confidence in the process and product of composing, attitude toward evaluation of writing, and enjoyment of writing. The confidence cluster includes those items that indicate fear or confidence regarding the writing process, composition courses, writer's block, organizing and expressing ideas, other's responses to the written product,

and self-perception of abilities. The evaluation cluster includes items about evaluation by instructor or peers, submitting for publication, and discussing one's writing with others. The enjoyment cluster includes those items that reflect discomfort or pleasure in writing down ideas, handing in compositions, engaging in the writing process, and viewing one's thoughts on paper.

I used an independent *t* test as an inferential statistical technique to compare the mean total apprehension score of the NMC group (health professions students) with the UNO group (studying for other occupations) and to compare each of the cluster scores between the two groups. The probability value for the *t* test was set at .05. I used apprehension cluster and total scores to design an apprehension profile of an individual NMC student and the NMC group, and also to design apprehension profiles of each NMC class as potential baseline procedures.

I calculated a total exposure score for each subject and compared the relationship of subject demographics to exposure scores. I used an independent *t* test for demographics with only two alternatives (sex, high school graduate). All other demographic items had five possible responses. To calculate the relationship of these to exposure scores, I used a one-way analysis of variance (ANOVA). The probability value was set at .05. I used cross-tabulation to plot a comparison of the NMC group to

the UNO group by each SES item and further used the information generated to design an exposure profile as a possible baseline procedure.

Subjects

Subjects included 69 females and 25 males ranging in age from 18 to over 36 years. Sixty-one students were enrolled in English 115 at UNO and 33 were enrolled in Introduction to Health Sciences at NMC. The sample included 33 traditional students in their first year out of high school. All other subjects had been out of high school at least two years, and 26 were adult learners who graduated from high school eight or more years ago.

Results

Apprehension

There was no significant difference in total mean scores for the Daly-Miller Writing-Apprehension Survey between NMC health professions students and students in the UNO group. Total apprehension scores ranged from a low of 63 to a high of 102 (a higher score indicates greater apprehension). A *t* test comparison of mean cluster scores also revealed no significant differences between the NMC group and the UNO group in the subscores confidence, evaluation, and enjoyment.

Table 1

Apprehension Toward Writing of Students in Health Care Fields Compared by *t* Test with Apprehension of Students in Other Fields

	Group I Other Occupations (n = 64)		Group II Health Care (n = 33)			
	M	SD	M	SD	*t*	Probability of *t*
Apprehension	82.3750	6.3708	81.6667	5.4981	0.5427	0.5953
Apprehension Subscores						
Confidence	42.5781	5.2909	41.6667	5.3072	0.8030	0.5704
Evaluation	19.0938	2.4477	19.4545	2.9905	0.6370	0.5328
Enjoyment	20.7031	3.9628	20.7031	5.1847	0.1667	0.8623

Exposure

Results of *t* tests on mean scores of the Student Exposure Survey revealed no significant difference between NMC health professions students and the UNO group. *T* tests showed no significant difference in mean scores of females compared to those of males nor in scores of high school graduates compared to scores of students who did not graduate from high school.

Table 2

T Test Comparison of Student Exposure to Specific Writing Strategies Compared by Profession, Sex, and Graduation Status

Variable	Group I		Group II			
Occupation	Other Occupations (*n* = 61)		Health Care (*n* = 33)			
	M	SD	M	SD	*t*	Probability of *t*
	32.8213	6.7383	34.3333	8.0221	1.0345	0.3042
Sex	Female (*n* = 69)		Male (*n* = 25)			
	M	SD	M	SD		
	33.0145	7.4666	34.0400	6.5478	0.6069	0.5525
Graduation	Graduate (*n* = 90)		Non-graduate (*n* = 3)			
	M	SD	M	SD		
	33.4222	7.3255	31.0000	3.0000	0.5686	0.5780

ANOVA revealed no significant differences in mean exposure scores compared by age, years since high school graduation, semesters of college completed, or primary language.

Table 3

Analysis of Variance of Student Exposure to Specific Writing Strategies Compared by Age

Age (years)	N	Mean	SD
18-21	57	34.4838	6.403
22-25	12	32.8333	9.759
26-30	11	32.0909	3.207
31-35	8	31.7555	11.196
36+	6	27.1667	5.879

ANOVA Summary Table

Source of Variation	DF	Sum of Squares	Mean Squares	F	*p* Value
Factor	4	342.1251	85.5313	1.6927	0.1576
Error	89	4,497.1196	50.5294		
Total	93	4,839.2447			

Table 4

Analysis of Variance of Student Exposure to Specific Writing Strategies Compared by Years Since Graduation

Since Graduation (years)	N	Mean	SD
0-1	33	33.6364	6.4412
2-4	26	35.5000	6.8032
5-7	9	33.7778	9.2030
8-10	9	31.1111	4.9103
11+	17	30.1176	8.4079

ANOVA Summary Table

Source of Variation	DF	Sum of Squares	Mean Squares	F	*p* Value
Factor	4	346.8992	86.7248	1.7181	0.1519
Error	89	4,492.3455	50.4758		
Total	93	4,839.2447			

Table 5

Analysis of Variance of Student Exposure to Specific Writing Strategies Compared by College Semesters Completed

College (semesters completed)	N	Mean	SD
Not answered	1	34.0000	0.0000
0-1	37	33.0811	6.3569
2-4	31	32.6452	7.0026
5-7	14	35.4286	9.8114
8-10	5	33.4000	6.9857
11+	6	32.6667	8.7788

ANOVA Summary Table

Source of Variation	DF	Sum of Squares	Mean Squares	F	*p* Value
Factor	5	81.4292	16.2858	0.3012	0.9104
Error	88	4,757.8154	54.0661		
Total	93	4,839.2447			

Table 6

Analysis of Variance of Student Exposure to Specific Writing Strategies Compared by Primary Language

Primary Language	N	Mean	SD
Missing cases	2	32.0000	2.8284
English	86	33.2907	7.2985
Dialect	2	30.5000	7.7782
Germanic	2	41.0000	8.4953
Asian	2	29.5000	2.1213
Spanish	0		

ANOVA Summary Table

Source of Variation	DF	Sum of Squares	Mean Squares	F	*p* Value
Factor	4	166.5121	41.6280	0.7929	0.5349
Error	89	4,672.7326	52.5026		
Total	93	4,839.2447			

Discussion

Apprehension

The results of this study indicate that the writing apprehension level of health care professions students enrolled in Introduction to Health Sciences at Nebraska Methodist College is about the same as that of students enrolled in Freshman English 115 at the University of Nebraska at Omaha. My prediction that students of health care professions would show higher levels of apprehension was based on Daly and Shamo's findings that subjects who chose occupations which they rated low in writing needs scored higher than other subjects on the writing apprehension survey. Since NMC and UNO students show similar levels of apprehension, in a future study I could determine whether NMC students rate nursing and allied health careers as high in writing requirements as UNO students rate the various careers for which they are preparing. Since the largest percent of NMC students are in the nursing program, it would also be interesting to determine whether nursing students who choose to earn a baccalaureate degree in nursing expect to do more writing in their careers than do students who choose to become registered nurses through two- and three-year training programs that do not lead to a bachelor's degree. Perhaps the latter would reflect the higher levels of apprehension that I had expected to see generalized among NMC students,

while those that choose baccalaureate programs reflect the same writing apprehension levels as college students in general, as was the case in this study.

The information that NMC students do not vary significantly in apprehension from a sample of students pursuing other careers is useful in planning the WAC program for the college. These findings indicate that students enter NMC with writing concerns much like those of the general population of college students. The WAC workshops that have prepared instructors in other disciplines to participate in all-college writing programs should be equally useful to instructors in the health care professions.

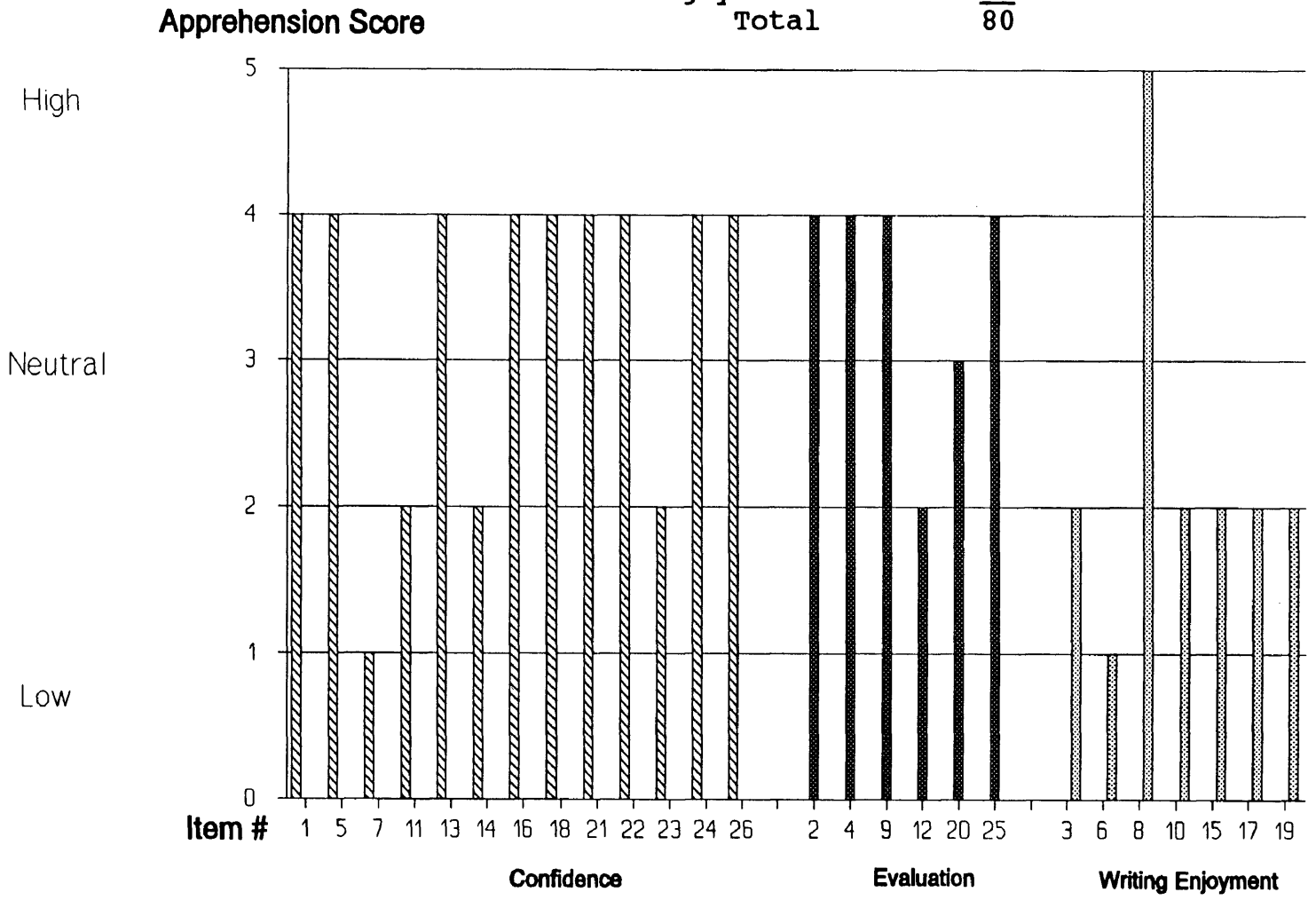
The DMWAS provided information that can be used to design entry-level profiles of individuals, classes, and the total group. Individual profiles can be used to plot an individual student's development from entry into the WAC program up to graduation. It could be used to plan prescriptive interventions to help overcome apprehension in a specific area, such as fear of evaluation reflected by an unusually high cluster score in the evaluation cluster. Table 7 is an example of an individual apprehension entry level profile derived from the DMWAS total apprehension scores and cluster scores on a single subject. Subsequent scores could be plotted on the same chart if the subject were assessed annually.

Table 7

Individual Student Profile: APPREHENSION

Student Number: 001

Raw Scores:	
Confidence Cluster	43
Evaluation Cluster	21
Enjoyment Cluster	16
Total	80



Class apprehension profiles can be used as baselines to measure the effects of specific interventions that occur in a given class. If the instructor of two sections of Mental Health Nursing implements in one section a writing strategy that requires students to journal after each clinical experience, that instructor could assess the effects of the journaling strategy by comparing alterations in apprehension profiles of the two sections at the end of the term. Data from the DMWAS make a profile of any group of subjects possible since they provide total and cluster scores for each individual. (See Table 8.)

Total group entry-level profiles (frequency distributions) provide a baseline for measuring the overall effectiveness of the WAC program in terms of student apprehension. Once the baseline has been established, outcome assessments can be done annually as a part of the institution's Systematic Evaluation Plan. Since this plan uses outcome measures as a basis for planning, it provides a mechanism for assuring that results are used to improve the program rather than just to indicate the "success" or "failure" of a strategy to produce the anticipated results. (See Table 9.)

Table 8

Writing Apprehension

Class Profile by Cluster Mean Scores of Individual Students

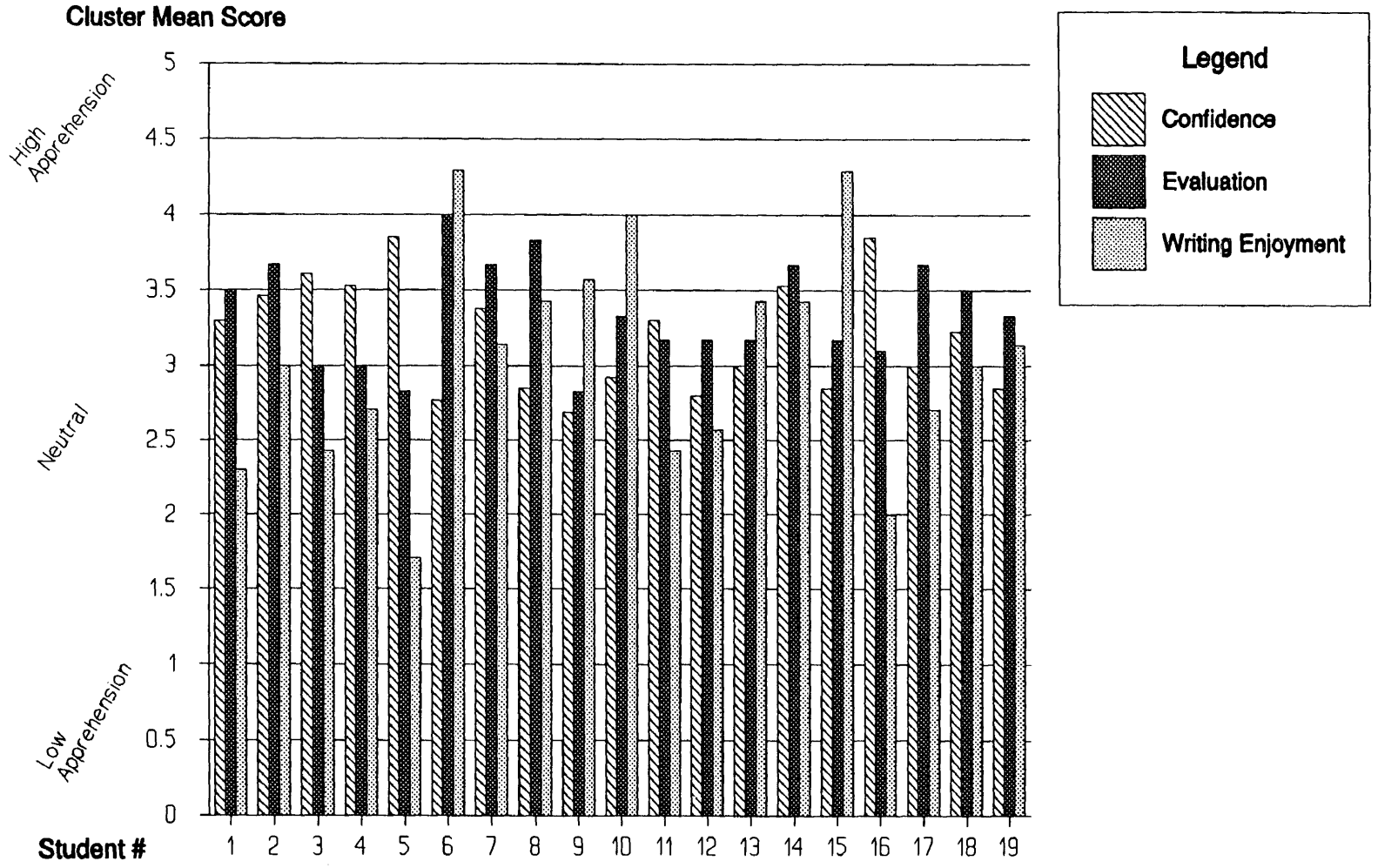


Table 9

Writing Apprehension Frequency Distribution - Methodist College Health Professions Students

Score	Number of Students
72	1
73	2
74	0
75	1
76	2
77	2
78	0
79	6
80	3
81	0
82	3
83	3
84	2
85	1
86	2
87	0
88	2
89	1
90	1
91	0
92	1
93	0
94	1

Exposure

The results of this study indicate that, as regards writing practices typically associated with WAC programs, earlier experiences of NMC students currently enrolled in Introduction to Health Sciences have not differed significantly from those of UNO students enrolled in Freshman English 115. New students at NMC can be expected to arrive with backgrounds in classroom writing experiences much the same as those of students entering the local university. Most of them have never used peers to critique their writing nor participated in collaborative writing efforts. They are relatively unfamiliar with the practices of writing to different audiences, working with writing models, and keeping journals. Most have had very little or no experience discussing in class the writing of fellow students or of the instructor. While about half of them report moderate or high exposure to writing multiple drafts of a paper, they report less experience in conferring with an instructor about these drafts, and most students have never worked with a writing tutor.

The study showed no significant difference in exposure scores for any of the demographics. It is not surprising that males and females reported similar exposure scores. Since most schools in the Midwest are sexually integrated, males and females entering the two colleges in this study have had similar educational experiences. The results of

comparing high school graduates to nongraduates and of comparing by primary language are of limited value, since only three nongraduates and six students with nonstandard English primary languages responded. Exposure mean scores did not drop statistically significantly as age and years since graduation rose. The fact that mean scores varied with age in exactly the predicted direction (M = 34.47 for 18- to 21-year-olds by increment down to M = 27.17 for 36+ years of age), but not to a degree that is statistically significant interests me in pursuing this factor further to see if additional investigation would reveal a connection. However, years since high school graduation showed no pattern in exposure scores that support my original belief that younger students (and therefore more recent graduates) will have encountered significantly more of the writing experiences listed on the SES.

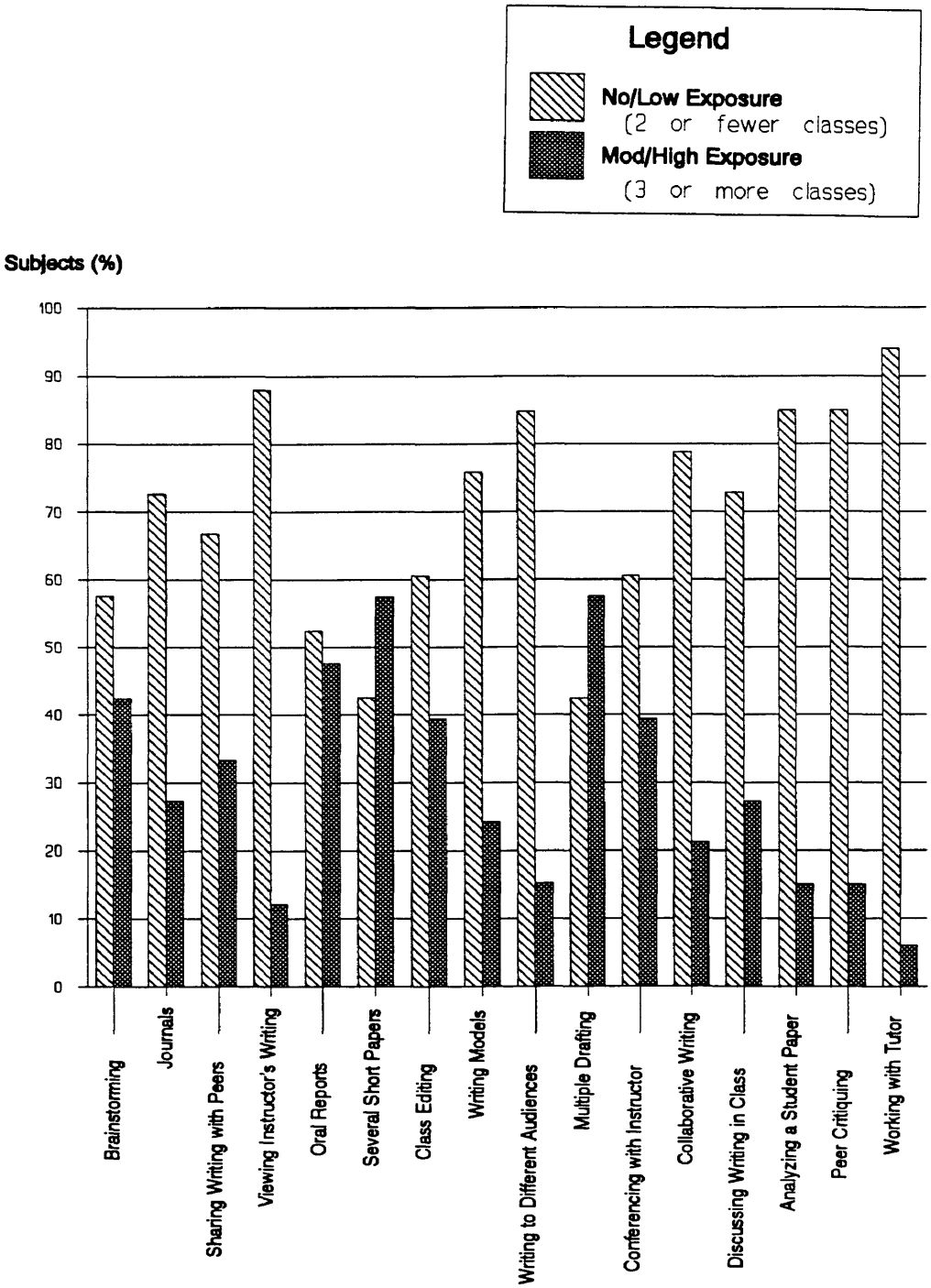
It is interesting to find that students who report completing eleven or more semesters of college report generally the same level of exposure as those in their first semester. Apparently students in our sample are finding college experiences no richer in these activities than their high school experiences. This suggests to me that the NMC WAC program could lead to useful future studies on the effects of infusing the curriculum with these strategies. The relationship of exposure to apprehension can be readily studied given the baseline data the DMWAS and SES provide. Additionally, the relationship of exposure to writing

competence and to various writing protocols would be helpful measures of program effectiveness.

The Student Exposure Survey provides data that makes possible a profile of the writing experiences of students entering NMC. Table 10 plots the percent of students who report no exposure or low exposure to each item on the survey compared to the percent who report moderate or high exposure to each item. This graph was designed from cross-tabulations shown in Appendix C. The graph reveals that most students report no or low exposure on all items except item number 6, writing several short papers instead of one long paper and item number 10, multiple drafting. It also reveals that between 80% and 90% of the students report no or low exposure to item numbers 4, 9, 14, and 15; viewing the instructor's writing, writing to different audiences, analyzing a student's paper, peer critiquing; and 94% have had little exposure to working with a writing tutor. This kind of information should be useful not only for assessment, but also for planning. It provides a baseline and tool for assessing the effectiveness of the WAC program in exposing students to the kinds of activities currently believed to foster good writing. It also demonstrates specifically which of these activities are most foreign to a group of incoming students and should, therefore, enable WAC program planners to tailor program activities to student needs.

Table 10

Profile of Writing Experience of Students Entering Nebraska Methodist College



Limitations

I recognize several limitations of this study which could be overcome to enhance the usefulness of the DMWAS and the SES for the writing program at Nebraska Methodist College. The first of these is the number of answer sheets which I excluded because they were incomplete or had more than one answer for a single item. I am concerned that the loss of five subjects could affect the results of a study of so small a sample. If it happens that students with high apprehension tend to make more mistakes of this kind, it would be possible, it seems, to lower the mean of their group(s) considerably by removing their responses. I can avoid this problem in the future by briefly checking over each answer sheet as it is turned in so that those with errors can be turned back for corrections immediately.

A second limitation of this study involved the manner in which I coded the survey answer sheets. I coded each sheet to indicate college, class (by instructor), and test (DMWAS or SES). This gave me the information that I needed for this particular study, and allowed me to test all my hypotheses, but if I had also assigned a number to each student and required its use on the answer sheets of both surveys, I could have derived additional information from this study. This would have allowed me to investigate the relationship of entry-level apprehension to entry-level exposure and the relationship of apprehension to the

demographic information derived from items on the SES. Subject identification will be essential when the surveys are used as a part of WAC assessment at NMC, since matching of individuals' baseline scores to their future scores will be necessary if we wish to plot an individual student's growth. It will also be necessary to identify baseline scores by student in order to plot class profiles.

The third limitation of this study is that of any quantitative study in that it raises questions of a qualitative nature. I want to meet individually with students who scored at the upper and lower extremes of each survey. They may have personal stories that will influence my understanding in ways that the quantitative data cannot. I need to talk with the student whose apprehension cluster scores indicate low confidence and fear of evaluation, but enjoyment in writing or whose exposure scores indicate more tutoring opportunities than are common. I am convinced that qualitative studies can be an important part of assessment at NMC.

I believe it is important to plan against the limitation of viewing apprehension and exposure only in terms of their relationship to one another. The assessment component of the writing program at NMC must include measures that will also allow us to track the growth of writing competence and to investigate the relationship of both apprehension and exposure to competence in writing. It

will be important to develop methods for measuring the effects of exposure to WAC strategies on the way students approach and carry out writing tasks and on the way they use writing in various learning situations. The value of the DMWAS and SES will increase as their relationship to other measures is explored.

Conclusions

This study supports the use of the Daly-Miller Writing-Apprehension Survey and the Student Exposure Survey in assessing and describing specific entry-level characteristics of students beginning studies at Nebraska Methodist College of Nursing and Allied Health. The DMWAS proved useful in revealing as a misconception my belief that NMC health professions students are more apprehensive about writing than students at UNO who are preparing for a variety of occupations. Data from the DMWAS made possible entry-level profiles of individuals, classes, and the total group. These profiles indicate that baseline data can be derived from the DMWAS that will allow for future assessments of the effects of the NMC writing program on student writing apprehension.

The SES also proved useful in providing information that contradicted my expectations. The results of this study indicate that students new to NMC do not differ significantly in their exposure to specific writing

practices from students enrolled in Freshman English 115 at UNO nor, in the context of this study, do their mean scores for exposure differ significantly when students are compared by demographics related to sex, high school graduation status, age, years since high school graduation, semesters of college completed, or primary language spoken at home. Results from the SES made possible the construction of exposure profiles which should not only facilitate writing program assessment but also influence program planning.

In implementing this study I became aware of weaknesses in my procedures which can be corrected when these surveys are used for the WAC program at NMC. I will alter the method of collecting survey responses to avoid answer sheet errors, and I will code all survey responses with student identification numbers to allow for multiple uses of the data in program assessment. As a result of this study, I also have a better understanding of the additional kinds of data that the assessment component of our WAC program should include. I believe it will be important to assess writing competence, to study the planning and thinking processes students apply to writing tasks, and to develop procedures for conducting qualitative studies.

This study has convinced me that a measure of writing apprehension and a measure of student exposure to specific writing activities are appropriate assessments of a Writing Across the Curriculum program. It has demonstrated that the

Daly-Miller Writing-Apprehension Scale and the Student Exposure Survey are useful tools for providing these measures. The NMC writing program will include the use of these tools to supply baseline data, program planning information, and outcomes assessment procedures. Program assessment using these and other tools will become an ongoing part of the institution's Systematic Evaluation Plan. Regular assessment and the resulting program revisions will contribute to the success and longevity of a cross-curricular program designed to help students learn to write, write to learn, and enter the discourse community of their chosen profession.

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APPENDIX A

THE 26-ITEM VERSION OF DALY-MILLER WRITING-APPREHENSION SCALE

Directions: Below are a series of statements about writing. There are no right or wrong answer to these statements. Please indicate the degree to which each statement applies to you by circling whether you (1) strongly agree, (2) agree, (3) are uncertain, (4) disagree, or (5) strongly disagree with the statement. While some of the statements may seem repetitious, take your time and try to be as honest as possible.

		SA	A	U	D	SD
1.	I avoid writing.	1	2	3	4	5
2.	I have no fear of my writing being evaluated.	1	2	3	4	5
3.	I look forward to writing down my ideas.	1	2	3	4	5
4.	I am afraid of writing essays when I know they will be evaluated.	1	2	3	4	5
5.	Taking a composition course is a very frightening experience.	1	2	3	4	5
6.	Handing in a composition makes me feel good.	1	2	3	4	5
7.	My mind seems to go blank when I start to work on a composition.	1	2	3	4	5
8.	Expressing ideas through writing seems to be a waste of time.	1	2	3	4	5
9.	I would enjoy submitting my writing to magazines for evaluation and publication.	1	2	3	4	5
10.	I like to write my ideas down.	1	2	3	4	5
11.	I feel confident in my ability to clearly express my ideas in writing.	1	2	3	4	5
12.	I like to have my friends read what I have written.	1	2	3	4	5
13.	I'm nervous about writing.	1	2	3	4	5
14.	People seem to enjoy what I write.	1	2	3	4	5
15.	I enjoy writing.	1	2	3	4	5
16.	I never seem to be able to clearly write down my ideas.	1	2	3	4	5
17.	Writing is a lot of fun.	1	2	3	4	5
18.	I expect to do poorly in composition classes even before I enter them.	1	2	3	4	5
19.	I like seeing my thoughts on paper.	1	2	3	4	5
20.	Discussing my writing with others is an enjoyable experience.	1	2	3	4	5
21.	I have a terrible time organizing my ideas in a composition course.	1	2	3	4	5
22.	When I hand in a composition I know I'm going to do poorly.	1	2	3	4	5
23.	It's easy for me to write good compositions.	1	2	3	4	5
24.	I don't think I write as well as most other people.	1	2	3	4	5
25.	I don't like my compositions to be evaluated.	1	2	3	4	5
26.	I'm no good at writing.	1	2	3	4	5

APPENDIX B

STUDENT EXPOSURE SURVEY

Please write your major on the answer sheet in the space marked "name." do not write your name or student I.D. number on the answer sheet.

For each writing activity listed below, indicate on your answer sheet the number of courses you have taken in high school or in previous college work that used that technique.

Writing Activity		Number of Classes in Which You Experienced the Activity			
1.	Brainstorming ideas before writing (freewriting or listing).	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
2.	Keeping journals or logs.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
3.	Sharing your writing with other students.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
4.	Looking at your teacher's writing.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
5.	Giving oral reports.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
6.	Writing several short papers rather than one long paper.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
7.	Learning to edit or revise in class.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
8.	Studying models of well-written essays or reports.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
9.	Writing to different audiences.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
10.	Doing more than one draft of papers.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
11.	Conferencing about a paper with your teacher.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
12.	Working with other students on papers.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
13.	Devoting class time to discussing student writing.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
14.	Analyzing a single student's paper in class.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
15.	Critiquing a classmate's paper.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
16.	Working with a tutor in the writing lab.	0 (1)	1-2 (2)	3-6 (3)	7 or more (4)
17.	Other (please explain).				
Please provide the following information.					
18.	Your sex (1) female (2) male				
19.	Your age (1) 18-21 (2) 22-25 (3) 26-30 (4) 31-35 (5) 11+				
20.	Years since high school graduation (1) 0-1 (2) 2-4 (3) 5-7 (4) 8-10 (5) 11+				
21.	College semesters completed to date (1) 0-1 (2) 2-4 (3) 5-7 (4) 8-10 (5) 11+				
22.	Are you a high school graduate? (1) yes (2) no				
23.	What is the primary language spoken in the home in which you grew up? (1) Standard English (2) English-cultural Dialect (3) Germanic (4) Asian (5) Spanish				

APPENDIX C

Crosstabulation charts how many students had zero, one or two, three to six, or seven or more classes in each of the writing strategies represented on the SES. Each chart represents a separate item on the survey. The charts compare the responses of students enrolled at UNO in various occupations (rows labeled "All Other") to those enrolled in health care programs at NMC (rows labeled "Health Care"). Figures in the boxes to the right of the occupational group labels are divided by possible responses (1, 2, 3, or 4) corresponding to the number of classes. Each box, read from top to bottom, gives the following information: number of students in that occupational group who gave that response; percent of students in that occupational group who gave that responses; percent of all students giving that response who were in that occupational group; and percent of the total sample who gave that response.

Crosstabs

Occupation: (Y Axis)
by
Brainstorming: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	9 14.8 64.3 9.6	33 54.1 70.2 35.1	17 27.9 65.4 18.1	2 3.3 28.6 2.1	61 64.9
Health Care (9)	5 15.2 35.7 5.3	14 42.4 29.8 14.9	9 27.3 34.6 9.6	5 15.2 71.4 5.3	33 35.1
Column Totals	14 14.9	47 50.0	26 27.7	7 7.4	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Journals: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	19 31.1 76.0 20.2	33 54.1 64.7 35.1	9 14.8 52.9 9.6	0 0.0 0.0 0.0	61 64.9
Health Care (9)	6 18.2 24.0 6.4	18 54.5 35.3 19.1	8 24.2 47.1 8.5	1 3.0 100.0 1.1	33 35.1
Column Totals	25 26.6	51 54.3	17 18.1	1 1.1	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Sharing: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	8 13.1 61.5 8.5	32 52.5 65.3 34.0	14 23.0 66.7 14.9	7 11.5 63.6 7.4	61 64.9
Health Care (9)	5 15.2 38.5 5.3	17 51.5 34.7 18.1	7 21.2 33.3 7.4	4 12.1 36.4 4.3	33 35.1
Column Totals	13 13.8	49 52.1	21 22.3	11 11.7	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Instructor's Writing: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	34 55.7 69.4 36.2	18 29.5 56.3 19.1	6 9.8 60.0 6.4	3 4.9 100.0 3.2	61 64.9
Health Care (9)	15 45.5 30.6 16.0	14 42.4 43.8 14.9	4 12.1 40.0 4.3	0 0.0 0.0 0.0	33 35.1
Column Totals	49 52.1	32 34.0	10 10.6	3 3.2	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Oral Reports: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	5	Row Totals
All Other (0)	6 9.8 85.7 6.4	26 42.6 61.9 27.7	25 41.0 69.4 26.6	4 6.6 50.0 4.3	0 0.0 0.0 0.0	61 64.9
Health Care (9)	1 3.0 14.3 1.1	16 48.5 38.1 17.0	11 33.3 30.6 11.7	4 12.1 50.0 4.3	1 3.0 100.0 1.1	33 35.1
Column Totals	7 7.4	42 44.7	36 38.3	8 8.5	1 1.1	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Short Papers: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	3 4.9 60.0 3.2	24 39.3 66.7 25.5	26 42.6 63.4 27.7	8 13.1 66.7 8.5	61 64.9
Health Care (9)	2 6.1 40.0 2.1	12 36.4 33.3 12.8	15 45.5 36.6 16.0	4 12.1 33.3 4.3	33 35.1
Column Totals	5 5.3	36 38.3	41 43.6	12 12.8	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Class Editing: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	8 13.1 57.1 8.5	36 59.0 72.0 38.3	14 23.0 53.8 14.9	3 4.9 75.0 3.2	61 64.9
Health Care (9)	6 18.2 42.9 6.4	14 42.4 28.0 14.9	12 36.4 46.2 12.8	1 3.0 25.0 1.1	33 35.1
Column Totals	14 14.9	50 53.2	26 27.7	4 4.3	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Models: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	10 16.4 66.7 10.6	35 57.4 63.6 37.2	14 23.0 66.7 14.9	2 3.3 66.7 2.1	61 64.9
Health Care (9)	5 15.2 33.3 5.3	20 60.6 36.4 21.3	7 21.2 33.3 7.4	1 3.0 33.3 1.1	33 35.1
Column Totals	15 16.0	55 58.5	21 22.3	3 3.2	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Audience: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	 5	Row Totals
All Other (0)	20 32.8 66.7 21.3	33 54.1 64.7 35.1	7 11.5 70.0 7.4	1 1.6 33.3 1.1	0 0.0 0.0 0.0	61 64.9
Health Care (9)	10 30.3 33.3 10.6	18 54.5 35.3 19.1	3 9.1 30.0 3.2	2 6.1 66.7 2.1	1 3.0 100.0 1.1	33 35.1
Column Totals	30 31.9	51 54.3	10 10.6	3 3.2	1 1.1	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Multiple Drafts: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	7 11.5 87.5 7.4	20 32.8 60.6 21.3	27 44.3 64.3 28.7	7 11.5 70.0 7.4	61 64.9
Health Care (9)	1 3.0 12.5 1.1	13 39.4 39.4 13.3	15 45.5 35.7 16.0	3 9.1 30.0 3.2	33 35.1
Column Totals	8 8.5	33 35.1	42 44.7	10 10.6	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Conferencing: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	12 19.7 85.7 12.8	34 55.7 65.4 36.2	15 24.6 62.5 16.0	0 0.0 0.0 0.0	61 64.9
Health Care (9)	2 6.1 14.3 2.1	18 54.5 34.6 19.1	9 27.3 37.5 9.6	4 12.1 100.0 4.3	33 35.1
Column Totals	14 14.9	52 55.3	24 25.5	4 4.3	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Collaboration: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	16 26.2 64.0 17.0	30 49.2 63.8 31.9	12 19.7 63.2 12.8	3 4.9 100.0 3.2	61 64.9
Health Care (9)	9 27.3 36.0 9.6	17 51.5 36.2 18.1	7 21.2 36.8 7.4	0 0.0 0.0 0.0	33 35.1
Column Totals	25 26.6	47 50.0	19 20.2	3 3.2	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Class Discussion: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	14 23.0 87.5 14.9	31 50.8 58.5 33.0	14 23.0 63.6 14.9	2 3.3 66.7 2.1	61 64.9
Health Care (9)	2 6.1 12.5 2.1	22 66.7 41.5 23.4	8 24.2 36.4 8.5	1 3.0 33.3 1.1	33 35.1
Column Totals	16 17.0	53 56.4	22 23.4	3 3.2	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Analyzing: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	Row Totals
All Other (0)	24 39.3 66.7 25.5	30 49.2 65.2 31.9	7 11.5 58.3 7.4	61 64.9
Health Care (9)	12 36.4 33.3 12.8	16 48.5 34.8 17.0	5 15.2 41.7 5.3	33 35.1
Column Totals	36 38.3	46 48.9	12 12.8	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Peer Critiquing: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	16 26.2 57.1 17.0	33 54.1 67.3 35.1	12 19.7 75.0 12.8	0 0.0 0.0 0.0	61 64.9
Health Care (9)	12 36.4 42.9 12.8	16 48.5 32.7 17.0	4 12.1 25.0 4.3	1 3.0 100.0 1.1	33 35.1
Column Totals	28 29.8	49 52.1	16 17.0	1 1.1	94 100.0

Crosstabs

Occupation: (Y Axis)
by
Tutor: (X Axis)

Number Row % Column % Total %	0 Classes 1	1-2 Classes 2	3-6 Classes 3	7 or More Classes 4	Row Totals
All Other (0)	54 88.5 68.4 57.4	6 9.8 50.0 6.4	1 1.6 50.0 1.1	0 0.0 0.0 0.0	61 64.9
Health Care (9)	25 75.8 31.6 26.6	6 18.2 50.0 6.4	1 3.0 50.0 1.1	1 3.0 100.0 1.1	33 35.1
Column Totals	79 84.0	12 12.8	2 2.1	1 1.1	94 100.0