

SPRING 1999 COMMUNICATION-B STUDY

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Outcomes Associated with the General Education Communication-B Requirement

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## Outcomes Associated with the General Education Communication-B Requirement

The Comm-B course comprises the second and final campus-wide requirement in the general education communication program. In contrast to the Comm-A course, Comm-B classes are offered in a variety of departments throughout the university. Moreover, classes that fulfill this requirement may take one of two forms: (a) classes that provide advanced instruction in written or oral communication, or (b) classes focused on conventions of inquiry particular to specific fields of study (i.e., content courses with substantial writing components). Although the Comm-B course was originally conceptualized as a low-enrollment class, Comm-B classes range from small seminars to large faculty lectures with TA-taught discussion sections. Thus, Comm-B classes are presented in numerous departments, represent diverse disciplines, and take a variety of instructional forms.

The working criteria that guide the implementation of the Comm-B requirement specify that the course should provide substantial instruction in speaking, reading, writing, and listening, with an emphasis on writing. Although specific objectives necessarily vary with the disciplinary home of a Comm-B class, the course is expected to advance skills in three general areas: (a) critical reading, logical thinking, and the use of evidence; (b) the use of appropriate style and disciplinary conventions in writing and speaking; and (c) the productive use of core library resources specific to the discipline. In practice, the degree of emphasis placed on the development of disciplinary expertise varies, such that classes drawing a large number of non-majors attend less explicitly to teaching the conventions of a particular discipline.

The Communication Implementation Committee's working criteria (as of January, 1998) detail several requirements for the structure of the Comm-B course. The following guidelines are quoted directly from that document:

- (a) Numerous writing assignments [6-8 would be ideal], distributed through the semester and producing a total of 30-35 pages that are submitted to the instructor. Drafts count in the total number of pages.

- (b) At least two assignments that require students to submit a draft, assimilate feedback on it, and then revise it. Additional opportunities for revision would be better yet.
- (c) At least one individual conference with each student, preferably early in the semester, to discuss the student's writing.
- (d) An information-gathering component beyond a beginning level, normally involving two hours of instructional time in one of the campus libraries. Such activities should be planned in consultation with appropriate members of the library staff . . . .
- (e) A speaking component, normally involving such activities as a formal presentation by each student and numerous discussions to which all students must contribute.

To the extent that these criteria are consistently met, Comm-B classes should be unified by both a general focus on the development of writing, speaking, and library skills and a number of specific course requirements.

Because the Comm-B course is the final component in the general education communication program, students' outcomes upon completing the Comm-B requirement can inform both Comm-B assessment and evaluations of the general education program as a whole. At the same time, the diversity inherent in the Comm-B classes places important constraints on assessment efforts. In the following section, we review criteria for an assessment of outcomes associated with the Comm-B course, and we identify specific research questions guiding this investigation. Next, we describe the procedures, methods, and results of a Comm-B assessment study conducted in the spring of 1999. Finally, we discuss the implications of the study's results for understanding outcomes of the Comm-B requirement.

#### The Comm-B Assessment Agenda

The goal of the Verbal Assessment Project is to evaluate the impact of general education communication requirements on the associated abilities, knowledge, and attitudes of University of Wisconsin – Madison students. It is important to note that verbal assessment is not intended to evaluate individual students, faculty, or classes. Similarly, the Verbal Assessment Project is not designed to provide direct feedback either to students or to instructors involved in a specific class. Instead, the mission of the Verbal Assessment Project focuses on evaluating the outcomes of the general education communication requirements for the UW – Madison student population to provide program level

feedback. With respect to assessment of the Comm-B course, assessment efforts should provide insight into course-specific outcomes, the Comm-A requirement, and general education communication program outcomes. The following paragraphs review these assessment targets in turn.

First and most directly, assessment of student outcomes associated with the Comm-B course should provide insight into the implementation of that component of the general education communication program. Evaluating specific classes is outside the mission of the Verbal Assessment Project; therefore, assessment of the Comm-B course must focus on the common objectives that define classes as Comm-B. In addition, verbal assessment activities should be designed to identify the curricular features and teaching strategies that are most relevant to student outcomes. Given the diversity of instructional formats for Comm-B classes, assessment should also provide insight into how course format influences students' outcomes. In these efforts, it is critical that the focus remain on evaluating Comm-B course outcomes in general, while being sensitive to the great diversity of the classes that meet these requirements.

At a second level, Comm-B assessment can provide indirect insight into the outcomes associated with Comm-A instruction. Approximately 25% of the students in an entering class are exempted from the Comm-A course requirement, as determined by scores on the UW System English Placement Test; all students (with the exception of some transfer students) are required to complete the Comm-B requirement. If the English Placement Test is a valid screening device, students exempted from Comm-A can reasonably be expected to excel in Comm-B classes. At the same time, the writing, speaking, and library instruction received by students completing the Comm-A requirement should narrow that performance gap. Thus, comparing Comm-B outcomes among students exempted from Comm-A with those students who received Comm-A instruction may shed light on the academic benefits of the Comm-A requirement. As an additional benefit, examining the association between English Placement Test scores and performance in the Comm-B course can provide constructive feedback on the use of that instrument for exempting students from Comm-A.

Finally, Comm-B assessment offers an opportunity to examine the development of attitudes relevant to subsequent course work and careers beyond college. For example, assessing students' beliefs and self-perceptions at the end of the Comm-B course should provide insight into academic dispositions with lasting implications. Moreover, understanding students' degree of satisfaction with various aspects of the Comm-B course should illuminate their experience of the general education requirement. Thus, evaluating Comm-B as the final course in the general education communication sequence can shed light on more global outcomes of the general education program as a whole.

In total, the Comm-B assessment study was guided by 11 research questions. The first three research questions address the extent to which basic objectives for the Comm-B course and the general education communication program are achieved:

- RQ1: How do students perform with respect to a variety of writing performance criteria at the end of a semester of Comm-B instruction?
- RQ2: To what extent do students manifest beliefs and self-perceptions conducive to effective writing, speaking, and library use at the end of a semester of Comm-B instruction?
- RQ3: How satisfied are students with various components of the Comm-B course experience?

The remaining research questions examine a variety of factors that may influence students' writing performance, perceptions of ability, and satisfaction with the course. More specifically, research questions address the link between Comm-B outcomes and the following predictors: (a) characteristics of students, (b) characteristics of courses and instructors, and (c) characteristics of enrollment. The following paragraphs describe the specific research questions included within each category of predictors.

#### Characteristics of Students

We advanced four research questions to examine the link between students' individual characteristics and their writing performance, perceptions of ability, and satisfaction with the course. A

first research question focuses on the degree to which students' English Placement Test scores and other academic background variables influence Comm-B outcomes:

- RQ4: To what extent are a student's English Placement Test score and other individual differences in academic profile associated with
- (a) the student's writing performance?
  - (b) the student's beliefs and self-perceptions about writing, speaking, and library use?
  - (c) the student's satisfaction with the course?

A second research question examines the extent to which individual differences in students' demographic characteristics are associated with Comm-B outcomes:

- RQ5: To what extent are a student's demographic characteristics associated with
- (a) the student's writing performance?
  - (b) the student's beliefs and self-perceptions about writing, speaking, and library use?
  - (c) the student's satisfaction with the course?

To evaluate whether students' differences in Comm-A instruction influence performance and attitudinal outcomes, we posed the following research question:

- RQ6: To what extent is a student's exemption from or performance in Comm-A associated with
- (a) the student's writing performance?
  - (b) the student's beliefs and self-perceptions about writing, speaking, and library use?
  - (c) the student's satisfaction with the course?

A fourth research question within this set examines the degree to which a student's academic effort coincides with Comm-B outcomes:

- RQ7: To what extent is the amount of effort a student devotes to the course associated with
- (a) the student's writing performance?
  - (b) the student's beliefs and self-perceptions about writing, speaking, and library use?
  - (c) the student's satisfaction with the course?

### Characteristics of Courses and Instructors

Comm-B performance outcomes are likely to be influenced by course-level characteristics in addition to qualities of individual students. Accordingly, we posed three research questions to investigate the influence of course and instructor characteristics on students' writing performance, perceptions of ability, and satisfaction with the course. First, we sought to evaluate the connection between Comm-B outcomes and a variety of tactics for instruction:

RQ8: To what extent are methods of education associated with

- (a) a student's writing performance?
- (b) a student's beliefs and self-perceptions about writing, speaking, and library use?
- (c) a student's satisfaction with the course?

To examine the effect of instructor expertise on the outcomes of Comm-B, we advanced the following research question:

RQ9: To what extent are an instructor's teaching experience and training associated with

- (a) a student's writing performance?
- (b) a student's beliefs and self-perceptions about writing, speaking, and library use?
- (c) a student's satisfaction with the course?

The following research question asks whether the outcomes of Comm-B vary as a function of course format and specific curricular features:

RQ10: To what extent is the instructional format of the course associated with

- (a) a student's writing performance?
- (b) a student's beliefs and self-perceptions about writing, speaking, and library use?
- (c) a student's satisfaction with the course?

### Characteristics of Enrollment

Although the general education communication program requires students to complete only one Comm-B course, enrollment patterns indicate that many students take more than one Comm-B course during their tenure at UW – Madison. Thus, we developed a final research question to inquire about how

students' self-reported attitudes and perceptions vary as a function of the number of Comm-B courses completed:

- RQ11: To what extent is whether a student has completed one Comm-B course versus multiple Comm-B courses associated with
- (a) the student's beliefs and self-perceptions about writing, speaking, and library use?
  - (b) the student's satisfaction with the course?

In designing a study to address these research questions, we heeded assessment scholars' recommendations to tailor program evaluation to the needs, goals, and constraints of the institution's curriculum (e.g., Haswell & Wyche-Smith, 1994; Huot, 1996; Yancey, 1999). Foremost in advancing this argument was the position statement issued in 1995 by the Committee on Assessment of the Conference on College Composition and Communication: "the primary purpose of the specific assessment should govern its design, its implementation, and the governance and dissemination of its results" (p. 431). Similarly, in articulating his theoretical framework of writing assessment, Huot (1996) argued that teaching goals should be the principal force shaping assessment activities. Haswell and Wyche-Smith (1994, p. 221), in offering lessons learned from designing a program evaluation at Washington State University, even went so far as to state, "our moral is that writing teachers should be leery of assessment tools made by others, that they should, and can, make their own." Guided by this advice, we sought a research design that was suited to the contextual parameters shaping the general education program in communication at UW-Madison.

As a starting point for identifying a methodology appropriate for evaluating the Comm-B course, we examined a variety of assessment tools. Not surprisingly, a diversity of methods are available for assessing learning (cf. Belanoff & Dickson, 1991; Cooper & Odell, 1989; Williamson & Huot, 1992; Yancey & Huot, 1997); these range from strategies that privilege issues of reliability, on one hand, to those that privilege issues of validity, on the other (Huot, 1990a, 1990b, 1996; Yancey, 1999). Within the context of academic assessment, reliability involves achieving consistent evaluation across times, locations, and participants (Huot, 1996). Methods favoring reliability include standardized tests and essay

exams (Yancey, 1999). Conversely, validity requires that assessment instruments measure the constructs they are designed to evaluate (Huot, 1996). An example of a technique favoring validity is portfolio evaluation (Yancey, 1999). Although assessment scholars have promoted one or the other criteria at different points in the field's history (Yancey, 1999), the most effective research designs strike a balance between reliability and validity (Huot, 1990a, 1990b). Hence, we worked to design a study that supports both reliable and valid claims about the outcomes associated with the Comm-B course.

In seeking to achieve these ends, we conducted a study focused on writing performance, self-reported attitudes about writing, speaking, and library use, and self-reported satisfaction among students completing the Comm-B component of the general education program. To promote the study's reliability, we employed close-ended, standardized measures of students' writing performance and their self-reported attitudes. To enhance the study's validity, we collected final papers students wrote as part of the course's standard operation; in other words, we evaluated writing samples that students composed as part of their normal experience of the requirement. We focused on performance and attitudes at the end of a semester of Comm-B instruction to highlight the outcomes associated with the Comm-B course and the two-course general education sequence. In addition, our examination of students' writing performance, self-perceptions, and course satisfaction attends to both skills and attitudes as outcomes relevant to subsequent academic performance.

### Method

The questions guiding this study demanded a research design that would evaluate the Comm-B course, in general, while at the same time integrating information about a student's particular Comm-B class and academic background. To these ends, we randomly sampled sections of Comm-B classes offered in the spring semester of 1999, surveyed a subset of students enrolled in these classes, surveyed instructors about both their courses and the students in our sample, gathered descriptive profiles of students and courses from campus data bases, and evaluated final papers that students submitted as part of their workload in the Comm-B courses. After describing the procedures used to sample both Comm-B

classes and students, we review the sources of data utilized in the study and the specific measures obtained from each.

### Sampling Procedures

In drawing the sample of Comm-B classes and students, we were guided by two goals. First, to provide a foundation for conclusions about the Comm-B course in general, we sought a large sample of Comm-B classes representing the diversity of departments involved and capturing various instructional formats. Second, we focused primarily on students subject to the general education requirements who were enrolled in their first Comm-B class. Although many students take more than one Comm-B class, examining outcomes for students at the end of a first Comm-B class assesses the general education requirements as formally specified.

We used a stratified probability sampling procedure to select sections and students to participate in the study. The sampling process proceeded in several phases. First, we enumerated all sections of Comm-B classes taught in the spring semester of 1999 for possible inclusion in the sample. After spring course enrollments were frozen, Bruce Beck of the Office of Budget, Planning, and Analysis provided details on the number of students enrolled in each Comm-B section who were subject to the general education requirements. Enrollment data from the fall semester of 1998 indicated that approximately 80% of students in Comm-B classes who were subject to general education requirements were enrolled in their first Comm-B class. Thus, to ensure that sampled courses had a sufficient number of students eligible for the study, we excluded sections from further consideration if they enrolled fewer than ten students bound by the general education requirements. Because one Comm-B class offered by the Department of Psychology capped its enrollment at eight students per section, we combined multiple sections of that course into sets containing at least ten students bound by the general education requirements.

We stratified the eligible Comm-B sections into the following two groups based on course structure: (a) stand-alone sections that were entirely unique and independent classes, and (b) sections that were part of larger lectures and met at least once per week in divided sessions. Next, we randomly selected sections within the two strata for inclusion into the sample. If multiple sections taught by the

same section-level instructor were randomly identified, we discarded duplicate sections so that no more than one section taught by a particular instructor was represented in the sample. As sections were sampled, we contacted instructors and requested their permission to include their section in the sample. Instructors in charge of 83 Comm-B sections were contacted; of these, 13 did not respond or declined to participate. In total, 70 (84%) of the sampled sections were retained.

Once a sample of Comm-B sections had been identified, the sampling process targeted individual students within those sections. To that end, a team of researchers visited class meetings of the sections taught by instructors who had agreed to participate in the study. The researchers made class announcements describing the study, solicited informed consent from students, and distributed a screening questionnaire to students. The screening questionnaire asked students to report demographic characteristics, their matriculation semester, and whether or not they had completed a previous Comm-B course. Thus, the screening questionnaire provided the information we needed to identify students who were subject to the general education requirements and enrolled in their first Comm-B class.

To evaluate the accuracy of information students provided on the screening questionnaire, we compared responses from a random subset of students ( $n = 157$ ) to records provided by the Degree Audit Reporting System (DARS). Of the students subject to the general education requirements, 80% correctly reported whether they were enrolled in their first Comm-B class; of the subset reporting that they were “sure” about their Comm-B status, 85% provided information consistent with their DARS report. We further determined that using self-reported information to identify students in their first Comm-B class would result in a 7% error rate; in other words, an average of 93 students out of every 100 in our final sample would be enrolled in their first Comm-B class as reported. Given the costs associated with using DARS to gain a more accurate course history for all of the students in the sampled sections, we deemed this error rate acceptable.

Based on responses to the screening questionnaire, we identified students who were subject to general education requirements and enrolled in their first Comm-B class; these students ( $N = 446$ ) comprised the primary focus for this study. We excluded three sections that had fewer than three students

who met the criteria for this sample; therefore, the primary sample represented 67 Comm-B sections. To provide a broader basis for students' evaluations of the Comm-B course, we also asked a random sample of students who had taken a previous Comm-B class ( $N = 112$ ) to complete the student survey portion of the study. With the addition of these students, all 70 of the Comm-B sections were reflected by the overall sample.

To summarize, the final sample was comprised of 70 Comm-B sections, representing 24 different departments, 70 different instructors, and a variety of course formats. A total of 558 students were sampled for the study, 446 of whom reported that they were enrolled in their first Comm-B class and comprise the primary focus of this investigation.

#### Data Collection Procedures and Measures

To address the research questions posed previously, we integrated data from five different sources: (a) information about the Comm-B class format was retrieved from the Timetable database, (b) curricular features of the Comm-B classes were solicited in a survey to instructors teaching the sampled Comm-B sections, (c) academic records were accessed for the students who participated in the study, (d) students' attitudes about writing, speaking, and library use and their satisfaction with the course were addressed in a survey completed at the end of the semester, and (e) writing performance was evaluated by examining final papers submitted by students enrolled in their first Comm-B class. The following paragraphs elaborate on these sources of data and the specific measures derived from each (see Table 1 for a summary of measures used in the study).

Timetable database. We derived information about the instructional format of the sampled Comm-B sections from the Timetable database. In particular, we examined class size, the number of sections in the class, and the number of teaching assistants involved in the class to categorize each one in terms of the instructional format. These data revealed two variations on the Comm-B course in our sample: (a) stand-alone low enrollment classes ( $n = 33, 47\%$ ) and (b) large lectures with divided sections employing multiple teaching assistants ( $n = 37, 53\%$ ).

To examine the research questions relevant to course characteristics, we also indexed a variety of other variables. In particular, we retrieved the following information from the Timetable database: (a) the number of students per section ( $\underline{M} = 17.08$ ,  $\underline{SD} = 3.59$ ,  $\underline{\text{range}} = 7 - 26$ ), (b) the number of credits earned by students in the class ( $\underline{M} = 3.48$ ,  $\underline{SD} = 0.76$ ,  $\underline{\text{range}} = 2 - 5$ ,  $\underline{\text{mode}} = 3$ ), and (c) the number of hours per week spent in low enrollment sections ( $\underline{M} = 2.34$ ,  $\underline{SD} = 1.13$ ,  $\underline{\text{range}} = 1 - 6$ ).

Instructor surveys. We surveyed the faculty, lecturers, and teaching assistants directly responsible for teaching the Comm-B sections about their instructional background, their Comm-B class, and their students who were included in our primary sample. We distributed surveys via campus mail, and we asked respondents to complete the survey after they had calculated final grades. We used follow-up emails and a gift of a photocopying card to encourage participation. Of the 70 instructors whose classes were involved in the study, 58 (83%) completed a questionnaire. Most instructors also included copies of syllabi and writing assignments to provide descriptive information about their class.

To explore the role of the instructor's experience on Comm-B outcomes, we assessed four characteristics of the Comm-B instructors: (a) the number of semesters, including the spring of 1999, that the instructor had taught this particular Comm-B class ( $\underline{M} = 2.14$ ,  $\underline{SD} = 2.52$ ,  $\underline{\text{range}} = 1 - 16$ ,  $\underline{\text{mode}} = 1$ ), (b) the number of semesters the instructor had previously taught a different Comm-B class ( $\underline{M} = 0.38$ ,  $\underline{SD} = 0.77$ ,  $\underline{\text{range}} = 0 - 4$ ), (c) the number of semesters the instructor had previously taught a Comm-A class ( $\underline{M} = 0.69$ ,  $\underline{SD} = 1.88$ ,  $\underline{\text{range}} = 0 - 12$ ), and (d) whether the instructor had participated in a training session for teaching a Comm-B or writing intensive course ( $\underline{n} = 30$ , 52%). We also asked instructors to report their job rank using five categories: inexperienced teaching assistant ( $\underline{n} = 10$ , 17%), experienced teaching assistant ( $\underline{n} = 24$ , 41%), faculty assistant ( $\underline{n} = 4$ , 7%), lecturer ( $\underline{n} = 9$ , 16%), faculty member ( $\underline{n} = 10$ , 17%), and unreported ( $\underline{n} = 1$ , 2%).

The survey also measured several variations in curricular features and teaching strategies. In particular, we asked instructors to indicate whether they used the following teaching strategies: (a) class lectures about writing ( $\underline{n} = 39$ , 67%), (b) reading assignments about writing ( $\underline{n} = 23$ , 40%), (c) peer review ( $\underline{n} = 43$ , 74%), (d) teacher-student conferences ( $\underline{n} = 54$ , 93%), and/or library instruction ( $\underline{n} = 46$ ,

79%). To assess the particular focus of writing instruction, instructors reported whether the feedback they provided on students' writing addressed (a) the content of completed papers ( $n = 54$ , 93%), (b) the organization and structure of completed papers ( $n = 55$ , 95%), (c) grammatical errors in completed papers ( $n = 48$ , 83%), (d) the content of drafts that students later revised ( $n = 55$ , 95%), (e) the organization and structure of drafts that students later revised ( $n = 54$ , 93%), and/or (f) grammatical errors in drafts that students later revised ( $n = 47$ , 81%).

In the final section of the instructor survey, we solicited information about the students who were included in the primary sample for this investigation. For each student, instructors reported (a) the percentage of total class meetings the student attended ( $M = 93.43\%$ ,  $SD = 8.79\%$ ), and (b) the number of times the instructor met with the student to discuss writing ( $M = 2.32$ ,  $SD = 1.48$ ,  $range = 0 - 9$ ).

Student academic records. We commissioned the Department of Information Technology (DoIT) to retrieve academic records from the ISIS database for those students enrolled in their first Comm-B class, as well as for the subset of students who had taken a previous Comm-B class and completed a survey ( $N = 499$ ). To index students' academic aptitude, we included variables for each student representing their (a) composite American College Test score (ACT;  $M = 27.11$ ,  $SD = 3.42$ ), (b) composite Scholastic Aptitude Test score (SAT;  $M = 1233.08$ ,  $SD = 160.52$ ), (c) EPT score ( $M = 670.25$ ,  $SD = 86.69$ ,  $range = 348 - 850$ ), and (d) cumulative grade point average ( $M = 3.21$ ,  $SD = 0.51$ ). We also recorded whether the student had previously completed a Comm-A course ( $n = 251$ , 50%). For those students who had taken a Comm-A course, we assessed their grade in that class ( $M = 3.39$  grade points,  $SD = 0.53$  grade points). A small number of students ( $n = 10$ , 4%) had taken two Comm-A classes; for those students, we recorded the grade from the first Comm-A class completed.

Because individual demographic characteristics exist as other potential sources of variance in students' Comm-B outcomes, we also included variables for each student representing (a) sex (male:  $n = 174$ , female:  $n = 310$ , information not available:  $n = 15$ ), (b) age ( $M = 20.23$ ,  $SD = 0.94$ ,  $range = 18$  to 30 years), (c) semesters completed since matriculation ( $M = 2.70$ ,  $SD = 1.30$ ,  $range = 0 - 5$ ), and (d) credit load during the spring 1999 semester ( $M = 14.60$ ,  $SD = 1.70$ ,  $range = 3 - 18$ ).

Student surveys. Two weeks before the last class day of the semester, students who had agreed to participate in the study were contacted via email and asked to complete a web-based survey. We initially contacted students enrolled in their first Comm-B class ( $n = 446$ ); one week later we also emailed students who had taken a previous Comm-B class ( $n = 112$ ) to provide a broader basis for documenting student evaluations of the Comm-B course. We used follow-up emails and telephone calls to encourage students to complete the survey. As part of these efforts, participants in our primary sample who did not have access to the Internet were mailed a hard copy of the survey that was identical to the on-line version.

Most students completed the survey within a week of receiving the initial email request. Of those completing the web-based survey, 94 students (26%) completed the survey within 24 hours, 12 students (3%) completed the survey in between 24 and 48 hours, 37 students (10%) completed the survey in between 48 and 96 hours, 140 students (39%) completed the survey in between 96 hours and one week, 41 students (12%) completed the survey in between one and two weeks, and 33 students (9%) completed the survey more than two weeks after the email request was sent. In total, 369 students (65%) completed the survey; 355 students completed the survey on-line and 14 students completed the hard-copy version of the survey. These totals reflect a 68% response rate for students in their first Comm-B class ( $n = 305$ ), and a 57% response rate for students in our secondary sample who were contacted one week later ( $n = 64$ ).

Individual differences in Comm-B outcomes can arise from a student's motivation for taking the course; therefore, a number of questions in the survey indexed this variable. First, for exploratory purposes, we asked students to indicate which of the following reasons influenced their decision to enroll in the course: (a) it was required for their intended major, (b) it was required for admission to the school or college of their choice, (c) its subject matter sounded interesting, (d) it was taught by a particular teacher, (e) it was offered by a particular department, (f) it was offered at a good time of day for them, (g) they wanted to improve their writing, (h) they wanted to improve their communication skills, (i) it met in a location that was convenient for them, and/or (j) it had an appealing course format. Then, to index students' involvement in their Comm-B class, we asked respondents to report on a Likert scale (1 = no effort at all and 4 = a lot of effort) the amount of effort they devoted to (a) the writing assignments ( $M =$

3.68,  $SD = 0.55$ ), (b) the speaking assignments ( $M = 3.76$ ,  $SD = 1.27$ ), (c) the library research assignments ( $M = 3.52$ ,  $SD = 0.81$ ), and (d) the course in general ( $M = 3.58$ ,  $SD = 0.58$ ).

The student survey also assessed perceptions of instructional efforts, to parallel those solicited by the instructor survey. In particular, we asked students to indicate whether they received information about writing from the following sources: (a) class lectures ( $n = 151$ , 41%), (b) reading assignments ( $n = 154$ , 42%), (c) peer review ( $n = 268$ , 73%), (d) individual conferences with the instructor ( $n = 264$ , 72%), and/or (e) library instruction ( $n = 234$ , 63%). In addition, students reported whether they received feedback from their instructors addressing (a) the content of completed papers ( $n = 315$ , 85%), (b) the organization and structure of completed papers ( $n = 298$ , 81%), (c) grammatical errors in completed papers ( $n = 260$ , 52%), (d) the content of drafts later revised ( $n = 298$ , 59%), (e) the organization and structure of drafts later revised ( $n = 286$ , 57%), and/or (f) grammatical errors in drafts later revised ( $n = 227$ , 64%).

We included a number of items in the student survey to assess students' beliefs and self-perceptions about writing, speaking, and library use. To complement the measures used in the Verbal Assessment Project's 1998 Senior Survey, we assessed anxieties related to writing, public speaking, and library skills by asking students to respond to a series of items using a Likert scale (1 = strongly disagree and 5 = strongly agree); in all cases, we scored items so that higher values represented more anxiety. We computed composite subscales to reflect writing anxiety ( $M = 2.30$ ,  $SD = 0.79$ ,  $\alpha = .84$ ), public speaking anxiety ( $M = 2.71$ ,  $SD = 1.03$ ,  $\alpha = .89$ ), and library anxiety ( $M = 2.35$ ,  $SD = 0.67$ ,  $\alpha = .90$ ).

We also asked students to evaluate their ability to perform various tasks involved in writing a paper or giving a speech and conducting library research. For these items, participants used a Likert scale (1 = very uncertain and 5 = very certain) to respond to a series of items that began with the stem "How certain are you that you could . . . ." Overall, students reported that they were generally certain about their abilities to perform the tasks required to write a paper or give a speech ( $M = 4.28$ ,  $SD = 0.51$ ,  $\alpha = .88$ ) and conduct library research ( $M = 3.85$ ,  $SD = 0.79$ ,  $\alpha = .91$ ).

We gained information about students' satisfaction with the Comm-B class in two ways. First, the survey asked students to report their satisfaction with course assignments, writing instruction and feedback, and the appropriation of writing, public speaking, library research, and workload within the course. Second, the survey included a number of items soliciting students' evaluations of various components of the Comm-B course experience. For these items, students were asked to indicate their agreement with a series of statements on a Likert scale (1 = strongly disagree and 5 = strongly agree). We computed four composite subscales to assess student satisfaction with course outcomes in terms of writing skills ( $\underline{M} = 3.51$ ,  $\underline{SD} = 0.93$ ,  $\alpha = .88$ ), public speaking skills ( $\underline{M} = 2.67$ ,  $\underline{SD} = 0.93$ ,  $\alpha = .90$ ), library research skills ( $\underline{M} = 3.20$ ,  $\underline{SD} = 1.00$ ,  $\alpha = .88$ ), and the overall value of the course ( $\underline{M} = 3.93$ ,  $\underline{SD} = 0.80$ ,  $\alpha = .83$ ).

Student papers. We evaluated students' writing performance by examining papers written by students toward the end of the semester. To inform this decision, we conducted a content analysis of writing assignments in Comm-B classes offered in the two previous semesters. In the fall of 1998, 85 faculty members responsible for Comm-B classes in the spring or fall semesters of 1998 were asked to submit the syllabi and writing assignments used in their classes; 58 instructors (68%) responded. Using these materials, we conducted a content analysis of assignments due during the last three weeks of classes and the summary period.

The decision to examine assignments due toward the end of the semester reflected the focus of the Comm-B assessment on performance outcomes. Assignments completed earlier in the semester are less likely to capture the full range of progress that students may make throughout a course. In addition, whereas portfolios of student work would speak to the development of students' skills over time and the operation of particular classes, an assessment of performance outcomes associated with Comm-B instruction in general was served by examining one writing exemplar from each student. Although any single piece of student writing may be a poor representation of that particular student's ability, the measurement error associated with any one student's paper should be randomly distributed throughout a

large sample of student papers. In other words, evaluating how students, on average, perform on single writing task at the end of the semester should provide a reasonable estimate of outcomes associated with Comm-B instruction.

The content analysis highlighted four features that distinguish writing assignments in Comm-B classes: (a) formal versus informal writing; (b) individual versus multiple authorship; (c) revision based on faculty feedback, revision based on peer feedback, or no revision; and (d) a content versus writing focus for the assignment. We then classified assignments due during the final month of the semester according to these categories. Despite the diversity of assignments, results indicated that the majority of Comm-B classes required students to turn in a formal paper that was the product of revision during the last two weeks of the semester. Thus, we decided to collect individually authored formal papers that were due toward the end of the semester for those students comprising the primary focus of the Comm-B assessment.

As part of their participation in the study, we asked instructors to provide unmarked copies of final papers written during the last two weeks of the semester for those students in our sample who were completing their first Comm-B course ( $N = 446$ ). In total, we collected papers for 384 students (86%). Although these papers represented a diversity of assignments, the majority constituted a substantial portion of students' final grades and were the product of at least one round of feedback and revision. Moreover, as writing samples produced toward the end of the semester, these papers provide a reasonable indicator of performance outcomes for both the Comm-B course and the general education communication program.

The first step in evaluating student papers was developing a set of performance criteria that was specific enough to provide substantive feedback on the Comm-B course, yet general enough to apply to the various assignments and the diversity of disciplines represented. To this end, a subcommittee comprised primarily of the Comm-A course directors reviewed the Comm-B objectives, as well as several papers from the fall 1998 semester that faculty had submitted to represent exemplary student work. In an effort to develop criteria that would apply across disciplines, the subcommittee generally focused on the

mechanics of writing; in this sense, the performance outcomes highlighted in this study overlap considerably with the objectives of the Comm-A course. To the extent that the Comm-B course addresses the continued development of fundamental writing skills, the Comm-A objectives are an appropriate source of performance criteria for the Comm-B assessment. At the same time, we recognize that this focus does not address the development of expertise in disciplinary conventions that is a specific objective of the Comm-B course. In total, the subcommittee recommended an initial set of performance criteria that were intended to emphasize fundamental writing skills, to apply across disciplines, and to allow for both holistic judgments and ratings of individual criteria.

We next evaluated the appropriateness of the criteria under development by asking Comm-B instructors the extent to which they attended to each performance outcome in their teaching efforts. In particular, the instructor survey previously described listed 18 specific facets of writing performance drawn from the criteria developed by the subcommittee. For each, instructors were asked to indicate how much they emphasized the outcome in their writing instruction (see Table 2 for descriptive information). Open-ended follow-up questions also asked instructors to identify other facets of writing they addressed in their class and any ways in which they attended to conventions of writing specific to their discipline. Based on this feedback, we eliminated criteria that instructors rated as generally irrelevant to their classes. In addition, because most instructors reported that they attended to disciplinary conventions in course content, the kind of writing assignments required, and the library resources emphasized, we decided not to develop criteria tailored to specific conventions. Instead, we added criteria addressing the extent to which the paper attended to disciplinary conventions in general.

The set of writing performance criteria was explicated and further revised by the team of raters who evaluated the student papers. The paper raters were hired during the fall of 1999 and completed training and paper evaluations during December of 1999 and January of 2000. All raters were teaching assistants at the University of Wisconsin – Madison, and all had previous experience teaching the Comm-A course in either Communication Arts (3 raters), English (3 raters), or Agricultural Journalism (1 rater). Comm-A instructors receive relatively consistent training in teaching writing and have substantial

experience evaluating the fundamental writing skills highlighted by our performance criteria. Thus, the team of raters brought ample expertise to the paper evaluation task.

To train for the paper evaluation task, the team of raters discussed the performance criteria as a group before independently rating four student papers. Ratings for these papers then served as the focus for a subsequent meeting in which the rating criteria were clarified and specific decision rules developed. After three rounds of training in this fashion, we developed a coding manual that defined each criterion and specified decision rules for each judgment (available upon request). Although the criteria were deemed generally applicable, raters encountered difficulties evaluating papers submitted by students in creative writing classes; therefore, we developed a slightly modified set of criteria for raters to use in evaluating those papers. We deemed these modifications to be superficial enough to include the creative writing papers in the sample of papers we used to evaluate the research questions.

Three additional decision rules were specified for the paper evaluation task. First, to avoid disciplinary bias arising from specific expertise, paper raters did not evaluate papers within their own disciplinary tradition. Second, raters evaluated all papers submitted by students in a particular class. And finally, paper raters reviewed any class assignments that were available to provide a context for evaluating students' writing performance.

The paper raters independently evaluated a subset of 60 papers, and interrater reliability was calculated; criteria manifesting unacceptable levels of disagreement among raters were reviewed as a group. This process of rating subsets of papers, evaluating interrater agreement, and discussing discrepancies was repeated until all papers had been evaluated. In addition, we asked the paper raters to record their reactions to specific papers, assignments, and courses in journals to provide qualitative information about the paper rating task. The information gleaned from these journals is available upon request.

In total, each of the 384 papers collected from students in Comm-B classes (stripped of identifying author information) was evaluated by four different raters with respect to 15 separate criteria.

To record judgments, raters indicated the extent to which they agreed that each criteria had been met in the paper (1= strongly agree and 5 = strongly disagree). For easier interpretation, we then rescored each judgment so that higher numbers reflected better performance. Given the complex and varied nature of the paper evaluation task, we considered interrater agreement acceptable ( $\alpha$ 's ranged from .57 to .79); consequently, we computed the scores for each paper as the average of the ratings provided by the four paper raters.

## Results

We next present results relevant to the 11 research questions that motivated this study. For each research question, we begin by describing our general analytic strategy. Then, we examine Comm-B outcomes indexed by the three dependent variables of writing performance, student perceptions of ability, and student satisfaction. For all analyses, we report statistically significant findings at  $p < .05$ . For analyses in which students are the unit of analysis ( $N$ s range from 56 to 384), power to detect a moderate effect ranged from .62 to .99, and power to detect a small effect ranged from .11 to .52. For analyses in which classes are the unit of analysis ( $N$ s range from 17 to 58), power to detect a moderate effect ranged from .22 to .64, and power to detect a small effect ranged from .07 to .12. The primary focus of this study is on students who were completing their first Comm-B class; accordingly, we included only that sub-sample of students in our examination of the first 10 research questions. We included the full sample of students in analyses relevant to RQ11, which asked about how the perceptions of students enrolled in their first Comm-B class compare to students who previously completed a Comm-B class.

### Student Performance Outcomes (RQ1, RQ2, and RQ3)

The first three research questions asked about the degree to which the Comm-B course fulfills general education objectives. We examined these research questions in two steps. First, we computed descriptive statistics for students' writing performance (RQ1), perceptions of ability (RQ2), and satisfaction with the Comm-B course (RQ3). Second, we conducted paired samples  $t$ -tests to compare the measures of writing performance, perceptions of ability, and course satisfaction to the midpoint of their

scales ( $n = 3$ ). The significance test associated with these  $t$ -tests indicates the extent to which the variables were rated significantly above or below their midpoints.

In terms of writing performance (see Table 3), results of the paired samples  $t$ -tests demonstrated that all but two of the paper ratings were above the midpoint of the 5-point scale. The two writing performance criteria not rated above the midpoint were the quality of the paper's prose and the paper's effective integration of non-text elements into the text; notably, the latter writing performance criterion was applicable to a substantially reduced number of papers.

Findings with respect to RQ2 indicated that students' composite scores for writing anxiety, public speaking anxiety, and library anxiety were all significantly below the midpoint of the 5-point scale (see Table 4). For specific items, ratings for two measures of public speaking anxiety ("I like to speak in public" and "I feel relaxed and comfortable giving a speech") did not significantly differ from the midpoint. In addition, responses to the item reading "The library can be overwhelming" were significantly greater than the midpoint. As indicated in Table 5, students' scores for the composite measures of confidence in their writing and public speaking skills and library research skills were significantly above the midpoint of the scale. The only exception to this pattern among the individual items was that students reported a lack of confidence in their ability to use microfilm, microforms, and audiovisual or media collections.

To examine RQ3, we computed descriptive statistics for items measuring student satisfaction. Results reported in Table 6 indicated that that students were generally satisfied with course assignments and writing instruction; the one exception was students' evaluation of the helpfulness of reading assignments about writing. Conversely, students indicated that writing assignments, comments on drafts later revised, and teacher-student conferences were especially useful. Evaluations of the appropriation of the course further indicated that students generally did not think too much of the course was devoted to writing, public speaking, or library instruction; nor did students think the course contained too much work overall.

With respect to students' evaluations of various components of the course (see Table 7), results demonstrated that the composite scores for satisfaction with the writing component of the course, the information literacy component of the course, and the course in general were significantly above the midpoint of the scale. For specific items, only one measure of information literacy ("This class was worthwhile because I learned about using library resources") deviated from this pattern and did not significantly differ from the scale midpoint. Student ratings for all items assessing satisfaction with the public speaking component of the course were significantly below the midpoint of the scale. Although all of the measures of student satisfaction shed light on students' experience of the Comm-B course, we excluded the items presented in Table 6 from the analyses of our remaining research questions because measurement analyses failed to identify unidimensional composite scales.

#### Student Academic Profiles (RQ4)

RQ4 asked about the associations between Comm-B outcomes and students' individual academic characteristics. We evaluated this research question using within-class regression techniques to address the fact that students were nested within classes in the study. Within-class regression analyses allowed us to covary the statistical non-independence present in the data because multiple students per class participated in the study. To that end, we first regressed one dependent variable onto a set of dummy coded variables representing class enrollment; this step controls for the variance due to individual class assignment. Then, we entered one of four indicators of students' academic aptitude: (a) their composite score on the American College Test (ACT), (b) their composite score on the Scholastic Aptitude Test (SAT), (c) their score on the English Placement Test (EPT), and (d) their cumulative grade point average. The significance test that corresponds with the second step of the regression model indicates the extent to which Comm-B outcomes vary as a function of student academic profiles.

RQ4a focused specifically on the connection between academic profiles and students' writing performance. Standardized regression coefficients between paper ratings and indicators of student aptitude, included in Table 8, revealed high positive associations. Only four exceptions to this trend were evident: (a) the ease of goal discernment was not associated with ACT scores, (b) the support of ideas by

evidence was not associated with ACT or SAT scores, (c) the appropriate documentation of sources was not associated with ACT, SAT, or EPT scores, and (d) the satisfactory integration of non-text elements was not associated with any of the aptitude variables. Despite these exceptions, the pattern of positive correlations suggests that individual differences in academic aptitude exert a substantial influence on writing performance outcomes.

Given the strong connection between scholastic ability and writing performance outcomes, we took steps to covary individual differences in academic aptitude from the writing performance variables in all subsequent analyses. By doing so, our analyses provide insight into the impact of other predictors of writing performance above and beyond individual differences in academic aptitude. To accomplish this, we formed a composite indicator of scholastic ability to use as a covariate in analyses evaluating the paper ratings as dependent variables. More specifically, we performed  $z$ -transformations on students' ACT scores, SAT scores, EPT scores, and cumulative grade point average to establish a standard metric for these variables. Then, we averaged the transformed scores across the four aptitude indicators to create a single value for each student in the sample. The reliability level for this composite aptitude variable was acceptable ( $\alpha = .87$ ).

RQ4b inquired about the link between academic profiles and students' perceptions of ability. Standardized regression coefficients between student perceptions and the aptitude measures documented substantial negative correlations between writing anxiety and ACT, SAT, and EPT scores (see Table 9). Conversely, library anxiety was positively associated with both SAT scores and cumulative grade point average. Finally, confidence in library research ability was negatively associated with EPT scores. Although the implications for self-perceptions of writing and information literacy skills diverge, these correlations generally suggest that student perceptions of ability vary somewhat as a function of academic aptitude. Because this study was designed to assess Comm-B outcomes over and above individual differences in scholastic ability, we covaried academic aptitude from further analyses involving student perceptions of ability.

RQ4c focused on the association between academic background and students' satisfaction with the Comm-B course. Standardized regression coefficients between student satisfaction and the four measures of academic aptitude revealed no statistically significant associations among these variables (see Table 10). Notably, this independence between student satisfaction and academic aptitude suggests no need to covary individual differences in scholastic ability from analyses involving student satisfaction as the dependent variable.

#### Student Demographic Characteristics (RQ5)

RQ5 inquired about the connection between Comm-B outcomes and individual differences in students' demographic characteristics. To examine this research question, we again conducted within-class regression analyses to correct for dependence in the data because multiple students from each class were included in the sample. Specifically, we regressed one dependent variable onto a set of dummy coded variables representing class assignment. For analyses involving writing performance (RQ5a) and perceptions of ability (RQ5b), we also covaried scholastic ability by entering the composite aptitude variable in this step. This strategy allowed us to examine the association between student demographic characteristics and Comm-B outcomes while controlling for individual differences in scholastic aptitude. In the second step of the model, we entered one of four individual characteristics as the independent variable of interest: (a) sex, (b) age, (c) number of semesters since matriculation, and (d) credits carried during the spring semester of 1999. The significance test associated with the second step of the model indicates the extent to which Comm-B outcomes vary as a function of individual characteristics.

RQ5a specifically asked about the link between student demographic attributes and writing performance (see Table 11). Results demonstrated a negative correlation between age and accuracy of language use. In addition, credit load was positively associated with the use of discipline-specific language. Although these two associations were evident, results as a whole demonstrated that individual differences beyond those accounted for by scholastic aptitude are limited.

We next examined the extent to which individual demographic characteristics corresponded with perceptions of ability (RQ5b; see Table 12). Findings demonstrated that age was positively associated

with confidence in library research skills. Further, the number of semesters since matriculation was negatively associated with library anxiety, but it was positively associated with both confidence in writing and speaking ability and confidence in library research ability. Thus, the results of these analyses suggest that indicators of student maturity are associated with perceptions of ability, over and above the influence exerted by scholastic aptitude. Conversely, students' sex and their credit load during that semester were not associated with perceptions of ability.

RQ5c involved the connection between individual demographic characteristics and students' satisfaction with the course. We conducted within-class regression analyses to compute standardized regression coefficients between student satisfaction and sex, age, number of semesters since matriculation, and credits carried during the spring semester of 1999 (see Table 13). Findings demonstrated no statistically significant associations.

#### Exemption from or Performance in Comm-A (RQ6)

We advanced RQ6 to gain an understanding of how Comm-B outcomes correspond with students' exemption from or performance in Comm-A. To evaluate this research question, we examined the extent to which students' Comm-A exemption or performance aligned with their writing performance (RQ6a), perceptions of ability (RQ6b), and satisfaction with the Comm-B course (RQ6c). Again, to account for shared variance due to class, we evaluated RQ6 using within-class regression techniques. In separate analyses, we regressed one dependent variable onto a set of dummy coded variables representing class assignment. We also included the composite academic aptitude variable in this step for analyses involving writing performance (RQ6a) and student perceptions of ability (RQ6b) to control for individual differences in scholastic ability. In the second step of the model, we entered one of two dummy coded variables: (a) a variable contrasting students who were exempted from Comm-A via English Placement Test scores with students who had completed a Comm-A course, or (b) a variable for the sub-sample of students who had completed Comm-A representing their grade in that class. For both sets of analyses, the significance test associated with the second step of the model indicates the extent to which Comm-B outcomes vary as a function of Comm-A exemption or performance.

Tests of the association between Comm-A exemption or performance and writing performance, controlling for scholastic aptitude, revealed only one statistically significant finding (RQ6a; see Table 14). In particular, the grade earned in Comm-A was positively associated with demonstrations of sound reasoning in the Comm-B papers. Although no statistically significant differences between students who were exempted from Comm-A via English Placement Test scores and students who had completed Comm-A were evident, the patterns of means suggest that students who had completed Comm-A tended to perform better with respect to all but two writing performance criteria.

Results with respect to student perceptions of ability, again covarying scholastic aptitude, also showed limited correspondence between Comm-A exemption or performance and Comm-B outcomes (RQ6b; see Table 15). More specifically, findings revealed no differences between students who were exempted from Comm-A via English Placement Test scores and students who had completed Comm-A. Only one statistically significant association emerged for the grade earned in Comm-A: it was positively associated with library anxiety.

Consistent with the results for RQ6a and RQ6b, Comm-A exemption or performance did not strongly coincide with student satisfaction (RQ6c; see Table 16). Across both sets of tests, only one statistically significant association was identified. Namely, students who were exempted from Comm-A via English Placement Test scores reported greater satisfaction with the information literacy component of the course than students who had completed Comm-A.

#### Student Effort (RQ7)

Because students vary in the effort they devote to their courses, we advanced RQ7 to inquire about the degree to which Comm-B outcomes vary as a function of academic effort. Before conducting substantive tests of RQ7, we sought to gain preliminary insight into students' motivation for selecting a particular Comm-B class. To that end, we computed descriptive information for the items in the student survey that asked students to indicate their reasons for enrolling in the class (see Table 17). Results indicated that most students selected a particular course because its subject matter sounded interesting, it was required for their intended major, and it was offered at a good time of day for them. Conversely,

findings suggested that students generally did not select a course based on the convenience of its meeting location or the particular instructor assigned to teach the class.

To evaluate the extent to which a student's effort influences his or her writing performance (RQ7a), perceptions of ability (RQ7b), and satisfaction with the course (RQ7c), we employed the same within-course regression model described previously. In particular, we entered a set of variables dummy coded to represent course affiliation in the first step of the regression model; we also included the composite aptitude variable for analyses involving writing performance (RQ7a) and student perceptions of ability (RQ7b). Then, we entered one of six indicators of student effort: (a) instructor reports of the percentage of course meetings the student attended, (b) instructor reports of the number of teacher-student conferences the student attended, (c) student reports of effort devoted to writing assignments, (d) student reports of effort devoted to library research assignments, (e) student reports of effort devoted to speaking assignments, and (f) student reports of effort devoted to the course in general. The significance test associated with the second step of the regression model indicates whether or not Comm-B outcomes coincide with student effort.

For writing performance (RQ7a; see Table 18), results indicated that five of the six indicators of student effort were associated with at least one of the paper ratings; the one exception was student reports of effort devoted to speaking assignments. Most notably, instructor reports of the percentage of class meetings the student attended was positively associated with seven paper ratings, including connection of related ideas, ideas supported by evidence, appropriate documentation of sources, sound reasoning, critical thinking, use of discipline-specific language, and overall quality of the paper. Instructor reports of the number of teacher-student conferences the student attended was also positively associated with discipline-specific language use. Student reports of effort devoted to the class also coincided with paper ratings: (a) effort devoted to writing assignments was positively associated with both clarity of language use and effective writing mechanics, (b) effort devoted to assignments requiring library research was negatively associated with connection of related ideas and integration of direct quotations, and (c) effort

devoted to the course in general was positively associated with consistent attention to the paper's goal, sound reasoning, clear language use, effective writing mechanics, and overall quality of the paper.

RQ7b inquired about the association between the effort students devoted to performing well in the course and perceptions of ability. Although the measures of effort were generally unrelated to perceptions of ability, two statistically significant associations emerged (see Table 19). Specifically, instructor reports of teacher-student conferences was negatively associated with confidence in library research ability, above and beyond the effect exerted by scholastic aptitude. Conversely, student reports of effort devoted to assignments requiring library research was positively associated with confidence in writing and speaking ability.

We advanced RQ7c to evaluate the correspondence between the degree of effort devoted to the course and student satisfaction. Findings generally revealed a positive association between student satisfaction and the degree of effort expended on the class (see Table 20). In particular, we identified four sets of statistically significant associations: (a) instructor reports of the number of course meetings the student attended was positively associated with overall course satisfaction, (b) student reports of effort devoted to writing assignments and effort devoted to the class as a whole were positively associated with both satisfaction with the writing component of the course and satisfaction with the course in general, (c) student reports of effort devoted to speaking assignments was positively associated with satisfaction with the public speaking component of the course, and (d) student reports of effort devoted to library research assignments was positively associated with all four measures of student satisfaction.

#### Methods of Education (RQ8)

We posited RQ8 to examine the role of curricular strategies in shaping writing performance (RQ8a), perceptions of ability (RQ8b), and satisfaction with the course (RQ8c). We conceptualized this process using a two-phase model: instructors' teaching strategies are likely to shape students' experiences of those strategies; in turn, students' experiences are likely to influence Comm-B outcomes. We tested the two stages of this model using separate analyses. First, we first examined the correspondence between

instructor and student reports of methods of education. Next, we evaluated the association between student reports of methods of education and Comm-B outcomes.

We examined the first phase of the process by inspecting the degree of correspondence between instructor and student reports of methods of education. Using class as the unit of analysis ( $N = 50$ ), we conducted independent samples  $t$ -tests to compare the proportion of students in each class who reported a method of education for instructors who did versus did not report that method of education. In these analyses, a statistically significant difference indicates that student perceptions vary as a function of instructor strategies; in other words, instructor efforts influence student experiences. As indicated in Table 21, we observed a statistically significant degree of overlap between instructor and student reports of the five teaching strategies measured in this study. Conversely, findings demonstrated no correspondence between instructor and student reports of any of the six types of writing feedback we measured. Although power in these comparisons is reduced because the class is the unit of analysis, the descriptive statistics in Table 21 highlight the discrepancies between instructors' writing feedback methods and students' experiences. In sum, results indicated convergence between instructors and students with respect to teaching strategies, but divergence with respect to types of writing feedback.

To investigate the second phase of the process, we examined RQ8 using student reports as the proximal predictor of student outcomes. This strategy is further supported by the results of the preceding analysis, which implied that instructors' efforts do not correspond perfectly with students' experience of the course. Because the student was the unit of analysis for these tests, we employed within-class regression models to shed light on the influence of methods of education on students' writing performance (RQ8a), perceptions of ability (RQ8b), and satisfaction with the course (RQ8c). We used separate analyses to examine a variety of methods of education: five teaching strategies, six types of writing feedback, the number of different teaching strategies employed, and the number of different types of writing feedback used. Specifically, we regressed one dependent variable onto a set of variables dummy coded to represent class enrollment. For analyses involving writing performance (RQ8a) and student perceptions of ability (RQ8b), we also added the composite aptitude variable as a covariate on this

step of the model. Then, on the second step, we included a variable measuring one method of education. We examined the significance test associated with the second step of the model to evaluate the association between Comm-B outcomes and the method of education.

Evaluations of RQ8a, which inquired about the correspondence between methods of education and writing performance, are summarized in Tables 22 and 23. Although the majority of findings are not statistically significant, several specific findings emerged. Most notably, results indicated that teacher-student conferences was positively associated with clarity of organization, effective connection of related ideas, sound reasoning, and use of discipline-specific language. In addition, whereas effective connection of related ideas was positively associated with peer review, that outcome was negatively associated with library instruction. With respect to the types of writing feedback, findings demonstrated that comments about the content of completed papers was negatively associated with integration of direct quotations. Feedback about the organization and structure of completed papers was positively correlated with effective integration of non-text elements. Comments about grammatical errors in completed papers was positively associated with critical thinking and effective integration of non-text elements, but it was negatively associated with use of discipline-specific language. Conversely, comments about the content and grammar of drafts subject to revision were positively associated with use of discipline-specific language. Similarly, comments about grammatical errors in drafts subject to revision was positively associated with critical thinking. Because only 8% of the associations were statistically significant, the specific findings should be interpreted with caution; only the consistent pattern for teacher-student conferences suggests to us a genuine effect.

We also used within-class regression analyses to examine the associations between writing performance and the number of instructional tactics employed (see Table 24). For the number of teaching strategies instructors used, only one statistically significant association emerged: the number of teaching strategies employed was positively associated with sound reasoning. Notably, however, there was a general trend for the number of teaching strategies used to correlate positively with writing performance. In addition, the number of types of writing feedback instructors employed was positively associated with

use of discipline-specific language, effective integration of non-text elements, and overall quality of the paper. Again, the limited number of statistically significant associations suggests that specific findings may be spurious.

RQ8b involved the link between methods of education and student perceptions of ability. Results of the within-class regression analyses again indicated only a few statistically significant associations. In terms of teaching strategies (see Table 25), peer review coincided with less writing anxiety. With respect to writing feedback (see Table 26), students who noted feedback about the content of drafts subject to revision reported greater confidence in their writing and speaking ability. When we examined the combined influence of education tactics on students' perceptions of their skills (see Table 27), a positive association emerged between the number of teaching strategies instructors used and students' confidence in their writing and speaking skills. These findings are qualified by the large number of tests conducted and the absence of consistent patterns.

RQ8c inquired about the extent to which student satisfaction varies as a function of methods of education; again, findings demonstrated a diversity of associations. Evaluations of teaching strategies (see Table 28), revealed that: (a) reading assignments about writing coincided with increased satisfaction with the writing component of the course, (b) teacher-student conferences was positively associated with satisfaction with the public speaking component of the course, and (c) library instruction was positively associated with satisfaction with the information literacy component of the course. When we repeated these analyses substituting types of writing feedback as the independent variables (see Table 29), we identified three sets of findings: (a) satisfaction with the writing component of the course was positively associated with comments about the content and grammar of completed papers as well as comments about the organization, structure, and grammar of revised papers, (b) satisfaction with the information literacy component of the course was positively associated with comments about the content of papers subject to revision, but it was negatively associated with comments about the organization and structure of papers subject to revision, and (c) overall course satisfaction was positively associated with comments about grammatical errors in drafts later revised.

The previous findings are echoed by the associations between student satisfaction and the number of education methods employed (see Table 30). More specifically, the number of teaching strategies used was positively associated with satisfaction with the writing component of the class and satisfaction with the course in general. In a parallel fashion, the number of types of writing feedback offered was positively associated with satisfaction with the writing component, the information literacy component, and the course in general. Relative to the findings for RQ8a and RQ8b, the results of RQ8c revealed both a greater number of statistically significant associations and more meaningful patterns; thus, we place greater confidence in these effects.

#### Instructor Experience and Training (RQ9)

The next two research questions examined course-level predictors of Comm-B performance; therefore, we shifted our focus from the individual student to the course as a whole. To create a single measure of student outcomes for each class, we averaged student data within classes. We controlled for differences in scholastic aptitude for writing performance and perceptions of ability by first regressing each of those dependent variables onto the composite aptitude measure in separate analyses. Then, we pooled the resulting unstandardized residuals to create a single outcome score for each section. For the measures of student satisfaction, we simply pooled the raw scores to create one score for each section.

To examine the link between instructor expertise and Comm-B outcomes, we evaluated the extent to which differences in instructor experience and training corresponded with students' writing performance (RQ9a), perceptions of ability (RQ9b), and satisfaction with the course (RQ9c). We focused on five indicators of expertise measured by the instructor survey: (a) job rank, (b) the number of semesters the instructor had taught that particular Comm-B course, (c) the number of semesters the instructor had taught a different Comm-B course, (d) the number of semesters the instructor had taught a Comm-A course, and (e) whether or not the instructor participated in a campus training session for Comm-B or writing intensive classes. We used a variety of analyses to evaluate RQ9: we conducted ANOVAs to examine job rank, computed correlations for the number of semesters instructors reported teaching various courses, and conducted independent samples *t*-tests to compare instructors who had

versus had not completed a training session. The dependent variables were the averaged residual paper ratings (RQ9a), the averaged residual perceptions of ability (RQ9b), and the averaged raw satisfaction scores (RQ9c). These tests involve a substantial drop in power because the class was the unit of analysis; therefore, we base our interpretation of the data on patterns of findings, rather than on statistical significance.

RQ9a focused on the link between instructor expertise and writing performance. Results of these analyses revealed relatively large effects for instructor job rank, but otherwise no clear patterns emerged. To clarify the impact of instructor job rank, we conducted Bonferroni post-hoc tests between ranks. Bonferroni post-hoc tests make pairwise comparisons between group means while adjusting the observed significance level for the number of significance tests conducted. Although findings indicated that student papers written in classes taught by faculty members contained higher-quality prose than student papers written in classes taught by either inexperienced teaching assistants or faculty assistants, the set of paper ratings as a whole did not coincide with consistent trends between ranks.

Similar analyses examining the correspondence between instructor expertise and student perceptions of ability (RQ9b; see Table 32) demonstrated a positive association between the number of semesters the instructor had taught that particular Comm-B course and student reports of confidence in their writing and speaking ability; in addition, negative associations between the number of semesters the instructor had taught that particular Comm-B course and both writing anxiety and public speaking anxiety approached significance. Again, moderately large effect sizes were indicated for job rank, so we conducted Bonferroni post-hoc comparisons between ranks. These tests revealed that whereas faculty instructors generally coincided with low levels of student anxiety about writing and library research, they tended to correspond with high levels of confidence in writing and speaking skills and library research skills.

The association between instructor expertise and student satisfaction are summarized in Table 33 (RQ9c). Consistent with the results of the other tests of this research question, instructor rank had a moderately large association with student satisfaction. Thus, we conducted Bonferroni post-hoc

comparisons between ranks to identify the nature of these effects. Findings indicated that students reported significantly greater satisfaction with the public speaking component of the course in conjunction with classes taught by faculty assistants than experienced teaching assistants. Moreover, students generally reported greater satisfaction in courses taught by a faculty instructor. In addition, a tendency for the number of semesters the instructor had taught a different Comm-B course to correspond with greater satisfaction with the writing component of the course was evident.

#### Instructional Format of the Course (RQ10)

RQ10 asked about the extent to which a student's performance is associated with the instructional format of the Comm-B course. To examine this research question, we conducted regression models employing paper ratings (RQ10a), perceptions of ability (RQ10b), and course satisfaction (RQ10c) as the dependent variables. Because the class was again the unit of analysis, we averaged students' scores within class, and we employed the averaged unstandardized residuals to covary scholastic aptitude for analyses involving paper ratings (RQ10a) and student perceptions of ability (RQ10b). We computed independent samples  $t$ -tests to compare classes employing a stand-alone format to those employing a lecture format. Then, we examined correlations between the dependent variables and the number of students enrolled in each section, the number of hours per week students spent in low-enrollment classes, and the number of credits assigned to the course. Because of the loss of power when the class is the unit of analysis, our discussion of the results emphasizes trends in the data, in addition to statistically significant associations.

The associations between instructional format and writing performance are summarized in Table 34 (RQ10a). The comparisons between stand-alone classes and lecture classes revealed that papers written in lecture classes achieved higher ratings for ideas supported by evidence than papers written in stand-alone classes, but papers written in stand-alone classes achieved higher ratings for quality of prose. Although no other comparisons were statistically significant, the majority of moderate effects indicated a trend toward better writing performance in lecture classes. In addition, the number of students per section tended to be negatively associated with the majority of writing performance measures; this trend was statistically significant for the overall quality of the paper. No consistent pattern emerged with respect to

the number of hours per week spent in low-enrollment classes; however, this variable was positively associated with the use of scholarly language. Finally, results indicated statistically significant positive associations between the number of course credits and a variety of paper ratings, including ease of goal discernment, ideas supported by evidence, appropriate documentation of sources, sound reasoning, critical thinking, use of scholarly language, and overall quality of the paper.

A parallel set of analyses shed light on the connection between instructional format and students' perceptions of ability (RQ10b; see Table 35). Although only one of the associations was statistically significant, results revealed two additional trends. First, positive associations between the number of hours per week spent in low-enrollment classes and confidence in writing, speaking, and library research ability approached statistical significance. Second, the number of hours per week spent in low-enrollment classes also tended to be negatively correlated with library anxiety. Finally, the number of course credits was positively and significantly associated with confidence in library research ability.

We posited RQ10c to examine the association between students' satisfaction and the instructional format of the course. Results of these analyses, included in Table 36, revealed four sets of findings. First, students in stand-alone classes were significantly more satisfied with the writing component of the course than students in lecture classes. Second, the number of students per section tended to be negatively associated with course satisfaction. Third, findings indicated a trend for a positive association between the number of hours per week spent in low-enrollment classes and course satisfaction. Finally, whereas the number of credits was negatively and significantly associated with satisfaction with the writing component of the course, a positive association between the number of credits and satisfaction with the information literacy component of the course approached significance.

#### Enrollment Patterns (RQ11)

A final research question asked about how students who have completed their first Comm-B course compare to students who have completed multiple Comm-B courses in terms of perceptions of ability (RQ11a) and satisfaction with the course (RQ11b). For these analyses, we employed the individual as the unit of analysis and included the full sample of participants who completed the student survey ( $n =$

369). In a series of within-class regression analyses, we regressed one dependent variable onto a set of dummy coded variables representing class assignment. We also included the composite aptitude variable in this step for analyses involving perceptions of ability (RQ11a). Then, on the second step of the model, we included a dummy coded variable representing students who were enrolled in their first Comm-B class versus students who had completed a previous Comm-B class. The significance test associated with the second step of the model indicates the extent to which outcomes vary as a function of the number of Comm-B courses students completed.

For perceptions of ability (RQ11a; see Table 37), results revealed only one statistically significant association. Namely, students who were enrolled in their first Comm-B course reported more library anxiety than students who had previously completed one or more Comm-B courses. When we repeated these analyses using the indicators of student satisfaction as the dependent variables (RQ11b; see Table 38), findings indicated no differences between the two groups of students.

### Discussion

Our goal was to implement a study that would support conclusions about the Comm-B course in general, while attending to the variety of classes that fulfill this requirement. We are encouraged that the results of this study provide an informative evaluation of both the Comm-B course and the two-course general education program in communication. In the paragraphs that follow, we elaborate on the findings that emerged from the four categories of research questions guiding this study: (a) the achievement of Comm-B objectives, (b) the ways in which characteristics of students coincide with Comm-B outcomes, (c) the ways in which characteristics of courses and instructors correspond with Comm-B outcomes, and (d) the ways in which enrollment patterns are associated with Comm-B outcomes. Then, we offer policy recommendations implied by the results of the study. We conclude with a discussion of strengths and limitations of this study, as well as directions for future research targeting the general education communication program.

#### The Achievement of Comm-B Objectives

A fundamental objective of the Comm-B course is to enhance students' ability to write effectively. Accordingly, this study documented students' proficiencies with respect to basic writing skills by evaluating papers completed during the final weeks of the semester (RQ1). The data reported in this study provide an overall picture of students' performance at the end of the Comm-B course with respect to 15 writing criteria. Students, on average, performed well with respect to 13 of these basic writing skills: ease of goal discernment, consistent attention to a goal, clarity of organization, effective connection of related ideas, ideas supported by evidence, integration of direct quotations, appropriate documentation of sources, valid reasoning, critical thinking, clarity of language use, grammatical proficiency, use of scholarly language, and overall quality of the paper. Students performed less well in terms of quality of prose and effective integration of non-text elements. Overall, however, the Comm-B course seems to be effective with respect to basic writing performance criteria.

Students' beliefs and self-perceptions about their ability to perform academic tasks can influence subsequent scholastic experiences; thus, we evaluated these attitudes as an important component of Comm-B outcomes (RQ2). Students who completed the student survey reported their level of anxiety about writing, public speaking, using the library, and they also indicated their degree of confidence in their ability to perform tasks related to writing a paper, giving a speech, and conducting library research. Although some specific anxieties appear to persist in conjunction with delivering a public speech, the results of this study revealed generally low levels of writing, public speaking, and library anxiety. Moreover, with few exceptions, students were typically certain of their abilities to write a paper, give a speech, or conduct library research. Thus, we conclude that the Comm-B course appears to be effective in cultivating beliefs and self-perceptions that enhance students' writing, public speaking, and information literacy performance.

Students' degree of satisfaction with the Comm-B course also provides insight into their experience of the general education communication requirement (RQ3). The profile of satisfaction apparent from the student survey indicated that students, in general, positively evaluated the course assignments, the writing instruction and feedback they received, and the appropriation of writing, public

speaking, library instruction, and workload within the course. Moreover, students also conveyed satisfaction with the writing component of the course, the information literacy component of the course, and the course in general. Perhaps because of the primary focus on writing outcomes within the Comm-B course, students' evaluations of the extent to which their classes promoted public speaking skills were somewhat less positive.

### Characteristics of Students

In addition to providing descriptive information about the extent to which Comm-B objectives are being achieved, this study evaluated the connection between students' characteristics and Comm-B outcomes. As a starting point, we examined the influence of scholastic aptitude on Comm-B outcomes (RQ4). Not surprisingly, results identified substantial positive associations between indicators of scholastic ability and students' writing performance. Further, findings documented negative associations between measures of scholastic ability and writing anxiety, but positive associations between scholastic ability and library anxiety. Notably, however, scholastic ability was not associated with the degree to which students were satisfied with the course.

Given the overlap between scholastic ability and students' writing performance and perceptions of ability, we utilized data analytic strategies to examine the impact of other characteristics of students, qualities of courses and instructors, and patterns of enrollment on Comm-B outcomes over and above the individual differences in scholastic aptitude. For example, findings with respect to student demographic characteristics, including sex, age, number of semesters since matriculation, and credits carried during the spring of 1999, indicated only limited associations between these variables and Comm-B outcomes once the effect of scholastic aptitude was covaried (RQ5). A consistent pattern that did emerge, however, concerned scholastic maturity and self-perceptions of library ability: older students and students who had completed more semesters at the university level typically reported less library anxiety and more confidence in their library research ability.

This study also sheds light on the link between students' Comm-A experience and Comm-B outcomes (RQ6); in particular, three conclusions are noteworthy. First, after controlling for individual

differences in scholastic ability, students who had completed Comm-A tended to receive somewhat higher paper ratings than students who were exempted from Comm-A via English Placement Test scores. This finding suggests that Comm-A instruction, at least in part, may shrink the writing performance gap between the two groups of students. Second, the results of this study imply that the benefits accruing from completing Comm-A are not enhanced or diminished by the student's grade in that course. Finally, students who did not complete Comm-A reported greater satisfaction with the information literacy component of the Comm-B course. Because students may have limited opportunities to receive library instruction outside of the Comm-A course, this finding suggests that students who are exempted from Comm-A should complete a Comm-B course early on in their college careers to secure information literacy training.

Because students vary in the degree to which they devote effort to performing well in courses, we advanced a set of research questions to examine the role of student effort in Comm-B outcomes (RQ7). As could be expected, the findings of this study indicate that student effort appears to enhance performance and attitudinal outcomes. Several indicators of student effort were positively associated with paper ratings; most notably, instructor reports of the number of teacher-student conferences the student attended and student reports of effort devoted to the course in general correspond with better writing performance. Further, heightened levels of student effort typically coincided with increased degrees of course satisfaction. Hence, the results of this study underscore the importance of student effort in facilitating Comm-B outcomes.

#### Characteristics of Instructors and Courses

In addition to student-level predictors, this study also examined the ways in which characteristics of instructors and courses correspond with writing performance, perceptions of ability, and satisfaction with the course. To provide information about the effectiveness of particular pedagogical strategies, we investigated the associations between methods of education and Comm-B outcomes (RQ8). Of the teaching strategies and types of writing feedback measured in this study, teacher-student conferences emerged most consistently as a beneficial method of education. Uniform patterns of effectiveness were

not evident for other methods of education; on the other hand, no single teaching strategy or type of writing feedback appeared to produce negative outcomes. Notably, positive correlations between the number of different methods of education employed and Comm-B outcomes suggest that students benefit from the use of a wide variety of educational tactics.

Instructor expertise constituted a second course-level factor investigated in this study (RQ9). To examine the association between instructor expertise and Comm-B outcomes, we attended to job rank, the number of semesters instructors had taught Comm-B and Comm-A classes, and their participation in a campus training session. The results of these analyses suggest that instructor expertise is particularly important for students' writing outcomes. More specifically, faculty instructors and those instructors who had taught Comm-B courses in previous semesters were generally linked with enhanced writing performance and more positive perceptions of ability. Faculty instructors also tended to be linked with lower levels of writing and library anxiety, greater confidence in academic skills, and greater satisfaction with the course. Moreover, instructors' experience teaching in a particular course tended to instill less anxiety and more confidence related to writing and public speaking. Notably, this general trend for instructor expertise did not typically hold true for the distinction between inexperienced and experienced teaching assistants. In sum, although instructor expertise generally seems to facilitate writing outcomes, inexperienced and experienced teaching assistants did not consistently differ with respect to these outcomes.

To determine if course format plays a role in Comm-B outcomes (RQ10), we examined the link between a number of course characteristics and students' writing performance, perceptions of ability, and satisfaction with the course. Notably, neither stand-alone classes nor lecture classes with divided sections emerged as a clearly preferable format for the Comm-B course. Whereas students enrolled in lecture classes with divided sections tended to achieve higher paper ratings than those enrolled in stand-alone classes, they also reported less satisfaction with the writing component of the course than students affiliated with stand-alone classes. Although findings with respect to stand-alone versus lecture format were mixed, the results clearly underscore the connections between class size, number of course credits,

and Comm-B outcomes. In particular, smaller classes and more course credit coincided with better writing performance. Moreover, the number of hours per week spent in low-enrollment classes tended to correspond with increased confidence in academic skills, decreased library anxiety, and heightened satisfaction with the course. In a similar vein, the number of students per section tended to be negatively associated with course satisfaction. Thus, the benefits accruing to students from the Comm-B requirement appear to be enhanced by small class enrollments and more academic credit assigned to the class.

### Characteristics of Enrollment

In addition to characteristics of students, courses, and instructors, this study also examined whether students who had completed multiple Comm-B courses differed in their perceptions of ability and satisfaction with the course compared to students who had completed one Comm-B course (RQ11). Findings indicated only one benefit: students who had completed multiple Comm-B courses reported less library anxiety than students who had completed a single Comm-B course. Overall, however, students who participate in multiple Comm-B classes appear to receive diminishing returns with respect to perceptions of ability and course satisfaction.

### Policy Recommendations Implied by the Findings

We believe that the value of assessment research ultimately lies in its ability to inform curricular decisions. Although the findings from any one study require replication before strong conclusions can be drawn, the results of this work suggest to us a variety of policy recommendations supported by the data. Consequently, we devote the following paragraphs to discussing the implications of our findings for academic policy at the University of Wisconsin – Madison. We first discuss policy recommendations focused on improving the course in general; then, we examine policy recommendations targeting the writing, speaking, and information literacy components of the course in particular.

Overall course performance. We begin by advancing a variety of policy recommendations designed to address multiple areas of student performance. First, because results suggest that better writing performance and more positive self-perceptions of ability coincide with faculty-taught Comm-B sections, we recommend increasing support for Comm-B instruction to encourage more faculty to teach

Comm-B classes. For example, the university could implement an incentive system to compensate instructors for the substantial time and effort required to teach Comm-B classes. Second, the university could evaluate avenues for facilitating communication between instructors teaching Comm-B classes in different departments across the university. An infrastructure of communication across disciplines would allow instructors to exchange ideas, provide feedback, and avoid duplicating their efforts. Finally, the university could investigate methods for informing the campus community about the nature of Comm-B instruction so that administrators, faculty, staff, and students have a better appreciation for the complexities of teaching Comm-B classes. In sum, we suggest that the university increase the internal and external rewards associated with Comm-B instruction to encourage more faculty members to teach the requirement.

Second, because our findings indicate that writing performance and self-perceptions of ability correspond with instructors who have taught the course for multiple semesters, we believe that the university should investigate ways to encourage and capitalize on instructor experience. For example, instructors could be assigned to the same class for several semesters in succession; at the same time, however, this recommendation must be balanced against the importance of providing faculty members and teaching assistants with opportunities to teach a variety of courses during their careers at UW – Madison. An alternative strategy is to develop more substantial training programs for Comm-B instructors. The spring 1999 training program required for teaching assistants assigned to their first Comm-B class entailed 6.5 hours of instruction conducted by the Writing Center: two 2.5-hour sessions held before classes begin and a 1.5-hour follow-up session held during the fourth week of classes. An even more rigorous training program might further enhance instructor experience. In sum, then, we advise the university to explore methods of cultivating the experience of instructors assigned to Comm-B classes.

Not surprisingly, the data imply that smaller class sizes coincide with better writing performance, increased confidence in academic skills, and greater course satisfaction. Thus, we recommend that the university evaluate strategies to facilitate smaller class sizes. Within the sections sampled for this study,

enrollments ranged from 7 to 26 students per section; the guidelines for Comm-B classes developed in 1998 by the Communication Implementation Committee recommend that enrollments typically be limited to 20 students per section. Subsidiary analyses failed to conclusively identify an optimal enrollment size; however, trends suggested that enrollments of approximately 14 to 16 students per section may coincide with beneficial outcomes. In light of findings documenting a negative association between class size and Comm-B outcomes, we advise exploring options for decreasing enrollments.

Because findings indicate that teacher-student conferences coincide with beneficial outcomes, we recommend investigating strategies to allow traditional instruction to be supplemented by increased one-on-one contact either inside or outside of the classroom. Perhaps the most effective, although expensive, way to accomplish more one-on-one contact is to increase the instructor / student contact hours assigned to the Comm-B course. Other options for increasing one-on-one instruction time outside the classroom include student consultations with Writing Center instructors and / or undergraduate Writing Fellows. Of course, additional research would be necessary to assess the relative effectiveness of supplementing instructor / student contact hours with sessions between students and outside educators.

The data also show that the use of multiple methods of education is valuable to students. This study evaluated five teaching strategies (class lectures about writing, reading assignments about writing, peer review, teacher-student conferences, and library instruction) and five types of writing instruction (feedback on the content of completed papers, the organization and structure of completed papers, grammatical errors in completed papers, the organization and structure of drafts later revised, and grammatical errors in drafts later revised). With the exception of teacher-student conferences, no one method of education coincided with consistently beneficial outcomes; however, the use of multiple methods of education corresponded with enhanced outcomes. Thus, we recommend disseminating information to instructors about the variety of teaching methods available for Comm-B instruction.

The writing component. Whereas some policy recommendations target improvement in multiple areas of student performance, other policy recommendations address the writing, speaking, or information literacy components of the course in isolation. We offer two pieces of advice with respect to the writing

portion of the Comm-B course. Most notably, after controlling for individual differences in academic ability, results revealed that students who completed Comm-A tend to perform better on basic writing criteria than students who were exempted from Comm-A via English Placement Test scores. These findings imply that Comm-A instruction is effectively cultivating students' writing skills. Consequently, we advise that the university explore options to eliminate Comm-A exemptions and instead require all students to complete the Comm-A course. Although eliminating the system of Comm-A exemptions would necessitate a 25% increase in the number of seats offered per semester, the overall quality of students enrolled in Comm-A classes would also be enhanced. In this way, undergraduate education in writing is likely to be improved with the termination of Comm-A exemptions.

Second, because results suggest that more course credit corresponds with better writing performance, we recommend examining the feasibility of increasing the credit load associated with the course. We suspect that adding credits to Comm-B classes would not only facilitate writing performance directly as suggested by the data, but it may also enhance writing outcomes indirectly by heightening students' motivation to perform well in the class. We appreciate the pragmatic challenges of increasing the credit load associated with the classes that fulfill the Comm-B requirement; however, we anticipate that this policy change would function to strengthen the writing component of the Comm-B course.

The oral communication component. Our findings also suggest policy recommendations for improving the oral communication portion of the Comm-B course. Because results indicate that students are relatively unsatisfied with the speaking component of the Comm-B course, we recommend providing more support for the oral communication requirement. In particular, we see three potential avenues for providing such assistance to the oral communication component of Comm-B. First, the university could examine the feasibility of creating an oral communication laboratory on campus to aid instructors in the teaching of speaking skills; this laboratory could provide services similar to the ones that the Writing Center currently provides to writing instructors. At present, oral communication laboratories are in place at many institutions of higher education across the county, including Texas A&M University and the University of Colorado at Colorado Springs (see Morreale, 1994).

A second method of providing support for the oral component of the Comm-B requirement is to offer workshops to instructors on the teaching of oral communication. Anecdotal evidence suggests that instructors feel under-prepared for educating students in oral communication, as illustrated by the following open-ended comment from an instructor survey: “The oral component is the hardest. I don’t understand the goals of it or how to do a good job at that. I feel I’m losing content time to the Comm-B stuff, especially the oral component.” Feedback such as this suggests to us that instructors do not feel comfortable teaching the oral communication requirement at least in part because they lack information. Thus, we believe that instructors would benefit from workshops describing strategies for teaching oral communication instruction.

A third option for enhancing the oral communication component is to increase the number of instructor / student contact hours devoted to the Comm-B requirement, thereby allowing instructors more time to teach oral communication in addition to course content and writing skills. We see at least two strategies for generating more classroom hours. One strategy, already discussed in conjunction with the writing component, is to increase the number of credits assigned to Comm-B classes. A second and more radical strategy is to revise the current structure of the general education communication program by developing a two-course sequence to fulfill the Comm-A requirement. Within this two-course sequence, one course would focus on speaking instruction and the other course would focus on writing instruction. A two-course sequence would facilitate oral communication instruction at the Comm-A level, thereby alleviating some of the instructional burden currently located within the Comm-B course. We recognize that both methods of increasing instructor / student contact hours, adding course credit and revamping the Comm-A course, pose considerable consequences with respect to curriculum design, instructor load, and student degree requirements. At the same time, however, the findings of this study suggest that the current lack of attention paid to the speaking component of the Comm-B course needs to be addressed.

The information literacy component. In addition to the writing and speaking portions of the Comm-B course, the information literacy component also deserves assistance. In particular, our findings suggest two policy recommendations for improving students’ information literacy skills. First, because

the data imply that older students and those students who have completed more semesters at the university are more confident in their library research skills, we recommend cultivating this confidence earlier in students' academic careers by developing a program in "Information Literacy Across the Curriculum." The university currently supports a "Writing Across the Curriculum" program that strives to incorporate writing education into a variety of courses across disciplines. In a similar fashion, the university could emphasize the integration of information literacy education throughout the curriculum. To the extent that students' information literacy skills improve as they receive instruction both early and often, a program in "Information Literacy Across the Curriculum" would enhance students' competence in this area.

Results also show that the information literacy component of the Comm-B course is particularly valuable to students who were exempted from Comm-A via English Placement Test scores. One policy recommendation stemming from this finding, identical to the one highlighted in conjunction with the writing component, is to eliminate the current system of Comm-A exemptions so that all students benefit from basic information literacy training early in their academic careers. A second option would be to target formal information literacy instruction to classes that enroll a high proportion of students exempted from Comm-A. Of course, the only perfect venue for reaching the 25% of students who are exempted from Comm-A is to terminate the system of exemptions. In the meantime, however, we believe that bolstering the information literacy curriculum in courses that enroll large numbers of exempted students is a viable option for supplementing the information literacy instruction missed by those students.

#### Strengths, Limitations, and Directions for Future Research

The conclusions and policy recommendations implied by this study must be evaluated in light of the strengths and weakness of the project's design. One strength is the heterogeneous nature of the sample represented in the study. To assess Comm-B courses irrespective of its many variations, we required a large sample of Comm-B classes reflecting the diversity of disciplines, approaches, and instructional formats apparent on the UW – Madison campus. To this end, we derived a random sample of 70 Comm-B sections spanning 24 different academic departments. Our sampling strategy was designed so that low enrollment classes and large lectures with divided sections were equally represented, so we are confident

that the sample of Comm-B sections included in the study generally reflect the variety of classes in which students earn Comm-B credit. Further, because our focus was evaluating student outcomes upon completing the Comm-B course, our investigation primarily targeted students who were subject to the general education requirements and completing their first Comm-B class. The 446 students in our sample who met these criteria provide an ample foundation for assessing student outcomes. Moreover, we supplemented this primary sample with a smaller number of students who had previously taken a Comm-B class. Combining these samples offers a broader basis for evaluating students' perceptions of the Comm-B course. In short, the diversity of the sample constitutes one strength of this study.

A second strength involves the multiple outcomes operationalized in this study. Both writing performance and attitudes about learning have the potential to shape subsequent academic outcomes; accordingly, this study was designed to capture both performance and perceptual ramifications of the Comm-B experience. Indeed, these data speak to Comm-B outcomes at three levels: writing performance, perceptions of writing, speaking, and library research skills, and satisfaction with the course. Although the three outcomes we measured provide insight into the extent to which general education objectives are being met, we recognize that student performance in conjunction with public speaking and information literacy are also targeted by the Comm-B course. Hence, we recommend that future investigations of the Comm-B requirement attend to public speaking and library research performance outcomes to complement the writing performance outcomes investigated here.

Several weaknesses of this study must also be considered. A first limitation stems from our operationalization of writing performance. More specifically, our data do not provide an objective measure of students' writing skills. Although the analyses weighing the paper ratings against the midpoint of the scale provide information about how student writing performance compares to a neutral value (see Table 3), our findings do not address how those skills align with more objective criteria such as grading systems. Because our primary goal was to examine factors that influence writing performance rather than to evaluate students' skills in isolation, we utilized Likert-scale rating procedures to produce variables

with normal distributions and sufficient variance. At the same time, however, we recognize that future work may seek to collect objective measures of students' writing skills.

The generalizability of the findings we report are restricted by at least additional two limitations. First, although the diversity of classes, instructors, and students included in the sample represents a strength of the project, the sample is also the source of one shortcoming. More specifically, in comparison to the relatively large number of students represented in the sample ( $N = 446$ ), the number of sections represented in the sample was considerably fewer ( $N = 70$ ). Thus, the analyses that targeted the course as the unit of analysis had insufficient power to detect small effects. For this reason, we offer conclusions with respect to course-level variables with less confidence than individual-level variables.

Second, this study focused on basic writing criteria to provide a foundation for drawing conclusions about the Comm-B course as a whole; consequently, the data do not speak to the cultivation of disciplinary-specific skills and attitudes within the Comm-B requirement. Not only do the particular nature of disciplinary conventions differ across academic traditions, but the extent to which Comm-B classes attend to those disciplinary conventions also varies (see Table 2). In light of these constraints, we considered an investigation of the norms, conventions, and stylistic methods of individual disciplines to be beyond the scope of the current project. Now that a broad-based evaluation of the Comm-B course has been completed, we suggest that future research explore the ways in which the Comm-B requirement is achieving its objective of educating students about the communication practices of specific disciplines.

### Conclusion

The goal of this study was to gain insight into the Comm-B course as a whole, while being sensitive to the diverse instantiations of particular classes that fulfill this requirement. The results of this study provide descriptive information about student outcomes in terms of writing performance, perceptions of ability, and satisfaction with the course. Moreover, the findings that emerged from this investigation shed light on the ways in which characteristics of students, courses, instructors, and enrollment patterns coincide with Comm-B outcomes. We are encouraged that the results of this study

will be useful for guiding curricular decisions about the general education communication program in general and the Comm-B course in particular.

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Table 1

Summary of Variables in the Study

<u>Measures of Comm-B Outcomes</u>	<u>Source</u>
Writing Performance ( <u>RQ1</u> ) Paper ratings	Team of paper raters
Beliefs and Self-Perceptions of Ability ( <u>RQ2</u> ) Writing anxiety Public speaking anxiety Library anxiety Confidence in writing and speaking ability Confidence in library research ability	Student survey Student survey Student survey Student survey Student survey
Satisfaction with the Course ( <u>RQ3</u> ) Evaluation of course distribution Evaluation of workload Evaluation of course assignments Evaluation of writing instruction and feedback Evaluation of course appropriation Satisfaction with the writing component Satisfaction with the public speaking component Satisfaction with the information literacy component Overall course satisfaction	Student survey Student survey Student survey Student survey Student survey Student survey Student survey Student survey Student survey
<u>Measures of Student Characteristics</u>	<u>Source</u>
Academic Profiles ( <u>RQ4</u> ) ACT score SAT score EPT score Grade point average	ISIS database ISIS database ISIS database ISIS database
Demographic Characteristics ( <u>RQ5</u> ) Sex Age Number of semesters since matriculation Credits carried during the spring of 1999	ISIS database ISIS database ISIS database ISIS database
Comm-A Exemption and Performance ( <u>RQ6</u> ) Exemption via EPT score Grade earned in Comm-A	ISIS database ISIS database

(table continues)

Measures of Student Characteristics

Source

Effort Devoted to the Course (RQ7)

- Reasons for taking the course
- Percentage of class meetings attended
- Number of teacher-student conferences attended
- Effort devoted to writing assignments
- Effort devoted to speaking assignments
- Effort devoted to assignments requiring library research
- Effort devoted to the course in general

- Student survey
- Instructor survey
- Instructor survey
- Student survey
- Student survey
- Student survey
- Student survey

Measures of Course Characteristics

Source

Methods of Education (RQ8)

- Class lectures about writing
- Reading assignments about writing
- Peer review
- Teacher-student conferences
- Library instruction
- Comments about the content of completed papers
- Comments about the organization and structure of completed papers
- Comments about grammatical errors in completed papers
- Comments about the content of drafts later revised
- Comments about the organization and structure of drafts later revised
- Comments about grammatical errors in drafts later revised

- Instructor and student surveys

Instructor Experience and Training (RQ9)

- Job rank
- Number of semesters taught that Comm-B course
- Number of semesters taught a different Comm-B course
- Number of semesters taught a Comm-A course
- Participation in a training session

- Instructor survey

Instructional Format (RQ10)

- Course format
- Number of students per section
- Number of hours per week spent in low-enrollment classes
- Number of credits

- Timetable database
- Timetable database
- Timetable database
- Timetable database

Measures of Enrollment Characteristics

Source

Enrollment Characteristics (RQ11)

- Previous completion of a Comm-B course

- Student survey

Table 2

Writing Performance Outcomes Emphasized by Instructors

		Frequency					M	SD
		Not at All	Not Much	Some	A Lot	NA		
A paper should have a clear purpose	0	2	6	49	1	3.82	0.47	
A paper should have a clear thesis statement	1	3	7	40	1	3.69	0.68	
A paper should follow a clear method of organization	0	1	7	48	2	3.84	0.42	
A paper should use transitions to connect ideas	4	2	14	36	2	3.46	0.87	
A paper should use internal previews to clarify the organization for the reader	9	6	17	17	9	2.86	1.10	
A paper should effectively integrate non-text elements (e.g., charts, figures, etc.) into the text	15	9	6	7	21	2.14	1.16	
Ideas should be supported by evidence from reliable sources	0	3	8	42	8	3.74	0.56	
Sources should be cited or documented appropriately	0	5	18	31	4	3.48	0.67	
Fact, opinion, and inference should be clearly differentiated	0	10	23	21	4	3.20	0.74	
The reasoning by which conclusions are derived should be sound (i.e., logically valid)	1	3	13	36	5	3.58	0.69	
A paper should deal with the subject matter in a thoughtful and probing manner that demonstrates critical thinking	0	3	6	48	1	3.79	0.53	
Language should be clear, accurate, and appropriate	0	0	9	48	1	3.84	0.37	
A paper should demonstrate creativity	3	20	20	11	4	2.72	0.86	
An author should employ active voice predominately	4	16	14	19	5	2.91	0.99	

(table continues)

		Frequency				M	SD
		Not at All	Not Much	Some	A Lot		
An author should articulate complex ideas capably	0	5	24	28	1	3.40	0.65
A paper should demonstrate the author's knowledge of the relevant content domain	2	7	18	26	5	3.28	0.84
A paper should be free of errors in grammar, punctuation, and writing mechanics	2	5	17	33	1	3.42	0.80
A paper should be carefully spellchecked and proofread	0	8	19	30	1	3.39	0.73

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Note. N = 58. Cell entries in the first four columns indicate the number of instructors who endorsed a particular response. Means are based on a 4-point scale (1 = not at all and 4 = a lot) with “not applicable” responses excluded.

Table 3

Descriptive Statistics for Paper Ratings

	<u>M</u>	<u>SD</u>	<u><math>\alpha</math></u>	<u>t(384)</u>
This paper has an easily discernable goal	4.43	0.57	0.62	49.09 ***
This paper consistently attends to its goal	4.33	0.56	0.57	46.08 ***
This paper follows a clear method of organization	3.83	0.73	0.59	22.16 ***
This paper effectively connects related ideas	3.55	0.64	0.61	16.81 ***
Ideas in this paper are supported by evidence	3.95	0.72	0.65	25.57 ***
This paper effectively integrates direct quotations into the text <sup>a</sup>	3.30	0.82	0.60	5.65 ***
The sources in this paper are cited or documented appropriately	4.06	0.94	0.79	20.89 ***
The reasoning by which conclusions are derived in this paper is sound (i.e., logically valid)	3.52	0.74	0.61	13.35 ***
This paper deals with the subject matter in a thoughtful and probing way that demonstrates critical thinking	3.37	0.70	0.59	10.19 ***
The language in this paper is clear and accurate	3.68	0.64	0.59	20.78 ***
This paper demonstrates an understanding of grammar, punctuation, and writing mechanics	3.88	0.66	0.74	26.01 ***
The quality of the prose is sophisticated	3.06	0.65	0.63	1.74
This paper demonstrates an attempt to use scholarly language appropriate to the discipline, rather than conventional or "lay-person's" language	3.66	0.72	0.72	17.80 ***
Overall, this is a high-quality paper	3.48	0.67	0.69	13.81 ***
This paper effectively integrates non-text elements (i.e., charts, figures, etc.) into the text <sup>b</sup>	2.79	0.99	0.73	- 1.97

Note. N = 384. Judgments were made on a 5-point scale (1 = strongly disagree and 5 = strongly agree).

The far left column reports the results of paired samples t-test comparisons with the scale midpoint (= 3).

<sup>a</sup> n = 250. <sup>b</sup> n = 75.

\*\*\* p < .001.

Table 4

Descriptive Statistics for Student Perceptions of Writing Anxiety, Public Speaking Anxiety, and Library Anxiety

	<u>M</u>	<u>SD</u>	<u>t(304)</u>
<u>Writing Anxiety Items</u>	2.34	0.81	- 14.20 ***
I am nervous about having my writing evaluated	2.62	1.21	- 5.51 ***
I enjoy writing (R)	2.48	1.12	- 8.07 ***
I feel confident in my ability to clearly express my ideas in writing (R)	2.32	0.98	- 12.07 ***
I don't think I write as well as most other people do	2.61	1.08	- 6.36 ***
I'm no good at writing	1.86	0.89	- 22.35 ***
I'm nervous about writing	2.14	1.09	- 13.82 ***
<u>Public Speaking Anxiety Items</u>	2.72	1.02	- 4.82 ***
I like to speak in public (R)	2.91	1.26	- 1.28
Giving a speech really scares me	2.60	1.22	- 5.72 ***
I feel relaxed and comfortable giving a speech (R)	2.92	1.20	- 1.20
My thoughts become confused and jumbled with I am giving a speech	2.45	1.06	- 9.20 ***

(table continues)

	<u>M</u>	<u>SD</u>	<u>t(304)</u>
<u>Library Anxiety Items</u>	2.38	0.68	- 15.85 ***
I feel anxious about using the library	2.36	1.10	- 10.14 ***
I know as much as most students do about using the library (R)	2.61	0.97	- 7.10 ***
I feel like I can never find anything in the library	2.54	1.06	- 7.56 ***
I am comfortable seeking help from a librarian when I don't know how to do something in the library (R)	2.00	0.99	- 17.67 ***
The library can be overwhelming	3.42	1.13	6.57 ***
I don't know how to begin doing library research on a topic	2.07	0.96	- 16.81 ***
I am confident that librarians will help me when I have questions about using the library (R)	2.08	0.92	- 17.47 ***
I feel like I am the only one in the university who doesn't know where to look for things in the library	1.83	0.85	- 23.99 ***
I get frustrated trying to figure out where everything is in the library	2.87	1.17	- 2.02 *
I don't know who to ask for help in the library	1.92	0.91	- 20.66 ***
Other students seem to know more about using the library than I do	2.38	1.01	- 10.76 ***
I have no anxiety about using the library (R)	2.75	1.16	- 3.81 ***
I don't know which step to take first when I have to do library research	2.15	0.93	- 15.88 ***

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Note. N = 305. Responses were indicated on a 5-point scale (1 = strongly disagree and 5 = strongly agree). All items were scored such that higher numbers represent higher levels of anxiety; the specific items that were reverse-coded are denoted by R. Descriptive statistics for each composite scale are included in the row that corresponds with the heading for the measure. The far right column reports the results of paired samples t-test comparisons with the scale midpoint (= 3). Reliability levels were .86 for writing anxiety, .89 for public speaking anxiety, and .90 for library anxiety.

\*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 5

Descriptive Statistics for Student Perceptions of Writing, Speaking, and Library Research Skills

How certain are you that you could . . .	<u>M</u>	<u>SD</u>	<u>t(304)</u>
<u>Writing and Speaking Items</u>	4.27	0.52	42.14 ***
Find information for a paper or speech	4.44	0.79	31.75 ***
Support ideas in a paper or speech	4.47	0.65	39.57 ***
Organize points in a paper or a speech	4.43	0.70	35.75 ***
Write and revise drafts of a paper or speech	4.46	0.72	35.39 ***
Use comments from others to revise a paper or speech	4.55	0.63	43.06 ***
Use language appropriately in a paper or speech	4.39	0.75	32.05 ***
Cope with fears about giving a speech	4.13	0.97	20.32 ***
Deliver a speech effectively	4.02	0.99	18.00 ***
Write effectively	4.27	0.79	28.11 ***
Reinforce and clarify ideas using visual aids	4.10	0.87	21.85 ***
Gauge the quality of sources of information	4.03	0.85	20.99 ***
Judge the soundness of evidence	4.05	0.82	22.31 ***
Assess the validity of reasoning	4.10	0.82	23.26 ***
<u>Library Research Items</u>	3.80	0.81	17.33 ***
Choose which library to use	3.82	1.11	12.92 ***
Choose the library most relevant to your intended major	3.94	1.11	14.91 ***
Locate library resources relevant to your intended major	3.99	1.02	16.85 ***

(table continues)

How certain are you that you could . . .	<u>M</u>	<u>SD</u>	<u>t(304)</u>
<u>Library Research Items</u>			
Access library resources from a computer outside the library	4.00	1.14	15.23 ***
Use the journal collection	3.61	1.29	8.21 ***
Use microfilm, microforms, and audiovisual or media collections	2.70	1.25	- 4.23 ***
Use reference collections, such as encyclopedias or bibliographical dictionaries	3.92	1.00	16.11 ***
Use reserve materials	3.88	1.06	14.50 ***
Use the general book collection	4.14	0.94	21.02 ***
Use computerized journal indexes, such as MedLine or PsychLit	3.64	1.29	8.69 ***
Use MADCAT, the campus library catalog	4.20	1.05	19.85 ***

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Note. N = 305. Responses were indicated on a 5-point scale (1 = very uncertain and 5 = very certain).

Descriptive statistics for each composite scale are included in the row that corresponds with the heading for the measure. The far right column reports the results of paired samples t-test comparisons with the scale midpoint (= 3). Reliability levels were .89 for confidence in writing and speaking skills and .91 for confidence in library research skills.

\*\*\* p < .001.

Table 6

Descriptive Statistics for Student Evaluations of Instruction and Course Appropriation

	<u>M</u>	<u>SD</u>	<u>t(304)</u>
<u>Satisfaction with Course Assignments</u>			
The writing assignments helped me to learn the subject matter of the course.	3.77	0.98	13.51 ***
The speaking assignments helped me to learn the subject matter of the course.	3.21	1.09	2.61 *
The assignments that required doing library research helped me to learn the subject matter of the course.	3.29	1.04	4.75 ***
The library instruction I received helped me complete assignments for the class.	3.15	1.13	2.07 *
<u>Satisfaction with Writing Instruction and Feedback</u>			
The instructor's written comments on my completed papers were particularly helpful to me.	4.00	0.93	18.26 ***
The instructor's comments on drafts I later revised were particularly helpful to me.	4.13	0.86	21.88 ***
Class lectures about writing were very helpful to me.	3.18	1.03	2.40 *
Reading assignments about writing were particularly helpful to me.	3.03	1.02	0.43
Peer review of my writing was very helpful to me.	3.74	1.05	10.88 ***
Individual conferences with the instructor about writing were very helpful to me.	4.18	0.83	22.75 ***

(table continues)

	<u>M</u>	<u>SD</u>	<u>t(304)</u>
<u>Satisfaction with Course Appropriation</u>			
Too much of this course was devoted to writing.	2.45	0.87	- 10.96 ***
Too much of this course was devoted to public speaking.	1.92	0.83	- 18.79 ***
Too much of this course was devoted to library instruction.	1.91	0.85	- 20.66 ***
Overall, there was too much work to do in this course.	2.68	0.99	- 5.65 ***

---

Note. N = 305. Responses were indicated on a 5-point scale (1= strongly disagree and 5 = strongly agree).

The far right column reports the results of paired samples t-test comparisons with the scale midpoint (=

3). Results of measurement analyses indicated that the items within each subset did not form

unidimensional scales.

Table 7

Student Satisfaction with Comm-B Course Components

	<u>M</u>	<u>SD</u>	<u>t(304)</u>
<u>Satisfaction with the Writing Component</u>	3.52	0.89	10.18 ***
Because of this course, my writing has improved.	3.68	0.95	20.37 ***
This class was more worthwhile because I learned about writing.	3.54	1.00	6.50 ***
Because of this course, I am more comfortable with writing.	3.48	1.00	8.33 ***
<u>Satisfaction with the Public Speaking Component</u>	2.66	0.91	- 6.00 ***
Because of this course, my ability to speak in public has improved.	2.72	1.00	- 4.44 ***
The class was more worthwhile because I learned about speaking in public.	2.54	1.00	- 6.43 ***
Because of this course, I am more comfortable with speaking in public.	2.72	0.99	- 4.07 ***
<u>Satisfaction with the Information Literacy Component</u>	3.17	1.00	2.85 **
Because of this course, my library skills have improved.	3.23	1.12	3.59 ***
This class was worthwhile because I learned about using library resources.	2.94	1.11	- 0.92
Because of this course, I am more comfortable using UW – Madison libraries.	3.36	1.08	5.56 ***
<u>Overall Course Satisfaction</u>	3.94	0.75	21.73 ***
Overall, I learned a lot from this course.	4.02	0.87	20.35 ***
The skills I learned in this course will help me in the courses I will take in the future.	3.92	0.86	18.47 ***
The skills I learned in this course will be important to me after college.	3.87	0.94	16.04 ***

(table continues)

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Note. N = 305. Responses were indicated on a 5-point scale (1= strongly disagree and 5 = strongly agree). Descriptive statistics for each composite scale are included in the row that corresponds with the heading for the measure. The far right column reports the results of paired samples  $t$ -test comparisons with the scale midpoint (= 3). Reliability levels were .69 for satisfaction with the writing component of the course, .89 for satisfaction with the public speaking component of the course, .88 for satisfaction with the information literacy component of the course, and .80 for overall course satisfaction.

\*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 8

Associations between Paper Ratings and Student Academic Profiles

	<u>ACT</u>	<u>SAT</u>	<u>EPT</u>	<u>GPA</u>
	( <u>n</u> = 335)	( <u>n</u> = 101)	( <u>n</u> = 319)	( <u>n</u> = 369)
Easily discernable goal	.11	.47 **	.13 *	.18 **
Consistent attention to its goal	.13 *	.40 *	.17 **	.21 ***
Clear method of organization	.19 **	.41 **	.23 ***	.24 ***
Effective connection of related ideas	.26 ***	.59 ***	.30 ***	.29 ***
Ideas supported by evidence	.10	.19	.13 *	.27 ***
Effective integration of direct quotations <sup>a</sup>	.21 **	.36 *	.26 ***	.23 ***
Appropriate documentation of sources	.04	.11	.03	.18 **
Demonstrates sound reasoning	.24 ***	.22	.22 ***	.32 ***
Demonstrates critical thinking	.21 **	.43 **	.23 ***	.35 ***
Clear and accurate language usage	.29 ***	.74 ***	.36 ***	.25 ***
Demonstrates understanding of writing mechanics	.24 ***	.52 ***	.40 ***	.31 ***
Sophisticated quality of prose	.31 ***	.74 ***	.39 ***	.33 ***
Uses scholarly language appropriate to discipline	.16 **	.30 **	.16 **	.34 ***
Overall quality of the paper	.29 ***	.52 ***	.35 ***	.41 ***
Effective integration of non-text elements <sup>b</sup>	.08	- .11	.16	.22

Note. ACT denotes American College Test composite score, SAT denotes Scholastic Aptitude Test composite score, EPT denotes English Placement Test composite score, and GPA denotes cumulative grade point average. Cell entries are  $\beta$ s from within-class regression analyses.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

<sup>a</sup>  $n = 250$ . <sup>b</sup>  $n = 75$ .

Table 9

Associations between Student Perceptions of Ability and Student Academic Profiles

	<u>ACT</u>	<u>SAT</u>	<u>EPT</u>	<u>GPA</u>
	( <u>n</u> = 275)	( <u>n</u> = 79)	( <u>n</u> = 271)	( <u>n</u> = 297)
Writing anxiety	- .24 **	- .40 *	- .28 ***	- .19
Public speaking anxiety	- .04	- .07	- .02	- .02
Library anxiety	.04	.48 **	.11	.23 *
Confidence in speaking and writing ability	.06	.10	.08	.09
Confidence in library research ability	- .13	- .16	- .17 *	- .16

Note. ACT denotes American College Test composite score, SAT denotes Scholastic Aptitude Test composite score, EPT denotes English Placement Test composite score, and GPA denotes cumulative grade point average. Cell entries are  $\beta$ s from within-class regression analyses.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 10

Correlations between Student Satisfaction and Student Academic Profiles

	<u>ACT</u>	<u>SAT</u>	<u>EPT</u>	<u>GPA</u>
	( <u>n</u> = 275)	( <u>n</u> = 79)	( <u>n</u> = 271)	( <u>n</u> = 297)
Satisfaction with writing component	.02	.29	.05	.06
Satisfaction with public speaking component	- .02	.05	- .04	- .04
Satisfaction with information literacy component	.03	.18	.10	.07
Overall course satisfaction	.00	.17	.02	- .09

Note. ACT denotes American College Test composite score, SAT denotes Scholastic Aptitude Test composite score, EPT denotes English Placement Test composite score, and GPA denotes cumulative grade point average. Cell entries are  $\beta$ s from within-class regression analyses.

Table 11

Associations between Paper Ratings and Student Demographic Characteristics with Student Aptitude

Covaried

	<u>Sex</u>	<u>Age</u>	<u>SEM</u>	<u>CC</u>
Easily discernable goal	- .01	- .01	.04	- .01
Consistent attention to its goal	.00	.02	.07	.00
Clear method of organization	.04	- .02	.04	.03
Effective connection of related ideas	- .02	- .05	.02	.02
Ideas supported by evidence	.09	.00	.05	- .01
Effective integration of direct quotations <sup>a</sup>	- .04	.10	.09	.03
Appropriate documentation of sources	.01	- .02	.05	.05
Demonstrates sound reasoning	.04	.00	.02	.02
Demonstrates critical thinking	.00	.03	.10	.07
Clear and accurate language usage	.04	- .12 *	.00	- .05
Demonstrates understanding of writing mechanics	.09	- .02	.03	- .04
Sophisticated quality of prose	.02	- .07	.01	.05
Uses scholarly language appropriate to discipline	.07	- .02	- .05	.10 *
Overall quality of the paper	.05	- .04	.05	.02
Effective integration of non-text elements <sup>b</sup>	.05	- .07	- .14	- .07

Note. N = 369. SEM denotes the number of semesters since matriculation and CC denotes the number of credits carried during the spring of 1999. Cell entries are  $\beta$ s from within-class regression analyses.

\*  $p < .05$ .

<sup>a</sup>  $n = 250$ . <sup>b</sup>  $n = 75$ .

Table 12

Associations between Student Perceptions of Ability and Student Demographic Characteristics with Student Aptitude Covaried

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	<u>Sex</u>	<u>Age</u>	<u>SEM</u>	<u>CC</u>
Writing anxiety	.11	- .12	- .06	- .02
Public speaking anxiety	.10	- .14	- .11	- .07
Library anxiety	.05	- .06	- .23 **	- .09
Confidence in speaking and writing ability	- .05	.13	.17 *	.01
Confidence in library research ability	.00	.14 *	.23 **	.06

---

Note. N = 297. SEM denotes the number of semesters since matriculation and CC denotes the number of credits carried during the spring of 1999. Cell entries are  $\beta$ s from within-class regression analyses.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 13

Correlations between Student Satisfaction and Student Demographic Characteristics


---

	<u>Sex</u>	<u>Age</u>	<u>SEM</u>	<u>CC</u>
Satisfaction with writing component	.01	.04	.04	- .06
Satisfaction with public speaking component	- .06	- .01	- .03	- .07
Satisfaction with information literacy component	.03	.01	- .06	.00
Overall course satisfaction	.02	- .06	- .06	.04

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Note. N = 297. SEM denotes the number of semesters since matriculation and CC denotes the number of credits carried during the spring of 1999. Cell entries are  $\beta$ s from within-class regression analyses.

Table 14

Associations between Paper Ratings and Comm-A Exemption via English Placement Test Scores and Comm-A Performance with Student Aptitude Covaried

	<u>Exemption via EPT</u>	<u>Grade in Comm-A</u>
	( <u>n</u> = 296)	( <u>n</u> = 201)
Easily discernable goal	.10	.07
Consistent attention to its goal	.12	.01
Clear method of organization	.03	- .02
Effective connection of related ideas	.07	.03
Ideas supported by evidence	.06	.07
Effective integration of direct quotations <sup>a</sup>	.02	- .06
Appropriate documentation of sources	.04	.06
Demonstrates sound reasoning	.01	.15 *
Demonstrates critical thinking	.04	.13
Clear and accurate language usage	- .01	.04
Demonstrates understanding of writing mechanics	.04	.10
Sophisticated quality of prose	.07	- .03
Use of scholarly language appropriate to discipline	- .01	.15
Overall quality of the paper	.08	.09
Effective integration of non-text elements <sup>b</sup>	.08	- .14

Note. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate better performance for students who were not exempted from Comm-A via English Placement Test scores or for students who earned higher grades in Comm-A.

\*  $p < .05$ .

<sup>a</sup>  $n = 193$ . <sup>b</sup>  $n = 59$ .

Table 15

Associations between Student Perceptions and Comm-A Exemption via English Placement Test Scores and Comm-A Performance with Student Aptitude Covaried

	<u>Exemption via EPT</u> ( <u>n</u> = 250)	<u>Grade in Comm-A</u> ( <u>n</u> = 156)
Writing anxiety	.00	- .11
Public speaking anxiety	- .14	.04
Library anxiety	- .02	.22 *
Confidence in speaking and writing ability	.09	.02
Confidence in library research ability	.09	- .12

Note. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate higher perceptions for students who were not exempted from Comm-A via English Placement Test scores or for students who earned higher grades in Comm-A.

\*  $p < .05$ .

Table 16

Associations between Student Satisfaction and Comm-A Exemption via English Placement Test Scores and Comm-A Performance

	<u>Exemption via EPT</u> ( <u>n</u> = 250)	<u>Grade in Comm-A</u> ( <u>n</u> = 156)
Satisfaction with the writing component	- .04	.06
Satisfaction with the public speaking component	.05	- .04
Satisfaction with the information literacy component	- .14 *	.07
Overall course satisfaction	- .01	- .09

Note. Cell entries are  $\beta$ s from within-class regression analyses. Negative values indicate greater satisfaction for students who were exempted from Comm-A via English Placement Test scores or for students who earned lower grades in Comm-A.

\*  $p < .05$ .

Table 17

Descriptive Statistics for Student Reports of Reasons for Taking the Course


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The course was required for intended major	145 (39%)
The course was required for admission to the school or college of their choice	54 (15%)
The subject matter of the course sounded interesting	231 (63%)
The course was taught by a particular teacher	19 (5%)
The course was offered by a particular department	95 (26%)
The course was offered at a good time of day for them	114 (31%)
They wanted to improve their writing	81 (22%)
They wanted to improve their communication skills	38 (10%)
The course met in a location that was convenient for them	25 (7%)
The course had an appealing format	66 (18%)

---

N = 305. Cell entries indicate the number of students who endorsed a particular reason for taking the course. The sum of the percentages is greater than 100 because students were asked to indicate all of the reasons that influenced their decision to enroll in the course.

Table 18

Associations between Paper Ratings and Student Effort with Student Aptitude Covaried

	<u>ATT</u>	<u>CON</u>	<u>E-W</u>	<u>E-S</u>	<u>E-L</u>	<u>E-G</u>
Easily discernable goal	-.04	.00	-.07	.01	-.04	.06
Consistent attention to its goal	.04	-.08	-.02	.09	-.08	.14 *
Clear method of organization	.03	-.04	-.06	-.04	-.04	.07
Effective connection of related ideas	.13 *	-.05	-.01	-.02	-.15 *	.12
Ideas supported by evidence	.22 ****	.00	-.01	-.04	-.08	.05
Effective integration of direct quotations <sup>a</sup>	.11	.15	.02	-.03	-.16 *	.03
Appropriate documentation of sources	.17 **	-.08	.08	.08	-.02	.04
Demonstrates sound reasoning	.20 ****	-.07	.02	.05	-.05	.18 **
Demonstrates critical thinking	.20 **	.01	.01	.10	-.07	.11
Clear and accurate language usage	.04	-.05	.11 *	-.01	-.01	.16 **
Demonstrates understanding of writing mechanics	.03	.00	.13 *	.04	.01	.15 *
Sophisticated quality of prose	.05	.05	.07	-.02	-.12	.08
Uses scholarly language appropriate to discipline	.13 *	.16 *	.09	.03	-.06	.09
Overall quality of the paper	.15 *	.01	.07	.04	-.09	.16 **
Effective integration of non-text elements <sup>b</sup>	.08	-.06	-.01	.14	-.14	.13

Note. N = 252. ATT denotes instructor reports of the percentage of course meetings the student attended, CON denotes instructor reports of the number of teacher-student conferences the student attended, E-W denotes student reports of effort devoted to writing assignments, E-S denotes student reports of effort devoted to speaking assignments, E-L denotes student reports of effort devoted to assignments requiring library research, and E-G denotes student reports of effort devoted to the course in general. Cell entries are  $\beta$ s from within-class regression analyses.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*\*  $p < .001$ .

<sup>a</sup>  $n = 165$ . <sup>b</sup>  $n = 56$ .

Table 19

Associations between Student Perceptions of Ability and Student Effort with Student Aptitude Covaried

	<u>ATT</u>	<u>CON</u>	<u>E-W</u>	<u>E-S</u>	<u>E-L</u>	<u>E-G</u>
Writing anxiety	.05	.20	.04	.08	.00	.07
Public speaking anxiety	.06	.08	-.01	.09	.02	-.01
Library anxiety	.07	.17	.04	.12	-.06	.02
Confidence in writing and speaking ability	-.07	-.08	.09	.02	.15 *	.07
Confidence in library research ability	.03	-.21 *	-.02	-.05	.08	-.02

Note. N = 293. ATT denotes instructor reports of the percentage of course meetings the student attended, CON denotes instructor reports of the number of teacher-student conferences the student attended, E-W denotes student reports of effort devoted to writing assignments, E-S denotes student reports of effort devoted to speaking assignments, E-L denotes student reports of effort devoted to assignments requiring library research, and E-G denotes student reports of effort devoted to the course in general. Cell entries are  $\beta$ s from within-class regression analyses.

\*  $p < .05$ .

Table 20

Associations between Student Satisfaction and Student Effort


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	<u>ATT</u>	<u>CON</u>	<u>E-W</u>	<u>E-S</u>	<u>E-L</u>	<u>E-G</u>
Satisfaction with writing component	.12	-.04	.22 ***	.11	.20 **	.20 **
Satisfaction with public speaking component	.07	-.02	.04	.35 ***	.20 **	.12
Satisfaction with information literacy component	.06	.08	.08	.17	.19 **	.12
Overall course satisfaction	.15 *	.16	.27 ***	.17	.17 *	.26 ***

---

Note.  $N = 301$ . ATT denotes instructor reports of the percentage of course meetings the student attended, CON denotes instructor reports of the number of teacher-student conferences the student attended, E-W denotes student reports of effort devoted to writing assignments, E-S denotes student reports of effort devoted to speaking assignments, E-L denotes student reports of effort devoted to assignments requiring library research, and E-G denotes student reports of effort devoted to the course in general. Cell entries are  $\beta$ s from within-class regression analyses.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 21

Comparison of Instructors' and Students' Reports of Methods of Education

	<u>Instructor Reports</u>				<u>t(48)</u>
	<u>Present</u>		<u>Absent</u>		
<u>Teaching Strategies</u>					
Class lectures about writing	.33	(.25)	.18	(.20)	2.11 *
Reading assignments about writing	.47	(.23)	.15	(.22)	4.91 ***
Peer review	.62	(.26)	.09	(.18)	6.78 ***
Teacher-student conferences	.57	(.27)	.34	(.27)	2.90 ***
Library instruction	.52	(.32)	.11	(.11)	4.35 ***
<u>Types of Writing Feedback</u>					
Comments about the content of completed papers	.59	(.22)	.67	(.29)	- 0.54
Comments about the organization and structure of completed papers	.56	(.22)	.75	(.35)	- 1.17
Comments about grammatical errors in completed papers	.51	(.23)	.50	(.20)	0.08
Comments about the content of drafts later revised	.55	(.27)	.31	(.44)	1.22
Comments about the organization and structure of drafts later revised	.52	(.27)	.46	(.39)	0.38
Grammatical errors in drafts later revised	.44	(.29)	.40	(.20)	0.39

Note. N = 50. Cell entries indicate the proportion of students in each class who reported they received the method of education. Values in parentheses are standard deviations.

\*  $p < .05$ . \*\*\*  $p < .001$ .

Table 22

Comparison of Paper Ratings by Student Reports of Teaching Strategies with Student Aptitude Covaried

	<u>CL</u>	<u>RA</u>	<u>PR</u>	<u>CON</u>	<u>LI</u>
Easily discernable goal	.07	.07	.13	.04	.09
Consistent attention to its goal	.06	.08	.13	.12	.01
Clear method of organization	.09	.06	.15	.14 *	-.09
Effective connection of related ideas	.08	.11	.26 *	.15 *	-.21 *
Ideas supported by evidence	.02	.07	.00	.12	-.04
Effective integration of direct quotations <sup>a</sup>	.09	.01	.09	-.04	-.13
Appropriate documentation of sources	.05	-.01	.01	.02	-.01
Demonstrates sound reasoning	.07	.06	-.14	.21 **	-.03
Demonstrates critical thinking	-.01	.11	.03	.10	-.09
Clear and accurate language usage	.06	.01	.08	.11	-.14
Demonstrates understanding of writing mechanics	-.02	-.02	-.09	.04	.02
Sophisticated quality of prose	-.02	-.06	-.02	.06	-.11
Use of scholarly language appropriate to discipline	.11	-.02	-.11	.14 *	.03
Overall quality of the paper	.05	.09	.16	.10	-.07
Effective integration of non-text elements <sup>b</sup>	-.09	.19	-.04	.14	.00

Note. N = 254. CL = class lectures about writing, RA = reading assignments about writing, PR = peer review, CON = teacher-student conferences, and LI = library instruction. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate better performance when the method of education is present.

\*  $p < .05$ . \*\*  $p < .05$ .

<sup>a</sup>  $n = 166$ . <sup>b</sup>  $n = 56$ .

Table 23

Comparison of Paper Ratings by Student Reports of Writing Feedback with Student Aptitude Covaried

	C-C	O-C	G-C	C-R	O-R	G-R
Easily discernable goal	.03	-.10	.02	.00	-.04	.01
Consistent attention to its goal	-.01	.01	.08	.02	.05	.13
Clear method of organization	.05	.02	.01	-.05	-.04	.06
Effective connection of related ideas	.05	.02	-.04	.01	.00	-.04
Ideas supported by evidence	-.04	-.01	.00	.03	.06	-.02
Effective integration of direct quotations <sup>a</sup>	-.13 *	-.06	.05	-.13	-.06	.04
Appropriate documentation of sources	-.10	-.11	-.07	-.07	-.05	-.08
Demonstrates sound reasoning	.04	.07	.03	.06	.02	.05
Demonstrates critical thinking	.08	-.01	.14 *	.06	-.03	.15 *
Clear and accurate language usage	.11	.02	-.05	.11	.03	.03
Demonstrates understanding of writing mechanics	.10	.07	-.03	.11	.04	.00
Sophisticated quality of prose	.02	-.03	-.07	.10	.03	.03
Use of scholarly language appropriate to discipline	.05	.05	-.13 *	.13 *	.09	.14 *
Overall quality of the paper	.05	.06	.07	.10	.09	.13
Effective integration of non-text elements <sup>b</sup>	.13	.28 *	.24 *	-.08	-.16	.23

Note.  $N = 254$ . C-C = comments about the content of completed papers, O-C = comments about the organization and structure of completed papers, G-C = comments about grammatical errors in completed papers, C-R = comments about the content of drafts students later revised, O-R = comments about the organization and structure of drafts students later revised, and G-R = comments about grammatical errors in drafts students later revised. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate better performance when the method of education is present.

\*  $p < .05$ .

<sup>a</sup>  $n = 166$ . <sup>b</sup>  $n = 56$ .

Table 24

Correlations between Paper Ratings and Number of Teaching Strategies and Types of Writing Feedback  
Reported by Students with Student Aptitude Covaried

	<u>Teaching Strategies</u>	<u>Writing Feedback</u>
Easily discernable goal	.14	.00
Consistent attention to its goal	.15	.08
Clear method of organization	.15	.01
Effective connection of related ideas	.16	-.01
Ideas supported by evidence	.09	.00
Effective integration of direct quotations <sup>a</sup>	.01	-.07
Appropriate documentation of sources	.03	-.11
Demonstrates sound reasoning	.19 *	.07
Demonstrates critical thinking	.08	.11
Clear and accurate language usage	.06	.06
Demonstrates understanding of writing mechanics	-.01	.08
Sophisticated quality of prose	.04	.01
Use of scholarly language appropriate to discipline	.11	.16 *
Overall quality of the paper	.13	.13 *
Effective integration of non-text elements <sup>b</sup>	.16	.29 *

Note. N = 254. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate better performance when more methods of education are present.

\*  $p < .05$ .

<sup>a</sup>  $n = 166$ . <sup>b</sup>  $n = 56$ .

Table 25

Comparison of Student Perceptions by Student Reports of Teaching Strategies with Student Aptitude Covaried


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	<u>CL</u>	<u>RA</u>	<u>PR</u>	<u>CON</u>	<u>LI</u>
Writing anxiety	- .04	- .02	- .31 **	- .05	.02
Public speaking anxiety	.06	.04	- .08	.04	- .04
Library anxiety	- .01	.02	- .24	.01	.12
Confidence in writing and speaking ability	.10	.05	.20	.08	.15
Confidence in library research ability	.04	.08	.14	.08	- .12

---

Note.  $N = 297$ . CL = class lectures about writing, RA = reading assignments about writing, PR = peer review, CON = teacher-student conferences, and LI = library instruction. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate higher perceptions when the method of education is present.

\*\*  $p < .01$ .

Table 26

Comparison of Student Perceptions by Student Reports of Writing Feedback with Student Aptitude Covaried

	<u>C-C</u>	<u>O-C</u>	<u>G-C</u>	<u>C-R</u>	<u>O-R</u>	<u>G-R</u>
Writing anxiety	-.01	.07	-.01	.00	-.10	-.12
Public speaking anxiety	.02	.10	-.02	-.02	.05	-.07
Library anxiety	.00	.02	.01	-.10	-.11	.01
Confidence in writing and speaking ability	.03	-.02	.07	.16 *	.10	.12
Confidence in library research ability	.03	-.06	-.01	.06	.12	-.03

Note.  $N = 297$ . C-C = comments about the content of completed papers, O-C = comments about the organization and structure of completed papers, G-C = comments about grammatical errors in completed papers, C-R = comments about the content of drafts students later revised, O-R = comments about the organization and structure of drafts students later revised, and G-R = comments about grammatical errors in drafts students later revised. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate higher perceptions when the method of education is present.

\*  $p < .05$ .

Table 27

Correlations between Student Perceptions of Ability and Number of Teaching Strategies and Types of Writing Feedback Reported by Students with Student Aptitude Covaried

	<u>Teaching Strategies</u>	<u>Writing Feedback</u>
Writing anxiety	- .10	- .04
Public speaking anxiety	.04	.02
Library research anxiety	.00	- .04
Confidence in writing and speaking skills	.19 *	.12
Confidence in library research skills	.09	.04

Note. N = 297. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate higher perceptions when more methods of education are present.

\*  $p < .05$ .

Table 28

Comparison of Student Satisfaction by Student Reports of Teaching Strategies

	<u>CL</u>	<u>RA</u>	<u>PR</u>	<u>CON</u>	<u>LI</u>
Satisfaction with writing component	.07	.16 *	.08	.09	.06
Satisfaction with public speaking component	- .05	- .01	.21	.18 *	- .06
Satisfaction with information literacy component	.04	.06	.15	.00	.23 *
Overall course satisfaction	.06	.04	.20	- .13	.12

Note. N = 305. CL = class lectures about writing, RA = reading assignments about writing, PR = peer review, CON = teacher-student conferences, and LI = library instruction. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate greater satisfaction when the method of education is present.

\*  $p < .05$ .

Table 29

Comparison of Student Satisfaction by Student Reports of Writing Feedback

	<u>C-C</u>	<u>O-C</u>	<u>G-C</u>	<u>C-R</u>	<u>O-R</u>	<u>G-R</u>
Satisfaction with writing component	.21 ***	.12	.13 *	.12	.14 *	.17 *
Satisfaction with public speaking component	.10	.13	.06	.01	.01	-.02
Satisfaction with information literacy component	.07	.10	.04	.21 **	-.15 *	.09
Overall course satisfaction	.10	.07	.11	.08	.13	.23 **

Note.  $N = 305$ . C-C = comments about the content of completed papers, O-C = comments about the organization and structure of completed papers, G-C = comments about grammatical errors in completed papers, C-R = comments about the content of drafts students later revised, O-R = comments about the organization and structure of drafts students later revised, and G-R = comments about grammatical errors in drafts students later revised. Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate greater satisfaction when the method of education is present.

\*  $p < .05$ . \*\*  $p < .05$ . \*\*\*  $p < .001$ .

Table 30

Comparison of Student Satisfaction by Number of Teaching Strategies and Types of Writing FeedbackReported by Students


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	<u>Teaching Strategies</u>	<u>Writing Feedback</u>
Satisfaction with writing component	.19 *	.23 ***
Satisfaction with public speaking component	.08	.09
Satisfaction with information literacy component	.14	.17 **
Overall course satisfaction	.18 *	.19 **

---

Note.  $N = 305$ . Cell entries are  $\beta$ s from within-class regression analyses. Positive values indicate greater satisfaction when more methods of education are present.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 31

Associations between Paper Ratings and Instructor Experience with Student Aptitude Covaried

	<u>RANK</u>	<u>NS</u>	<u>NS-B</u>	<u>NS-A</u>	<u>CT</u>
Easily discernable goal	.30	.06	-.09	-.07	.27
Consistent attention to its goal	.41	-.03	-.05	.00	.19
Clear method of organization	.29	-.19	.08	.08	.02
Effective connection of related ideas	.31	.03	.24	-.18	-.18
Ideas supported by evidence	.24	.04	.06	-.24	-.20
Effective integration of direct quotations <sup>a</sup>	.48	.22	-.06	-.13	-.09
Appropriate documentation of sources	.27	-.22	.05	-.05	.05
Demonstrates sound reasoning	.30	.13	.02	-.26	-.09
Demonstrates critical thinking	.32	-.14	-.03	-.18	.04
Clear and accurate language usage	.34	.16	.18	-.04	-.12
Demonstrates understanding of writing mechanics	.28	.06	.02	-.18	.05
Sophisticated quality of prose	.45 *	.10	.27	-.16	.04
Use of scholarly language appropriate to discipline	.30	-.01	-.05	-.10	.13
Overall quality of the paper	.13	-.03	.09	-.18	-.03
Effective integration of non-text elements <sup>b</sup>	.44	-.13	-.20	.07	-.20

Note. N = 50. RANK = job rank, NS = number of semesters instructor taught that particular Comm-B course, NS-B = number of semesters instructor taught a different Comm-B course, NS-A = number of semesters instructor taught a Comm-A course, and CT = instructor participation in campus training. Cell entries are effect sizes ( $\eta$ s for JR, correlations for NS, NS-B, NS-A, and CT). Paper ratings were calculated as the average of residuals of students' scores within each section with student aptitude covaried.

<sup>a</sup> n = 42. <sup>b</sup> n = 17.

Table 32

Associations between Student Perceptions of Ability and Instructor Experience with Student AptitudeCovaried


---

	<u>RANK</u>	<u>NS</u>	<u>NS-B</u>	<u>NS-A</u>	<u>CT</u>
Writing anxiety	.37	- .25	- .10	.00	- .09
Public speaking anxiety	.23	- .22	.04	.05	.19
Library anxiety	.39	.11	.08	.12	- .03
Confidence in speaking and writing ability	.35	.30 *	.07	- .14	.11
Confidence in library research ability	.41	- .12	.04	- .13	.12

---

Note. N = 49. RANK = job rank, NS = number of semesters instructor taught that particular Comm-B course, NS-B = number of semesters instructor taught a different Comm-B course, NS-A = number of semesters instructor taught a Comm-A course, and CT = instructor participation in campus training. Cell entries are effect sizes ( $\eta$ s for JR, correlations for NS, NS-B, NS-A, and CT). Student perceptions were calculated as the average of residuals of students' scores within each section with student aptitude covaried.

\*  $p < .05$ .

Table 33

Associations between Student Satisfaction and Instructor Experience


---

	<u>RANK</u>	<u>NS</u>	<u>NS-B</u>	<u>NS-A</u>	<u>CT</u>
Satisfaction with writing component	.28	.15	.26	.03	-.07
Satisfaction with public speaking component	.56 **	-.11	-.13	.00	.09
Satisfaction with information literacy component	.38	-.16	-.03	-.05	.10
Overall course satisfaction	.15	.11	-.13	-.03	.01

---

Note. N = 49. RANK = job rank, NS = number of semesters instructor taught that particular Comm-B course, NS-B = number of semesters instructor taught a different Comm-B course, NS-A = number of semesters instructor taught a Comm-A course, and CT = instructor participation in campus training. Cell entries are effect sizes ( $\eta$ s for JR, correlations for NS, NS-B, NS-A, and CT). Student satisfaction was calculated as the average of students' scores within each section.

\*\*  $p < .01$ .

Table 34

Associations between Paper Ratings and Comm-B Instructional Format with Student Aptitude Covaried

	<u>S-A/L</u>	<u>#ST</u>	<u>#HRS</u>	<u>#CR</u>
Easily discernable goal	-.10	.01	.20	.35 **
Consistent attention to its goal	.14	-.20	-.06	.26
Clear method of organization	.26	-.12	-.02	.31 *
Effective connection of related ideas	-.07	-.26	-.02	.12
Ideas supported by evidence	.27 *	-.13	-.03	.37 **
Effective integration of direct quotations <sup>a</sup>	-.04	-.28	-.05	.07
Appropriate documentation of sources	.27	.02	.06	.29 *
Demonstrates sound reasoning	.20	-.13	.12	.47 **
Demonstrates critical thinking	.18	-.23	.13	.35 *
Clear and accurate language usage	-.25	-.23	-.08	-.12
Demonstrates understanding of writing mechanics	.05	-.11	.01	.17
Sophisticated quality of prose	-.36 **	-.08	.16	-.01
Use of scholarly language appropriate to discipline	.02	-.10	.29 *	.48 ***
Overall quality of the paper	.13	-.34 *	.03	.40 **
Effective integration of non-text elements <sup>b</sup>	-.08	-.08	.13	.05

Note. N = 53. S-A/L = course format (0 = stand-alone classes and 0 = lecture classes), #ST = number of students per section, #HRS = number of hours per week spent in low-enrollment classes, and #CR = number of course credits. Cell entries are correlations. Paper ratings were calculated as the average of residuals of students' scores within each section with student aptitude covaried.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

<sup>a</sup>  $n = 42$ . <sup>b</sup>  $n = 17$ .

Table 35

Associations between Student Perceptions of Ability and Comm-B Instructional Format with Student Aptitude Covaried

	<u>S-A/L</u>	<u>#ST</u>	<u>#HRS</u>	<u>#CR</u>
Writing anxiety	- .11	.26	.12	- .18
Public speaking anxiety	.14	.11	.05	.01
Library anxiety	- .06	- .04	- .16	- .16
Confidence in speaking and writing ability	- .14	.04	.25	.11
Confidence in library research ability	- .05	- .01	.17	.33 *

Note. N = 55. S-A/L = course format (0 = stand-alone classes and 0 = lecture classes), #ST = number of students per section, #HRS = number of hours per week spent in low-enrollment classes, and #CR = number of course credits. Cell entries are correlations. Student perceptions of ability were calculated as the average of residuals of students' scores within each section with student aptitude covaried.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 36

Associations between Student Satisfaction and Comm-B Instructional Format


---

	<u>S-A/L</u>	<u>#ST</u>	<u>#HRS</u>	<u>#CR</u>
Satisfaction with writing component	- .30 *	- .09	.07	- .36 **
Satisfaction with public speaking component	- .08	- .02	.04	- .06
Satisfaction with information literacy component	.02	- .09	.11	.25
Overall course satisfaction	- .06	- .05	.08	- .09

---

Note. N = 55. S-A/L = course format (0 = stand-alone classes and 0 = lecture classes), #ST = number of students per section, #HRS = number of hours per week spent in low-enrollment classes, and #CR = number of course credits. Cell entries are correlations. Student satisfaction was calculated as the average of students' scores within each section.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 37

Comparison of Student Perceptions of Ability by First Comm-B Course versus Multiple Comm-B Courses with Student Aptitude Covaried

---

Writing anxiety	- .04
Public speaking anxiety	- .04
Library anxiety	- .14 *
Confidence in writing and speaking ability	.01
Confidence in library research ability	.10

---

Note. N = 359. Cell entries are  $\beta$ s from within-class regression analyses. Negative values indicate higher perceptions for students who were enrolled in their first Comm-B course.

\*  $p < .05$ .

Table 38

Comparison of Student Satisfaction by First Comm-B Course versus Multiple Comm-B Courses

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Satisfaction with writing component	- .10
Satisfaction with public speaking component	.00
Satisfaction with information literacy component	.04
Overall course satisfaction	- .09

---

Note. N = 369. Cell entries are  $\beta$ s from within-class regression analyses. Negative values indicate greater satisfaction for students who were enrolled in their first Comm-B course.