Are We Preparing Students to Write across the Curriculum?: An Analysis of Learning Outcomes for First-Year Composition at Two-Year Colleges

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Abstract

At two-year colleges, English composition courses focus on skills students need to write across the curriculum, yet there is limited evidence that students successfully transfer those skills when writing in other classroom contexts. In this article, I compare the skills taught in first-year composition to the skills students need to write across the curriculum and discuss ways to help students transfer what they've learned in their composition course to new writing contexts.

At two-year colleges, most degree-seeking students take first-year composition (FYC), a general writing course often, but not always, taken during the first year of college. This course is "where students develop the advanced literacy skills needed to succeed in courses in other disciplines" (Nazzal, Olson, and Chung 264). Indeed, the primary justification for the (nearly) universal first-year composition course requirement is the assumption that the skills taught there can be applied in other contexts, including writing for other courses (Blaauw-Hara 354; Tinberg 7–8). Yet, as Howard Tinberg concluded from interviews with community college faculty, many English instructors know little about the writing assigned outside the English department (28), which raises a question: Do English composition courses teach the skills students need to successfully write in other general education courses?

In this article, I examine three questions: (1) What skills are typically taught in FYC?; (2) What skills are needed for writing across the curriculum?; and (3) If the skills taught in FYC are the skills needed to write in other disciplines, how can we help students transfer what they've learned in FYC to other contexts? For WPAs, FYC coordinators, and others involved in FYC curriculum development, this study provides insights into how their own FYC learning outcomes compare to those of other colleges, how the skills taught in their FYC courses align with the skills students need to write in other courses, and how FYC can be designed to help students transfer what they learn to new writing contexts.

Student Learning Outcomes in First-Year Composition Courses

To determine the focus of FYC, I reviewed catalog descriptions and student learning outcomes from a sample of two-year colleges across the country.

Methods

Student learning outcomes identify the knowledge and skills a student should have after completing a course. My original goal was to survey FYC learning outcomes for community colleges but not technical colleges because at some technical colleges FYC focuses on workplace writing. However, Delaware, South Carolina, and Wisconsin have few or no community colleges. Therefore, technical colleges from those states are included in the sample to ensure representation from all fifty states.

Using alphabetized and then numbered lists of public two-year schools for each state and Google's random number generator, I selected approximately one-quarter of the colleges in each state. All colleges in the sample offer AA, AS, or AAS degrees but few if any BA degrees. The sample includes 221 colleges, eighteen of them technical colleges: 110 small colleges (<5,000 students), fifty-nine medium-sized colleges (5,000–9,999 students), twenty-four medium-large colleges (10,000–15,000 students), and twenty-eight large colleges (15,000+ students).

For each college, the lowest-level credit-bearing general writing course was selected—the course required for most degree-seeking students. When learning outcomes for this course were not available on a college's website, English department faculty were emailed. However, not all responded. For these colleges, my analysis is limited to the FYC catalog description. In the end, both FYC catalog descriptions and learning outcomes were analyzed for 164 colleges (74% of the sample); course catalog descriptions alone (without learning outcomes) were analyzed for another fifty-seven colleges (26%).

After identifying recurring topics, I re-read the catalog descriptions and learning outcomes and coded relevant information with the appropriate category name. Through this process, the most common FYC skills across the sample were identified (see table 1).

There are limitations to my methods for determining what is taught in FYC: (1) For fifty-seven colleges, I analyzed only FYC catalog descriptions, which do not identify all of the skills taught in a course. This means some results in table 1 underestimate reality. (2) Outcome statements do not reveal the extent to which each skill is emphasized nor do they convey the level of skill required of students. For example, "integrating source

information" is a common FYC outcome, but there is considerable difference between asking students to find, interpret, and summarize sources on their own and providing students with sources that are then summarized for them in class. (3) It's also possible that, in some English departments, outcome statements do not drive instruction or assessment in any consistent manner. However, given their prominence in course syllabi, learning outcome statements likely reflect what's happening in most classrooms.

Findings

Table 1 lists skills mentioned in a majority of FYC catalog descriptions or learning outcomes in the sample.

Table 1
Most commonly mentioned skills in catalog descriptions and student learning outcomes for first-year composition courses (*N* = 221)

Skill or Focus in First-Year Composition	Number of Schools	Percentage of Schools
Analysis of texts, critical reading, or critical thinking	202	91%
Integrating source information (summary, paraphrase, quotation)	193	87%
Writing process (plan, write, revise, edit)	176	80%
Analyzing rhetorical situations or writing for different audiences and purposes	160	72%
Essay writing	158	71%
Formal documentation (MLA or APA)	158	71%
Research/locating sources	158	71%
Standard written English	143	65%
Reference to "academic writing," "academic discourse," "academic writing conventions," "writing across disciplines," "college writing/composition," "college-level"	142	64%
Organization	132	60%

Catalog descriptions and learning outcomes indicate that FYC is not so much a "general writing" course as an "introduction to academic writing" course. More than half of the FYC skills listed in table 1 are academic skills: analysis, conducting research, integrating source information, documenting source information, and essay writing. (Writing process, analyzing rhetorical situations, using standard written English, and effective organization, conversely, are more universal writing skills.) Keyword searches conducted on the corpus of catalog descriptions and outcome statements reflect

the emphasis on activities associated with academic writing, including reading, analysis, research, and working with sources.

Reading and analysis. Throughout the corpus, it's evident that FYC focuses not only on writing but also on reading as an integral part of the composing process. The references to reading (298 instances) include eighty-one references to "reading critically," "critical reading," "close reading," or "analytical reading." "Critical thinking" appears in seventy-six course descriptions, but "analysis" ("analyze" or "analyzing") is even more prevalent, appearing 282 times in the corpus, almost always in reference to analyzing texts, arguments, or essays, but also sometimes referring to analyzing audiences or rhetorical situations.

Research and writing from sources. "Evaluate" (or "evaluating") also appears frequently (204 instances), usually referring to evaluating sources, information, or evidence. Evaluating sources is one of several ways research skills are emphasized throughout the corpus. The word "research" appears 293 times, and "source" appears 290 times. Learning to use library resources is mentioned forty-seven times.

Using source information to develop papers is mentioned in 87% of the course descriptions (including fifty-nine references to synthesizing sources). Formal documentation of source information is referred to in 71% of the learning outcomes. There are also twenty-six references to plagiarism and forty-three references to using sources ethically or responsibly.

Academic writing. Analysis, research, and working with sources are all academic writing skills, but the most obvious indication that FYC emphasizes academic writing is the many explicit references to academic or college writing. The word "academic" appears 222 times in the corpus, usually referring to "academic writing" or "academic discourse." There are also references to "academic essays," "academic tone," "academic English," "academic audience," "academic conventions," "academic research," "academic documentation," "academic sources," and "academic genres." References to "college" are common as well. FYC is called "College Composition" or "College Writing" at twenty-eight schools in the sample, and "college-level" appears eighty-eight times in the corpus, usually referring to writing "college-level essays" or producing "college-level writing."

Statements identifying academic writing as the focus of FYC are found throughout the corpus, as demonstrated in the examples below (taken verbatim from the corpus). According to these statements, FYC:

- prepares the student for the exposition, analysis, and argument required in college writing.
- provides practice in producing substantial compositions at the college transfer level for courses across the curriculum.
- prepares students for the demands of college level writing.
- provides instruction and practice in reading, researching, and writing for college.

These findings mirror those of Dylan Dryer, who, after analyzing grading rubrics from first-year writing programs at eighty-three US universities, determined that FYC courses are "designed to introduce [students] to the conventions of academic writing" (4), including explicitly announced thesis and organization, use of appropriate evidence, critical thinking and analysis, audience and rhetorical awareness, and an acceptable mastery of grammar and genre conventions (12).

Writing across the Curriculum in Two-Year Colleges

Course descriptions indicate that FYC at two-year colleges is designed to prepare students for writing in college. But does FYC focus on the actual skills students need when writing in other courses? For insights into what skills are needed to write across the curriculum, I turned to faculty surveys and studies of student writing. For example, Mark Blaauw-Hara invited the twenty-five full-time faculty who taught outside the writing program at his community college to submit representative writing assignments from their courses. He received assignments from fifteen full-time faculty, including from math, social sciences, physical sciences, and nursing, and he later gathered seventeen additional assignments from adjunct faculty. Three-fourths of the thirty-two assignments require integrating information from sources. Critically evaluating sources is required in 47% of the assignments, and description is required in 44% (357–58). When I asked twenty-six instructors at my own community college for samples of student writing, seventeen instructors, representing eleven disciplines, submitted writing from their courses. In a majority of the papers, sources are cited, and all of them include interpretation of data or analysis. For instance, in chemistry and microbiology, students interpret experiment results, in geography they interpret seismograph readings, in abnormal psychology they interpret patient symptoms, and in statistics they interpret data about a sample. Other assignments involve analyzing a text, performance, or film (Thonney, "'At First'").

Howard Tinberg and Jean-Paul Nadeau interviewed eleven faculty from across the curriculum at their community college. Their assignments

require observation (agency field reports and ethnographies), analysis (of films or business operations), and description and evaluation (nursing care plans) (39). In a survey of faculty at the same college, 69% of the 70 respondents indicated that they assign research writing (Tinberg and Nadeau 41). More than half of the twenty-three community college instructors responding to Julia Carroll and Helene Dunkelblau's survey teach social sciences, business, history, or nursing courses. Seventy percent of the respondents assign essays, and nearly half assign research papers (274–76).

In a national survey of non-composition instructors at two-year colleges, 77% of the 171 respondents, representing 140 colleges and fifteen disciplines, said they assign extended writing (defined as two or more pages). These assignments require integration of source material (mentioned by 79%), analysis (mentioned by 72%), personal response to course concepts or application of course concepts (mentioned by 56%), and source summary with evaluation or response (mentioned by 55%) (Thonney, "What Community"). Among the 104 community college students in New York who participated in a study for psychology research credit, 24% had written 1–4 papers during the current term, 42% had written 5–10 papers, and 23% had written 11–20 papers. Synthesis of source information was, on average, required in three papers during the term (Ahmed 43).

These faculty and student surveys indicate that skills taught in FYC—analysis, locating sources, and writing from sources—are skills students need to write across the curriculum. Further evidence for this conclusion can be found in writing assignment prompts from general education courses. To locate writing assignments from community college courses, I conducted keyword searches (combining, for example, "writing," "student writing," or "writing assignments" with "community colleges" or "two-year colleges") in library databases and in various teaching journals (such as *American Biology Teacher* and *Teaching Sociology*). My search produced thirty publications that included detailed assignment descriptions from courses in agriculture, business, education, engineering, history, mathematics, life sciences, physical sciences, and social sciences. (A sampling of these assignments appears in the appendix.) Together, they demonstrate that writing in general education courses at two-year colleges typically requires analysis or critical thinking (all thirty assignments) and integrating information from sources (twenty-four of thirty assignments). In addition, at least one-third of the assignments require students find their sources. (In the other source-based assignments, it is unclear if sources are provided or if students locate sources themselves.)

Discussion and Recommendations

The literature reviewed in the previous section indicates that the skills needed to write across the curriculum at two-year colleges are skills taught in FYC, including locating sources, reading and evaluating sources, summarizing sources, citing sources, analysis, and critical thinking. Yet, despite the similarities in writing for FYC and writing for other courses, evidence that community college students transfer skills learned in FYC to other contexts is difficult to find. Dianne Fallon, Cindy Lahar, and David Susman analyzed psychology research papers that were "quite similar to what we might ask of students in the first-year writing course" (42), but previously taking FYC had no bearing on how students scored (44). Thomas Martin, who analyzed papers written for philosophy, government, history, and humanities, determined that completion of FYC was an "inconsistent predictor of student performance."

Indeed, two-year college faculty across the curriculum say students are underprepared for the writing they assign. Non-composition faculty (N = 177) responding to a national survey identified critical thinking/analysis, finding credible sources, integration of source material, formal documentation, organization, using standard written English, and familiarity with academic writing conventions as skills many students lack (Thonney, "What"). These same skills are among the most commonly mentioned in FYC descriptions. In a faculty survey at three New York community colleges, 68% of respondents (N = 420) described students' reading and writing skills as "weak or deficient" (Schrynemakers, Lane, Beckford, and Kim 19). Similarly, 89% of faculty responding to a survey by Tinberg and Nadeau (N = 70) believed their students are unprepared for challenging writing tasks (39; see also Bunch, Schlaman, Lang, and Kenner).

If most two-year college students take FYC and if FYC teaches the skills students need to successfully write in college, why isn't there more evidence of students demonstrating these skills when writing for general education courses? There are a number of possible explanations. Students may not take writing seriously in courses that are not composition courses (Thonney, "What"), or faculty whose focus is not on writing may not provide sufficient time or support for students to produce their best writing (Nelms and Dively 216; Wardle 76). And, of course, many students enroll in college-credit, general education courses before they've taken English composition. Another obstacle to transfer, explain Linda Bergmann and Janet Zepernick, is that many students regard writing in composition courses as "personal, subjective, creative," and unlike the "objective, fact-based" writing they do in other courses (131; see also Jarratt et al. 51, 61).

Students don't look for opportunities to use skills learned in FYC "because they believe that skills learned in FYC have no value in any other setting" (Bergmann and Zepernick 139).

In order to apply what they've learned in one situation to another, students must recognize similarities in writing tasks (James 95). But undergraduates write many types of papers, such as laboratory reports, proposals, reviews, science posters, and design specifications. As a result, students may not recognize when they can apply skills they've previously learned. Even familiar genres may not look the same in different contexts. Research papers written for science courses, for example, often include section headings, figures, and tables, but these features are rarely found in research papers written for FYC. Higher-order skills can also look different in different contexts. Analysis of numerical data, for instance, bears little resemblance to the analysis of texts students do in FYC. Reading comprehension skills are not always generalizable either. Proficient readers in English courses, for instance, may struggle understanding biology texts because of unfamiliar concepts, vocabulary, and genres (Thonney, "Analyzing" 393).

It's also possible that an English department's outcome statements do not reflect what's being emphasized in specific FYC courses. For example, if more time is spent discussing political or cultural issues than discussing academic writing skills, students may remember a particular political or cultural topic as the "subject" of FYC rather than writing itself (Fulkerson 663; Yancey, Robertson, and Taczak 83), in the same way a student might remember a writing-intensive history class as a history class with writing "tacked on" (Jarratt, Mack, Sartor, and Watson 51). Nor do outcome statements reveal the competency level required of students. As already noted, students asked to summarize sources previously summarized for them in class discussions have not actually demonstrated an ability to understand or interpret sources. Tinberg identifies additional factors that "inhibit efforts to teach to and for transfer" (29), including dependence on overworked contingent faculty, reduced funding for professional development, elimination of course prerequisites, and scarcity of writing-intensive courses in the disciplines (28–29).

Nevertheless, most FYC instructors invest considerable time helping students develop the skills needed to write in other courses. How, then, can WPAs support faculty efforts to prepare students to transfer and repurpose those skills when writing in other academic contexts?

Discuss Transfer with Faculty

Despite the obvious benefit of helping students understand how their learning can be applied beyond a single classroom, few college courses have learning transfer as a course objective. That this is the case for FYC, in particular, is noteworthy given that learning transfer has been a subject of interest in composition studies for decades, and preparing students for college writing is a goal of most FYC courses (at least those represented in the sample). Although both "writing process" and "analyzing rhetorical situations" are typically taught in FYC, adapting to new contexts and genres appears less often in course descriptions and learning outcomes. Only 14% of colleges in the sample ($N = 221$) mention writing across the curriculum or in other disciplines; only 24% mention reading or writing various genres. This matters because, as Jessie Moore concluded after reviewing the body of writing-related transfer research, most students on their own don't recognize how what they learn in FYC applies to their writing in other courses (also Jarratt, Mack, Sartor, and Watson). Even among students who think FYC prepared them for writing in other courses, as the community college students Tinberg surveyed ($N = 110$) overwhelmingly did, few can identify specific knowledge beyond grammar, essay structure, and source citation that they could transfer from FYC to writing in other courses, suggesting that their FYC curriculum emphasized "correctness" and grammar but not how to approach new genres and writing contexts (13, 15–16). If preparing students for college writing is a key purpose of FYC, learning transfer should be identified in course catalog descriptions, student learning outcomes, and class discussions.

Another potential obstacle to transfer is faculty attitudes and awareness. Many FYC instructors know little about the writing assigned across the curriculum, and what faculty outside of English departments know about FYC is often just as limited (Tinberg 28). As a result, FYC instructors don't know how best to prepare students for what's ahead, and instructors in other disciplines do not build on students' prior knowledge. Dorothy Worden-Chambers and Ashley Montgomery note that efforts to adopt a transfer-focused curriculum in FYC can fail if there are "mismatches between the values of the curriculum and teachers' beliefs" (131). They suggest WPAs who want to facilitate transfer should first learn about and then build on teachers' current understanding of what transferable skills can and should be taught (131).

WPAs can expand faculty understanding of what transferable skills can be taught in FYC by surveying the writing assigned on their campuses. At my community college, I gathered student papers from across the

curriculum that had been assigned an "A" grade—thirty-one papers from courses outside the English department and two from literature courses. After obtaining permission from the authors, these papers and corresponding assignment prompts were compiled into a digital library, used for FYC class discussions, for short writing assignments, and as sources for textual analysis writing projects. The papers reveal many similarities, such as the inclusion of a central claim, analysis of evidence, integration of source material, and source citations. Just as important, however, they reveal differences. For example, most of the thirty-three student papers include information from sources, but only literature papers include quotations; most papers include source citations, but only in art history and literature is MLA format used; most papers are essays, but many of the essays include section headings and tables or figures. All papers include analysis, but analysis of numerical data or observations is more common than analysis of texts. FYC instructors familiar with the writing assigned at their colleges understand what writing features students can transfer or repurpose from FYC, as well as what features students may need to abandon in other contexts.

WPAs can further facilitate transfer through all-faculty workshops. Workshops, for example, can teach faculty across the curriculum how to build on students' prior writing knowledge. Dave Kim and Wendy Olson describe how engineering faculty at one university used vocabulary taught in FYC (e.g., "audience," "claims," "evidence," "sources," "genre conventions") when introducing a new genre: the engineering lab report (68). Compared to students in a control group, students instructed in this rhetorical approach demonstrated greater understanding of audience and style in their writing (81). Most students need additional support when they encounter new genres or rhetorical situations (Sommers and Saltz 145; Faulkner 45); using writing terms students have previously learned can provide this support. Lisa Shaver recommends creating assignment titles that name the required skill or genre and—at least within a given department—being consistent in use of terms so that students can recognize when a new writing assignment is similar to previous writing or, conversely, when an assignment requires skills or genres new to them (87). In Shaver's study, students given an assignment titled "Executive Summary" could make connections to previous writing they had done; they could not do the same for an assignment titled "Cross-Border Merger" (84–86). In workshops at his community college, Blaauw-Hara has taught faculty how to design clear writing prompts. He suggests using a similar layout and structure for assignment prompts across campus to "help students see the similarities between writing contexts and help us cue for transfer" (359). By learning about the writing assigned at their college and designing assignments to

cue for transfer, all faculty can help students apply skills learned in FYC to other contexts.

Design FYC to Facilitate Transfer

Designing the FYC curriculum to cue for transfer can change the perception of FYC being unrelated to a student's broader education. Dolores Perin, discussing students in developmental writing courses, argues that making connections between the skills taught in writing courses and the skills needed to write in other courses can motivate students "to persist in learning skills that normally are not, in themselves, of great interest to them" (137). In FYC courses, motivation to learn transferable skills is potentially greater still because most students are concurrently enrolled in other credit-bearing courses. While it's true that successfully transferring writing skills from one context to another requires time and practice across the curriculum, FYC courses can lay the groundwork by teaching students how to approach new genres and teaching skills students can use in other writing contexts.

Previous research has demonstrated the value of a transfer-focused FYC pedagogy. Kathleen Yancey, Liane Robertson, and Kara Taczak followed seven university students who had taken FYC taught in one of three pedagogical approaches: expressivist (personal reflection writing and writing about cultural identity), media and cultural studies (writing about media or culture), or teaching for transfer, featuring assignments designed to promote metacognition. Students in the teaching for transfer section reflect on how rhetorical situations and genres are alike or different, consider how they could adapt their writing knowledge to new situations, and write various genres (57–58). Compared to students in the other FYC sections, students who had taken the transfer-focused course were better able to analyze audience and purpose, analyze genre expectations, and adapt prior knowledge in their future assignments (95–99). (The authors provide course schedules and writing prompts for their teaching for transfer curriculum. In addition, Sonja Andrus, Sharon Mitchler, and Howard Tinberg describe how they modified the curriculum for FYC in two-year colleges.) James Pacello, who interviewed students enrolled in a developmental English course focused on transfer, also describes the value of a transfer-focused pedagogy.

Other researchers have linked writing development to understanding how writing is shaped by audience, purpose, and genre (Negretti 173). Tanzina Ahmed found that the better students are at adapting their writing to new audiences, genres, and situations, the higher their GPA, leading her to conclude that introducing community college students to various

genres is crucial to their development as writers (60, 68–69). Dana Driscoll et al. agree. After gathering surveys, interviews, reflective writing, and sample papers from over 450 university students enrolled in general writing courses, they concluded that more than any other factor, genre awareness—specifically, understanding how a genre's conventions help accomplish a writer's goals and fulfill audience expectations—correlated with improvement in students' writing across the semester (84). The authors recommend various activities to develop genre awareness, including writing for diverse audiences, analyzing sources to determine intended audience and purpose, and noticing how authors join an existing conversation (94).

Students who leave FYC aware of genre variation understand that learning new conventions is part of learning how to communicate in new contexts. As one student explained, after taking a transfer-focused FYC course: "Once you understand that different genres are meant to do different things for different audiences you know more about writing that works for whatever context you're writing in" (qtd. in Yancey, Robertson, and Taczak 95). An engineering student similarly describes the cumulative effect of writing varied genres: When "you experience many kinds of writing . . . the process of learning how to write the new format is faster because you already switched once" (qtd. in Jarratt, Mack, Sartor, and Watson 66). This level of developmental maturity emerges after extensive practice and reflection, but it can be fostered in FYC through exposure to various rhetorical situations.

George Bunch suggests having students analyze varied academic texts through the lens of "metagenre" (178), Michael Carter's term for different ways of knowing in academic disciplines: problem solving, empirical inquiry, research from sources, and performance (176). Another approach is to have students analyze how aspects of style, organization, and source citation vary. Questions to guide students' analysis of academic texts might include: What is the purpose of the paper? What purposes does the introduction serve? Are there section headings? If so, how do they help readers? Who appears to be the intended audience? What kind of evidence is provided? Are there figures or tables? If so, what purpose do they serve? What kinds of information appear within in-text citations, and what are the benefits of providing that information for readers? Writing prompts from across the curriculum can also be used to show students other writing contexts. Ann Johns provides questions to help students analyze writing prompts (244). An FYC curriculum that introduces students to writing from various disciplines introduces them to "different ways that problems are articulated, different kinds of data that are brought to bear on those problems, and different ways of interpreting evidence and making claims" (Bunch, Schlaman, Lang, and Kenner 322).

If the goals of FYC include preparing students to write in college, then reading, citing, and finding connections between texts should also be at the heart of the curriculum because most college writing assignments involve integration of source material. Joining a conversation among published authors is daunting for any novice, but all the more so for students with no experience reading academic texts. A temptation in this situation can be to summarize sources in class discussion. In fact, in one survey of community college students, nearly 70% of respondents ($N = 447$) said their instructors explained assigned reading at least 50% of the time (Armstrong, Stahl, and Kantner 897). Instead of letting students rely on others to interpret texts (or avoid reading altogether), John Bean and Dan Melzer recommend teaching students how to approach difficult texts and making them accountable for reading them. In chapter seven of their book *Engaging Ideas*, Bean and Melzer suggest methods and writing assignments to develop reading skills. Additional assignments are described by Jaclyn Hilberg. Her classroom activities ask students to reflect on their current reading strategies; to consider how they might, depending on their purpose, revise their reading strategies; and to consider ways to strategically adapt their reading practices to assignments across the curriculum.

Finally, the FYC curriculum can facilitate transfer by introducing writing conventions valued by faculty across disciplines, such as announcing the topic and organization of a paper (Bahls, Mecklenburg-Faenger, Scott-Copses, and Warnick; Miller and Pessoa 862–64), responding to contrasting evidence or viewpoints (Miller, Mitchell, and Pessoa 115), using hedges to qualify claims (Lee and Deakin 27; Uccelli, Dobbs, and Scott 49), using organizational markers (Uccelli, Dobbs, and Scott 49), and using reformulation markers, such as "in other words" and "specifically" (Aull and Lancaster 164–65). These writing conventions can be transferred to many writing contexts, and instruction in their use conveys a principle new to many first-year students: that a writer's goal is not only to demonstrate understanding of the subject but also to guide readers, reiterate information, and mitigate potential for misunderstanding.

Conclusion

In this article, I have shown considerable overlap in the skills taught in FYC and the skills needed to write across the curriculum. Yet, there is limited evidence that community college students successfully apply skills learned in FYC to their writing in other courses. This may be due in part to the inherent difficulty of documenting transfer of writing skills (Jarratt, Mack, Sartor, and Watson); it's also undoubtedly because measurable writing

development emerges over time. This is true for well-prepared students and especially true for students who enter FYC lacking basic skills related to reading, organization, and language use. However, by revising FYC learning outcomes to focus more explicitly on transfer, a first-year composition program can lay important groundwork by teaching students how to analyze new writing situations and how to apply and adapt what they learn in FYC to writing across the curriculum.

Appendix: Examples of Writing Assignments across the Curriculum at Two-Year Colleges

Table 2. Examples of Writing Assignments across the Curriculum at Two-Year Colleges. * Indicates that the article includes the writing assignment prompt and/or grading rubric.

Course	Assignment	Skills Required	Source
Algebra	Essay on how culture influenced the student's career choice, using sources and quantitative data students calculate	Reading, synthesizing sources, quantitative reasoning, interpretation of data	Boumlik, Jaafar, and Alberts*
Biology	Essay describing ecological dilemmas, followed by recommendations	Summary and response, considering different perspectives	Balgopal, Wallace, and Dahlberg*
Biology	Research paper about DNA fingerprinting or genetic differences between individuals or groups	Locating and evaluating sources, synthesizing sources, citations/bibliography	Kim, Franco, and Seo
Botany	Paper connecting prior experiences with plants to biology concepts	Analysis and making connections between old and new information	Wandersee, Clary, and Guzman*
Chemistry	Report with abstract, research question, methods and observations, graphs, and conclusions	Designing research study, preparing samples, analyzing and presenting results, citations/bibliography	Kim, Roth, and Zhang
Economics	Report describing a country's economic performance and economic forecast, with recommendations	Locating sources, synthesizing sources, analyzing data, citations/bibliography	Tila*
Engineering Technology	Research paper about innovative technology and sustainability	Locating and evaluating sources, synthesizing sources, citations/bibliography	Kim, Franco, and Seo
History	Report describing interview of a primary source	Interviewing, summarizing, quoting, synthesizing sources, citations/bibliography	Perrotta*

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Table 2. cont.

Course	Assignment	Skills Required	Source
History	Summary and critical analysis of primary sources	Rhetorical analysis (summary, quotation, evaluation)	Tinberg*
Liberal Arts Seminar	Research paper with background, discussion, and conclusions about women's contributions in science	Locating sources, summarizing, quoting, citations/bibliography	Boumlik, Jaafar, and Alberts*
Marine Biology	Report describing research question, hypothesis, methods, and results	Hypothesis development, collecting, analyzing, and interpreting data, presenting results, citations/bibliography	Rosas Alquicira et al.
Psychology (General)	Proposal describing hypothesis and experiment design, supported with evidence from research studies	Experimental design, locating sources, synthesizing sources, citations/bibliography	Tinberg*
Psychology (Human Development)	Paper describing interview subjects of various ages using Erikson's Theory of Psychosocial Development	Interviewing, synthesizing sources, analysis	Varelas, Wolfe, and Ialongo*
Sociology	Research project connecting worksite observations and interviews to course content on culture and racial/gender disparities in chosen professions	Observation, interviewing, analyzing fieldnotes and interview transcripts, interpreting government data, statistical analysis	Traver
Statistics	Evaluation of a statistical study	Locating sources, summary, data analysis	Estrada*

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