



Writing Across the Disciplines in Agriculture

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An important assumption of writing-across-the-curriculum movements is that language, learning, and teaching are closely connected (Russell 41), and this assumption has been acted upon across several disciplines (Abbott, Bartelt, Fishman, and Honda). However, as Susan McLeod reports, incorporating WAC is not as simple as assigning term papers: “WAC programs are not additive, but transformative—they aim not at adding more papers and tests of writing ability, but at changing the way both teachers and students use writing in the curriculum” (McLeod 3). WAC clearly involves innovative integrations of writing and language to enact a “transformation.”

This innovation is becoming evident in WAC programs in agriculture. Although many universities have implemented WAC in agriculture curricula, and tremendous variety in WAC results (Blank; Wechsler; Wiebold, Buehler, and Scott; Firman; Fletcher and Branen; Smith, Charnley and McCall; Zinn, Faustman, and Riesen), a single theme emerges from literature about WAC in agriculture: writing is strongly encouraged not only as a valuable learning activity but also as an activity that prepares students for the workplace.

In this essay, we review literature that describes a work-related theme in agriculture WAC programs as seen primarily from teachers’ vantage points. (Our review addresses literature in journals of two distinct sorts: journals dedicated to wide-ranging topics on agricultural education—*NACTA Journal*, for example—and discipline-specific journals—in forestry or agronomy, for instance—that cover technical and pedagogical topics.) We first very briefly trace the workplace-driven rationale for implementing WAC in agriculture; second, we review WAC assignment topics and teaching strategies that agriculture faculty have incorporated to assist students’ preparation for the workplace. We conclude by identifying innovations in WAC in agriculture, such as electronic and oral communication, that address the increasing need for proficient communication in the workplace. We argue that although these new WAC developments may be innovative to agriculture—and perhaps transformative since WAC

strategies in agriculture take teachers and students in new directions in the classroom—the tools they are using have been around for some time in composition and have been successfully put to use in other disciplines as well. In short, the literature we review here suggests that agriculture has recognized the usefulness of WAC and is beginning to put WAC principles into practice for workplace-oriented courses.

Why Use WAC?: A Workplace-Driven Rationale for Implementing WAC

While several reasons to use WAC programs in agriculture are identified in the literature, a central and even driving reason to incorporate WAC programs is the inability of recent graduates to communicate effectively on the job (Cobia 22). In response, faculty in agriculture, like faculty in many other disciplines, have become keenly aware of this shortcoming and demonstrate in the literature we reviewed efforts to remedy it (Fletcher and Branen 18; Wiebold and Duncan 27; Zinn, Faustman and Riesen 14; Berghage and Lownds 124; Boufford 249; Daniels and Reed 27; Wiebold, Buehler, and Scott 51; Flowers and Reaves 9). Rather than blaming English departments (traditionally the home of instruction in communication) for shortcomings in students' proficiencies in writing and communication, many programs in agriculture are benefiting from incorporating communication into their discipline-specific courses.

Not only do agriculture faculty support WAC as an important learning activity (Gleichsner 34; Daniels and Reed 28; Flowers and Reaves 9), but they have begun to see immediate applications of WAC—to increase students' competitiveness in the workplace. As a result, faculty are motivated to use WAC not only for academic purposes but also for professional purposes (Berghage and Lownds 124; Smith, Charnley, and McCall 34). The connections that agriculture courses are making to workplace communication beyond the classroom may be the strongest examples of transformative characteristics of WAC programs that McLeod describes.

How Can WAC Be Initiated in Agriculture? WAC Assignment Topics and Teaching Strategies

Suggestions for incorporating writing into agriculture classes include designing assignments appropriate to workplace communication and developing teaching strategies that encourage collaborative written and oral communication. These assignments and strategies are familiar in WAC literature and, in fact, may be borrowed from composition pedagogy informed by social theories of learning (e.g., the use of peer review and collaboration in the classroom). These assignments and strategies offer

students and teachers in agriculture a beginning step toward transforming classroom practices; missing, however, is a discussion in this literature of how and why WAC principles are valuable to the specific disciplines within agriculture.

Assignment topics. Because traditional assignments such as term papers, microthemes (Parrish, Brumback, and Squires 28; Berghage and Lownds 125), or abstracts (Parrish, Brumback, and Squires 28) may not allow students to practice communication appropriate to professional fields, faculty are seeking new, innovative assignments to incorporate writing in their classes (Boufford 249).

Through involvement in WAC programs, agriculture faculty learn to design assignments that address professional purposes, audiences, and contexts that their students will encounter in their future jobs (Wechsler 114; Fletcher and Branen 18; Fuccillo 29; Wehner 456). Narrowing purposes and audiences to focus on workplace contexts is a strong innovation in WAC in agriculture that has produced unique, interesting assignments, as well as general enthusiasm among faculty and students. Because agriculture includes numerous and distinct fields of study—from agricultural systems technology to microbiology to entomology—purposes and audiences for professional communication within these fields vary widely and allow for many communication opportunities. For example, agriculture professionals may engage in the following communication tasks: equipment safety rules to co-workers in ag systems technology, a feasibility report to an agronomy client, or animal ecology research results to an audience of non-native speakers. Consequently, assignments may include written instructions, reports, or news articles written to non-specialized audiences (Fuccillo 29; Wehner 457).

Another assignment typical in the workplace that addresses a professional purpose and audience is a newsletter. Robert Boufford assigned newsletters in his sophomore-level horticulture class as an “applied writing activity” (249). Often this application requires students to communicate their technical expertise to a non-specialized audience. Boufford requires students to write two articles and publish a newsletter related to turfgrass management—a communication activity that he believes graduates are likely to encounter in the workplace (249). Not only does this assignment allow students to write for a specific purpose and audience, but it also allows them to use computers in the process, an increasingly important workplace communication tool (249). Newsletters and other assignments with defined audiences encourage students to see the uses of writing in their discipline beyond the classroom. While these assignments may not be new to WAC professionals in other disciplines, they are new to agriculture.

Teaching strategies. McLeod's vision of transformative writing programs calls for change in the way students and teachers view writing in the classroom. Commonly discussed teaching strategies that strengthen communication in the classroom and prepare students for future workplace situations include collaboration in the form of peer review (Sims 105) and teamwork (Wiebold and Duncan 29; Fletcher and Branen 18; Westgren and Litzenberg 363). Again, these are not unfamiliar practices in WAC classrooms. But what is particular to WAC programs in agriculture is a consistent focus on workplace applications.

Peer review, a strategy in which students in a group review the written work of others within their group, has been found to increase student involvement in their own writing as well as in the writing of others (Sims 105; Berghage and Lownds 126; Westgren and Litzenberg 363). Like the use of peer review in WAC programs outside of agriculture, the strategy encourages students to see their peers as part of a writing community and creates a sense of audience that an individual professor cannot replicate. This newly developed writing community allows students to teach each other (Fletcher and Branen 20) by actively engaging in several stages of the writing process (Sims 105). In addition, WAC in agriculture makes use of peer review to model both workplace writing communities and the review processes graduates often face in their future jobs (Sims 105).

Teamwork is another collaborative strategy that can be incorporated into writing assignments (Burnett; Westgren and Litzenberg 362; Fletcher and Branen 18). Team-based work has been used in capstone courses where students practice problem-solving and research skills in groups that simulate some aspects of workplace groups (Westgren and Litzenberg 362; Fletcher and Branen 18). For example, WAC faculty at the University of Idaho suggest the usefulness of such experiential courses by discussing strategies for structuring the course, posing reasonable expectations for student reactions, and reporting on student outcomes. "Certainly students can learn from teacher-directed strategies such as lecture and demonstrations," Fletcher and Branen write. "But to meet the many needs of today's active learners, cooperative, student-initiated and student-directed learning is fitting" (22).

Peer review and team-based courses and assignments can help prepare students to learn to work with others—a valuable ability in their future professions (Blank 34; Brumback, Squires, and Parrish 33; Fletcher and Branen 18). Westgren and Litzenberg believe that the process of randomly assigning students to collaborative teams "attempts to simulate the group dynamics that employees may face in cross-departmental, task-oriented work in the workplace" (363). These authors also see students developing crucial skills in leadership and understanding more effectively how to allocate tasks as a result of their teamwork (363). In addition,

collaborative assignments can allow students to produce richer, more complex documents, such as handbooks and manuals that are appropriate for professional use (Wiebold and Duncan 28).

Innovations in WAC in Agriculture: Electronic and Oral Communication

WAC in agriculture currently focuses on preparing students for the writing they will do in the workplace but seldom discusses areas other than writing that are important to professional communication, such as visual communication, international communication, ethics in communication, interpersonal professional interaction, and document and information design. For WAC programs in agriculture to sustain their momentum toward transformative practice, more attention will have to be paid to these areas mentioned only peripherally in the literature reviewed here. Perhaps in the future WAC in agriculture will seek support from professional communication in addition to composition. However, literature about WAC in agriculture does move beyond writing in two important areas: electronic communication and oral communication.

Electronic communication. Literature reports a strong awareness and emphasis on emerging computer technology and that technology's role in WAC and agriculture programs. Computers have become essential writing tools and are fast becoming essential information sources as well (Boufford 249; Gleichsner 35).

Just as emerging technologies require students to become familiar with new ways of writing and collaborating, these technologies pose special requirements for faculty in agriculture who incorporate communication in their disciplines. Including electronic communication in agriculture curricula requires instructors to "enhance student awareness and abilities in the new technologies, creating a classroom environment that is supportive, non-threatening, and based upon an experiential approach to learning new material" (Herr and Parsons 9). One example of this innovation is using the Internet to teach interactive communication skills through media such as electronic mail and Internet access applications such as Gopher. Using technology in this way has the potential to empower students and create discourse communities both within and beyond the classroom (Herr and Parsons 9)—communities they will likely encounter in their future jobs.

Oral communication. Oral communication, like written communication, is a necessary skill and is expected among professionals in agriculture. Some agriculture programs focus on the development of oral communication skills to prepare their students for this professional expectation. While not necessarily recent innovations, oral presentations are com-

monly assigned to achieve this goal (Parker 34; Zinn, Faustman, and Riesen 14). To help students further develop skills, presentations may be videotaped to enable self-evaluation (Cox and Martin 26). Other potential oral communication assignments include listening skills, organizational interpersonal communication, and applied persuasion (Cronin and Glenn 358).

Conclusion

The literature we have reviewed focuses on programs that prepare students for the workplace. While this workplace focus is not innovative, it has allowed agriculture teachers and students to explore writing and communication in new ways. And, that new application may, indeed, be transformative.

Agriculture instructors are increasing the amount of writing in their classrooms and are using collaborative strategies to more closely resemble workplace contexts. Further, those strategies are influenced by technological tools. Each of these strategies in communication instruction prepares students for future demands of the workplace and changes the ways teachers assist in that preparation.

Because the literature we have reviewed suggests a strong emphasis on communication as it applies to the workplace, WAC programs in agriculture may soon expand their emphasis from composition to professional or technical communication. Although WAC literature in agriculture does not acknowledge the various distinctions of professional communication, the focus on workplace communication in agriculture curricula seems to be pointing this direction and perhaps may include these distinctions in the future.

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