

# How Should an Undergraduate Research Journal Be Different?

**C.C. Chancey, Editor**  
**American Journal of Undergraduate Research**  
**University of Northern Iowa**  
**Cedar Falls, Iowa 50614-0150 USA**

Research is a long-established part of undergraduate education in the sciences and technology. Undergraduate research journals, in comparison, are relatively recent. The question STEM\* faculty ask me most often is this: Why should my student publish in an undergraduate research journal (like AJUR) rather than in the standard professional literature (Journal of...)? The questioner is often sincerely puzzled why an undergraduate research journal needs to exist.

I understand the puzzlement, in part. After all, the research community numbers its journals in the thousands. A report by a competent undergraduate researcher will likely find a home in at least one of these, especially with the experienced help of his or her research mentor. Faculty members know that their research students will be justly proud when they see their work in print. Pride leads to further motivation, a happy and necessary outcome for a student's future success in a STEM field.

As a STEM faculty member engaged with undergraduate researchers, I understand this perspective. Most of my available time for mentoring is invested in working with my students while they are researching. And, all too often it seems that a student's research breakthrough/crucial insight occurs just as the research project window is about to close. In real life, there are not many hours left over—after the necessary report to an on-campus office or off-campus agency—for the 'window dressing' of a paper. How many of us choose to speed the process by doing much of the clean

up and writing ourselves? I realize that this is a likely endgame for many a student project. I've followed this path more than once with student projects.

Does AJUR provide another path, one with positive outcomes for both the student and his or her mentor? Yes.

If the student must write a report then encourage him or her to use professional language that is clear and direct. (You, the mentor, would do this in any case, right?) Have the student write an abstract, and have him or her take care with the literature citations. (Remember this report is the student's work—even with your advice it won't have the organization, concision or polish of what you might produce. So be it!) E-mail the student's report to an AJUR disciplinary editor (include the student's e-mail address).

The disciplinary editor now will work *with the student*, after outside reviews are received, to help him or her incorporate referees' recommendations. The resulting draft paper will be better organized, more concise, and better referenced as a result. The positive outcome for the undergraduate researcher is the experience in organizing a professional research report, under the guidance of referees and an editor. Publication in a refereed journal is still the final result. The positive outcome for the research mentor is a student who is better prepared to present future research results. (And AJUR has stepped in to provide a practical scientific writing tutorial—time saved by the mentor.)

How should an undergraduate research journal be different? In its investment in helping the student researcher be a full partner in preparing his or her research paper for publication.

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\* Science, Technology, Engineering, and Mathematics