

## PREPARING A RESEARCH JOURNAL ARTICLE

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"Publish or perish" is a garrote around the neck of professional educators at all levels. This saying has long been true for those who seek tenure or promotion in a college or university setting. Although most institutions now profess to placing equal emphasis for advancement on teaching, field service and research activities, seldom is it the case. Whether one is preparing to enter or to advance in professional teacher education ranks; publication, particularly of research, is of utmost importance.

Reluctance may best express the viewpoint of potential writers in agricultural education. Many reasons for publishing research which might ease this reluctance could be listed. Among others, agricultural educators owe it to their profession to disclose and publish the results of their research. This could prevent almost complete replication of a study because the original work was unknown to the second researcher. Perhaps agricultural educators do not consider themselves proficient at writing. Whatever the reason, most research goes unreported. To substantiate this, one need only compare the reports of research in progress with the articles in *The Journal of the American Association of Teacher Educators in Agriculture* and other journals.

When someone has conducted a study and prepared a research report, the preparation of a journal article is, in comparison, a relatively simple task. The researcher is generally so close to the study that the task of selecting the major points to illuminate is easily accomplished. However, this very closeness can be dangerous if one lets it bias the reporting.

### *Preparing to Write*

The writer must do some preparatory work. A good place to start is by reviewing the publication policy of the journal in question. If an official policy statement is unavailable, peruse the indexes of previous issues to determine if the journal is likely to be interested in the theme of the proposed article. When a journal that looks promising has been located, write an article for the journal and its audience.

*Style.* Almost all journals specify a style manual that is to be used by prospective authors. Several common ones are the *Publication Manual of the American Psychological Association*,

32 *Journal of the American Association of  
Teacher Educators in Agriculture  
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American Psychological Association, Washington, D.C.; *A Manual of Style*, The University of Chicago Press, Chicago, Illinois; *Form and Style in Thesis Writing*, William G. Campbell and Stephen V. Ballou, Houghton Mifflin Company, Boston, Massachusetts; and *A Manual for Writers of Term Papers, Theses, and Dissertations*, Kate L. Turabian, The University of Chicago Press, Chicago, Illinois. All of these are valuable additions to a personal professional library, since they may be needed on short notice to prepare an article. By all means, when preparing an article, follow the recommended style manual.

If a style manual is not specified, acquire several back issues of the journal in question and follow its style. Even if a style manual is specified, certain procedures, such as placement of identification of the author, may be unique with the journal.

*Other Considerations.* Other matters of manuscript preparation should also be followed. These may be specified inside the front cover of the journal. Double spacing, footnoting, length, originality statement, margins, number of copies, and simultaneous submission statements must be adhered to by the writer. (It is considered inappropriate to submit the same article to more than one journal at one time.) The cover letter that should accompany the article should let the editor know if the article is also being submitted to other journals and if the results have been previously published elsewhere, or if the results have been revealed through the presentation of a paper at a research meeting.

### *Preparing the Contents*

The following style of organization for the contents of a journal article based on research is merely a suggestion. One would want to carefully adhere to headings and subheadings prescribed by the journal. If the writer does not know where to begin, the following may be helpful.

*Title.* Keep the title as short, concise and descriptive as possible. Flag the content for the potential reader. Many readers will decide whether or not to read an article on the basis of the title. Omit superfluous words, such as "a study of" or "an analysis of."

*Introduction.* Follow the title with an unlabeled (no heading) section that identifies the need for the study, relates enough review of literature to show that the study was logically deduced from some theory and leads into the problem. Provide headings to identify the research question, statement of problem, hypothesis(es) or null hypothesis(es), and other appropriate information which the writer wishes to use in the article.

*Methodology.* Some writers and journals may prefer to call this the "procedures" section. The following subheadings may be included under this heading: research design, population and sample, instrumentation, treatment, conditions of testing and data analysis.

Under the subheading of "research design," describe the type of research design utilized in the conduct of the study. If the study was descriptive research of the survey type, state this fact. The same would be true of predictive, historical, or *ex post facto* research. Experimental research is commonly described by the designs enumerated by Campbell and Stanley in *Experimental and Quasi-Experimental Designs for Research*.

In "population and sample," the writer should describe the population studied, the sampling procedure and any characteristic known about the subjects. Were experimental units or subjects chosen? Clearly outline the sampling procedure and the size of the sample. How clearly one specifies these procedures will affect the overall validity your generalizations will have with the reader later in the article.

The "instrumentation" subheading should provide an assessment of the reliability and validity of the instrument or method used to gather data. The reader will want to ascertain if it was appropriate for the study.

Under "treatment," describe the procedures in sufficient detail that the study could be replicated, or refer the reader to where such information is available. Convince the reader that extraneous, intervening variables did not prejudice the results. Mention how these variables were controlled. A good place to evaluate your study is in terms of the threats to internal and external validity as expressed by Campbell and Stanley in the aforementioned reference. If subjects were randomly assigned to treatments, report this.

"Conditions of testing" is the place to report how, when and under what conditions the subjects were evaluated, or exposed to treatment. Factors of this nature that might have affected the outcomes should be called to the attention of the reader.

The subheading of "data analysis" is the place to describe how the data were analyzed. Do not try to astound your reader with your knowledge of statistics. Merely provide sufficient description to show that appropriate statistics were used and that any assumptions for that statistical test were met. Use the research question, or hypothesis, as a guide as to what should be reported.

*Results.* This section will probably be of most interest to readers. Results may be provided in the form of tables or graphs. Do as much in as little space as possible without confusing the reader. An explanation to aid the reader in interpreting the results is appropriate, but this is not the place for interpretation. The actual findings of the study are reported here in narrative or visual form. Keep the findings related to the problem.

*Summary.* Headings and subheadings that follow the "results" section are nearly as varied as there are numbers of journals. Headings such as discussion, interpretation, conclusions and/or implications are used. This writer proposes one heading that includes an illumination of what was found out about the problem and what it means. The summary should be bound by the data, or otherwise interpreted to the reader; such as "Now, extrapolating beyond this data, if these trends hold up in the future . . ."

The writer will also find it advantageous to relate the results to the research of others. This is particularly true for citations quoted in the "introduction."

Finally, the author would do well to present proposed topics for future research that arose as a result of the research which was reported on in the article.

### *Evaluating the Article*

Several methods can be utilized to evaluate the article before submitting it to the editor. Ask fellow graduate students and/or faculty members to review the article and offer criticism. The article may have to be revised several times on the basis of such suggestions. The following critique is also appropriate to apply to one's own research article, and is particularly applicable to experimental research.

#### A METHOD OF CRITIQUING EDUCATIONAL RESEARCH\*

##### I. The problem

- Was the problem clearly defined?
- Was a verifiable (null) hypothesis formulated?
- Was the hypothesis logically deduced from some theory (or problem)?

##### II. The design

- Was an appropriate research design utilized?

\*Adapted from: William W. Farquhar and John D. Krumboltz, "A Check List for Evaluating Experimental Research in Psychology and Education," *Journal of Educational Research*, LII (May, 1959), 353-354.

Was the population studied clearly specified?  
Were the sampling methods clearly outlined?  
Was a control group chosen in the same manner and  
from the same population as the sample?  
Were the treatments randomly assigned to the groups?  
Did the experiment include a replication?  
Was the alpha level specified *a priori*?

III. The procedure

Were treatments and data collecting methods  
described so that the study could be replicated?  
Were the size and characteristics of the sample  
adequately described?  
Were the treatments administered so that extraneous  
sources of error were either held constant for all  
treatments and control groups or randomized among  
subjects within all groups?

IV. The analysis

Was the criterion of evaluation appropriate to  
the study?  
Was any evidence of the reliability of the instru-  
mentation given?  
Was any evidence of the validity of the instru-  
mentation given?  
Were the statistical assumptions which are necessary  
for a valid test of the hypothesis satisfied?

V. The interpretation

Were the conclusions consistent with the obtained  
results?  
Were the generalizations confined to the population  
from which the sample was drawn?

VI. General

Was this a significant study?

If these questions are addressed in the article and can be  
answered positively, then you probably have an article that can  
be used by an appropriate journal.

Once the article has been deemed ready to submit, follow  
the guidelines and forward it to the editor.

### *The Decision-making Process*

After receiving the article, the editor will write you  
acknowledging its receipt. Some time may elapse before you  
hear from the editor again. If the journal is refereed, the  
editor will prepare copies to submit to the editorial board,