

Examining *JAC*: An Analysis of the Scholarly Progression
of the *Journal of Applied Communications*
Research Article

Traci Naile – Graduate Student
211 Agricultural Hall
Stillwater, OK 74078
Ph: (405) 744-2398
traci.naile@okstate.edu

Tanner Robertson
437 Agricultural Hall
Stillwater, OK 74078
Ph: (405) 744-8135
tanner.robertson@okstate.edu

Dwayne Cartmell
436 Agricultural Hall
Stillwater, OK 74078
Ph: (405) 744-0461
dwayne.cartmell@okstate.edu

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The peer-review process influences scholarly publication, authors, readers, and the direction of scientific research. In addition, this process may have a broader influence on society if policy implications are associated with scientific discovery (Hobart, Gonnell, & Cabelleigh, 2003). As the *Journal of Applied Communications (JAC)* is an outlet for scholarly, peer-reviewed publication or agricultural communicators, it must be continually analyzed and questioned to meet the needs of the profession (Miller, Stewart, & West, 2006). This study examined the content of *JAC* from 1990 to 2006 by reporting descriptive information about the content of *JAC* and examining its progression of published scholarly research within the framework of the peer-review process. In Volume 74(1) (1990) through Volume 90(2) (2006), there were 323 research and non-research articles published in the *JAC*. About half of the articles published in the *JAC* were research articles. A shift from non-research articles to research articles was not found as the number of articles published yearly remained similar from 1990 to 2006. More than 300 hundred authors published in the *JAC* during the selected time period representing more than 80 universities, agencies and private business. However, authors collaborated more on research articles than on non-research articles. Based on the results of this study, little evidence exists to support the *JAC* as an outlet for scholarly research publication in agricultural communications.

Keywords: *Journal of Applied Communications, peer review, scholarly publication*

Introduction

“Peer review of scholarly manuscripts by qualified reviewers is the cornerstone of scientific publication” (Hojat, Gonnella, & Caelleigh, 2003, p. 76), and the outcomes of peer-reviewed research influence authors, journal readers, and the direction of scientific research. In addition, peer-reviewed research may have a broad impact on society if social policy implications are part of research findings and interpretations (Hojat et al.). Recently, scholars within agricultural communications have focused their attention on analyzing what may be the leading peer-reviewed journal in the discipline: the *Journal of Applied Communications* (Williams & Woods, 2002; Miller, Stewart, & West, 2006). Miller et al. stated, “those among the discipline must constantly analyze it [the *JAC*], question its purpose, and propose new directions in order for it to grow, progress, and be of use to the profession it serves” (p. 3).

The *Journal of Applied Communications* is published quarterly by the Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences (ACE) (ACE, n.d.). Bailar and Patterson (1985) defined the peer review process as “expert assessment of materials submitted for publication in scientific and technical journals.” Arriving at a publication decision via typical peer-review systems involves up to six steps: 1) submission to the editorial office of a journal; 2) initial decision of acceptance or rejection by the editor; 3) accepted papers sent to an average of two reviewers who are experts in the field; 4) classification by reviewers as publishable immediately, publishable with improvements, or not publishable; 5) changes suggested by reviewers; and 6) papers sent to third reviewer or editor serves as third reviewer if initial reviews disagree (Meadows, 1998). Prior to World War II, however, the peer-review process was largely unstructured; editors typically made publication decisions with little

advice from colleagues (Weller, 2001). The modern peer-review system consisting of editors and expert reviewers became common only in recent times (Rowland, 2002).

As the *JAC* has evolved from its first publication in 1968 as *aaace* (Carnahan, 2000) to the current peer-reviewed quarterly journal, its peer-review system has paralleled the basic steps identified by Meadows (1998). All papers submitted for publication in the *JAC* are initially routed through the ACE headquarters to the executive editor, who distributes all articles for blind review. If the article is accepted during the blind review process, then a final copy with revisions is submitted to the executive editor for final review before publication (ACE, n.d.).

The journal is currently divided into four categorical areas: research and evaluation, professional development, commentary, and review (Telg, Tucker, & Dolbier, 2001). Research and evaluation includes “traditional scholarly research articles” (Telg et al., p. 8) consisting of quantitative and/or qualitative methodologies. As it is an applied journal, the professional development category focuses on the “author’s particular expertise on a subject matter that will benefit career performance of ACE members” (ACE, n.d.). Commentary articles are opinion pieces typically focusing on trends or important issues in communications, and critiques of books, journal articles, software programs, and other related resources are reserved as review articles.

Based on a 2007 *JAC* readership survey conducted by ACE, about one-half (54%) of ACE members who read *JAC* have published a research article in the journal. Additionally, 26 percent of readers have published a professional development article, 14 percent a review, and 10 percent a commentary (n=129). More respondents indicated they were “highly interested” in reading about applied communications research than any other category, yet less than half (35%, n=127) of respondents indicated peer-reviewed publishing is required for career advancement

(A. Aubuchon, personal communication, July 19, 2007). In contrast, respondents to a 1996 *JAC* readership survey expressed dissatisfaction with the technical content of research articles.

Comments included "...sometimes a preponderance of quantitative articles can be a bit overwhelming...too researchy at times," and "...the research articles are laborious to go through – usually read the problem and conclusions" (Brooks, 1996, p. 47).

Beyond readers' satisfaction with content, the peer-review process has been examined in multiple fields with the goal of obtaining opinions about the system's usefulness and reliability. A series of surveys conducted by the Association of Learned and Professional Society Publishers (1999, 2001, 2002) found favorable opinions of the peer-review process, with 70 percent of authors reporting they were "satisfied" or "very satisfied" with the peer-review system (ALPSP, 1999). Prior to the surveys, Bailar and Patterson (1985) and Pierie, Walvoort, and Overbeke (1996) had noted the peer-review process was working and worthwhile. The peer-review system, however, has not always been viewed favorably by the researchers who rely upon it for their survival in academia (Hojat et al., 2003). In contrast to the ALPSP studies, authors previously found the peer-review system to be crude, unfair, and biased (Kassirer & Campion, 1994; Sharp, 1990), and 52 percent of respondents identified peer review as an obstacle to achieving publishing goals despite reporting general satisfaction with the peer-review process (ALPSP, 1999). Three years later, respondents confirmed the importance of peer review, with 81 percent of respondents rating peer review important as authors, and 80 percent of respondents rating peer review important as readers (ALPSP, 2002). In comparison, 94 percent of respondents to a survey conducted by McKnight and Price (1999) indicated peer review was important to printed journals.

Peer review remains the standard in scholarly publication, regardless of the system used and questions raised about reliability (Hojat et al., 2003; Rowland, 2002). More than 75 percent of journals represented in the 2001 survey conducted by ALPSP reported refereeing all papers submitted, with the modal number of submissions ranging from 100 to 500 and a modal acceptance rate ranging from 25-50 percent (ALPSP, 2001). Of those journals using a peer-review system, 88 percent kept reviewers' identities concealed, compared to 40 percent that reported using a double-blind review system (ALPSP, 2001). Low rates of acceptance and concealed reviewer identities thus give reviewers and the entire peer-review system considerable power (Crandall, 1982) in guiding the direction of research that may potentially impact society in a number of ways (Hojat et al.; Meadows, 1998).

Purpose and Objectives

This study examined the content of the *Journal of Applied Communications* from 1990 through 2006 as one measure of the progression of scholarly publication in agricultural communications.

The specific objectives of the study were 1) to report descriptive information about the content of the *Journal of Applied Communications*, including the number of research and non-research articles, number of authors per article, authorship by institution, use of theoretical and conceptual frameworks, use of research methods, and populations explored; and 2) to examine the progression of scholarly research published in the *Journal of Applied Communications* within the framework of the peer-review process.

Methods

Journal articles published in Volumes 74(1) (1990) through 90(2) (2006), the most recent issue available, of the *JAC* were analyzed via content analysis. Content analysis is "a formal

system for doing something we all do informally rather frequently—draw conclusions from observations of content (Stempel III, 2003, p. 209). Miller et al. (2006) described content analysis procedures as “a research technique for making replicable and valid inferences from textual data to their context” (p.7).

Articles were divided into two categories: research and non-research. Research articles included any *JAC* publication that supplied traditional research-based information in the article, specifically methods, quantitative and/or qualitative findings, and discussion of findings. All other articles were placed in the non-research category. All articles were analyzed, as volumes prior to 2001 of the *JAC* did not separate articles into the presently used sections (Telg et al., 2001) and articles defined as research publications for the purpose of this study may have been published in all sections under the current *JAC* structure. In addition, the *JAC* submission guidelines state all submissions are peer-reviewed and do not provide procedures for selecting reviewers based on type of article (ACE, n.d.).

Descriptive information, including number of authors, universities, and number of articles published yearly in the *JAC*, was coded through assignment of numerical values. Research articles were further examined and coded, separating framework, methodology, and population studied or sampled. Framework was divided into two distinct categories: theory-based and conceptual-based. The theory-based category represented all research articles that referenced a specific theory in the article. Research articles that did not reference a specific theory or theories as a basis for research were categorized as conceptual-based. Frequencies, means, percentages, and cross-tabulations were used to interpret the data and describe publication trends of the *JAC*.

Results

There were 323 research and non-research articles published in the *JAC* from Volume 74(1) through 90(2). Two articles were omitted from some frequency tabulations; one was reprinted abstracts from a conference proceeding, and the other was erroneous (pages were absent in publication). Three hundred eighteen authors contributed to the articles published.

One-half (50.2%) of the articles published in the *JAC* between 1990 and 2006 were not research articles. Of the articles that were considered research (49.2%), most were conceptually based (41.2%). Table 1 shows the number and percentage of research and non-research articles, with research articles subdivided into theory-based or conceptual-based.

Table 1

Number of research and non-research articles published from 1990 to 2006

Article type	No. of articles	Percent (%)
Non-research	162	50.2
Research	159	49.2
Conceptual-based	133	41.2
Theory-based	26	8.0
Total	321*	99.4*

Note. * Two articles were omitted: one was reprinted abstracts from a conference proceeding, and the other was erroneous (pages were absent in publication).

Cross-tabulation between year of publication and type of article was analyzed to determine trends in research. Years were divided into three categories: 1990-1995, 1996-2000, and 2001-2006. Table 2 shows that the proportion of research to non-research articles has not changed significantly from 1990 to 2006.

Table 2

Frequency of type of article by year

Year	Research (n, %)	Non-research (n, %)
1990-1995	65, 50%	65, 50%
1996-2000	47, 52.8%	42, 47.2%
2001-2006	48, 46.6%	55, 53.4%

The majority (59.1%) of the articles were single-authored. The number of articles with the number of authors per article can be seen in Table 3. Nearly half (44.9%) of all articles published were single-authored non-research articles. The number of authors per research and non-research articles is shown in Table 4.

Table 3

Frequency of number of authors per article

Authors	Articles	Percent (%)
0	1	.3
1	191	59.1
2	69	21.4
3	41	12.7
4	15	4.6
5	6	1.9
Total	323	100.0

Note. 0 = annual report, no reported author

Table 4

Frequency of number of authors per research and non-research articles (N = 321)

Authors	Research (n, %)	Non-research (n, %)
1	47, 14.6%	144, 44.9%
2	60, 18.7%	9, 2.8%
3	34, 10.6%	7, 2.2%
4	13, 4.0%	2, 0.6%
5	5, 1.6%	0
Total	159, 49.5%	162, 50.5%

There are 84 universities, agencies, and private businesses represented by *JAC* authors. Table 5 lists only the 10 universities authors represented the most, as the majority (84.5%) of authors was affiliated with a university rather than agencies or private business.

Seventeen methods were used to obtain data in research articles published in the *JAC* from 1990 to 2006. The most commonly used was mail survey (18.0%), followed by mixed method (7.7%), content analysis (4.0%), online survey (2.5%), interview (2.2%), and focus group (2.2%). Mixed method refers to a combination of two or more research methods. Table 6 shows the 10 most commonly used methods.

Research articles published in the *JAC* from 1990 to 2006 examined 54 separate populations. The most commonly studied population was university faculty/staff (8.0%), followed by mixed population (5.9%), farmers (4.3%), college students (4.0%), and county extension educators (1.9%). Mixed population refers to a combination of two or more separately described sets of people. Table 7 shows the 10 most common populations studied.

Table 5

Universities represented most by authors in research and non-research articles

University (N = 65)	Representation (N = 291)	Percent (%)
University of Florida	42	11.02
Ohio State University	24	6.30
Penn State University	18	4.72
Texas A&M University	16	4.20
University of Illinois	16	4.20
Kansas State University	15	3.94
University of Missouri-Columbia	15	3.94
University of Nebraska	15	3.94
Oregon State University	14	3.67
Louisiana State University	12	3.15

Table 6

Most common methods used in research articles

Method (N = 17)	# of articles (N = 323)	Percent (%)
Survey, mail	58	18.0
Mixed method	25	7.7
Content analysis	13	4.0
Survey, online	8	2.5
Interview	7	2.2
Focus group	7	2.2
Case study	6	1.9
Survey, telephone	5	1.5
Survey, unknown	4	1.2
Survey, personal	4	1.2

Table 7

Most common populations studied in research articles

Population (N = 54)	# of articles (N = 323)	Percent (%)
University faculty/staff	26	8.0
Mixed	19	5.9
Farmers	14	4.3
College students	13	4.0
County extension educators	6	1.9
Cooperative extension personnel	4	1.2
Ag. comm. professional organization members	3	.9
Agricultural magazine subscribers	3	.9
College graduates	3	.9
ACE members	2	.6
Agricultural writers	2	.6
Agricultural newspaper subscribers	2	.6
Iowa residents	2	.6

Discussion/Conclusions

As the *JAC* is continually analyzed for its usefulness in serving agricultural communications scholars and professionals, examining the trends in publication within the journal provides a measure of how the *JAC* contributes to scholarly development of the discipline. The journal's stated purpose is to offer "professional development for educational communicators who emphasize agriculture, the food industry, and natural resources" (ACE,

n.d.), and the *JAC* achieves this purpose in current volumes through publication of research and evaluation, professional development, commentary, and review articles. Telg et al. (2001) stated, “through commentaries and opinion pieces, the journal offers an avenue to discuss and debate important...issues facing our profession today. Professional development articles can suggest easier, more efficient ways to do our jobs, while research articles increase our knowledge base...” (p.15).

The content of articles such as those published in the *JAC* (Telg et al., 2001) impact the direction of agricultural communications research, as peer-reviewed publications serve as the foundation for advancing knowledge within a discipline (Hojat et al., 2003). Based on this study, little evidence exists to support the progression of the *JAC* as a leading outlet for scholarly literature; rather, the *JAC* appears to be meeting its purpose as a professional development resource for educational communicators. More than half (50.2%) of all articles published from 1990 to 2006 were non-research publications, as methods, quantitative and/or qualitative findings, and discussions of findings were not reported. The proportion of research articles to non-research articles also has not changed from 1990 through 2006, with slightly less than half of articles published categorized as research. As only 35 percent of respondents to the 2007 *JAC* readership survey indicated peer-reviewed publishing is required for career advancement (A. Aubuchon, personal communication, July 19, 2007), the lack of emphasis on research is not surprising.

Single-authored submissions represented more than half (59.1%) of all articles published, which is only slightly higher than the percentage of non-research articles published from 1990 to 2006 (50.2%). Single authors are typical for commentary, review, and non-research professional development articles, all of which were included in the non-research category of this content

analysis. Post-hoc analysis of the number of authors credited for research and non-research articles demonstrated this trend, as 44.9 percent of non-research articles were single-authored in comparison to 14.6 percent of research articles.

In ranking universities based on the number of times they were represented by authors in the *JAC* from 1990 to 2006, the University of Florida was found to be the most-represented university of the 65 institutions credited in research and non-research articles. Other top 10 universities included The Ohio State University, Penn State University, Texas A&M University, University of Illinois, Kansas State University, University of Missouri-Columbia, University of Nebraska, Oregon State University, and Louisiana State University. Institutional reputation and representation may reflect on and influence the peer-review process (Hojat et al., 2003), and the most-represented universities in this study traditionally have been recognized for strong agricultural communications and journalism programs and services. Analysis of the relationship between the number of times universities were represented by authors in research versus non-research article categories was not completed, as complete university representation includes academic and non-academic activities.

Articles classified as research publications were analyzed beyond the number of authors and institutional representation to discover basic characteristics of the peer-reviewed research included in the *JAC*. Initially, the frameworks of research articles were classified as theory-based or conceptual-based to identify the foundations for research published from 1990 to 2006. In this study, a clear reference to a theory and its application to the reported research were required for articles to be classified as theory-based. As a result, articles lacking such a discussion were classified as conceptually-based. Examination of the research articles revealed a relatively low proportion of theory-based publications (8.0%) compared to conceptually-based publications

(41.2%), indicating that authors in the *JAC* either relied more on conceptual frameworks for research or failed to develop theoretical discussions as foundations for research.

Analysis of the methods and populations reported in *JAC* research articles from 1990 to 2006 also was performed. The most common method used to conduct research was mail survey, followed by mixed methods, content analyses, online surveys, interviews, focus groups, case studies, telephone surveys, unspecified surveys, and personal surveys. In this study, mixed method was defined as a combination of two or more established research methods used to obtain data. The representation of quantitative and qualitative methodologies among the common research methods reported indicated a need for a variety of ways to explore agricultural communications, and the ranking of mixed-method research as the second-most common method provides further support for the importance of various research methods to scholarly work in the discipline.

With the necessity for replicating research studies in various environments to qualify generalizations and applications of results, it was expected that some populations were investigated multiple times from 1990 to 2006. Studies reporting either sampling or census of specified populations may be limited in generalizability, but it was discovered that common terms were used to report population descriptions. The 10 most frequently studied populations were representative of common audiences and stakeholders in agricultural communications, including university faculty/staff, mixed, farmers, college students, county extension educators, cooperative extension personnel (mixed), agricultural communications professional organization members, agricultural magazine subscribers, college graduates, ACE members, agricultural writers, agricultural newspaper subscribers, and Iowa residents. Mixed populations were defined in this study as the combination of two or more separately described sets of people and were

typically combinations of two of the other most frequently studied populations. Only three populations seemed to include industry (non-education) professionals, which suggests bridging the gap between research and practical applications of knowledge may require including industry professionals in research studies.

The combined research and non-research structure of the *JAC* provides resources for a variety of professionals in agricultural communications (ACE, n.d.), although this study indicated the *JAC* may not meet the expectations of a peer-reviewed, scholarly literature outlet needed to serve agricultural communicators in academia. Rowland (2002) outlined four primary functions of peer review, including publication of scholarly journal articles, submission of papers to conferences, publication of scholarly monographs, and award of research grants and contracts. In addition, the peer-review systems of various journals help establish the importance of papers, which guides readers' identification of the information most valuable to them (Rowland).

As a peer-reviewed publication, the current *JAC* structure serves one of the four primary functions of the peer-review process identified by Rowland (2002) — publication of scholarly journal articles — although publication of research is not the primary purpose of the *JAC*. Research reported in the *JAC* from 1990 to 2006 appears to be representative of the agricultural communications discipline and the peer-review process. In addition, publication of scholarly literature in the *JAC* serves to disseminate current knowledge, archive disciplinary knowledge bases, control the quality of published information, and assign priority and credit to authors' work (Rowland); however, descriptions of practical applications of research may be needed to improve the quality of the *JAC* as a dual-purpose publication.

Recommendations for Further Research

The findings of this study provided insight into the use of the *JAC* as an outlet for scholarly, peer-reviewed research articles. The design of the study limited the content analysis to the types of article published. Future research should include analysis of the number of pages devoted to research in comparison to non-research articles, as this may be a better indicator of the emphasis placed on scholarly publication versus professional development. In addition, this study did not examine the usefulness of the *JAC* to its contributing authors. Further research should be conducted to determine if contributing authors are using the *JAC* as a tool for career advancement and at what stage in their careers authors are seeking publication in the *JAC*.

To elaborate on the findings of this study, further research should be conducted to determine contributing authors' satisfaction with the *JAC* peer-review procedures and clarity of the *JAC* peer-review process, as well as to determine how the research published in the *JAC* may be better oriented with the needs of the non-education agricultural communication industry professionals. A comparison of the *JAC* with similar journals in the field of communications also should be conducted to more broadly evaluate its role as a peer-reviewed publication. Finally, the research published to date in the *JAC* should be compared with the 2007-2010 National Research Agenda for Agricultural Education and Communication to evaluate the directions future research should pursue.

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