Running Head: THEMES, AUTHORS, AND CITATIONS IN THE *JAC*

Themes, Authors, and Citations in the *Journal of Applied Communications*, 2000 – 2004

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Abstract

A content analysis of academic and professional literature published in the *Journal of Applied Communications* (*JAC*) from 2000 through 2004, this study reports findings related to research themes, authorship, and citations in the journal. Using qualitative and quantitative content analysis methods, researchers examined 56 articles, 119 authors' names, and 1,249 entries in the articles' reference lists as the units of analysis. Trained coders categorized the collection of articles by research themes and examined frequencies of authorships and citations to report the most prolific authors and the most commonly cited authors within themes. Communications management was the most popular theme (11 articles), followed by Information Technology, Media Relations, Distance Education, and Publications. New themes that have emerged since R.A. Williams' and M.D. Woods' 2002 synthesis of *JAC* research include biotechnology communications, academic programs, and graphic design. Prolific authors identified include K.A. Boone in communications management, S. Banning and J.F. Evans in media relations, T. Irani in distance education, and M. Tucker in professional development. Few significant commonly cited sources were evident, but some notable common citations included T.J. Hoban in biotechnology communications articles, R.A Krueger (a focus group methods expert) in communications management articles, and D.A Dillman (a survey methods expert) in publications articles. Agricultural communications researchers should continue to expand present themes, work toward developing emerging themes, and build upon each other's research more often, looking first within the discipline rather than to other disciplines for research direction.

Keywords: University of Arkansas, agricultural communications, curriculum, academic programs, employer survey

Themes, Authors, and Citations in the *Journal of Applied Communications*, 2000 – 2004

Introduction

Well-respected authors in the academic discipline of agricultural communications agree: Those among the discipline must constantly analyze it, question its purpose, and propose new directions in order for it to grow, progress, and be of use to the profession it serves. Recently, some of these well-respected authors – Whiting (2002), Doerfert (2003), and Tucker (2003) – penned commentaries in the *Journal of Applied Communications* (*JAC*) urging their academic colleagues to examine their discipline and imploring them to develop a common focus, professional cohesion, and a goal-oriented vision. Imbedded in their desires for disciplinary growth and progress is the notion that research foci are the foundation of the discipline and, therefore, of the profession. That is, the results of agricultural communications research should guide agricultural communications practitioners' work, which should set the course for academicians' further research. Since this clearly is the discipline's philosophy, it follows that frequent examination of recent research in the discipline will aid in evaluating growth and progress and will provide direction for future research and practice.

Background and Purpose

This study is a content analysis of research published in the *JAC* from 2000 through 2004. It was undertaken with the service-oriented goal of providing researchers with an updated description of agricultural communications research themes in the discipline's primary journal. The study extended Williams and Woods' (2002) work, which categorized *JAC* research themes from 1992 through 2001.

Veteran and novice researchers alike should be able to examine the findings, conclusions, and recommendations of this study to gather ideas for future research projects and to identify key

sources to support the theoretical frameworks of their studies. This goal is in line with an important movement within the discipline to develop an organized research agenda, typified by the recent work done at the 2004 Agricultural Communications Summit (Association for Communication Excellence [ACE], 2004) and American Association of Agricultural Educators research agenda subcommittee meetings (Irani, 2003).

Three objectives guided this content analysis of the *JAC*:

1. Identify key agricultural communications research themes among research articles published in the *JAC* from 2000 to 2004.

2. Identify the most prolifically published authors in the JAC from 2000 to 2004 and categorize them by research theme.

3. Identify the most commonly cited authors in the JAC from 2000 to 2004 and categorize them by research theme.

Review of Relevant Literature

Boone, Meisenbach, and Tucker (2000) wrote the only college-level introductory textbook on agricultural communications. One of its five chapters is devoted to an overview of research in agricultural communications. The authors quoted University of Florida faculty member Ricky Telg in predicting the future of agricultural communications research:

> Agricultural communications research will become more issues-oriented over the next 10 years. Researchers will focus on how agricultural industries communicate such issues as environmental conservation, waste management, chemical applications, food safety and health concerns to the public. These issues are of great importance not only to agricultural communicators, but also to agricultural industries to determine consumers' understanding of agriculture's role in these vital areas" (p. 75).

Telg may prove to be the Nostradamus of agricultural communications research, but his predictions will only be tested by thorough and periodic content analyses of the *JAC* and research publications in the discipline.

With future research directions in mind and recognizing the need for a stronger link among research and practice, Tucker, Ernst, and Henry (2003) recently authored a unique article introducing a simple model of applied communications research. The article analogized the research process with a jigsaw puzzle. Two of the puzzle pieces, "Problem Identification" and "Theoretical Perspective," commonly become the initial hurdles for novice (and sometimes veteran) researchers in applied communications. To overcome the problem identification hurdle, researchers must narrow a practical problem down to a manageable, well-defined research question, and this requires a thorough examination of previous research. Similarly, defining a theoretical perspective also involves examining previous applications of communications theories and models that can be adapted and employed in new research efforts. So, indeed, the developers of the puzzle model demonstrated that reviewing recent, relevant literature is a pre-requisite to most of the pieces of the research puzzle, including developing a worldview, identifying a problem, choosing a theoretical perspective, and deciding upon a methodological approach, research technique, and measurement strategy.

Another important reason to occasionally review the literature in one's discipline is to ensure that applied research is not unnecessarily duplicated. Doerfert (2003) suggested that an attitude of collaboration is absent among academic and professional projects in agricultural communications. He rightfully chastised the profession for developing state-specific projects with disregard for what researchers and professionals in others states may have already done. Reviews of literature, especially the research and professional development articles in the discipline's primary academic journal, seem to be an obvious solution to this problem.

In a reply to Doerfert's (2003) essay, Tucker (2004) made further comments that supported the need for those in the agricultural communications discipline to take notice of

recent applied research and professional activities in the discipline, but his emphasis was focused more specifically on noticing what *hasn't* been done – important advice for the discipline. As did Doerfert, Tucker provided more fuel for the idea of reviewing recent literature in the discipline as a precursor to communications project and research project planning.

The leaders of other academic disciplines have noted the necessity of reviewing research and tracking citations to maintain a clear sense of a discipline's research agenda. Radhakrishna, Eaton, Conroy, and Jackson (1994), researchers in agricultural education (often considered a sister-discipline to agricultural communications), noted that "a number of researchers in various scientific disciplines have considered citation structure as a good indicator of the nature of scientific activity" (p. 61). Further, they quoted experts on the function of scientific journals to explain that analyses of citation structures "characterize a field of study, define its boundaries, and explain how a discipline is interrelated with other fields of study" (p. 61).

Literature in the *JAC* was first reviewed by Williams and Woods in 2002. The authors prefaced Doerfert's (2003) and Tucker's (2004) sentiments about reviewing literature in the field by hypothesizing "the review and acknowledgement of voids in the current knowledge base is an effective method of fostering the discipline's understanding and will bring focus to future research endeavors" (p. 28). This hypothesis seems more like a statement of common sense, yet agricultural communicators still sometimes avert their eyes from the possibly intimidating and sometimes aristocratic academic journal of their profession, choosing instead to create their own guidelines for practice based on their own experiences and the experiences of others. North (1987) described such guidelines as practitioners' "lore" (p. 23). Though practice based on lore may be effective occasionally, the dangers of choosing lore over science to guide the profession are many. Worse, research based on lore is a recipe for poor science.

Williams and Woods' (2002) synthesis of research presented at the ACE International Conference served as the baseline for this project. Their work clearly identified themes among research articles in *JAC* from 1992 through 2001. The most common themes included Information Technology (14.9%), Electronic Media (13.2%), Communications Management (12.4%), Media Relations (10.7%), Professional Development (7.4%), Distance Education (6.6%), Publications (5.8%), Research (Methods) 5.8%, International (5.0%), Writing (4.1%), and Accountability (3.3%). These themes became the reference points for comparison in the present study focusing on *JAC* issues from 2000 through 2004.

Though Williams and Woods' (2002) work *did* examine research themes and authorship in terms of institutional and departmental affiliation, it *did not* identify specific experts on various topics, nor did it connect specific authors with research themes. It also did not address reference citations, a key characteristic in describing a discipline's research foci (Radhakrishna et al., 1994). Therefore, an updated description of *JAC* contents highlighting emergent topics as well as those that have been abandoned since 2002, along with an explanation of the most prolific authors and most abundantly cited sources associated with these themes, was a logical extension of Williams and Woods' project. Agricultural communications researchers – novices and veterans alike – should find value in having an overview not only of the discipline's recent research topics, but also of the important authors on those topics.

Procedures and Methods

Content analysis is a research technique for making replicable and valid inferences from textual data to their context. Researchers employ this technique to examine texts in a way that provides knowledge, new insights, a representation of facts, and a practical guide to action (Krippendorff, 1980). Content analysis is appropriate for analyzing documents of many types,

including transcripts, historical documents, and publications. Though content analysis is most commonly associated with the qualitative research paradigm, it provides a systematic, objective, and often quantitative method of measuring variables (Kerlinger, 2000). Wimmer and Dominick (2003) provided clear guidelines for conducting content analyses, and this study followed those guidelines specifically.

The population to be studied consisted of all research and professional development articles published in Volumes 84 through 88 of the *JAC* (January 2000 through December 2004). This population excluded commentaries and book reviews. The units of analysis included (1) the articles in their entirety (to address research question one, related to research themes), (2) the authors' names associated with each article (to address research question two, related to prolific authors), and (3) entries in the list of references at the end of each article (to address research question three, related to abundantly cited sources).

Frequencies of themes, authorships, and citations were recorded by two trained coders (agricultural communications undergraduate students). Coders first participated in training sessions where they discussed and agreed upon definitions for each agricultural communications research theme suggested by Williams and Woods (2002). Upon agreement of the coding definitions, initial coding began, which involved assigning a research theme from the Williams and Woods study to each article in the population. The articles were divided evenly between the two coders, and the coders assigned themes and documented authorship and citation lists for each article. As new themes emerged, coders participated in further training meetings to develop agreement on assignment of themes and on the definition of each emergent theme.

The findings were entered into a spreadsheet for further analysis, which consisted of ranking frequency of authorship by research theme as well as frequency of citations by research theme. The results of this analysis constituted the findings of the project.

Results

Fifty-six research and professional development articles were published in Volumes 84 through 88 (2000 through 2004). A total of 119 authors were published in the *JAC* during the five-year span, with many being listed as second and third authors on an article (no differentiation was made in the ranking system among first, second, third, etc. authorships). The reference lists in the 56 articles contained citation of works by 1,249 different authors. An examination of these articles and citations resulted in the following findings.

JAC *Research Themes*

Table 1 represents the 14 theme areas ranked according to the frequency of articles published in *JAC* 2000-2004. The theme areas identified by coders were initially based on Williams and Woods' (2002) themes, but new themes emerged as well.

Communications management was the most common theme in *JAC* with 11 total articles. Although no communications management articles appeared in 2003, articles related to this theme were spread evenly throughout the remaining four years. Information technology articles, which were defined by coders as being focused primarily on internet communications, appeared six times in the five-year span. Distance education, professional development, and publications articles appeared five times each. It is important to note that the three biotechnology communications articles only first began appearing in the latter half 2002. Though there were several international articles, many of them fit into other thematic categories, according to the

emphasis of the article. As a result, coders assigned the international theme to only two articles, both dealing with agricultural communication systems in Russia.

Table 1

Research Themes among *JAC* Articles, 2000 – 2004

Rank	Theme	Frequency
1	Communications Management	11
2	Information Technology	6
3	Media Relations	5
	Distance Education	5
	Professional Development	5
	Publications	5
7	Accountability	4
8	Biotechnology Communications	3
	Electronic Media	3
10	Research	2
	International	2
	Writing	2
	Academic Programs	2
14	Graphic Design	1
	Total	**56**

Published Authors

Because of the relatively few number of articles being examined (56), prolific authorship, relative to the purpose of this study, was defined as having more than one article in the same theme published in the five-year period. Six authors had more than one article published in a specific theme area between 2000 and 2004, with two of those authors – R. Telg and M. Tucker– having more than one article in two themes (Table 2).

K.A. Boone (also listed as K. Boone) wrote three articles related to communications management, while Telg and Tucker each wrote two. Co-authors S. Banning and J.F. Evans were the most prolific authors in the Media Relations theme. T. Irani had three articles published

Table 2

Authors with Articles Published in *JAC*, 2000 – 2004, Categorized by Theme

Theme	Rank	Name	Frequency
Communications Management	1	K.A. Boone	3
	2	R. Telg	2
		M. Tucker	2
Media Relations	1	S. Banning	3
		J.F. Evans	3
Distance Education	1	T. Irani	3
	2	R. Telg	2
Professional Development	1	M. Tucker	2

related to distance education, followed by colleague Telg, whose byline was on two articles. Tucker, in addition to writing media relations articles, also authored two articles focused on professional development within the profession. Electronic media, publications, accountability, biotechnology, research, international, writing, academic programs, graphic design and information technology theme areas in the JAC had no authors appearing more than once during the period.

Cited Authors

The analysis of citations in the *JAC* yielded some results that appeared to be thematic. However, it is important to understand the context of the authors' citation counts in order to make a qualitative assessment about whether or not an author was truly abundantly cited in association with a theme. For example, some authors were cited several times, but only in their own works, and other authors were cited many times only in one work. Therefore, while Table 3 demonstrates the authors who were cited three or more times in association with a research theme, the ensuing discussion of the context of most frequently citations is equally important.

Table 3

Frequently Cited Authors in *JAC* Articles, 2000-2004, Categorized by Theme *

Theme	Rank	Name of Cited Author	Number of Citations
Communications Management	1	A.N. Maretzki	5
	2	J.E. Grunig	4
	3	R.A. Krueger	3
		J.G. Richardson	3
		J.S. Thompson	3
Information Technology	1	J.W. Erdman, Jr.	4
	2	Dev. Countries Farm Radio Network	3
		R.H. Fazio	3
		C.M. Hasler	3
		S. Thompson	3
Media Relations	1	A. Reisner	10
	2	J.F. Evans	7
	3	R.G. Hays	6
	4	J.W. Dearing	4
		E.M. Rogers	4
	6	S.A. Banning	3
		A. Cunningham	3
		Gallup Organization	3
		A. Guebert	3
		M. Hendrickson	3
		T.J. Johnson	3
		B.K. Kaye	3
		R.N. Salcedo	3
Distance Ed	1	J.C. McCroskey	5
	2	C.P. Fulford	3
Publications	1	D.A. Dillman	3
Accountability	1	S.J. Ball-Rokeach	6
	2	M.L. DeFleur	4
Biotechnology Communications	1	T.J. Hoban	4
	2	N.C. Allum	3
		G.E. Briers	3
		J. Durant	3
		G. Gaskell	3
Electronic Media	1	T.A. Olowu	3
Research	1	M.A. Tucker	6
	2	J.E. Grunig	3
International	1	M. Veselovsky	4
	2	V. Bautin	3
		A. Kalinin	3
		L. Kolotov	3
		V. Kozlov	3

**Note*: References to works with no authors (such as newspaper articles) were not included in the citation frequency count. No such references were listed more than once.

In the largest category of research themes, communications management (11 articles), 212 different authors were listed in the references. Of those, A.N. Maretzki and E.B. Harrison were the most commonly cited. However, all of Maretzki's five citations were in a 2001 article she co-authored. J.E. Grunig was cited a total of four times in two different articles. R.A. Kreuger, J.G. Richardson, and J.S. Thomson were cited three times each.

The second largest category, information technology, consisted of eight published articles. Among the articles in this theme, 171 different authors were listed in the reference lists. J.W. Erdman, Jr. was referenced four times. Farm Radio Network , R.H. Fazio, C.M. Hasler, and S. Thompson were cited three times each. However, none of these authors was cited in more than one article.

Citations in the five media relations articles included 165 different authors. However, it is important to note that three of the five media relations articles were written by the same team of authors—S. Banning and J.F. Evans. A. Reisner (also A.E. Reisner) was cited 10 times in Banning and Evans' three articles, more than any of the other cited authors among the research themes. The next most commonly cited source on media relations, J.F. Evans was cited seven times, all in his own works. The third most commonly cited author on media relations was R.G. Hays with six citations. Two authors were listed with four citations and several more authors were cited three times within the category.

Among the five articles in the distance education theme, 139 different authors were cited. J.C. McCroskey was cited five times, all in Kelsey's 2000 article on communication apprehension. Kelsey also cited C.P. Fulford three times in the same article.

Four articles related to public accountability were published, with a total of 121 authors cited. Two names appeared most commonly: S.J. Ball-Rokeach, who was cited six times, and

M.L. DeFleur, who was cited four times. Both authors were cited in only one article by Whaley and Tucker in 2004, which focused on consumers' trust of government and media.

The biotechnology communications category had three articles with 125 different authors cited. T.J. Hoban's work was cited four times and was referenced at least once in all three articles. N.C. Allum, G.E. Briers, J. Durant, and G. Gaskell were each cited three times.

Sixty-seven different authors were cited in the three electronic media articles. T.A. Olowu was the only author to be cited three times. All of Olowu's citations were in Yahaya and Badiru's 2002 article evaluating Nigerian agricultural radio and television efforts.

The research category consisted of two articles, which included citations of 66 different authors' works. M. Tucker was cited six times, and J.E. Grunig was cited three times. All these citations were in Tucker's own 2004 work on applied communications research methods.

The reference lists of the two international articles, both found in the 2002 "special Russian issue," contained multiple citations of several Russian authors, including M. Veselovsky, cited in both articles a total of four times, V. Bautin, A. Kalinin, L. Kolotov, and V. Kozlov.

No author was cited more than twice in the professional development, writing, academic programs, and graphic design themes.

Discussion and Recommendations

JAC *Research Themes*

Communications management, the third-ranking theme in Williams and Woods' (2002) study, has clearly become the most popular research theme in the JAC over the five-year span. However, information technology remains an important theme, as does media relations.

electronic media, which encompasses research related to broadcast media, has become a less frequent theme.

New themes emerging since Williams and Woods' (2000) study include biotechnology communications, academic programs, and graphic design. Biotechnology communications seems to be the fastest growing of these and has only just begun to emerge since 2003. Two articles related to academic programs, and one article on graphic design may indicate new efforts at applied research.

Some themes that might be expected did not emerge in this analysis. Research on crisis and risk communications seems to be a common topic of discussion among practitioners and researchers in agricultural communication, but none of the articles published had these as the primary theme. Though the media relations, accountability, and biotechnology communications themes may have encompassed these topics, risk and crisis communication was not, according the to coders, a primary theme in any article. Marketing communications, especially in relation to Extension efforts, was also an obvious omission to the coders.

Communications practitioners and researchers alike should examine these results and begin a dialogue regarding whether agricultural communications research is focused on the most pressing problems. Future research directions for the discipline should build upon on the most common research themes (e.g., communications management and information technology) and should work to develop newly emerging research themes (e.g., writing, academic programs, and graphic design). Additionally, obvious omissions among the research themes in the *JAC*, including crisis and risk communications and marketing communications, should become areas of emphasis for researchers in the near future.

Published Authors

K.A. Boone, M. Tucker, R. Telg, S. Banning, and J. Evans were the most prolific authors in the *JAC* over the five-year span. All are academicians at land-grant institutions, making them the rightful leaders of research in the agricultural communications discipline. Other researchers, especially novices and graduate students, should follow the lead of these accomplished authors and use the works of these prolific authors as starting points for further research.

Unfortunately, absent from this list of prolific authors are full-time professional communicators, a fact that highlights the need for more applied research from the field. More research by practitioners is necessary, especially because the *JAC* is intended to focus on *applied* communications. Applied research projects, such as audience analyses, program evaluations, and marketing studies, are necessary activities for communications practitioners that occur as a part of day-to-day communications work. These practical projects sometimes contain a wealth of information from which other communications professionals managing similar projects would benefit. Regrettably, though the applied research gets done, it often does not get reported outside the institution. The time involved in getting the results written up and formatted as a *JAC* manuscript may be the problem. If administrators would lead the way, impressing upon their employees that writing a research manuscript can be an excellent professional development activity that builds theoretical knowledge and critical thinking skills, the number of applied research articles in the *JAC* would likely rise.

Cited Authors

The examination of sources cited in the 56 *JAC* articles showed cause for concern within the discipline. The description showed little continuity in the literature on which agricultural communications researchers base their studies. Several of the most prolifically cited authors

were only prolific because they cited themselves often. Others were prolific because one author cited several of their works in one article. With self-citations and multiple citations taken into consideration, few sources seemed overwhelmingly abundant.

The good news is that there were a small number of legitimate commonly cited sources. T.J. Hoban's work on biotechnology communications was clearly important in guiding the three articles on this topic. Additionally, the citations of E.M. Rogers' work in the media relations articles shows that the concept of "diffusion of innovations" has guided some agricultural communications research. D.A. Dillman's guidelines for survey research were commonly cited among the articles focused on publications, and R.A. Krueger's guidelines for focus group research were commonly referenced in the communications management articles. The presence of these references in multiple articles shows at least some continuity of thought related to theory and methods in agricultural communications research.

That agricultural communications researchers do not cite each other often enough is another cause for concern within the discipline. Radhakrishna et al. (1994) noted that citations from within the field are indicators of a healthy, self-sufficient academic discipline. Though a few agricultural communications researchers were cited frequently within specific research themes, the discipline would benefit if researchers would work more conscientiously to build upon each other's works. This is not to say that, in an emerging discipline like agricultural communications, drawing academic knowledge from diverse disciplines can't also be healthy. In fact, it is necessary. But, the discipline's hope should be that when very good—even landmark—articles appear in the *JAC* and other journals that publish agricultural communications research, others in the discipline should recognize those articles and base their studies upon them. Researchers should be mindful of the works in their own discipline first, and

then they should seek input from other disciplines to add to the agricultural communications theory base. This is the essence of an evolving academic discipline.

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