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PROLIFIC AUTHORS IN THE *JOURNAL OF AGRICULTURAL EDUCATION:* A REVIEW OF THE EIGHTIES

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Abstract

A total of 309 articles published in 10 volumes of the Journal of Agricultural Education (JAE) were examined to determine prolific authors in the JAE for the decade of the eighties. Prolific authors for this study were defined as those authors who had published five or more articles in the ten volumes of the JAE. Based on this definition, 21 authors were identified as most prolific. These 21 prolific authors were interviewed via telephone to obtain background information, and also determine what factors influenced them to become prolific. In addition, how authors respond to replication requests was also examined. These 21 authors published 151 articles accounting for 49% of the total number of articles published in the JAE. Most authors have Ph.D. degrees and were employed in universities as full professors. Authors identified teacher education, adult education, vocational education, program planing and evaluation, curriculum development, communications and international agriculture as their main areas of expertise. Prolific authors were most likely to be first or second authors. Personal drive, colleagues, graduate school training and advisors during graduate training were factors which influenced them to become prolific. Almost all prolific authors responded positively to share details of their studies for replication.

The agricultural education profession has a long history and tradition of research and development support. Rapid growth of research and publishing activities in the profession have resulted in an enormous growth of agricultural education literature. The *Journal of Agricultural Education (JAE)* (formerly *AATEA Journal*) has been one of the primary outlets for disseminating agricultural education research. The articles appearing in the *JAE* present a good indicator of the profession's scientific activity, philosophy and application.

Prolificy is useful because it provides a means of objective measurement of some key aspects of the discipline. Such measurement will help examine trends and directions of a discipline based on the assumptions that writings of prolific authors reflect a discipline's progress and growth. According to Mannebach, McKenna, and Pfau (1984), agricultural education professionals have questioned whether or not the type of research being conducted is meeting the needs of the profession and contributing to future growth of the profession. Perhaps the best way to look at prolificy in agricultural education is to view prolific authors as providing pieces of information regarding the complex world of publishing.

Several researchers have examined various aspects of journal analysis in the agricultural education profession: familiarity and quality of journals and importance of faculty publishing (Radhakrishna & Jackson, 1993); who publishes, what is published, author distribution, and citation analysis (Radhakrishna, Jackson & Eaton, 1992); what topics were cited and who is cited (Moore, 1991); reader opinions of the *Journal of Agricultural Education* (Newman, 1990; Williams, 1982); statistical procedures used by agricultural researchers in reporting research findings (Bowen, Rollins, Baggett, & Miller, 1990; Mannebach, et al., 1984), and agricultural and extension education research published in terms of program area, area of

focus, and scope (Crunkilton, 1988).

According to Goldsmith (1984), journal analysis is a multi-faceted subject because each journal article contains several quantifiable pieces of information. Most journal analysis studies focus on one or two aspects of a journal, which include: citation analysis (Broadus, 1952; Crane, 1972; Goldman, 1979), content analysis (Grether, 1976; Myers, Massey & Greyser, 1980), prolific authors (Crane, 1965; Goldsmith, 1984); and familiarity and quality of journals (Radhakrishna & Jackson, 1993; Goldsmith, Thorosen & Goldsmith, 1988).

Crane (1965) stated that the environment where a scientist receives his/her training has more effect on his/her later productivity than the environment in which he/she later works. Goldsmith (1984) found that graduate school training, mentors, colleagues, and employers positively influenced home economics researchers to be most prolific.

Productivity is usually assessed in relation to "professional age," which can be defined as the number of years since obtaining the Ph.D. (Crane, 1965). Crane interviewed 150 scientists in three different disciplines (biology, political science, and psychology) at three different universities. Crane concluded that one major publication within five years of receiving a terminal degree constituted high productivity; two to five major publications within six to 15 years constituted high productivity and, more than five major publications for individuals who received their Ph.Ds more than 15 years ago. Goldsmith (1984) defined prolific authors in home economics as those authors who had published three or more articles in two major home economics journals over a ten year period.

Kelly and Warmbrod (1985) measured the research productivity of agricultural education faculty by examining number of papers presented, number of journal articles published, and number of popular articles, books, monographs, and research reports produced. Findings indicated that agricultural education faculty were less productive than their counterparts in other areas of vocational education. For example, agricultural education faculty published 15 journal articles compared to 30 articles by faculty in other vocational areas. Further, agricultural education faculty perceived that advisors with strong research skills, interest, and motivation to do research were the factors which influenced them to be productive researchers.

Madden, Franz and Mittelstaedt (1979) defined replication as an attempt to test the consistency of the findings of a previous study under similar or predictable conditions. In a study of 60 marketing researchers, Madden, et al. (1979), found that only 50% of the researchers were willing to share details of their studies for replication purpose. Madden,, et al. (1979), concluded that the lack of information sharing hurts an individual researcher trying to replicate a study as well as the profession as a whole. On the other hand, Goldsmtih (1984) found that 85% of the home economics researchers were willing to share details of their studies for replication.

The foregoing review indicates that scholars in various disciplines have addressed the subject of journal analysis in a variety of ways: citation analysis, reader opinions, review of journals, statistical procedures used, etc. Though agricultural education scholars have examined various aspects of journal analysis, prolific authors in the profession have not been studied. What influenced these authors to be prolific, and how do they respond to replication requests? This study examined the most prolific authors in the *Journal of Agricultural Education* during the decade of the eighties.

It should be noted here that agricultural educators publish in a variety of journals related to the profession. It is not the purpose of this study to imply that the authors identified in this study are most prolific. Therefore, a generally acceptable format of author analysis (Crane, 1965; Goldsmith, 1984) has been followed in this study by analyzing

the prolific authors in one major journal of the profession, that is, the *Journal of Agricultural Education*.

Purpose and Objectives

Based upon a review of literature relative to journal analysis in the agricultural education profession and other professions, this study examined the characteristics of most prolific authors in the *JAE* during the decade of the eighties. The objectives of the study were to:

1. determine the most prolific authors in the *JAE* for the decade of the eighties;
2. describe selected characteristics of most prolific authors in the *JAE*;
3. identify factors that influenced prolific authors in the *JAE*; and
4. determine how prolific authors respond to replication requests.

Methodology

Ten volumes of the *JAE* (1980-1989) were selected for analysis. A total of 309 articles appeared in these ten issues. For the purposes of this study, most prolific authors were defined as those authors with five or more articles in the ten volumes of *JAE* during this time period. As a result of this procedure, 21 authors were identified as most prolific.

If an article appearing in the *JAE* during this period was co-authored by these 21 authors, articles were counted only once with the first author receiving credit. Examination and analysis of data revealed that 12 of the 163 articles were co-authored by these 21 authors. As a result, only 151 articles were considered for analysis. Once the authors were identified, they were rank ordered by the number of articles published by each author. Position of authorship (single, first, second, third and so on) was also determined.

Based on the findings of the Crane (1965) and Goldsmith (1984) studies, a questionnaire suitable for a telephone survey was developed by the researchers. Information such as name, present title, highest degree earned, name of the institution granting the highest degree, year of earning the highest degree, main areas of expertise, factors which influenced these authors to be most prolific and questions related to replication requests were collected. In this study, replication refers to sharing of instruments, reprints, procedures, and other details of work by prolific authors to others in the profession.

The questionnaire was validated for content and face validity by a panel of experts consisting of two faculty members and one graduate student. Twenty-one authors were contacted by telephone and only 18 authors were interviewed. The other three authors were either on vacation or were out of the country on an international assignment. Data were analyzed using frequencies and percentages.

Findings

The authors who published most frequently in the *JAE* during the eighties are listed in Table 1. These authors published 151 articles, which accounted for 49% of the total number of articles published in the *JAE* during the decade of the eighties.

The authorship distribution for these 151 articles are presented in Table 2. Data in Table 2 indicate that 39 (26%) were single authors, 51 (34%) first authors, 55 (36%) second authors and six (4%) were third authors.

Table 1. Prolific Authors in the *Journal of Agricultural Education* in the Decade of the Eighties (1980-89)

Names of Prolific Authors	Year										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total
Bob Stewart	3	2	1	4	1	2	1			2	16
David Williams	2	1		2	3	2	1				11
Joe Kotrlik						1	3	5		1	10
Kirby Barrick			1	1	1	1	2			2	8
Richard Foster		1			2	1	1		1	2	8
Wade Miller				2	5					1	8
Gary Moore	1		1	1	2		1		2		8
Larry Miller	1			1		2	1		2		7
Robert Martin				1		1	1	2	1	1	7
Ed Osborne				1		1			4	1	7
Robert Birkenholtz							2	3		1	6
Larry Arrington		1		1	1	1	1		1		6
John Crunkilton					1	3	1		1		6
L.H. Newcomb				3	1	1		1			6
Fred Reneau	1			2			2		1		6
Blannie Bowen		1	1	1	1		1			1	6
Jimmy Cheek		2				1			2		5
David McCracken				2	2		1				5
Ray Herren					2		2	1			5
Richard Welton	1	1		1		1				1	5
Lee Cole	1				1	1	1	1			5
Total	10	9	4	23	23	19	22	13	15	13	151
Total number of articles published in the *JAE* during 1980-89	26	25	22	33	33	36	35	34	30	35	309
% of prolific authors to total articles published	38	36	18	70	70	53	63	38	50	37	49

Examination of data relative to characteristics of prolific authors indicated that 20 of the 21 authors were employed in universities.

At the time of the telephone interview, 50% of the prolific authors were full professors, followed by department head/chair (22%), college

Table 2. Prolific Authors in the *Journal of Agricultural Education* by Authorship

Names of Prolific Authors	Authorship					Total
	Single	First	Second	Third		
Bob Stewart		2	12	2		16
David Williams	1	1	9			11
Joe Kotrlik	1	6	3			10
Kirby Barrick	5	2	1			8
Richard Foster	1	2	5			8
Gary Moore	3	2	3			8
Larry Miller	2	2	2			1
Robert Birkenholtz	3	2	1	1	7	
Wade Miller		4	1	2	7	
Robert Martin	1	6				7
Ed Osborne	4	2	1			7
Larry Arrington	3	2	1			6
Jimmy Cheek	3	2	1			6
John Crunkilton	2	2	2			6
L.H. Newcomb	1	1	4			6
Fred Reneau	1	2	3			6
Blannie Bowen	2	4				6
Lee Cole	2	1	2			5
David McCracken	1	3	1			5
Ray Herren	3	2				5
Richard Welton		1	4			5
Total	39	51	55	6		151
Percent	26	34	36	4	100	

administrators (assistant and associate deans) (17%), and associate professors (11%). Seventy-eight percent of the prolific authors had Ph.D. degrees and 22% had D.Ed. degrees. Fourteen of the 21 (67%) prolific authors reported the existence of doctoral programs in their institutions.

Data relative to the list of universities from where the prolific authors received their highest degree are presented in Table 3. Data in Table 3 reveal that The Ohio State University dominated the list (33%) followed by Texas A&M (16%) and Iowa State (11%).

A variety of subject matter areas were represented as main expertise of the prolific authors. Prominent among them were: teacher education, adult education, vocational education, program planning and evaluation, teaching methods, curriculum development, communications, microcomputer use, and international agriculture.

Table 3. Institutions From Where the Prolific Authors Received Their Highest Degree (N=18)

Institution	f	%	Cumulative %
Ohio State	6	33.2	33.2
Texas A&M	3	16.5	49.7
Iowa State	2	11.1	60.8
University of Maryland	1	5.6	66.4
Oklahoma State	1	5.6	72.0
Penn State	1	5.6	77.6
Cornell University	1	5.6	83.2
University of Missouri	1	5.6	88.8
Virginia Tech	1	5.6	94.4
VPI	1	5.6	100.0
Total	18	100.0	

The highest percentage, 50% of prolific authors published between 11-15 years after receiving their terminal degree, followed by 33% between 21-24 years, and 12% between 16-20 years. This finding closely match the earlier findings of Goldsmith (1984) for authors in home economics where 38% of the authors published between 11-15 years after receiving their terminal degree, followed by 30% who published between 21 and more years.

The prolific authors were asked to indicate (as many as applicable) what or who had positively influenced their publishing efforts. Results are shown in Table 4. Personal drive was the most influencing factor (100%), followed by colleagues (71%), graduate school training (65%), advisors (65%), interest (59%), employers (59%), students (23%), parents and families (12%), and others (6%). This finding agrees with previous studies conducted by Crane (1965) and Goldsmith (1984).

In regard to replication requests, 94% of prolific authors indicated that they were willing to share details of their studies with fellow professionals. The response to replication requests in this study was much higher than what was reported in previous studies in other disciplines: Reid, Rotfeld and Wimmer (1982) for consumer behavior researchers -- 60%; Madden et al., (1979) for marketing researchers--50%; and Goldsmith (1984) for home economists--85%.

Conclusions and Recommendations

Based on the findings of this study, the following conclusions and recommendations are made.Forty-nine of the articles published in the *JAE* during the decade of the eighties were authored by 21 prolific authors identified in this study. Prolific authors who had published in the *JAE* during the decade of the eighties were most likely to hold a Ph.D. degree and be full professors employed in major universities.

Most of the articles published in the *JAE* during this decade had more than one author, which suggests that agricultural educators work in teams to accomplish both individual and group goals. Several factors could explain the team work of

Table 4. Factors Influencing Authors to Become Prolific (N=17)

Factor	f	%	Rank
Personal drive	17	100	1
Colleagues	12	71	2
Graduate school training	11	65	3
Advisors during graduate training	11	65	3
Employers	10	59	5
Interest	10	59	5
Students	4	23	7
Parents/families	2	12	8
Other	1	6	9

agricultural educators: availability of graduate students, existence of doctoral programs, senior and junior faculty members working in AES projects, and the amount of grant money secured.

Personal drive, colleagues, graduate education, and advisors during graduate school training are the factors that influence agricultural educators most to become prolific authors. This finding closely matches the earlier studies of Goldsmith (1984) for home economics faculty and Crane (1965) for faculty in biology, political science, and psychology. In a related study, Kelly and Warmbrod (1985) found that graduate training, advisors during graduate training, networking with other faculty, and support available from departments as factors contributing to research productivity of agricultural educators. It appears that family, friends, and students are less likely to influence authors to become prolific.

Agricultural education is a "friendly, sharing, and helping" profession, which is revealed by the willingness of the prolific authors to share details of their studies for replication. Such sharing builds a strong network of faculty which enhances the growth of the profession. According to Madden, et al. (1979), researchers attempt to replicate the work of others for three main reasons: 1) to test the generalizability of a relationship by extending the findings of a particular study to new time, place, and situation; 2) to test the methodologies for soundness and 3) test predictors derived from a model holding methodology constant. In addition, such sharing and networking may help in building a stronger conceptual framework for a given topic or subject matter area. Moore (1991) and Warmbrod (1986) emphasized that the agricultural education profession must be on a continuous spiral upward and concentrate on building a stronger conceptual/theoretical framework.

Faculty who teach and advise graduate students aspiring to become faculty members should use the findings of this study to help them better understand the nature of publishing activities in agricultural education and what it takes to become a prolific author.

The prolific authors identified in this study can serve as role models, especially for junior faculty and young researchers publishing in the profession. They can also serve as resource persons for expert opinions on publishing activities in the agricultural education profession.

It is recommended that this study be replicated periodically, at least once every decade to determine changes that have taken place as a result of research and development efforts in the

agricultural education profession. Such studies may help the profession to adequately respond to the challenges faced by the profession. According to Bowen, Radhakrishna, and Jackson (1991), agricultural and extension education faculty have been distributing more of their time to activities that have not traditionally been included in the *JAE*. Finally, further research is needed to identify additional factors that motivate faculty and graduate students to become prolific authors.

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