

Twenty years of productivity in ETR&D by institutions and authors

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Abstract This study was conducted to identify the most productive institutions and the most productive ETR&D authors from 1989 to 2008. Productivity scores were calculated using the number of first, second and third authorships in the journal. Arizona State University had both the highest institutional productivity score and the most authorships overall, while Florida State University had the most first authorships. Michael Hannafin of the University of Georgia ranked first in author productivity score and tied for first with Howard Sullivan of Arizona State for total authorships. David Jonassen of the University

Editors' Note: In 1988, two of the Association for Educational Communications & Technology's (AECT's) publications, the *Journal of Instructional Development* and *Educational Communication and Technology Journal*, were merged to form the Development and Research sections of *ETR&D*. Since the merger, double-blind review procedures have been instituted, renowned reviewers have been recruited, editorial board members have been elected, an elite set of editors have served with distinction, and publishers have been enlisted to improve production quality and to extend the journal's global visibility, indexing and reputation. We are deeply indebted for the ongoing contributions and support of the individuals and publication organizations that have shaped *ETR&D* into AECT's flagship scholarly journal.

It is also important to examine and reflect upon *ETR&D*'s influence on the field, and to strive for further improvements. Authors (as well as external reviewers and institutions) are routinely asked to provide evidence of the quality and impact of the journals in which we publish. Since 1989, for example, *ETR&D* has demonstrated a marked increase in both the number of articles published per year and the number of articles by international authors. During the past 20 years, published reports have confirmed that *ETR&D* is a top-rated journal in the field, is considered a leader both in academic prestige and for professional development, and is the leading journal that faculty in our field recommend to graduate students. Significantly, the journal's SSCI impact factor has more than tripled between 2004 and 2008.

Since measures of productivity and impact continue to be among the most coveted evidence among academic scholars and institutions, it is especially timely to report productivity evidence on the journal's 20th anniversary. In this research brief, Professor Heng-Yu Ku highlights empirical evidence documenting the productivity of authors and institutions who have published in *ETR&D* from its inception through 2008.

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of Missouri had the most first authorships. Productivity patterns among top-ranked institutions and top-ranked authors are discussed.

Keywords AECT · ETR&D · Productive institutions · Productive authors

Introduction

ETR&D's 20th anniversary represents an opportunity to examine publication trends and patterns and to reflect on the journal's influence. Institutions benefit because the publications provide an indication of the institution's level of research and development activity and increase the visibility of their programs. Authors benefit because publications are considered an indicator of productivity and may influence decisions related to initial employment, promotion and tenure. A strong record of institution or author publications may also attract prospective students or faculty to work at a particular university or with a particular faculty member.

The purpose of this study was to identify the institutions and authors that have published most frequently across the 492 articles published in ETR&D in its first 20 years. Total authorships, as well as first, second and third authorships, were tabulated for the 20 most productive institutions and the 20 most productive authors.

Method

Data source

All 492 articles published in the Research and the Development Sections of ETR&D from 1989 through 2008 served as data for this study. Book reviews, international reviews, research abstracts, editor's notes and introductions to special issues were not included.

Procedures

I reviewed all 86 issues of ETR&D (four issues a year were published from 1989 through 2005, six per year thereafter) published between 1989 and 2008 to identify the authors and the institutional affiliation of each author. Authorship and institution records were initially obtained from the contents of each of the 86 issues in print form. These records were then double-checked for validation by accessing online electronic versions of the articles.

To determine the primary criterion to be used for institution and author productivity, I allocated authorship credit using "Olympics-type" scoring: a score of three for first authorship (or gold medal), two for second (silver), and one for third (bronze). I decided to exclude fourth and lower levels of authorship to avoid giving disproportionate weight to articles with four or more authors, which represented fewer than ten percent of the total articles. This decision was strictly a practical one and not intended to devalue collaborative research and publication or to discourage multiple authorships. I calculated productivity scores for institutions and authors, then ranked the 20 most productive institutions and authors during that period.

Results

A total of 272 institutions across 26 countries were represented in the authorships. In addition, 720 authors had one or more published articles in ETR&D.

Institution productivity

Table 1 lists the 20 top-ranked institutions (including ties) on the basis of their productivity scores. Arizona State University ranked first with a productivity score of 169 and Florida State University ranked second with a score of 137. The other top-five institution productivity scores were obtained by Penn State University (90), Indiana University (79) and University of Georgia (78). The table also reveals a similar trend for total authorships. Again, Arizona State was first with 74 authorships and Florida State was next with 55. Penn State was third with 39 authorships, Indiana was fourth with 38, and Georgia and Memphis tied for fifth with 32 each. For first authorships, Florida State ranked first with 31, followed by Arizona State with 28, Penn State with 18, Georgia with 15, and Memphis with 13.

Table 1 Twenty-year productivity by institutions

PS rank	Institution	First author (3)	Second author (2)	Third author (1)	Total authorships	Productivity score (PS)
1	Arizona State University	28	39	7	74	169
2	Florida State University	31	20	4	55	137
3	Pennsylvania State University	18	15	6	39	90
4	Indiana University	12	17	9	38	79
5	University of Georgia	15	16	1	32	78
6	University of Memphis/Memphis State	13	11	8	32	69
7	University of Missouri	12	8	3	23	55
8	Purdue University	12	7	4	23	54
9	Open University of the Netherlands	10	7	7	24	51
10	University of Colorado	12	4	0	16	44
11	Children's Television Workshop	10	4	1	15	39
12	University of Minnesota	8	5	2	15	36
13	National Library of Medicine	7	4	4	15	33
14	University of Twente	6	5	3	14	31
15	Vanderbilt University	6	4	4	14	30
15	University of Virginia	8	2	2	12	30
17	University of Washington	7	3	2	12	29
18	Wayne State University	6	4	2	12	28
19	Iowa State University	5	4	4	13	27
19	Virginia Tech	5	4	4	13	27
19	Utah State University	6	3	3	12	27
19	Texas A&M University	6	4	1	11	27

Note: PS Rank is based on the Productivity Score. Productivity Score is calculated by assigning a value of three for each first authorship, two for each second authorship, and one for each third authorship. Institution authorships are based on the author's institutional affiliation shown in the journal article

Table 2 Twenty-year productivity by authors

PS rank	Author	Institution affiliation as of most recent ETR&D publication	First author (3)	Second author (2)	Third author (1)	Total authorships	Productivity score (PS)
1	Michael J. Hamafin	University of Georgia	5	15	0	20	45
2	Howard J. Sullivan	Arizona State University	2	16	2	20	40
3	James D. Klein	Arizona State University	6	9	2	17	38
4	David H. Jonassen	University of Missouri	11	2	0	13	37
5	Robert A. Reiser	Florida State University	7	3	0	10	27
6	Gary R. Morrison	Old Dominion University	4	4	4	12	24
6	Steven M. Ross	University of Memphis	3	7	1	11	24
6	Mable B. Kinzie	University of Virginia	8	0	0	8	24
9	Lloyd P. Rieber	University of Georgia	6	2	0	8	22
10	Susan M. Land	Pennsylvania State University	5	2	1	8	20
10	Martin Tessmer	University of South Alabama	6	1	0	7	20
12	Peggy A. Ertmer	Purdue University	5	2	0	7	19
13	Craig Locatis	National Library of Medicine	5	1	0	6	17
14	Simon Hooper	University of Minnesota	3	3	1	7	16
14	Thomas C. Brush	Indiana University	4	2	0	6	16
16	Rita C. Richey	Wayne State University	3	3	0	6	15
17	Sasha A. Barab	Indiana University	4	0	1	5	13
17	Charles M. Reigeluth	Indiana University	3	2	0	5	13
19	Walter Dick	Florida State University	2	2	2	6	12
19	Paul A. Kirschner	Open University of the Netherlands	2	2	2	6	12
19	Robert B. Kozma	SRI International	4	0	0	4	12
19	William Winn	University of Washington	4	0	0	4	12

Note: PS Rank is based on the Productivity Score. Productivity Score is calculated by assigning a value of three for each first authorship, two for each second authorship, and one for each third authorship. Several authors published at more than one institution. They are credited with all their ETR&D publications, and the institutional affiliation shown in their last ETR&D publication is listed in the table

Author productivity

Table 2 contains the productivity data for the top 20 authors (including ties). Michael Hannafin of the University of Georgia ranked first with a productivity score of 45. Howard Sullivan of Arizona State ranked second (40), followed by James Klein of Arizona State (38), David Jonassen of Missouri (37), and Robert Reiser of Florida State (27). Hannafin and Sullivan were tied for first in total authorships with 20 each, followed by Klein with 17, Jonassen with 13, and Gary Morrison of Old Dominion University with 12 total authorships.

The rank for first authorships for authors differs considerably from the ranks for productivity and for total authorships. Jonassen ranked first with 11 first authorships, Mable Kinzie of the University of Virginia second with 8, and Reiser third with 7. Three authors were tied for fourth with 6 each: Klein, Lloyd Rieber of the University of Georgia, and Martin Tessmer of the University of South Alabama.

Discussion

The results suggest several relationships between the most productive institutions and the most productive authors. Four of the five top-ranked authors have present or past affiliations with the top-ranked institution, Arizona State: Sullivan and Klein as faculty members and Hannafin and Reiser as doctoral graduates. Three of the top five authors have present or past affiliations with the second-ranked institution, Florida State: Hannafin and Reiser as faculty and Klein as a doctoral graduate. Two of the top five authors have associations with third-ranked Penn State: Hannafin and Jonassen, both as former faculty members.

A major difference in authorship patterns is apparent in Table 2. Collectively, the three top-ranked first authors (Jonassen, Kinzie and Reiser) had a total of 26 first authorships, five second authorships and no third authorships among their 31 authorships. In contrast, the three top-ranked authors in productivity score (Hannafin, Sullivan and Klein) had a total of 13 first authorships, 40 second authorships and four third authorships among their 57 authorships. Eighty-four percent of the publications among the three top-ranked authors were as first authors, compared to 23% by the three authors with the top productivity scores. These data may indicate a work style, and possibly a preference, among the most productive authors in this study for working with graduate students and/or other faculty members.

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