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The American Indian Culture and Research Journal and The American Indian Quarterly: A Citation Analysis

CHERYL METOYER-DURAN

Approximately twenty years ago, American Indian studies programs surfaced in academic institutions in the United States. Some institutions emphasized research, while others focused on teaching, cultural activities, and community service functions. As Russell Thornton explained, the emergence of these programs differed from the histories of most previously existing disciplines. The fundamental difference is that, historically, a discipline came first, followed by its structural component (faculties, courses, and programs). In the case of American Indian studies, the structural element preceded the formalization of intellectual issues. There is still debate over the disciplinary validity of American Indian studies.

A standard measure of a discipline is its ability to generate and sustain a scholarly body of literature. Citation analysis is one method for examining and classifying that literature. Citation analysis can examine the scholarly literature emanating from American Indian studies and address questions such as, Who are the most frequently cited authors? Which subject areas receive

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frequent citation? What are the ages of the most frequently cited works? Which works, including scholarly journals, receive the most citation?

LITERATURE REVIEW

American Indian Studies

Kidwell² and Thornton³ suggest that American Indian studies has the potential to emerge as an academic discipline. A characteristic of a discipline is that there be a substantial body of theory, scholarship, research, and individuals who are highly recognized for these activities.⁴ Other indicators include use of a common language, publication of one or more professional journals, a common methodology or group of acceptable methodologies, professional associations, awarding of doctoral degrees, and establishment of endowed chairs. "Disciplines are not differentiated from one another primarily by clientele served but by intellectual foci, techniques, and, most importantly . . . by problem areas and approaches to them."⁵

To develop as an academic discipline and to gain recognition in universities, American Indian studies must "be firmly grounded" in scholarship and research⁶ and conduct "systematic critique[s]" of its disciplinary base.⁷ To articulate "a set of intellectual issues distinct from other disciplines"⁸ and to refine its base within academe, American Indian studies needs to better understand the collective body of its present and past scholarship and research. Furthermore, Kidwell, Thornton, Guyette and Heth, and Forbes call for the use of methodologies that will help define American Indian studies as a discipline.⁹ Citation analysis can assist in the identification and examination of the scholarly base of American Indian studies, or any field, for that matter.

Citation Analysis

Citation analysis examines patterns among the citations of published and unpublished works mentioned in specific journals, books, or other sources from which a researcher might draw citations. Researchers in disciplines such as library and information science have applied citation analysis to writings in the sciences, social and behavioral sciences, and humanities in order

to explore facets of scholarly communication, including interdisciplinary and cross-disciplinary relationships in the research and scholarship.¹⁰

According to Weinstock, reasons for citing a work include, for example, recognizing landmark studies and authorities, building from past work, correcting previous work, and either substantiating or disputing the claims of others. 11 Citation is not necessarily synonymous with use. On the one hand, in preparing an article or other type of publication, scholars may use more sources than they cite, and they may engage in self-citation. On the other hand, citation does not guarantee that a work was actually examined or used. For example, scholars might read the summaries provided in *Dissertation Abstracts* without actually examining the dissertations themselves. In effect, they might rely on authors' self-reporting, without verifying the accuracy and validity of the assertions.

Citations do "define and monitor changes in fields." ¹² As Cronin stated,

Metaphorically speaking, citations are frozen footprints on the landscape of scholarly achievement; footprints which bear witness to the passage of ideas. From footprints it is possible to deduce direction; from the configuration and depth of the imprints it should be possible to construct a picture of those who have passed by, whilst the distribution and variety furnish clues as to whether the advance was orderly and purposive.¹³

THEORETICAL FRAMEWORK

Thornton's classification provides a means for categorizing scholarly and research literature. He maintains that "American Indian studies [within academe] has developed along three basic lines since its inception." The first is Indian culture ("Indian languages, music, art, literature, and ways of looking at the world"); the second is social sciences (consolidating "existing bodies of knowledge pertaining to American Indians in the social sciences, notably anthropology and history," and evaluating and reinterpreting this knowledge). The final direction, which focuses "along applied lines," includes the examination of Indian education, social work, and health care. 15

OBJECTIVES

The primary objectives of this study are as follows:

- Identify patterns for citing sources (the published article) in the American Indian Culture and Research Journal (AICRJ) and The American Indian Quarterly (AIQ):
 - Authorship (number, names, and affiliations of the most frequently cited authors);
 - Number of unique citations;
 - Subject areas.
- Identify patterns for *cited* sources (the ones referenced in the articles) in *AICRJ* and *AIQ*:
 - Authorship (number, names, and affiliations of the most frequently cited authors, and extent of self-citation);
 - Language;
 - Publication source (primary, secondary, or tertiary);
 - Medium;
 - Publication form;
 - Age of publications;
 - Titles of frequently cited works;
 - Subject areas.
- Compare Thornton's classification (see theoretical framework) to the subject areas of citing and cited sources in the two journals. The purpose is to further the understanding of American Indian studies as a discipline.

A secondary objective of the study is to profile the patterns for citing and cited sources in the American Indian studies journals.

PROCEDURES

AICRJ began publication in 1971, and AIQ started in 1974. A total of 476 articles appeared in these two journals from the beginning dates of publication through 1990. Because 59 articles lacked citations, the study's population is the 417 articles that contain one or more citations. A random sample of 198 articles, reflecting a precision of ± 5 , with 95 percent confidence, was drawn.

The data collection form included a classification of subject areas that was derived from an examination of Svenonius, ¹⁶ various indexing and abstracting services (including *Social Sci*-

ences Citation Index), and other reference sources, including Prucha,¹⁷ Henry,¹⁸ and Murdock et al.¹⁹ Washburn²⁰ and Heth²¹ defined ethnohistory. Definitions contained in Science and Engineering Literature,²² Scientific and Technical Information Sources,²³ The ALA Glossary of Library and Information Science,²⁴ and Public Access to Government Information²⁵ were useful in forming the categories for publication form and medium.

The editors of the two journals and nine scholars, researchers, and librarians critiqued a draft of the data collection form. Based on their comments, the form was finalized (see appendix). The investigator hired and trained two research assistants to code citations and to enter them into a machine-readable database. She also verified the accuracy of their data entry and used *StatPac Gold* (Walonick Associates, Minneapolis, MN), a microcomputer statistical analysis software program, for data entry and analysis. Special programs were constructed and run to verify the accuracy of data entry.

STUDY LIMITATIONS

The investigator examined the names and affiliations of citing and cited authors as well as the references of the papers. She did not look at implicit citations (any references obviously cited in the text but not in the references or bibliography) or at the context or purpose for which authors cited works; such an analysis logically belongs as part of another study.

FINDINGS

Citing Sources

Of the 198 articles, 183 (92.4 percent) were written by one author. Fourteen articles (7.1 percent) were authored by two persons, and one paper (0.5 percent) had three authors.

Table 1 indicates that Gerald Vizenor, followed by four other people (Russell Thornton, Al Logan Slagle, Peter Beidler, and Kathleen Sands), is the most published (or citing) author. Of the fifteen authors listed in the table as most citing, thirteen were affiliated with academic institutions.

TABLE 1
Most Frequently Citing and Cited Authors

Name of Citing Authors	#	Name of Cited Authors	#	Self-Citing #
Gerald Vizenor	4	Alfred L. Kroeber	28	
Russell Thornton	3	Francis Paul Prucha	20	
Al Logan Slagle	3	Gerald Vizenor*	19	6
Peter G. Beidler	3	Wilcomb Washburn	19	
Kathleen Sands	3	N. Scott Momaday	16	
James R. Moriarty	2	Nancy Lurie	16	
Joseph G. Jorgensen		James Welch**	16	
L. Brooks Hill	2	Clyde Kluckhohn	15	
Philip Lujan	2	Frank Reeve	14	
J. C. Stott	2 2 2 2 2 2 2 2	Frank G. Speck	13	
Edith Swan	2	Joseph G. Jorgensen	12	3
James H. Howard	2	Lewis Henry Morgan	12	
Howard C. Ellis	2	Mari Sandoz	12	
Lonnie E. Underhill	2	E.W. Gifford	12	
Stephen Cornell	2	Anthony F.C. Wallace	11	
1		Reuben Gold Thwaites	11	
		John C. Ewers	11	
		James Mooney	11	
		Edward H. Spicer	10	
		Henry F. Dobyns	10	
		Robert F. Heizer	10	
		D'Arcy McNickle	10	
		Leland C. Wyman	10	
		Knud Rasmussen	10	
		Francis Jennings	9	
		Vine Deloria Jr.	9	
		James Axtell	9	
		Robert F. Berkhofer Jr.	9	
		Bruce G. Trigger	9	
		Clark Wissler	9	
		Alfonso Ortiz	9	
		Grant Foreman	9	
		Jerrold E. Levy	9	
		Hamlin Garland	9	

^{*}The Winter 1985 issue of *The American Indian Quarterly* contains seven articles and a bibliography on Vizenor. Only one of these articles was included among the 198 articles sampled.

^{**}The May 1978 issue of *The American Indian Quarterly* has nine articles on Welch. Four of these articles were represented in the sample.

Over Time. Through 1975, both journals had published an almost equal number of articles (see table 2). Yet *The AIQ* in its first two years of publication produced nearly as many articles as the *AICRJ* did in its first five years. From 1976 to 1980, *The AIQ* published more articles. There was a reversal from 1981 to 1985: The *AICRJ* published more articles than did *The AIQ*. From 1986 to 1990, the journals published almost the same number of articles.

TABLE 2
Number of Citing Works over Time: AICRJ and AIQ

Publication Years	\boldsymbol{A}	ICRJ	\boldsymbol{A}	IQ	Total
	#	%	#	%	
1971–1975	11	(48)	12	(52)	23
1976-1980	18	(40)	27	(60)	45
1981-1985	31	(61)	20	(39)	51
1986–1990	38	(48)	41	(52)	79
Total	98		100		198

Unique Citations. The number of unique citations in each of the 198 articles ranged from 1 to 59. The median was 19, and the mean was 21.8. In total, during the time period under study, there were 4,212 citations.

Table 3 shows that during its earliest years (through 1975), the *AICRJ* published only two articles (18.2 percent) with more than twenty citations, but, from 1986 to 1990, it published twenty-three articles (60.5 percent) with more than twenty unique citations. Through 1975, *The AIQ* published five articles (41.7 percent) with more than twenty unique citations, and, from 1986 to 1990, it produced eighteen articles (43.9 percent) with more than twenty unique citations.

From 1986 to 1990, the number of unique citations per article increased in both journals. Half of the articles with forty or more citations appeared during this time.

In sum, during the first years of publication, *The AIQ* published slightly more articles with a greater number of unique citations than did the *AICRJ*. However, during the twenty-year period, the *AICRJ*, compared to *AIQ*, included a larger body of cited works (see table 3).

Subject Areas. The 198 citing sources represented fifty-seven subject areas; each citing source might have more than one subject

Total

12

TABLE 3
Number of Unique Citations over Time

		AIC	RJ		
# Unique		Public	cation Year		
Citations	1971-75	1976-80	1981–85	1986–90	Total
1-5	4	2	2	0	8
6–10	2	1	4	6	13
11–15	3		6	5	16
16-20	0	2 2 3	3	4	9
21-25	1	3	9	4	17
26-30	1	3	3	2	9
31–40	0	0	0	8	8
41-50	0	4	2	7	13
51–59	0	1	2	2	5
Total	11	18	31	38	98
		AIQ	Q		
1–5	0	3	0	1	4
6–10	2 5	7	4	5	18
11–15		6	7	8	26
16–20	0	2	5	9	16
21–25	2	3	1	4	10
26–30	2	1	0	3	6
31 –4 0	1	4	1	4	10
41–50	0	1	1	3	5
51-59	0	0	1	4	5

assigned to it. Table 4 presents the fifteen most frequently identified subject areas. Spearman's rank order correlation, which was applied to the ranking of subject areas for both journals, indicated that statistically significant differences exist between the two journals (rho=0.79, t=4.62, p > .05; two-tailed test).

20

41

100

27

As discussed in the section on suggestions for further research, statistical significance was due to differences between less frequently identified subject areas, such as the last six shown in the table. Among the top five subject areas, only political science reflects a marked difference between the journals. The AICRJ had political science as a subject focus twice as frequently (9.6 percent) as did *The AIQ* (4.8 percent).

The law/legal area, which ranked fifth (8.4 percent) in the AICRJ and ninth (2.4 percent) in *The AIQ*, had the most pronounced difference. Another difference in subject area focus is religion, which *The AIQ* included more than twice as frequently as did the *AICRJ* (3.3 percent).

Anthropology and ethnohistory combined represent almost half (47.6 percent) of the most frequently identified subject areas for both citing journals. Anthropology, followed by ethnohistory, was the most frequently identified subject area. Literature (9.8 percent) was the next overall area to receive the most citations. However, more literature citations came from *The AIQ*.

TABLE 4
Citing Works: Subject Area

			
	AICRJ	AIQ	Cumulative
Subject Area	# (%)	# (%)	# (%)
Anthropology	64 (26.8)	80 (27.2)	144 (27.0)
Ethnohistory	49 (20.5)	62 (21.1)	111 (20.6)
Literature	19 (07.9)	33 (11.2)	52 (09.8)
Political Science	23 (09.6)	14 (04.8)	37 (06.9)
Sociology	17 (07.1)	19 (06.4)	36 (06.8)
Religion	8 (03.3)	21 (07.1)	29 (05.4)
Law/Legal Issues	20 (08.4)	7 (02.4)	27 (05.1)
U.S. History	5 (02.1)	10 (03.4)	15 (02.8)
Folklore	6 (02.5)	8 (02.7)	14 (02.7)
Education	9 (03.8)	4 (01.4)	13 (02.4)
Race/Ethn. Rel.	5 (02.1)	7 (02.4)	12 (02.3)
Gender Studies	3 (01.3)	8 (02.7)	11 (02.1)
Biography	3 (01.3)	8 (02.7)	11 (02.1)
Archaeology	2 (00.8)	9 (03.1)	11 (02.1)
Economics	6 (02.5)	4 (01.4)	10 (01.9)
Total	239(100.0)	294 (100.0)	533 (100.0)

Cited Sources

Authors. There were 179 instances of self-citation; in other words, there were only 4.3 percent of self-citations among the 4,212 citations.

Table 1 identified the most frequently cited authors. Alfred L. Kroeber, the anthropologist, is first, and Francis Paul Prucha, the

historian, is second. Interestingly, only two authors listed in the table engaged in self-citation. Subtracting the number of self-citations for Jorgensen would move him down the list to those cited nine times. Vizenor, the second self-citing author, would drop to thirteen citations. The table also reveals that Vizenor and Jorgensen are the only authors to be both most citing and most cited.

Language. Only forty-two of the 4,212 citations (1 percent) were to languages other than English. These languages included Spanish and French (18 citations each), German (5 citations), and Italian (1 citation). There were no citations to any American Indian language.

Publication Source. The vast majority of citations were to secondary sources (86 percent). The remaining 14 percent comprised primary sources.

Medium. Overwhelmingly, the citations were to printed sources, either in paper (92.1 percent) or microform (1.4 percent). The remaining 6.5 percent included manuscripts, sound recordings, performance (live and lectures), television, toys, and film.

Age of Cited Items. As table 5 indicates, approximately one-half (1,945, 46.4 percent) of the cited works were published between 1970 and 1990. The 1970s account for the largest percentage of citations.

TABLE 5
Age of Citations

Publication Year*	#	%
Before 1900	463	11.1
1901–1909	126	3.0
1910–1919	123	2.9
1920–1929	142	3.4
1930–1939	252	6.0
1940–1949	236	5.6
1950–1959	315	<i>7</i> .5
1960–1969	591	14.1
1970–1979	1,167	27.8
1980–1989	767	18.3
1990	11	.3
Total	4,193	100.0

^{*}Nineteen citations that did not have a publication date were excluded from this table.

Publication Form. Table 6 indicates that three forms (books, journals, and government documents) account for more than three-fourths of the citations. Books alone comprise almost half of the citations. The following six types of government documents account for 78 percent of the citations to this one form: administrative reports, commission reports, court cases, legislation and statutes, research reports, and statistics.

TABLE 6
Publication Form for Cited Items

Form	#	%	Cumulative %
Books	2,056	48.8	48.8
Journals	897	21.3	70.1
Government Documents	367	8.7	78.8
Personal Correspondence	142	3.4	82.2
Newspapers	116	2.8	85.0
Personal Interviews	93	2.2	87.2
Theses/Dissertations	69	1.6	88.8
University Reports/			
Collections	67	1.6	90.4
Other	405	9.6	100.0
Total	4,212	100.0	

Publication Form and Subject Area. Of the 57 subject areas, 20 appeared at least 25 times across all publication forms. Table 7 shows that two subject areas, anthropology and United States history, accounted for 44.5 percent (1,809) of the subject areas across all publication forms. Anthropology was also the most frequently identified subject in the citing sources, while United States history ranked eighth among the citing sources (see cumulative percentage column in table 4).

Books and Journals by Subject Area. Table 7 displays the subject areas for all publication forms; tables 8 and 9 show the subject areas for books and journals. Spearman's rho indicates that statistically significant differences exist between the rank order of subjects for books and journals (rho=0.79, t=5.15, p>.05). Anthropology, ethnohistory, and United States history comprise

TABLE 7
Cited Works: Subject Areas

Subject Area	#	%
Anthropology	1,361	33.5
U.S. History	444	10.9
Literature	376	9.3
Law/Legal Issues	349	8.6
Ethnohistory	320	7.9
Biography	164	4.0
Political Science	159	3.9
Religion	155	3.8
Sociology	127	3.1
Education	109	2.7
Race/Ethnic Relations	71	1.7
History (Non-U.S.)	63	1.5
Art	62	1.5
Folklore	55	1.4
Archaeology	53	1.3
Health Sciences	47	1.2
Economics	4 5	1.1
Gender Studies	44	1.1
Psychology	35	.9
Economic Development	27	.6
Total	4,067	100.0

three of the top five subject areas for books and journals. Literature ranked as the second highest subject area for both book and journal publication forms, but it ranked only third across all publication forms. Biography represents the most dramatic difference in ranking (fifth for books and fourteenth for journals).

Other variations are evident. For example, sociology ranked ninth across all publication forms but is the eighth most frequently identified subject area in journals. Archaeology, which ranked fifteenth across all publication forms, was tenth for journals. Finally, medicine appeared fourteenth in the subject area ranking for journals but is not identified as one of the top twenty subject areas covered in books or across all publication forms.

T. Cited Works: Su	TABLE 8 Subject Area for Books		T ₁ Cited Works: Sul	TABLE 9 Cited Works: Subject Area for Journals	nals
Subject Area	#	%	Subject Area	#	%
Anthropology	612	33.0	Anthropology	262	33.0
Literature	235	12.7	Literature	68	11.2
U.S. History	192	10.3	Ethnohistory	20	8.8
Ethnohistory	166	8.9	U.S. History	63	7.9
Biography	108	5.8	Sociology	36	4.9
Religion	68	4.8	Law/Legal Issues	36	4.5
Political Science	99	3.6	Political Science	35	4.4
Sociology	54	2.9	Religion	32	4.0
Race/Ethnic Relations	45	2.4	Education	22	2.8
History (Non-U.S.)	41	2.2	Archaeology	21	2.7
Law/Legal Issues	41	2.2	Race/Ethnic Relations	19	2.4
Education	32	1.7	Folklore	16	2.0
Art	32	1.7	Health Sciences	14	1.8
Gender Studies	29	1.6	Medicine	14	1.8
Folklore	24	1.3	Art	14	1.8
Economics	22	1.2	Biography	12	1.5
Psychology	21	1.1	Public Health	10	1.3
Archaeology	18	1.0	Gender Studies	6	1.1
Health Sciences	15	∞.	Economics	6	1.1
Philosophy	14	% :	Psychology	&	1.0
Total	1,856	100.0	Total	794	100.0

Subject Area of Cited Items in AICRJ and The AIQ. The subject areas identified for each journal share the same set of twenty (out of a possible fifty-seven) most frequently identified ones. As shown in table 10, anthropology was the most frequently cited subject area in both journals, although it was more frequently identified in *The AIQ* (41.4 percent) than in the *AICRJ* (26 percent).

TABLE 10 Comparison of Subject Areas of Cited Items: AICRJ and AIQ

AICRI			AIQ		
	#	%	~	#	%
Anthropology	541	26.0	Anthropology	820	41.4
U.S. History	242	11.6	Literature	213	10.7
Ethnohistory	237	11.4	U.S. History	203	10.2
Law/Legal Issues	207	10.0	Law/Legal Issues	142	7.2
Literature	163	7.8	Biography	97	4.9
Political Science	116	5.6	Ethnohistory	83	4.2
Religion	84	4.0	Religion	71	3.6
Education	80	3.9	Sociology	50	2.5
Sociology	77	3.7	Archaeology	44	2.2
Biography	67	3.2	Political Science	43	2.2
Race/Ethnic Rels.	50	2.4	Art	34	1.7
History (Non-U.S.)	44	2.1	Folklore	32	1.6
Health Sciences	34	1.6	Education	29	1.5
Art	28	1.3	Psychology	26	1.3
Gender Studies	27	1.3	Race/Ethnic Rels.	21	1.0
Economics	25	1.2	Economics	20	1.0
Folklore	23	1.1	History (Non-U.S.)	19	1.0
Economic Dev.	21	1.0	Gender Studies	17	.9
Archaeology	9	.4	Health Sciences	13	.6
Psychology	9	.4	Economic Develop	6	.3
Total	2,084	100.0		,983	100.0

Both journals included four of the top five subject areas (anthropology, United States history, literature, and law/legal issues). Once again, Spearman's rho indicated significant differ-

ences between the subject rankings in the AICRJ and The AIQ (rho=.74, t=4.6, p >.05). Ethnohistory ranked third in the AICRJ (11.4 percent) and sixth in The AIQ (4.2 percent), while biography was fifth in The AIQ (4.9 percent) and tenth in the AICRJ (3.2 percent).

Table 10 suggests additional differences in the subject rankings between both journals. For example, political science ranked sixth in the *AICRJ* (5.6 percent) and tenth in *The AIQ* (2.2 percent). Similarly, education was more frequently identified in the *AICRJ* (3.8 percent) than it was in *The AIQ* (1.5 percent). Finally, race/ethnic relations occurred more than twice as frequently in the *AICRJ* (2.4 percent) as the subject did in *The AIQ* (1.0 percent). In contrast, archaeology ranked ninth in *The AIQ* (2.2 percent), but last in the *AICRJ* (.4 percent).

Publication Year for Books and Journals. Spearman's rho indicated statistically significant differences between the rankings of publication years for books and journals (rho=.93, t= 7.46, p >.05). More than half (1,814, 56.3 percent) of all cited works date between 1970 and 1990. Only 402 (12.5 percent) of the citations predate 1930. A comparison of the dates of the citations in books to the dates in the journals suggests a similar distribution, with one exception. From 1980 to 1989, there were proportionally more citations from books (787, 32.8 percent) than from journals (182, 21.9 percent) when compared to seven of the eight previous decades. The exception occurred from 1960 to 1969, when the percentage of citations drawn from books (14.2 percent) exceeded that drawn from journals (11.9 percent).

The dates of the cited works also reveal some interesting patterns concerning the recency of the citations. Given that anthropology, United States history, and ethnohistory are three of the most frequently identified subject areas in both citing and cited sources, and that these disciplines tend to draw on an older literature, it might be expected that the citations would include a significant percentage of older works. However, this expectation did not hold true. In sum, table 11 suggests that the majority of citations reflect relatively recent dates, with an emphasis on the last twenty years.

Publication	E	Books	Jo	urnals	T	otal
Year	#	(%)	#	(%)	#	(%)
Before 1900	149	(6.2)	47	(5.7)	196	(6.1)
1901-1909	42	(1.8)	22	(2.6)	64	(2.0)
1910-1919	39	(1.6)	32	(3.9)	71	(2.2)
1920-1929	44	(1.8)	27	(3.3)	71	(2.2)
1930-1939	117	(4.9)	46	(5.5)	163	(5.1)
1940-1949	104	(4.3)	67	(8.0)	171	(5.3)
1950-1959	164	(6.8)	71	(8.5)	234	(7.2)
1960-1969	341	(14.2)	99	(11.9)	440	(13.6)
1970-1979	610	(25.4)	235	(28.2)	845	(26.1)
1980-1989	787	(32.8)	182	(21.9)	969	(30.0)
1990	4	(0.2)	4	(0.5)	8	(0.2)
Total:	2,401	(100.0)	832	(100.0)	3,233	(100.0)

TABLE 11
Publication Year for Books and Journals: Cited Works

Subject Areas and Publication Year: The AICRJ and The AIQ. Tables 12 and 13 indicate that almost half (45.3 percent) of the citations to anthropology were published between 1986 and 1990. While the AICRJ minimally addressed anthropology from 1970 to 1975 (1.5 percent), coverage consistently grew and peaked (50.2 percent) from 1986 to 1990. However, The AIQ published a greater number of articles (80) that focused on anthropology than did the AICRJ (64) (see table 4).

Both journals had an increase in the number of citations for ethnohistory. The *AICRJ* consistently heightened its focus on ethnohistory over the twenty years. In contrast, *The AIQ* did not emphasize ethnohistory from 1971 to 1975 (0 percent), but it did from 1986 to 1990 (56.6 percent).

Law/legal issues ranked fourth in both journals. The *AICRJ* consistently expanded its focus on law/legal issues. Although *The AIQ* had an increasing number of citations to law/legal issues, the emphasis has been irregular.

Another apparent difference between the journals is in the area of economic development. *AICRJ* articles published all twenty-one of their citations on economic development during 1986 to 1990. In contrast, *AIQ* articles contained few citations to economic development for the time period under investigation. Similarly,

Subject Areas of Cited Items by Publication Year in Citing Item: AICRJ **TABLE 12**

	Tota	tal	197	1971–75	197	1976-80	1981–85	-85	198	1986–90
Subject	#	%	#	%	#	%	#	%	#	%
Anthropology	541	26.0	∞	1.5	51	9.4	210	38.9	272	50.2
U.S. History	242	11.6	14	5.8	74	30.6	44	18.2	110	45.4
Ethnohistory	237	11.4	32	13.5	36	15.2	69	29.1	100	42.2
Law/Legal Íssues	207	10.0	17	8.2	40	19.3	23	25.6	46	46.9
Literature	163	7.8	0	0.0	43	26.4	78	47.8	45	25.8
Political Science	116	5.6	က	2.6	53	25.0	22	19.0	62	53.4
Religion	84	4.0	0	0.0	43	27.4	15	17.8	46	54.8
Education	80	3.9	J.	6.2	48	0.09	21	26.3	9	7.5
Sociology	7.	3.7	Ŋ	6.5	7	9.1	27	35.1	38	49.3
Biography	29	3.2	14	20.9	15	22.4	21	31.3	17	25.4
Race/Éthnic Rels.	20	2.4	14	28.0	14	28.0	12	24.0	10	20.0
History (Non-U.S.)	4	2.1	4	9.1	10	22.7	14	31.8	16	36.4
Health Sciences	34	1.6	0	0.0	0	0.0	0	0.0	34	100.0
Art	78	1.3	0	0.0	0	0.0	56	6.76	7	7.1
Gender Studies	27	1.3	0	0.0	0	0.0	0	0.0	27	100.0
Economics	25	1.2	0	0.0	0	0.0	5	20.0	70	80.0
Folklore	23	1.1	1	4.3	12	52.2	∞	34.8	7	8.7
Economic Develop.	21	1.0	0	0.0	0	0.0	0	0.0	21	100.0
Archaeology	6	4:	7	22.2	0	0.0	_	11.1	9	2.99
Psychology	6	4.	П	11.1	0	44.5	3	33.3	1	11.1
Total	2,084 100.0	100.0	120		406		629		929	

TABLE 13

	Total	3	107	75	107	00 7	1001	9	100	1006 00
Subject	#	%	#	% #	#	% #	#	%	#	%
Anthropology	820	41.4	90	11.9	218	28.9	167	22.1	345	45.8
Literature	213	10.7	27	26.8	71	33.3	10	4.7	75	35.2
U.S. History	203	10.2	17	8.4	29	31.5	36	19.2	83	40.9
Law/Legal Issues	142	7.2	1	8.0	21	14.8	17	12.0	103	63.2
Biography	26	4.9	26	26.8	24	24.7	12	12.4	35	36.1
Ethnohistory	83	4.2	0	0.0	6	10.9	27	32.5	47	56.6
Religion	7	3.6	9	8.5	4	9.6	5 2	36.6	35	49.3
Sociology	20	2.5	4	8.0	17	34.0	14	28.0	15	30.0
Archaeology	#	2.2	1	2.3	4	9.1	7	4.5	37	84.1
Political Science	43	2.2	0	0.0	B	7.0	0	0.0	40	93.0
Art	8	1.7	12	35.3	7	5.9	7	5.9	18	52.9
Folklore	32	1.6	0	0.0	7	21.9	7	21.9	18	56.2
Education	53	1.5	0	0.0	15	51.7	0	0.0	14	48.3
Psychology	56	1.3	0	0.0	∞	30.8	7	56.9	11	42.3
Race/Ethnic Rels.	21	1.0	4	19.0	7	9.5	7	9.5	13	62.0
Economics	20	1.0	_	2.0	_	5.0	Ŋ	25.0	13	65.0
History (Non-U.S.)	19	1.0	4	21.1	4	21.1	7	10.5	6	47.3
Gender Studies	17	<i>0</i> ;	∞	47.1	_	5.9	9	35.3	7	11.7
Health Sciences	13	9.	0	0.0	3	23.1	10	6.9/	0	0.0
Economic Develop.	9	ωį	0	0.0	2	33.3	4	2.99	0	0.0
Total	1 983 100 0	100.0	231		480		359		913	

AICRJ articles had thirty-four citations to the health sciences for the years 1986 to 1990, and AIQ articles published all thirteen of their citations on the health sciences between 1976 and 1985. Finally, AICRJ articles published between 1986 and 1990 included all twenty-seven citations on gender studies. AIQ articles contained the largest number of citations to gender studies (8, 47.1 percent) for the period 1970 to 1975. There were only two (11.7 percent) citations from 1986 to 1990.

In conclusion, tables 12 and 13 show that the *AICRJ* drew all of its citations on health sciences, gender studies, and economic development from 1986 to 1990. During this same period, *The AIQ* significantly increased its focus on political science.

Most Frequently Cited Journals and Half-Life. Table 14 identifies the most frequently cited journals. The three most cited ones (American Anthropologist, AICRJ, and Ethnohistory) account for 11 percent of the journal citations. Interestingly, the AICRJ is the only American Indian studies journal displayed in the table. The other journals reside in specific disciplines, in particular history and ethnohistory.

Half-life refers to the number of journal publication years counting back from the base year, where the number of citations accounts for 50 percent of the total number of citations. For example, the half-life for *Ethnohistory* was fifteen years; this indicates that half of the citations to that journal were to articles published between 1975 and 1990. Half-life for the other most frequently cited journals is as follows:

- American Anthropologist (less than 40 years);
- *AICRJ* (5 years);
- Ethnohistory (15 years);
- The Indian Historian (less than 4 years);
- Chronicles of Oklahoma (less than 30 years);
- New Mexico Historical Review (less than 17 years);
- American Sociological Review (6 years);
- William and Mary Quarterly (less than 6 years);
- Southwestern Journal of Anthropology (less than 14 years).

The journals in anthropology (American Anthropologist and the Southwestern Journal of Anthropology), in history (Chronicles of Oklahoma and New Mexico Historical Review), and in ethnohistory (Ethnohistory) have a higher half-life than do the other titles. Although The Indian Historian and the William and Mary Quarterly

TABLE 14
Most Frequently Cited Journals

Title*	Citations #	Total Journal Citations %
American Anthropologist	53	5.9
American Indian Culture and		
Research Journal	24	2.7
Ethnohistory	22	2.4
The Indian Historian	17	1.9
Chronicles of Oklahoma	17	1.9
New Mexico Historical Review	17	1.9
American Sociological Review	16	1.8
William and Mary Quarterly	12	1.3
Southwestern Journal of		
Anthropology	11	1.2
Journal of American Folklore	9	1.0
Journal of American History	7	.8
Science	6	.7
American Journal of Sociology	6	.7
South Dakota Review	5	.6
Western Historical Quarterly	4	.4
Journal of Anthropological		
Research	4	.4
Current Anthropology	4	.4
American Indian Law Review	4	.4
North American Review	4	.4
Other	653	72.2
Total	897	100.0

^{*}It merits mention that the *Journal of Anthropological Research* is a continuation of the *Southwestern Journal of Anthropology,* which, in turn, is a continuation of the *New Mexico Anthropologist*.

have a shorter half-life, this difference is deceptive, because their citation history reflects few citations to recent sources—those published within the past decade. The *AICRJ* and the *American Sociological Review* also show a shorter half-life.

COMPARISON TO THORNTON'S CLASSIFICATION

As discussed earlier, Thornton concluded that American Indian studies has developed in three directions: (1) American Indian culture, (2) the social sciences, and (3) the applied line.²⁶

With anthropology and United States history being the most frequently cited subject areas, and anthropology and ethnohistory comprising the most frequently identified subject areas in the citing works (see tables 7 and 4), American Indian studies has followed Thornton's pattern for the social sciences. American Indian studies as represented in the two journals has not continued in the other directions. Citation analysis using other sources from which to derive citations might explore the other directions.

Given the dispersion of subject areas, as well as journal and book titles, an important question is, "Can American Indian studies become an autonomous discipline in academe when the literature is cross-disciplinary and interdisciplinary?" Clearly, "the intellectual entity" of the field is "a loose composite of existing academic disciplines . . . and of contemporary issues and problems of Indian peoples."²⁷

Thornton proposed some unique intellectual areas that could help define the disciplinary base of American Indian studies.²⁸ The integration of oral traditions into existing written communication forms is one application of his suggestions. Perhaps a different type of scholarly journal might support the development of American Indian studies as a broadly recognized discipline. "That journal could provide a forum for publishing the unedited texts of tribal elders. Their contributions, devoid of editing, might reveal the unique perspective required to solidify American Indian studies as a discipline."²⁹ Alfonso Ortiz underscored the value of this idea in his discussion of American Indian history:

Despite a general reluctance on the part of historians of tribal histories to begin with the given tribe's own accounts of their origins and early migrations, specific tribal histories are on the right track in faithfully presenting histories of their encounters and relations with whites.³⁰

PROFILE OF AICRJ AND AIQ

This section summarizes the similarities and differences in the citing and cited patterns of the two journals. The similarities include the following:

- Both journals almost equally published articles (citing items) in anthropology and ethnohistory, the two most frequently identified subject areas (see table 4);
- Anthropology, United States history, and ethnohistory were the most frequently identified subject areas in both citing and cited works in the two journals;
- The AICRJ and The AIQ increased the number of articles published between 1971 and 1990;
- The two journals shared the same group of twenty most frequently identified subject areas of cited sources;
- For cited sources in both journals, anthropology, United States history, literature, and law/legal issues were among the top five subject areas most frequently identified; and
- Both journals showed an increase over time in the number of citations in ethnohistory.

There were differences in the number of unique citations, in publication dates, and in the subject areas of citing works between the two journals. The differences include the following:

- The *AICRJ* published the greater percentage of articles with unique citations (see table 3).
- The AIQ initially published a larger percentage of articles with more than twenty unique citations. However, during the last five years of the study, the AICRJ published a larger percentage of articles with more than twenty unique citations (see table 3).
- Anthropology ranked first in the number of citations for the AICRJ and The AIQ, while ethnohistory ranked third in the AICRJ and sixth in The AIQ.

THE IMPORTANCE OF THE MONOGRAPH IN AMERICAN INDIAN STUDIES

Excepting sociology,³¹ the social sciences tend to treat journal articles as the primary means of scholarly communication.³² American Indian studies behaves more like sociology and the

humanities in positioning books as the foremost form of citation. The positioning is understandable given the extensive amount of scholarship and other writings that have appeared as monographs over the years. Important questions regarding monographic publication include, Will the rich tradition of such publication continue? What is the impact of declining and shifting library budgets and of increased production costs for publishers on that continuation? As the amount of electronic publication and the distribution of source material increase, what impact, if any, will there be on traditional monographic publication?

SUGGESTIONS FOR FURTHER RESEARCH

Researchers might examine the information-seeking behavior of scholars within American Indian studies. What types of information sources do they use and for what purposes? What information providers do they consult? What is their level of satisfaction with different providers? Do they engage in self-citation, why or why not, and how much? Does technology impact on their information seeking and information use? A study of researchers in American Indian studies might yield a sociometric mapping of the invisible college of these researchers.

Another area of investigation concerns the impetus for undertaking and reporting research. To what extent is published research supported from grants and fellowships, and to what extent does publication result from calls for papers, conferences, and special invitations?

Because books were the most frequently cited publication form, any additional citation analysis should examine publishing houses and identify the most frequently cited ones over time and by subject areas. Such a study would place commercial publishers, university presses, and government agencies in proper perspective.

For the two journals studied, there has been an emerging emphasis in the last decade on contemporary issues such as gender studies and economic development. Similarly, the broader literature on American Indian studies reflects increasing attention to American Indian health care, contemporary legal issues, higher education, and other issues. Can we expect a shorter half-life for journal citations covering such topics?

American Indian studies draws on other disciplines and a rich heritage of diverse source material. As a result, it is impossible for a single study to identify a half-life representative of all journals covering American Indian studies. If a body of research were to investigate citation patterns for different fields in American Indian studies, better knowledge about the half-life for journals in American Indian studies would emerge.

Half-life, by itself, however, does not fully depict the aging of a title within a disciplinary context. Clearly, further research should explore half-life as well as other measures. It is important, though, to recognize and address the fact that a journal may change titles, scope, and editorial direction over time.

An area that may merit further investigation is the statistical significance found with each use of Spearman's rho. Despite the fact that Spearman's rho consistently disclosed statistical significance, each statistical significance at the .05 level may be misleading. Tables 4 and 8 through 11 contain minimal variation in the rankings for the most frequently mentioned groups (subject areas and publication years). The greatest variation in rankings occurs as we move to the less frequently identified groups. In other words, the significance of the results may be skewed because of substantial variations in the rankings among the less frequently mentioned categories.

Thornton's classification should be analyzed and expanded further. It is important to examine citation patterns within the three directions and to identify similarities and differences among these directions. The applied line might focus, for example, on briefs submitted to the United States government for federal recognition or the archaeological reports for public agencies. On the other hand, *News from Native California*, although a popular publication, does reflect the scholarship of American Indian studies.

Research could also use content analysis, which classifies and analyzes the content of a literature or a set of representative documents. Such investigations might examine the research literature and characterize the research designs, methodologies, or statistics used.

CONCLUSION

The better we understand the research and scholarly literature on American Indian studies, the better we can position and develop this field into an autonomous discipline, as well as nurture interdisciplinary and cross-disciplinary relationships. The literature concerning the disciplinary status of American Indian studies suggests that American Indian studies could retain its cross-disciplinary status or emerge as a unique discipline.³³ For this to occur, we must continue to analyze and foster the scholarship of American Indian studies. It is important for us and others to understand that scholarship and its past, present, and future trends.

ACKNOWLEDGMENT

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NOTES

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 - 7. Thornton, "American Indian Studies as an Academic Discipline," 10.
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 - 27. Ibid., 10.
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APPENDIX Data Collection Form

Access No.:	-		
CITING SOURCE	E		
No. of Authors: Name of Author(s):			
Title:			
Gc Bu	niversity, Colovernment siness/Profe ibal Government	essions	Research Center Other (Specify) _Not Identified
Source (check one): _	AICRJ _	AIQ	
Publication:Yea	ırVol	No	Pages
No. of Unique Citati	ons:		
Subject Areas (checkAnthropology _ Archaeology _ Architecture _ Art _ Astronomy _ Biography _ Biology _ Botany _ Herbology _ Business (Small) _ Communications _ Dance _ Ecology _ Economics _ Economics _ Economic Dev _ Education _ Engineering _ Ethnomusicology _ Finance (Tribal)	elopment	Ling Liter Mana Moti Philo Philo Philo Politi Psycl Race Radio Relig Socia Socio	ature agement lematics on Picture/Film c logy logy logy iology cal Science nology & Ethnic Relations o ion l Work

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Gender S		Theater/Drama
Geograp		Urban Planning
Geology Health S	laian ana	
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	Government	Other (Specify)
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	Tribal Governme	ent
Title: _		
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Source: _		
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Publication	:YearVol	No Pages
τ	A ' T 1'	
Language:American Indian (specify) SpanishFrench		
	Spandsh German	Other
	English	outer
Self-Citation		
	(First Author)	YesNo
	(Second Author)	YesNo
	(Third Author)	YesNo

Publication Form (check only one):

Administrative Reports	Government Documents
Bibliographies	Canadian
Books	U.S.
Catalogs	State & Local
Conference Proceedings	Adm. Reports
Debates	Bibliographies
Diaries	Catalogs
Directories	Commission Reports
Dictionaries/Encyclopedias	Committee Reports
Journals	Decisions & Court Cases
Manuals/Handbooks/Guides/	Directories
Digests	Executive Dept. Docs.
Newsletters	Hearings
Newspapers	Journals & Proc.
Personal Conversations	(Congr. Record)
Personal Correspondence	Legislation, Acts
Personal Interviews	Manuals/Handbooks/
Research Reports	Guides/Digests
Speeches (Oratory)	Pamphlets & Fact Sheets
Standards (Tribal)	Patents
Staticards (Thoai) State-of-the-Art Reviews	Periodicals
Technical Reports	Presidential Docs.
Technical ReportsTheses/Dissertations	Research Reports
Treaties	Rules & Regulations
University Reports/Collections	Standards
Unpublished /In-house	Statistics
Other (Specify)	Treaties
Not Identified	U.S. Constitution
Verify Later	O.S. Constitution
verily Later	
Publication Source:Primary	SecondaryTertiary
	_ , ,
Medium:	
Art, works of	Photographs
Artifacts	Print
Charts	Published Musical Score
Film	Sound Recordings
Games	Television
Manuscripts	Toys
Maps	Unpublished Musical
Microform Editions	Score
Nonprint - Electronic	Video Recordings
Performance	Not Identified
(includes live/lectures)	

Subject Areas (check one):	
Ánthropology	Library & Info. Science
Archaeology	Linguistics
Architecture	Literature
Art	Management
Astronomy	Mathematics
Biography disconnection in the contract of	Motion Picture/Film
Biology	Music
Botany	Philology
Herbology	Philosophy
Business (Small)	Physiology
Communications	Political Science
Dance	Psychology
Ecology	Race & Ethnic Relations
Economics	Radio
Economic Development	Religion
Education	Social Work
Engineering	Sociology
Ethnomusicology	Technology
Finance (Tribal)	Telecommunications
Folklore (Oral Literature)	Television
Gender Studies	Theater/Drama
Geography	Urban Planning
Geology	J
Health Sciences	
Medicine	
Healing (Traditional Practi	ces)
Public Health (Indian Heal	th Service)
History (Non-U.S.)	
Canadian History	
Ethnohistory	
U.S. History	
Language(s)	
Law (Legal Issues)	
International Law	
Tribal Law	