



University of Tennessee, Knoxville
**TRACE: Tennessee Research and Creative
Exchange**

School of Information Sciences -- Faculty
Publications and Other Works

School of Information Sciences

June 2006

University of Akron Faculty Journal Reading Patterns

Carol Tenopir

University of Tennessee - Knoxville, ctenopir@utk.edu

Lei Wu

Xiang Zhou

Kitty McClanahan

Max Steele

See next page for additional authors

Follow this and additional works at: https://trace.tennessee.edu/utk_infosciepubs



Part of the [Library and Information Science Commons](#)

Recommended Citation

Tenopir, Carol; Wu, Lei; Zhou, Xiang; McClanahan, Kitty; Steele, Max; Clewell, Natalie; and King, Donald W., "University of Akron Faculty Journal Reading Patterns" (2006). *School of Information Sciences -- Faculty Publications and Other Works*.

https://trace.tennessee.edu/utk_infosciepubs/4

This is brought to you for free and open access by the School of Information Sciences at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in School of Information Sciences -- Faculty Publications and Other Works by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

Authors

Carol Tenopir, Lei Wu, Xiang Zhou, Kitty McClanahan, Max Steele, Natalie Clewell, and Donald W. King

University of Akron Faculty Journal Reading Patterns

Factual Summary of Results of the Survey Conducted Fall 2005

**Carol Tenopir, Lei Wu, Xiang Zhou, Kitty McClanahan, Max Steele
and Natalie Clewell, University of Tennessee, Knoxville, TN USA
and Donald W. King, University of North Carolina, Chapel Hill
(funded with a grant from IMLS)
(June 15, 2006)**

Introduction.

This is a question-by-question analysis of the results of the University of Akron survey of faculty, conducted fall 2005 as part of a grant funded by IMLS (see Appendix for the Questionnaire.) Final results may require further analysis or information about the library context for complete analysis. At the same time as this survey, a survey of reading patterns of Akron's students was conducted, with results presented in a separate report. Also at the same time, surveys of faculty and students at three other Ohio universities and the University of Tennessee were conducted. Comparisons among these will be included in subsequent articles for publication. This report is for internal use at Akron or may be used to prepare presentations and journal articles.

In October 2005 an email message from the Akron University Director of Libraries, with an embedded link to a questionnaire housed on a University of Tennessee server, was sent to 1000 Akron faculty members. We received a total of 332 responses to at least the first question, for an overall response rate of 33%. Since respondents were allowed to exit the questionnaire at any time, skip any questions they chose to, or were timed out

automatically if they began the questionnaire and did not complete it, most questions have a lower number of responses.

Demographics of Respondents.

Work Responsibilities.

Akron faculty members spend most of their time on teaching responsibilities, including preparing for courses. This is reflected in Table 1, which shows that half of the respondents spend 45% or more of their time on teaching-related responsibilities. They spend approximately a quarter of their time on research and writing, with the remaining time split between administration, service, consulting or advising and other.

Table 1. Percentage of Work Time Spent by Akron Faculty Respondents

		Teaching	Research & writing	Administrative	Service	Consulting /advising	Other
Mean		46.69	27.72	15.69	12.21	6.74	7.36
Median		45.00	25.00	10.00	10.00	5.00	.00
Mode		40.00	40.00	.00	10.00	.00	.00
Percentiles	25	30.00	10.00	2.75	5.00	.00	.00
	50	45.00	25.00	10.00	10.00	5.00	.00
	75	60.00	40.00	20.00	15.00	10.00	5.00

Academic Discipline.

Of the 262 respondents who answered this question, about 45% were from social science disciplines, with another one-fifth (21.8%) from the humanities (Table 2). Although this question used an open-ended text box, we collapsed responses into broad disciplines for analysis.

Table 2. Academic Disciplines of Akron Faculty Respondents

	Frequency	Percent
Social Science	120	45.8
Humanities	57	21.8
Sciences	49	18.7
Engineering/Technology	25	9.5
Medical/Health	11	4.2
Total	262	100.0

Degree, Age, Gender, and Rank.

Seventy percent of respondents hold the Doctorate or equivalent degree (Table 3).

Table 3. Highest Degree of Akron Faculty Respondents

	Frequency	Percent
Bachelor's (B.A., B.S., or equivalent)	3	1.1
Master's (M.A., M.S., M.B.A., M.F.A., or equivalent)	64	24.4
Ph.D.	184	70.2
Ed.D.	2	.8
J.D.	6	2.3
Other (please specify)	3	1.1
Total	262	99.9*

*due to rounding

More than 40% of all respondents who chose to identify their age (43.6% or 104 of 250) are age 50 or older and a majority of the respondents who gave their age are between 40 and 69 years old (60.8%, n=147). The remaining respondents are scattered among 20-39 years of age and 70-79. Respondents are fairly evenly split by gender, with 47.7% of respondents female. Respondents represented all faculty ranks, with more than half (54.2%) from the ranks of Professor or Associate Professor (table 5).

Table 4. Age Range of Akron Faculty Respondents

	Frequency	Percentage
20-29 years old	7	2.8
30-39	52	20.9
40-49	81	32.5
50-59	71	28.5
60-69	35	14.1
70-79	3	1.2
Total	249	100.0

Table 5. Ranks of Akron Faculty Respondents

	Frequency	Percent
Professor	64	24.4
Associate Professor	78	29.8
Assistant Professor	44	16.8
Instructor	22	8.4
Lecturer/ Adjunct	47	17.9
Distinguished Professor	3	1.1
Other (please specify)	4	1.5
Total	262	100.0

Productivity as Measured by Authorship and Awards.

In our surveys of research universities and non-university research settings, we use authorship as one measure of productivity, and consistently over the years we have found that faculty who publish more journal articles tend to read more. Almost 70% of Akron’s faculty have published in a scholarly journal in the last two years, with more than 30% publishing more than two articles. Fewer have recently published articles in trade journals, chapters in books or proceedings, or complete books (see Table 6). Taking all of these methods of publication together for the last two years, Akron faculty respondents have published on average 5 publications (mean) and 80% have published at least one scholarly publication of some sort.

Table 6. Number of Publications by Akron Faculty Respondents in the Last 2 Years

	Frequency	Percentage
Refereed Scholarly Journals	232	100.0
0	70	30.2
1 ~ 2	87	37.5
> 2	75	32.3
Non-Refereed Journals	172	100.0
0	117	68
1 ~ 2	36	21
> 2	19	11
Chapters in Books, Proceedings, etc.	194	100.0
0	111	57.2
1 ~ 2	60	30.9
> 2	23	11.9
Entire Books	161	100.0
0	137	85.1
1 ~ 2	24	14.9
> 2	0	0

Table 7. Total Numbers of Publications by Akron Faculty Respondents in the Last 2 Years

	Frequency	Percentage
0	51	20.5
1 ~ 2	63	25.3
3 ~ 4	50	20
5 ~ 10	57	22.9
> 10	28	11.2
Total	249	99.9*

*Percentage adds up to 99.9% due to rounding

Number of publications varied with gender. Akron male respondents publish more than female respondents, with an average of 7.14 publications in the last two years per male respondent, compared to 2.63 per female respondent ($t = 5.319, p < 0.0001$).

Significant between-group differences in number of publications were found among subject disciplines ($F = 9.359, p < 0.0001$). The differences existed between two pairs: sciences ($M = 7.92, SD = 8.482$) and social sciences ($M = 3.36, SD = 4.099; MD = 4.555, p = 0.007$), and sciences and humanities ($M = 3.27, SD = 5.342; MD = 4.646, p = 0.015$).¹ Although engineering/technology respondents had the largest mean, 11 ($SD = 14.065$), far leading the others, they were not found to be significantly different from the others.² Medical/health respondents ($M = 3.78, SD = 2.224$) did not differ in the total amount of publications from any of the others. Detailed information suggested that between-group differences came from only one type of publication, articles in refereed scholarly journals

¹ The homogeneity of variances was not guaranteed. Tamhane's T2 that does not require equal variances across groups was used in ANOVA.

² This might be due to its very large variance and the unequal variances across groups.

($F = 17.598, p < 0.0001$), where more pairs were found to differ from each other.³

Sciences respondents reported significantly more articles than their humanities ($MD = 5.52, p < 0.0001$), social science ($MD = 4.42, p < 0.0001$) and medical/health peers ($MD = 3.888, p = 0.009$). Engineering/technology faculty respondents also published significantly more articles in refereed scholarly journals than humanities respondents ($MD = 5.378, p = 0.014$).

Differences in the total number of publications also existed across different levels of rank ($F = 8.814, p < 0.0001$), which were mainly reflected in the differences between the two groups, instructors and lecturers/adjuncts, and their senior peers.⁴ Instructors ($M = 1.22, SD = 1.768$) published significantly less than professors ($M = 7.11, SD = 7.91; MD = -5.891, p < 0.0001$), associate professors ($M = 6.04, SD = 8.125; MD = -4.818, p < 0.0001$), and assistant professors ($M = 3.79, SD = 2.965; MD = 2.568, p = 0.002$). The average number of publications by lecturers/adjuncts ($M = 1.91, SD = 4.879$) was significantly smaller than professors and associate professors ($MD = -5.204, p = 0.001$) and assistant professors ($MD = -4.131, p = 0.015$). Detailed investigations found that the between-rank differences in publications primarily existed in two types of publications, articles in refereed scholarly journals ($F = 12.109, p < 0.0001$) and chapters in scholarly books, proceedings, etc. ($F = 3.239, p = 0.004$), with the same patterns as total publications.

³ Same as Footnote 1.

⁴ Same as Footnote 1.

Another measure of productivity is whether respondents have received recognition for their work. We asked if they had received any awards or received any special recognition in the past two years. (We did not ask them to specify what types of awards or recognition, simply to answer yes or no.) As only 33.7% respondents reported receiving awards in past two years, we have not yet run this analysis.

Personal Subscriptions.

One last demographic question asked how many personal subscriptions to professional journals are received by each respondent, including those paid by themselves, received free, or purchased by a grant or other source for personal or shared use in either print or electronic form.

Akron faculty report a similar, but slightly higher number of personal subscriptions than our other universities, with an average of 4.04 subscriptions per faculty member. Similar to other surveys over the last decade, print is still the predominant format for personal subscriptions. In this survey 80% of faculty had at least one print subscription but only one quarter had at least one electronic subscription. (Table 8). Social Science faculty report more subscriptions than faculty in other disciplines (Table 9).

Table 8. Number of Personal Subscriptions of Akron Faculty Respondents

	Frequency	Percentage
Print-only Subscriptions	257	100.0
0	54	21.1
1	40	15.6
2	44	17.2
3	45	17.6
4	34	14.3
5	14	5.5
6	10	3.9
> 6	15	6
Electronic-only subscriptions	257	100.0
0	193	75.1
1	31	12.1
2	17	6.6
3	9	3.5
>3	7	2.8
Print and Electronic Subscriptions	257	100.0
0	179	69.6
1	26	10.1
2	23	8.9
3	12	4.7
4	7	2.7
5	6	2.3
6	2	.8
8	2	.8

Table 9. Personal Subscriptions by Discipline of Akron Faculty Respondents

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Social Sciences	116	4.54	4.799	.446	3.66	5.43	0	35
Humanities	56	3.68	2.816	.376	2.92	4.43	0	11
Medical/Health	11	3.00	1.265	.381	2.15	3.85	2	5
Engineering/Technology	24	3.96	2.985	.609	2.70	5.22	0	12
Sciences	48	3.58	3.401	.491	2.60	4.57	0	15
Total	255	4.05	3.923	.246	3.57	4.53	0	35

Scholarly Journal Article Reading.

Total Amount of Reading per Academic Staff Member.

Although it relies on personal recollection, one of the key questions in all of our surveys from 1977 to the present is an estimate of the total number of articles read monthly by each respondent. We have asked this same question since 1977, so we can compare over time and across populations. To assist memory, we ask for a relatively short period of time and define articles and reading carefully. The first question asked is *“In the last 4 weeks, approximately how many scholarly articles have you read? Articles can include those found in journal issues, Web sites, or separate copies such as preprints, reprints, and other electronic or paper copies. Reading is defined as going beyond the table of contents, title, and abstract to the body of the article.”* The relative amounts are more

interesting than the exact number reported. For convenience, we often report results as readings in a year, simply by taking the monthly number reported by a respondent and multiplying it by 12, for a crude approximation of the total amount of reading by respondent per year.

The average amount of scholarly reading in the past four weeks at Akron University was 18.6 articles ($SD = 24.853$, $n = 332$). Extrapolated to an entire year, the average number of articles read by Akron faculty across all disciplines was 223, with all outliers included. If a single outlier 255 is excluded the mean is 17.9 (or 215 per year).

This compares to 206 articles across all faculties in three U.S. universities that were surveyed between 2000 and 2003. University of Tennessee in 2000 averaged 186, Drexel University in 2002 averaged 197, and University of Pittsburgh in 2003 averaged 215. In surveys of two research universities in Australia in 2004-2005 and at some universities in 2005-2006, we found an even greater amount of reading—over 250 articles per year, showing a continual increase in amount of reading in research universities since our first survey in 1977. Of the U.S. surveys conducted this year, Akron's average amount of reading is lower than Case Western Reserve University and University of Tennessee, but higher than Ashland University and Malone College. The earlier report comparing the U.S. universities concluded: "While there is some difference in average amount of reading among the three universities ... Nevertheless, reading by faculty is substantial and, perhaps, increasing as shown in the section on 25-year trends in university scientists' use patterns." (See King, Tenopir, Montgomery, and Aerni.) This trend continues.

In research universities and non-university research settings we often find a correlation between amount of reading and receiving awards, however, the Akron survey showed no statistically significant relationship.

Last Incident of Reading and Novelty of Information in the Reading.

After the question that asks for recollection of amount of reading, we ask respondents to focus on the last scholarly article they read. This is a variation on the “critical incident” technique, where the last article reading is assumed to be random in time, and gives us detailed information on a random sample of total readings by the Akron faculty. Again we try to give quite explicit instructions, by asking: *“The following questions in this section refer to the **scholarly article you read most recently**, even if you had read the article previously. Note that this last reading may not be typical, but will help us establish the range of patterns in reading.”* To better focus their minds on this last article reading, we then ask for the title of the journal from which this last article was read or, if not from a journal, the topic of the article. This question is merely to focus their minds on the reading; we do not use it in our analysis.

Since this reading could be a first-time reading or a re-reading and because reading patterns differ for core journals in a discipline (those from which scholars read many articles each year), we ask if this is a re-reading and, *“if this article is from a journal,” “approximately how many articles did you read from this journal in the **last 12 months**?”*

A journal from which a reader reads more than 10 articles per year could be considered a core journal for that reader or that reader's subject discipline. We might examine differences in value, form, time spent, purpose, and method of locating articles for core journal readings vs. non-core.

A majority of the journal sources for the last reading were familiar to the readers. The mean number of articles read from this same source is 25.6 ($SD = 46.45$). Over 40% of the readings (43.5%, $n = 118$) meet our criteria for coming from a core journal, with 11 or more readings from this same title (Table 10).

Table 10. Number of Readings by Akron Faculty Respondents from the Same

Source

	Frequency	Percentage
0 – 4	66	24.4
5 – 10	87	32.1
11 – 25	64	23.6
Over 25	54	19.9
Total	271	100.0

Although they tend to read many articles from the same journals, the specific article was new to most readers. A large majority of respondents (80.7%) reported that this was the first time they had read this article and the information contained in the article was unfamiliar to more than half (52.4%) of respondents. For the 126 respondents who indicated they knew about the information found in the article, almost one-third (29.4%)

knew it from other journal articles, while the remainder learned about the information in other ways (see Table 11.)

Table 11. How Akron Faculty Respondents found out about Information in Articles Prior to This Reading

	Frequency	Percent
Specified sources		
1. Journal article	37	29.4
2. Informal discussions with colleagues	26	20.6
3. Conference/workshop	25	19.8
4. Listserv or news group or e-alerts	6	4.8
5. Email from colleague	2	1.6
Unspecified sources		
Other	30	23.8
Total	126	100.0

Date of Readings.

In our surveys from 1977 to the early 2000s, we found a consistent pattern of reading articles older than the first year of publication, with approximately two-thirds of readings within the first year of publication and the other one-third after the first year, tailing to quite old articles. There are, of course, some differences based on subject discipline, with medical faculty reading a higher proportion of current articles.

In our surveys of two Australian research universities in 2004 and 2005 and other research universities in the U.S. in 2005-2006, we have found an increase in the reading of older articles, with just slightly more than half of readings within the first year of

publication. This may be due to a greater availability of electronic back files, an increase in searching which helps identify older articles, and search system features such as linking that allows older articles to be more easily accessed. This pattern at Akron is evident in the following tables with slightly less than half of all readings within the first year of publication (Table 12a). Since the survey was conducted in October 2005, we add approximately one-fourth of the 2004 readings to get current year of publication. Consistent with our other recent surveys, 52% ($n = 142$) of Akron faculty readings are from within the first year of publication. The other 48% of readings after the first year of publication are concentrated within the next 2-5 years (31.9%), with a long tail of dates after that.

Table 12a. Year of Last Article Read by Akron Faculty Respondents

Year	Frequency	Percentage
1953	2	.7
1960	1	.4
1974	2	.7
1976	2	.7
1979	1	.4
1980	2	.7
1985	2	.7
1986	1	.4
1987	1	.4
1988	1	.4
1989	1	.4
1990	1	.4
1991	3	1.1
1992	2	.7
1993	1	.4
1994	2	.7
1995	3	1.1
1996	4	1.5
1997	5	1.8
1998	4	1.5

1999	3	1.1
2000	10	3.7
2001	10	3.7
2002	17	6.2
2003	22	8.1
2004	38	13.9
2005	132	48.4
Total	273	100.0

N = 273 valid responses

Table 12b. Year of Articles Read by Akron Faculty Respondents Arranged by Date

Groupings

Year	Frequency	Percentage
Over 15 years (1926~1988)	16	5.9
11 years ~ 15 years (1990~1994)	9	3.3
6 years ~ 10 years (1995~1999)	19	7
2 years ~ 5 years (2000~3/4 of 2004)	87	31.9
1st year (1/4 of 2004~2005)	142	52
Total	273	100.0

Time Spent Reading.

Akron faculty report spending an average of approximately one-half hour (30 minutes) per article reading ($SD = 26.768$), an amount of time consistent with our other surveys. Although this may sound like a short time to read an article, the mode for Akron is even lower (20 minutes), with a range of from zero to 240 minutes per article reading (Table

13). We have 95% confidence that Akron faculty on average spend between 30.73 to 37.18 minutes per reading.

In our surveys over the years we have observed that the amount of time spent reading has gone down fairly steadily since 1977, when faculty reported spending on average nearly 45 minutes per reading. Average time spent reading per article at Akron is typical for today’s faculty members.

Table 13. Time Spent Reading per Article by Akron Faculty Respondents

	Frequency	Percentage
0 – 5	8	3.0
6 – 10	24	9.0
11 – 15	31	11.6
16 - 25	67	25.1
26 – 30	50	18.7
Over 30	87	32.6
Total	267	100.0

Source and Location of Reading.

We also asked “how did you initially find out about this last article you read?” Many different choices (plus other), reflect today’s complex information environment, where readers have many ways of finding articles available to them. Choices 1-9 (see Table 14) can be categorized as browsing—that is starting with a table of contents or title of a journal and browsing through that print or electronic journal to locate articles of interest. Approximately 40% of all readings reported by Akron faculty (41.4%, n=111) were

found initially by one of these methods of browsing. Browsing through a print personal subscription was most common. Searching accounted for just 27.2% of all readings, while “other”, including following a citation in another publication or hearing about the article from someone, accounted for 31.4% of all readings.

Table 14. How Akron Faculty Respondents Initially Found Out About Articles

	Frequency	Percent
Browsing	111	41.4 (100.0)
1. Print: Personal subscription	49	(44.1)
2. Electronic: Library subscription	19	(17.1)
3. Print: Library subscription	13	(11.7)
4. Electronic: Personal subscription	4	(3.6)
5. Free web	4	(3.6)
6. Print: School, department etc. subscription	3	(2.7)
7. Electronic: School, department etc. subscription	2	(1.8)
8. Other	3	(2.7)
9. Unknown	14	(12.6)
Searching	73	27.2 (100.0)
1. Indexing/abstracting database	30	(41.1)
2. Online journal collection	21	(28.8)
3. Web search engine	6	(8.2)
4. Current awareness service	3	(4.1)
5. Bibliography	2	(2.7)
6. Print index or abstract	1	(1.4)
7. Unknown	10	(13.7)
Other	84	31.4 (100.0)
1. Cited in another publication	35	(41.7)
2. Another person told me about it	31	(36.9)
3. Sent to me as a part of alerting service	5	(6.0)
4. Don't know or other	13	(15.5)
Total	268	100.0

Browsing or searching to find out about readings can also be categorized as coming from library provided sources or other; or from print, electronic, or unknown sources. The 111 instances of readings located through browsing, can be categorized as 53 coming from personal subscriptions, 37 coming from library or department subscriptions, and 7 from other electronic sources (some cannot be determined specifically by the answers and is categorized as “unknown”.) Of the articles found by browsing from which we can determine whether they are print or electronic, 65 (58.6%) came from print and 29 (26.1%) from electronic sources. Searching, on the other hand, is almost all from electronic sources, with the exception of the one instance of the use of a print index or abstract. We cannot tell if the “other” readings come from print or electronic or from the library or other.

Just because an article is located using an electronic source, it does not mean that the final form of reading is on the computer screen. Only 46 of 264 (17.4%) readings reported by Akron faculty were actually read on the screen—all of the rest either originated in a print journal or were downloaded and printed on paper (Table 15). This is consistent with our other survey results—although electronic journals are convenient as a means to locate relevant articles, for the most part they are not read on screen. Print on paper is still considered more convenient for reading, even the relatively quick reading of today’s reader. Still 17.4% is a larger percent of reading done on screen than we found in earlier surveys, so patterns may be changing.

Table 15. Final Form of Reading by Akron Faculty Respondents

	Frequency	Percent
1. Print article in a print journal	102	38.6
2. Downloaded and printed on paper	97	36.7
3. Online computer screen	31	11.7
4. Photocopy	19	7.2
5. Previously downloaded/saved and read, on computer screen	15	5.7
Total	264	99.9*

*Percentage adds up to 99.9% due to rounding

Many libraries have observed that faculty rarely read in the physical library, even though their use of the virtual library collections may be substantial. Akron faculty are similar to others in this respect. The vast majority of their article readings are from home or their offices (90.8%, $n = 248$) (Table 16.)

Table 16. Location of Akron Faculty Respondents When Reading

	Frequency	Percent
Office or lab	150	54.9
Home	98	35.9
Library	16	5.9
Traveling	7	2.6
Other	2	.7
Total	273	100.0

Purpose and Value of Reading.

Unlike usage log data, survey data provides a picture of purpose, value, and outcomes from reading. We asked respondents to describe one principal purpose for which “you

have used, or do you plan to use, the information obtained from the article you last read?” In research universities the most common principal purpose for most academic disciplines is research (although medical faculty read more for current awareness). Akron’s faculty falls in line with this finding, where almost half of the articles were read for research (46.6%, $n = 123$) (Table 17).

Table 17. Principal Purposes of Readings by Akron Faculty Respondents

	Frequency	Percent
Research	123	46.6
Teaching	82	31.1
Administration	3	1.1
Current awareness/keeping up	21	8.0
Writing proposals, reports, articles, etc.	19	7.2
Consulting, advising others	3	1.1
Internal or external presentations	2	.8
Continuing education for self	9	3.4
Other (please specify)	2	.8
Total	264	100.1*

*Percentage adds up to 100.1% due to rounding

Respondents were asked to rank the importance of the reading to the principal purpose of the reading on a 3-point scale of 1 (not important), 2 (somewhat important), and 3 (absolutely essential). On the whole, readings were rated important ($M = 2.40$), a finding consistent with our past surveys. Nearly 60% of readings were rated “somewhat important” (59.7%, $n = 157$), with the majority of the remaining readings (39.9%, $n = 105$) rated as “absolutely essential”. Reading for writing proposals/reports was rated

more highly ($M = 2.53$) than reading for all other purposes. However, ANOVA tests showed that the average rating did not significantly vary with different groups of principal purposes of reading.

In addition to rating the value of the reading to the purpose, respondents were asked to choose from a list of outcomes those that described the outcome of this reading to them. Respondents could select more than one outcome. Only one reading was described as not helpful, all others resulted in positive outcomes. Most often the readings “improved the result” or “inspired new thinking” (Table 18.)

Table 18. Outcome of Reading by Akron Faculty Respondents*

	Frequency	Percent
Inspired new thinking	146	56.2
Improved the result	104	40.0
Narrowed/broadened/changed the focus	69	26.5
Resolved technical problems	31	11.9
Saved time or resources	27	10.4
Resulted in faster completion	25	9.6
Others	20	7.7
Resulted in collaboration/joint research	16	6.2
Wasn't helpful	1	.4
Total	260	

*Readers could choose more than one

Although principal purpose did not make a difference in the rating of importance reading, reading time and way of finding out articles, the respondents with different principal purposes did differ from each other in many aspects.

First, respondents who read for different principal purposes varied in the amount of reading ($F = 3.193, p = 0.014$).⁵ Respondents with research as principal purpose read most in the past month ($M = 24.64, SD = 31.601$), significantly more than respondents reading for current awareness ($M = 10.19, SD = 13.677; MD = 14.452, p = 0.008$) and those in the “other” category ($M = 8.68, SD = 6.219; MD = 15.958, p < 0.0001$). The group with the mean second-ranked was those who read for writing proposals, reports, etc. ($M = 23.42, SD = 20.897$). Yet they did not significantly differ from any other groups. Instead, social science respondents ($M = 16.55, SD = 20.461$) report a significant difference with respondents in the “other” category ($MD = 7.865, p = 0.04$).

Second, principal purpose made a difference in publication ($F = 7.572, p < 0.0001$). Respondents reading for research published most ($M = 7.29, SD = 8.981$), significantly more than those for teaching ($M = 2.49, SD = 3.588; MD = 4.797, p < 0.0001$), current awareness ($M = 2.33, SD = 3.588; MD = 4.957, p = 0.03$), and the “other” category ($M = 1.76, SD = 1.678; MD = 5.526, p < 0.0001$).⁶ Respondents with writing proposals/reports as principal purpose had an average amount of publications ($M = 6.89, SD = 6.79$) very close to that for research. Reading for writing proposals/reports differed only from the “other” category ($MD = 5.13, p = 0.045$).

In addition, principal purpose was found to be significantly associated with resource of finding out articles ($\chi^2 = 24.412, p = 0.002$) and reading form ($\chi^2 = 19.072, p = 0.001$). Reading for research and writing proposals/reports was more likely to come from library-

⁵ Same as Footnote 1.

⁶ Same as Footnote 1.

provided resources when finding out articles (Table 19). In contrast, respondents who read for teaching and current awareness relied more on personal subscriptions, respectively with a percentage 45.7% (37 of 81) and 52.4% (11 of 21).

Table 19. Association between Principal Purpose of Akron Faculty Respondents and Resource of Finding out Articles

		Resource of Finding out Articles			Row Total
		Library-Provided	Personal Subscriptions	Other	
Principal Purpose	Research	64 52.0%	30 24.4%	29 23.6%	123
	Teaching	29 35.8%	37 45.7%	15 18.5%	81
	Current Awareness	5 23.8%	11 52.4%	5 23.8%	21
	Writing Proposals/Reports	11 57.9%	3 15.8%	5 26.3%	19
	Others	4 21.1%	6 31.6%	9 47.4%	19
Column Total		113	87	63	263

In terms of reading form, respondents who read for research and writing proposals/reports came together again for their less likelihood of reading in print form than the others. They were much more likely to read electronic articles compared to those for teaching, current awareness, and other purposes with a majority of respondents relying on print form (see Table 20).

Table 20. Association between Principal Purpose of Akron Faculty Respondents and Reading Form

		Reading Form		Row Total
		Print	Electronic	
Principal Purpose	Research	45 36.6%	78 63.4%	123
	Teaching	46 56.1%	36 43.9%	82
	Current Awareness	15 71.4%	6 28.6%	21
	Writing Proposals/Reports	4 21.1%	15 78.9%	19
	Others	11 57.9%	8 42.1%	19
Column Total		121	143	264

Differences of Reading Patterns by Demographic Factors.

Differences in Reading Patterns by Subject Discipline.

Respondents at Akron across subject disciplines were quite similar in terms of amount of reading, reading time, importance of reading, total subscriptions, resource and way of finding out articles. However, they significantly varied with amount of publications, principal purpose and reading form.

Significant between-group differences among subject disciplines existed in the total amount of publications ($F = 9.359, p < 0.0001$), which came primarily from the differences between sciences and social science, and between sciences and humanities. On average, sciences respondents ($M = 7.92, SD = 8.482$) published significantly more than respondents from social sciences ($M = 3.36, SD = 4.099; MD = 4.555, p = 0.007$)

and humanities ($M = 3.27$, $SD = 5.342$; $MD = 4.646$, $p = 0.015$).⁷ Although engineering/technology respondents reported the largest mean, 11 ($SD = 14.065$), no significant differences were found between this group and any of other groups.⁸ Medical/health people ($M = 3.78$, $SD = 2.224$) did not differ from all the others.

Subject discipline was found to be significantly associated with principal purpose ($\chi^2 = 42.903$, $p < 0.0001$)⁹ and reading form ($\chi^2 = 32.416$, $p < 0.0001$). A majority of engineering/technology (64%, 16 of 25) and sciences respondents (63.3%, 31 of 49) reported that their principal purpose of reading was for research (see Table 21). Respondents from social sciences and humanities appeared to read primarily for both research and teaching, which had close percentages of respondents. Unlike them, medical/health respondents who read for teaching (45.5%, 5 of 11) numbered almost double those for research (27.3%, 3 of 11). Medical/health respondents also had a relatively higher percentage of reading for other purposes (27.3%) than the others, ranging from 0% to 10.5%. Yet no medical/health respondents reported the two purposes, current awareness and writing proposals/reports.

⁷ Same as Footnote 1.

⁸ Same as Footnote 2.

⁹ More than 20% of cells have expected count less than 5. The Likelihood Ratio was used.

Table 21. Association between Subject Discipline of Akron Faculty Respondents and Principle Purpose

Count Row %	Principal Purpose								Row Total
	Research	Teach- ing	Admini- stration	Current aware- ness	Writing proposals/ reports	Consult -ing, advising others	Internal or external present- ation	Continu- ing education for self	
Social Sciences	51 42.5%	46 38.3%	1 .8%	4 3.3%	11 9.2%	1 .8%	1 .8%	3 2.5%	118
Humanities	22 38.6%	18 31.6%	0 .0%	9 15.8%	2 3.5%	0 .0%	1 1.8%	5 8.8%	57
Medical/ Health	3 27.3%	5 45.5%	1 9.1%	0 .0%	0 .0%	1 9.1%	0 .0%	1 9.1%	11
Engineering/ Technology	16 64%	4 16%	1 4.0%	2 8.0%	1 4.0%	1 4.0%	0 .0%	0 .0%	25
Sciences	31 63.3%	7 14.3%	0 .0%	6 12.2%	0 .0%	0 .0%	0 .0%	0 .0%	49
Total	123	80	3	21	19	3	2	9	260

In terms of reading form (see Table 22), the humanities faculty heavily rely on print form (75.4%, 43 of 57). Two groups, engineering/technology and sciences, were similar because of their high likelihood of reading in electronic form, respectively with a percentage, 76% (19 of 25) and 73.5% (36 of 49). Social sciences and medical/health respondents were similar in their percentages of reading in print and electronic form, with the latter a little more prevalent over the former.

Table 22. Association between Subject Discipline of Akron Faculty Respondents and Reading Form

		Form		Row Total
		Print	Electronic	
Subject Discipline	Social Sciences	53 44.2%	67 55.8%	120
	Humanities	43 75.4%	14 24.6%	57
	Medical/Health	5 45.5%	6 54.5%	11
	Engineering/ Technology	6 24.0%	19 76.0%	25
	Sciences	13 26.5%	36 73.5%	49
Column Total		120	142	262

Differences in Reading Patterns by Rank, Highest Degree, Age, and Gender.

Respondents at different levels of rank did not vary in their total amount of reading in the past month, the time spent in reading the latest article, the rating of importance of reading, the total amount of subscriptions, and resource and way of finding out articles. Rank was found to be associated with only principal purpose ($\chi^2 = 28.503, p = 0.028$)¹⁰ and reading form ($\chi^2 = 10.709, p = 0.03$).

Compared to professors (48.4%, 31 of 64), associate professors (52.6%, 41 of 78) and assistant professors (61.4%, 27 of 44), who all had a dominating percentage of respondents with research as principal purpose of reading, instructors and

¹⁰ The two groups, distinguished professor and “other,” were excluded from Chi-Square tests because of the few numbers of respondents. Same in the tests below. More than 20% of cells have expected count less than 5. The Likelihood Ratio was used.

lecturers/adjuncts tended to be more likely to read for teaching, respectively with a percentage 36.4% (8 of 22) and 36.2% (17 of 47), slightly higher than for research (see Table 23). Lecturers/adjuncts also had a greater likelihood of reading for current awareness (17%, 8 of 47) than the others, whose percentages were all less than 7%. Yet they (2.1%, 1 of 47), together with assistant professors (2.3%, 1 of 44), were much less likely to read for writing proposals/reports.

Table 23. Association between Rank of Akron Faculty Respondents and Principal Purpose.

		Principal Purpose					Row Total
		Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Rank	Professor	31 48.4%	17 26.6%	4 6.3%	6 9.4%	6 9.4%	64
	Associate Professor	41 52.6%	25 32.1%	4 5.1%	6 7.7%	2 2.6%	78
	Assistant Professor	27 61.4%	12 27.3%	3 6.8%	1 2.3%	1 2.3%	44
	Instructor	7 31.8%	8 36.4%	1 4.5%	3 13.6%	3 13.6%	22
	Lecturer/ Adjunct	14 29.8%	17 36.2%	8 17.0%	1 2.1%	7 14.9%	47
Column Total		120	79	20	17	19	255

Assistant professors relied most heavily on electronic form (72.7%, 32 of 44) and, although the tendency was not as strong, instructors were also more likely to use electronic formats (59.1%, 13 of 22). In contrast, lecturers/adjuncts read more from print formats (59.6%, 28 of 47) (see Table 24).

Table 24. Association between Rank of Akron Faculty Respondents and Reading Form

		Form		Row Total
		Print	Electronic	
Rank	Professor	33 51.6%	31 48.4%	64
	Associate Professor	36 46.2%	42 53.8%	78
	Assistant Professor	12 27.3%	32 72.7%	44
	Instructor	9 40.9%	13 59.1%	22
	Lecturer/ Adjunct	28 59.6%	19 40.4%	47
Column Total		118	137	255

Respondents with a doctoral degree read more scholarly articles ($t = 2.997, p = 0.0015$, one-tailed), spent more time in reading the last article ($t = 2.11, p = 0.018$, one-tailed), and had more publications ($t = 8.755, p < 0.0001$, one-tailed) and subscriptions ($t = 1.984, p = 0.024$, one-tailed) than their counterparts without a doctoral degree.

Respondents with and without a doctoral degree also varied with principal purpose ($\chi^2 = 22.013, p < 0.0001$). Respondents reading for research dominated among those with a doctoral degree, with a percentage (54.2%, 104 of 192) almost twice as many as that for teaching (28.1%, 54 of 192). The percentages of respondents among the group who read for the other purposes were far lower, ranging from 4.2% to 7.8%. More diversity of reading purpose was seen among the respondents without a doctoral degree, with the purpose for teaching leading the others (38.8%, 26 of 67) and research ranked second (26.9%, 18 of 67).

Table 26. Association between Degree of Akron Faculty Respondents and Principal Purpose

	Principal Purpose					Row Total
	Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Without a Doctoral Degree	18 26.9%	26 38.8%	9 13.4%	4 6.0%	10 14.9%	67
With a Doctoral Degree	104 54.2%	54 28.1%	11 5.7%	15 7.8%	8 4.2%	192
Column Total	122	80	20	19	18	259

Age was not correlated with amount of reading, total publications, importance of reading, and total subscriptions. Although age was significantly negatively correlated with reading time, the magnitude of correlation was slight (Pearson coefficient = -0.139, $p = 0.029$).

However, it is interesting to see that the average age significantly varied with principal purpose ($F = 6.354, p < 0.0001$), reading form ($t = 4.042, p < 0.0001$, one-tailed), resource ($F = 6.769, p = 0.001$) and way ($F = 8.909, p < 0.0001$).

The average age of respondents who read for research ($M = 44.94, SD = 9.699$) was significantly younger than those for teaching ($M = 50.83, SD = 10.548; MD = -5.888, p = 0.001$) and the “other” category ($M = 54.47, SD = 10.762; MD = -9.534, p = 0.014$).

Respondents reading in print ($M = 50.49, SD = 9.983$) were significantly older than those

reading electronic articles ($M = 45.17, SD = 10.684$).¹¹ In terms of resource of finding out articles, respondents who relied on personal subscriptions ($M = 51.01, SD = 9.951$) were separated from those using library-provided ($M = 45.78, SD = 9.869; MD = 5.234, p = 0.002$) and other resources ($M = 45.95, SD = 11.985; MD = 5.063, p = 0.013$). They tended to be older than the latter two groups. Respondents who used browsing to locate articles ($M = 50.75, SD = 9.846$) also tended to be older than those using searching ($M = 44.5, SD = 11.409; MD = 6.255, p < 0.0001$) and other ways ($M = 45.96, SD = 10.075; MD = 4.794, p = 0.007$).

We also investigated the differences in reading patterns by gender, which turned out to make no differences in the rating of importance of reading, total subscriptions, reading form, resource and way of finding out articles. However, male respondents were found to read more articles in the past month ($t = 2.418, p = 0.007$, one-tailed), spend more time in the last reading ($t = 1.758, p = 0.04$, one-tailed), and have more publications ($t = 5.319, p < 0.0001$, one-tailed) than female respondents at Akron (see Table 27 for detailed information).

¹¹ Same as Footnote 1.

**Table 27. Differences in Amount of Reading, Reading Time, and Total Publications
by Gender of Akron Faculty Respondents**

	Amount of Reading		Reading Time		Total Publications	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Male	23.46 (N = 136)	31.627	36.85 (N = 135)	29.386	7.14 (N = 132)	9.189
Female	15.73 (N = 124)	17.079	31.02 (N = 124)	23.384	2.63 (N = 116)	3.060

In addition, gender was also found to be associated with principal purpose ($\chi^2 = 13.502, p = 0.009$; see Table 28). Male respondents reported a dominating percentage of reading for research (55.1%, 75 of 136), over twice as many as that the second most reported purpose, teaching (22.8%, 31 of 136). In contrast, female respondents had almost equally-split percentages of research (37.9%, 47 of 124) and teaching (38.7%, 48 of 124). In addition, the percentage of writing proposals/reports (9.6%, 13 of 136) among male respondents was twice as much as that among female respondents (4.8%, 6 of 124). The two groups appeared to be similar in reading for current awareness.

Table 28. Association between Gender of Akron Faculty Respondents and Principal

Purpose

	Principal Purpose					Row Total
	Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Male	75 55.1%	31 22.8%	10 7.4%	13 9.6%	7 5.1%	136
Female	47 37.9%	48 38.7%	11 8.9%	6 4.8%	12 9.7%	124
Column Total	122	79	21	19	19	260

Age is also related to using other methods to locate articles. Those under the age of 45 are far more likely to use electronic articles than those over the age of 45 who use print journals for half of their readings (50.4%) (Table 29).

Table 29. Association between Age of Akron Faculty Respondents and Format of

Reading

	Print journal	Photocopy	Online computer screen	Downloaded and read on computer screen	Downloaded and printed on paper	Row Total
Age < 45	28 24.3%	11 9.6%	7 6.1%	9 7.8%	60 52.2%	115
Age >= 45	68 50.4%	7 5.2%	20 14.8%	6 4.4%	34 25.2%	135

Role of Library Collections.

As mentioned earlier, how someone found an article can be re-categorized into three basic categories: library-provided, personal subscriptions, and other. Akron faculty relies on their personal subscriptions (average number 4.04) and library sources to locate nearly three-quarters of all the articles they read. This is consistent with other recent surveys. Since 1977 faculty have relied more on library provided articles and less on personal subscriptions for reading journal articles.

Table 30. Source of Reading for Akron Faculty Respondents

	Frequency	Percent
Library Source	117	42.1
Personal Source	94	33.8
Others	67	24.1
Total	278	100.0

Table 31. Mean of Amount of Reading for Akron Faculty Respondents by Resource of Finding Articles

	N	Mean	Std. Error	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Library-Provided	117	21.74	24.946	17.18	26.31
Personal Subscriptions	94	18.34	29.141	12.37	24.31
Other	67	17.75	20.747	12.69	22.81

Readings from personal subscriptions are more likely to be of recent articles. Almost half of library-provided articles were published between 2004 and 2005, and that number increases for personal subscriptions and other to 80.5% and 60.6% respectively (Table 32).

Table 32. Association between Resource of Finding Articles for Akron Faculty Respondents and Year of Article

	over 15 years	1990~1994	1995~1999	2000~2003	2004~2005	Row Total
Library- Provided	9 8.0%	4 3.5%	14 12.4%	31 27.4%	55 48.7%	113
Personal Subscriptions	2 2.2%	4 4.3%	1 1.1%	10 10.9%	75 80.5%	92
Other	4 6.1%	1 1.5%	4 6.1%	17 25.8%	40 60.6%	66
Column Total	15	9	19	58	170	271

Respondents from different subject disciplines did not report different patterns of declination to use library-provided resources or personal subscriptions. However, resource of finding out articles was significantly associated with principal purpose of reading ($\chi^2 = 24.412, p = 0.002$; see Table 33). Library-provided readings were more likely to be read for research (56.6%, 64 of 113) and writing proposals/reports (9.7%, 11 of 113), but less likely to be read for teaching (25.7%, 29 of 113) and current awareness (4.4%, 5 of 113) than those readings from personal subscriptions.

Table 33. Association between Principal Purpose of Akron Faculty Respondents and Resource of Finding out Articles

	Principal Purpose					Row Total
	Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Library-Provided	64 56.6%	29 25.7%	5 4.4%	11 9.7%	4 3.5%	113
Personal Subscriptions	30 34.5%	37 42.5%	11 12.6%	3 3.4%	6 6.9%	87
Other	29 46.0%	15 23.8%	5 7.9%	5 7.9%	9 14.3%	63
Column Total	123	81	21	19	19	263

Open Ended Comments.

Faculty members at the University of Akron were asked via open-ended text box to comment on if and how their use of scholarly resources has changed over time. By and large, comments showed a growing tendency to make greater use of electronic resources to access scholarly materials. This tendency was exemplified in several comments:

- *I use electronic subscriptions of the university and electronic searching more and more*
- *More resources are electronic and have better quality information; including archival documents that now appear on web sites.*
- *The availability of full text materials (and abstracts) on line has reduced my trips to the library and resulted in increased research efficiency.*
- *I find more material online and print it out instead of having to go to the library itself*

- *Definitely more online searching and downloading. It is very much easier to find relevant literature.*
- *More work from my home and office rather than the library. More varied sources of information (look at holdings at other libraries without have to go there)*
- *Use the web a lot more to find articles. Also more likely to get articles through interlibrary loan. Not much time to do research, so online sources have become real time savers.*
- *Substantial increase in the use of web based article readings and searches changed from administrative to academic research*
- *Having to find more journals on line as opposed to getting them at the library. Harder to find older articles.*
- *I access over 90% of the journal articles I need electronically. I'm also a heavy user of electronic access to working papers through the Financial Economics Network.*
- *I tend to use the electronic versions more often than the printed versions for abstracts. Full printed versions are used when writing papers.*
- *Much less time spent tracking down technical reports and conference papers because of their availability on the web or through library subscriptions.*
- *Much easier to do research from my office. The search tools and full-text offerings have greatly improved my ability to cover a lot of ground rapidly.*
- *With Internet services, it is much easier to obtain journal articles, so I download quite a few articles now that I would otherwise ignore. I use these articles for research and graduate teaching.*

Respondents in many cases made observations and comments regarding specific resources. Of particular note are the comments of support for the OhioLink consortium.

- *Use a lot of OhioLink and Electronic Journals.*
- *ILLIAD and OhioLink are awesome - I could not live and research without them!*
- *I would like to see OhioLink subscribe to Nature Publishing Group. The journals by this publisher have high impact scores. Nature is one of the most important journal in the science.*

- *Keep OhioLink. It is an excellent resource and saves lot of time. If possible, add more electronic journals.*
- *The ways in which I locate materials has changed significantly thanks to on-line databases. I also have increased access to hard-to-find journals articles thanks to the interlibrary loan staff and OhioLink.*
- *I use the Internet MUCH more than I did in the past. I use a combination of Sci Cit Index and OhioLink to identify articles and download them, respectively. I have also found Sci Cit Index indispensable for my own reference manager software (EndNote), which has increase the efficiency of my paper writing (lit cited sections are now a breeze!).*
- *Rely almost entirely on web access through University of Akron Library and OhioLink*
- *From examining paper copies to almost entirely electronic via subscriptions provided by University Library and OhioLink*
- *OhioLink and the library resource have made it possible for me to survey almost all that is written about very specific subjects in journal form. This has made it possible for me to be FAR FAR better informed than I ever have been in the past, and to subsequently convey this to my students. I now always begin by casting my net widely for any materials that will be suitable, typically looking through 10 times as many articles as I will eventually need. I can also change my readings, even in the course of a semester,*
- *As a PhD granting institution, the university needs to add more electronic subscriptions in addition to OhioLink. Look at the number Ohio University has and compare that to ours.*
- *Due to the somewhat limited holdings of print copies of journals and books held by our library, I believe it is essential that we make a financial commitment to maintaining subscriptions to electronic services and OhioLink.*
- *I can more easily browse online journal collections through the databases at the Library. I can receive more quickly those articles I need through electronic archives like JSTOR and EBSCO*
- *Internet access to journals and emailed tables of contents - i no longer browse in the library, but do so online. Full text searches (JSTOR) allow much broader exploration of past literature, which hopefully counterbalances the tendency to only use electronic (and therefore recent) research. I use online searches (Biosis, science citation, Google Scholar) constantly now.*

Several respondents were critical of library decisions to reduce print subscriptions:

- *I'm sometimes denied electronic access to journals that I know the library carries in print. We don't seem to be taking advantage of the dual subscription (electronic and print) rights offered by some journals.*
- *Print journals in History are cheap. Books are, comparatively speaking, cheap, and the latter is even more important for historians than the former. Yet we face constant cuts not because our subscriptions are rising but because those in the sciences are. Why keep cutting humanities journals to try to keep up science journals--why not attack the source--inflation in science journals. If you cut them, maybe the scientists will pressure their organizations to do something about the problem.*
- *It's extremely short-sighted for the library to cut journal subscriptions, especially in History, where the journals are 1) very cheap and 2) not easily available on-line until they're about 5 years old.*
- *I visited the periodicals room of the library the other day, and it was very depressing to see how few of the publications I use are still maintained there. When I came here ten years ago, almost all of the important ones were there. Now the library only subscribes to one of them.*
- *One of your questions asked, how much we would pay to access information for research. Isn't that one of the library's responsibilities -- To help the faculty and the students do their research? So in these times of financial stress, do we want faculty and students to pay more (the implication of the question)? Just wondered.*
- *I am most upset about the fact that the library is getting rid of paper periodicals and seemingly subscribing to fewer periodicals. I don't really like reading online, and it is sometimes useful to look at the artifact, itself, esp. in relation to the past. However, it is easy and convenient to print out from an online source.*
- *Research must be NEW, which means that even ONE missed or unavailable article can be fatal to a project, a proposal, or an article submitted for publication. Availability of the WHOLE of the scientific literature is an important issue for the viability of research at a given institution. It is also crucial for the integrity of science as a whole, since the accumulation of human scientific knowledge is founded on the availability of the reported experimental and theoretical results in the open literature.*

Some respondents took the opportunity to give a more complete picture of their readings, beyond what they felt the survey could capture.

- *This survey does not really capture the fact that I download and skim tons of articles, and that I am ABLE now to teach some grad classes without text books precisely because I do have such wide article access. I fill in with ILL when necessary, but generally if it is not available electronically, I probably won't get to it. I also make extensive use of the web in my research.*
- *This survey, which focuses on one recently read article, misses the broad scope of my use of the literature.*

Summary.

In summary, the reading patterns of Akron academic staff are often similar to their counterparts in other U.S. research universities. Akron faculty report a slightly higher number of personal subscriptions and read on average, slightly less than other research universities and more than master's colleges/universities, but their reading patterns were comparable to other research universities. For example, Akron faculty report increasing reliance on library electronic subscriptions for journal article reading and almost half of their readings come from sources more than a year old.

Four other U.S. universities were surveyed along with Akron. We will examine differences and similarities in more detail in subsequent publications and compare results to Australian research universities.

References.

King, Donald W.; Tenopir, Carol; Montgomery, Carol Hansen; and Aerni, Sarah E. "Patterns of Journal Use by Faculty at Three Diverse Universities." *D-Lib Magazine* 9, 10 (October 2003). <http://www.dlib.org/dlib/october03/king/10king.html>

Tenopir, Carol; and King, Donald W. *Communication Patterns of Engineers*. NY: IEEE/Wiley InterScience, 2004.

Tenopir, Carol; and King, Donald W. *Towards Electronic Journals: Realities for Scientists, Librarians, and Publishers*. Washington, D.C.: Special Libraries Association, 2000.

Tenopir, Carol; King, Donald W.; and Bush, Amy. "Medical Faculty's Use of Print and Electronic Journals: Changes Over Time and Comparison with Other Scientists." *Journal of the Medical Library Association (JMLA)*, 92(2), April 2004 , 233-241.

Tenopir, Carol; King, Donald W.; Boyce, Peter; Grayson, Matt; Paulson, Keri-Lynn. "Relying on Electronic Journals: Reading Patterns of Astronomers." *Journal of the American Society for Information Science and Technology (JASIST)* 56, 8 (June 2005): 786-802.

Tenopir, Carol; King, Donald W.; Clarke, Michael; Na, Kyoungsik; and Zhou, Xiang. "Journal Reading Patterns and Preferences of Pediatricians." Accepted for publication in the *Journal of The Medical Library Association*, 2006.

Survey of Scholarly Journal Article Reading and Use Faculty and Academic Staff

Your responses are confidential and data will be reported only in aggregated form. Because your answers are extremely important to the accuracy of our study, please submit the questionnaire even if you are unable to answer all the questions. We have tried to keep the questionnaire as short and simple as possible and yet achieve our study objectives. If you have any questions, please contact Roger Durbin rdurbin@uakron.edu. Later you will have an opportunity to come to a presentation of the results.

Section 1: Scholarly Article Reading

1. In the past month (30 days), approximately how many scholarly articles have you read? Articles can include those found in journal issues, web sites, or separate copies such as preprints, reprints, and other electronic or paper copies. Reading is defined as going beyond the table of contents, title, and abstract to the body of the article.

Number of articles read/used in the past month: _____ articles

The following questions in this section refer to the SCHOLARLY ARTICLE YOU READ MOST RECENTLY, even if you had read the article previously. Note that this last reading may not be typical, but will help us establish the range of patterns in reading.

2. What is the title of the journal from which this last article was read or, if not from a journal, what is the topic of the article?

Journal Title _____

-or-

General Topic of Article _____

3. What year was this article published/posted? _____

4. From which source/form did you read this article? (Choose only the one best answer.)
- a. Personal subscription [DD: Print, Electronic]
 - b. Library subscription [DD: Print, Electronic]
 - c. School, department, etc. subscription [DD: Print, Electronic]
 - d. Free Web journal
 - e. Preprint copy of the article [DD: Print, Electronic]
 - f. Personal copy of the article [DD: Print, Electronic]
 - g. Copy of the article from a colleague, author, etc. [DD: Print, Electronic]
 - h. Interlibrary loan [DD: Print, Electronic]
 - i. Document delivery service [DD: Print, Electronic]
 - j. An author's Web site
 - k. Other website (please specify) _____
 - l. Other source (please specify) _____

5. Thinking back to the source of the article, where would you obtain the information if that source was not available?
- a. I would not bother getting the information
 - b. I would obtain the information from other source
Please specify source here: _____

If b. is checked:

In order to obtain the same information, if this source was not available, I would expect to spend _____ minutes of time and/or \$ _____ (Please do not leave it empty if you would not expect to spend any money. Instead, please enter zero.)

6. Where were you when you read this article?
- a. Office or lab
 - b. Library
 - c. Home
 - d. Traveling
 - e. Elsewhere (please specify) _____

7. From this same source (e.g., journal, author's Web site, preprint archive), how many articles did you read in the **last year** (12 months)?
_____ Articles

8. How thoroughly did you read this article?
- a. With great care
 - b. With attention to the main points

- c. Just to get the idea
9. Had you previously read this article, i.e., is this a re-reading?
- a. Yes
 - b. No
10. How long did you spend reading this article most recently?
 _____ Minutes
11. Prior to your first reading of this article, did you know about the information reported or discussed in this article?
- a. Yes [\[GO TO #11a\]](#)
 - b. No [\[GO TO #12\]](#)
- 11a. How did you first find out about the information?
- a. Conference or workshop
 - b. Informal discussion with colleagues
 - c. Listserv or news group
 - d. Journal article
 - e. Email from colleague
 - f. E-print server (for example, arXiv.org)
 - g. Web site of author
 - h. Other (please specify) _____
12. How did you become aware of this last article you read?
- a. Found while browsing (i.e., started with a journal name, journal issue, or table of contents) [\[GO TO #12a\]](#)
 - b. Found while I (or someone on my behalf) was searching (i.e., by subject or author's name) [\[GO TO #12c\]](#)
 - c. Cited in another publication [\[GO TO #13\]](#)
 - d. Another person (e.g., a colleague) told me about it [\[GO TO #13\]](#)
 - e. Don't know [\[GO TO #13\]](#)
 - f. Other (please specify) _____ [\[GO TO #13\]](#)
- 12a. Was the journal that you were browsing from:
- a. Personal subscription [\[DD: Print, Electronic\]](#)
 - b. Library subscription [\[DD: Print, Electronic\]](#)
 - c. School, department, etc. subscription [\[DD: Print, Electronic\]](#)

- d. Other (please specify) _____ [DD: Print, Electronic]

12b. Approximately how much time did you spend browsing? _____ Minutes

For the articles you found by browsing, how many did you read or plan to read? _____ Articles

[GO TO #13]

12c. For the articles you found by searching, what kind of source were you searching:

- a. Web search engine (e.g., Google, Yahoo, AltaVista)
- b. Electronic indexing/abstracting service (e.g., Academic Search Premiere, ERIC, PsycINFO)
- c. Print index or abstract
- d. Online journal collection (e.g., HighWire, OhioLink EJC, JSTOR, HeinOnline)
- e. Current awareness service (e.g., Current Contents) [DD: Print, Electronic]
- f. Bibliography
- g. Preprint/e-print service
- h. Other (please specify) _____ [DD: Print, Electronic]

12d. Approximately how much time did you (or someone on your behalf) spend searching? _____ Minutes

For the articles you found by searching, how many did you read or plan to read? _____ Articles

13. In what form was the last article you read?

- a. Print article in a print journal
- b. Photocopy
- c. Facsimile copy
- d. Online computer screen
- e. Previously downloaded/saved and read on computer screen
- f. Downloaded and printed on paper
- g. Other (please specify) _____

Section 2: Purposes and Consequences of the Last Article Reading

14. For what principal purpose did you use, or do you plan to use, the information obtained from the article you last read? (Choose only the one best answer.)
- a. Research
 - b. Teaching
 - c. Administration
 - d. Current awareness/keeping up
 - e. Writing proposals, reports, articles, etc.
 - f. Consulting, advising others
 - g. Internal or external presentations
 - h. Continuing education for self
 - i. Other (please specify) _____

15. Do you think the reading of the article affect the principal purpose?
- a. No. It wasn't helpful; it wasted my time [\[GO TO #16\]](#)
 - b. Yes. [\[GO TO #15a\]](#)

- 15a. In what ways did the reading of the article affect the principal purpose? (Choose all that apply.)

- a. It improved the result
- b. It narrowed/broadened/changed the focus
- c. It inspired new thinking/ideas
- d. It resulted in collaboration/joint research
- e. It resulted in faster completion
- f. It resolved technical problems
- g. It saved time or other resources
- h. Other (please specify) _____

16. How important is the information contained in this article to achieving your **principal purpose**?

- a. Not at all important
- b. Somewhat important
- c. Absolutely essential

17. Did you cite this article or do you plan to cite it in a paper or report?

- a. No
- b. Maybe
- c. Already did
- d. Will in the future

Section 3: Demographics

18. What is your academic discipline? [DD]

1. Military Science
2. Social Sciences
3. Criminal Justice
4. Fire Protection Technology
5. Emergency Management
6. Community Services Tech
7. Hospitality Management
8. Paralegal Studies
9. Business Management
10. Real Estate
11. Health Care Office Management
12. Office Administration
13. Transportation
14. Histotechnology
15. Medical Assisting
16. Radiologic Technology
17. Surgical Assisting
18. Allied Health
19. Respiratory Care
20. Environmental Health
21. Biology
22. Chemistry
23. Classics
24. Greek
25. Anthropology
26. Archaeology
27. Economics
28. English
29. Geography
30. Geology
31. History
32. Mathematics
33. Computer Science
34. Statistics
35. Latin
36. French
37. German
38. Italian
39. Japanese
40. Russian
41. Spanish
42. Philosophy
43. Physics
44. Political Science
45. Psychology

46. Sociology
47. Public Administration
48. Urban Studies
49. Chemical Engineering
50. Civil Engineering
51. Electrical Engineering
52. Computer Engineering
53. Mechanical Engineering
54. Biomedical Engineering
55. Educational Administration
56. Educational Foundations
57. Early Childhood Education
58. Middle Level Education
59. Secondary Education
60. Technical Education
61. Curricular and Instructional
62. Physical Education
63. Outdoor Education
64. Health Education
65. Educational Guidance/Counseling
66. Special Education
67. Cooperative Education
68. Business Studies
69. Accountancy
70. Finance
71. Management
72. Marketing
73. International Business
74. Art
75. Family and Consumer Sciences
76. Music
77. Communication
78. Speech-Language Pathology
79. Social Work
80. Theatre
81. Dance
82. Nursing
83. Public Health
84. Law
85. Polymer Engineering
86. Polymer Science
87. Library Science

19. What is your rank? [DD]
- a. Professor
 - b. Associate Professor

- c. Assistant Professor
- d. Instructor
- e. Lecturer/ Adjunct
- f. Distinguished Professor
- g. Other (please specify) _____

20. What is the highest degree you have earned? [DD]

- a. Bachelor's (B.A., B.S., or equivalent)
- b. Master's (M.A., M.S., M.B.A., M.F.A., or equivalent)
- c. Ph.D.
- d. Ed.D.
- e. J.D.
- f. Other (please specify) _____

21. What year did you receive your highest degree? _____

22. What is your age? _____

23. What is your sex/gender? [DD]

- a. Male
- b. Female

24. What percentage of your work time do you spend doing the following? (The total should equal 100%. Please do not leave any of them empty. Instead, please enter zero, if you spend no time.)

- _____ % Teaching
- _____ % Research and writing
- _____ % Administrative
- _____ % Service (to department, college, and wider community)
- _____ % Consulting/advising
- _____ % Other (please specify) _____
- 100 % Total

25. In the past two years, how many of the following have you published?

(Please do not leave any of them empty. Instead, please enter zero, if you have not

- published for any of them.)
- _____ Articles in refereed scholarly journals
- _____ Non-refereed articles
- _____ Scholarly books
- _____ Chapters in scholarly books, proceedings, etc.
- _____ Other (please specify) _____

26. What sources did you use for the last substantive piece of information you used for work? (select all which apply)
- a. Journal article
 - b. Conference proceeding
 - c. Website
 - d. Magazine article
 - e. Book or book chapter
 - f. Personal contact
 - g. Other (please specify) _____
27. In the past two years, have you received any awards or special recognition for your research or other profession-related contributions? [DD]
- a. Yes
 - b. No
28. How many sections of courses did you teach in the last academic year?
- _____ Fall
 - _____ Spring
 - _____ Summer
29. Estimate the number of journal articles assigned to your students or likely to be read by your students in all your courses this year:
- _____ Undergraduate courses
 - _____ Graduate courses
30. How many personal subscriptions to professional journals do you receive, including those obtained as a member of a professional society? (Personal subscriptions are those which are personally addressed to you at your home, office, or lab.)
- _____ Print only subscriptions
 - _____ Electronic only subscriptions
 - _____ Subscriptions that include both print and electronic versions
31. How has your use of scholarly materials changed in the last few years?
32. Other comments:

33. How many minutes did it take you to complete this survey?
_____ Minutes

Thank you for your time!