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University of Tennessee Faculty Journal Reading Patterns

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University of Tennessee Faculty Journal Reading Patterns

Factual Summary of Results of the Survey Conducted Fall 2005

Carol Tenopir, Xiang Zhou, Lei Wu, Kitty McClanahan, Max Steele, and Natalie Clewell University of Tennessee, Knoxville, TN USA and Donald W. King, University of North Carolina, Chapel Hill
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Introduction.

This is a question-by-question analysis of the results of the University of Tennessee (UT) 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 UT's students was conducted, with results presented in a separate report. Also at the same time, surveys of faculty and students at five Ohio universities were conducted. Comparisons among these will be included in subsequent articles for publication. This report is for internal use at UT or may be used to prepare presentations and journal articles.

In October 2005 an email message from the UT Dean of Libraries, with an embedded link to a questionnaire housed on a University of Tennessee server, was sent to 1000 UT faculty members. We received a total of 410 responses to at least the first question, for an overall response rate of 41%. 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.

UT faculty members appear to split their time evenly between teaching responsibilities and research and writing. This is reflected in Table 1, which shows that half of the respondents spend 70% of their time on these two responsibilities. The rest of their time is split between administration, service, consulting or advising and other.

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

		Teaching	Research & writing	Administrative	Service	Consulting /advising	Other
Mean		36.51	39.27	12.80	13.55	10.97	10.49
Median		35.00	35.00	10.00	10.00	5.00	.00
Mode		50	30	0	10	10	0
Percentiles	25	20.00	20.00	2.00	5.00	2.25	.00
	50	35.00	35.00	10.00	10.00	5.00	.00
	75	50.00	50.00	15.00	20.00	10.00	10.00

Academic Discipline.

Of the 322 respondents who chose to give their academic discipline, about a third were from social science disciplines and a third from science disciplines, with the rest representing the humanities, health, engineering and technology and ‘other’ disciplines

(Table 2). Although this question used an open-ended text box, we collapsed responses into broad disciplines for analysis.

Table 2. Academic Disciplines of UT Faculty Respondents

	Frequency	Percent
Social Sciences	111	34.5
Sciences	104	32.3
Humanities	50	15.5
Engineering/Technology	27	8.4
Medical/Health	24	7.5
Others	6	1.9
Total	322	100.0

Degree, Age, Gender, and Rank.

A vast majority of respondents hold the Doctorate or equivalent degree (91.3%, Table 3).

Table 3. Highest Degree of UT Faculty Respondents

	Frequency	Percent
Bachelor's (B.A., B.S., or equivalent)	1	.3
Master's (M.A., M.S., M.B.A., M.F.A., or equivalent)	23	7.2
Doctorate (Ph.D., Ed.D., M.D., J.D., or equivalent)	293	91.3
Other (please specify)	4	1.2
Total	321	100.0

Almost half of all respondents who chose to identify their age (49.2% or 153 of 311) are age 50 or older and a majority of the respondents who gave their age are between 40 and 69 years old (70.4%, 219). The remaining respondents are scattered among 20-39 years

of age and 70-79. Over one-third of respondents are female (38.8%), with females on average younger than males.

Table 4. Range of UT Faculty Respondents' Age

	Frequency	**Percentage**
26-29 years old	7	2.3
30-39	76	24.4
40-49	75	24.1
50-59	92	29.6
60-69	52	16.7
70-88	9	2.9
Total	311	100.0

Over a third of respondents (34.8%) hold the rank of Professor, which explains in part the age distribution. Overall the vast majority hold tenure-track ranks of assistant, associate or full Professor (Table 5.)

Table 5. UT Faculty Respondents' Rank

	Frequency	Percent
Professor	112	34.8
Associate Professor	73	22.7
Assistant Professor	91	28.3
Instructor/Lecturer	31	9.6
Adjunct	14	4.3
Other (please specify)	1	.3
Total	322	100.0

Men are more likely to hold the rank of professor (48.2%) than women (16.5%). Women are most commonly assistant professors (35.5%) followed by the rank of associate professor (29.8%). There are also gender differences among subject disciplines. Men

were most commonly from the science disciplines (45.5%), followed by the social sciences (26.7%), engineering or technology (12%) and humanities (10.5%). However, women were most commonly from the social science disciplines (44.6%), followed by the humanities (24%), medical or health disciplines (14.9%) and sciences (12.4%).

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. Over 80% of UT's faculty has published in a scholarly journal in the last two years, with almost half publishing more than two articles (47.8%). Fewer have recently published articles in trade journals or complete books, but almost half have published chapters in books (47.1%) (See Table 6). Taking all of these methods of publication together for the last two years respondents have published on average seven publications (mean) and nearly all have published at least one scholarly publication of some sort (91.7%) (See Table 7.)

Table 6. Number of Items Published in the Last 2 Years by UT Faculty Respondents

	Frequency	Percentage
Refereed Scholarly Journals	314	100.0
0	58	18.5
1 ~ 2	116	33.7
3 ~ 4	69	22
> 4	71	25.8
Non-Refereed Journals	313	100.0
0	189	60.4
1 ~ 2	73	23.3
> 2	51	16.3
Chapters in Books, Proceedings, etc.	314	100.0
0	166	52.9
1 ~ 2	100	31.9
> 2	48	15.2
Entire Books	313	100.0
0	276	88.2
1 ~ 2	35	11.2
> 2	2	.6

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

	Frequency	Percentage
0	26	8.3
1 ~ 2	68	21.7
3 ~ 4	63	20.1
5 ~ 10	101	32.2
> 10	55	17.7
Total	313	100.0

Significant differences were found in total amount of publications between female and male ($t = 5.335$, $p < 0.0001$), and across different levels of discipline subject ($F = 5.54$, p

< 0.0001) and rank ($F = 7.914$, $p < 0.0001$). UT Male faculty ($M = 9.04$, $SD = 11.004$) published significantly more than females ($M = 4.17$, $SD = 4.767$) in the past 2 years. Regardless of gender, engineering/technology respondents reported the largest mean of total publications ($M = 10.92$, $SD = 12.25$), followed by sciences ($M = 9.65$, $SD = 11.57$), medical/health ($M = 7.74$, $SD = 9.136$), others ($M = 6.83$, $SD = 5.345$), social sciences ($M = 5.94$, $SD = 7.317$) and humanities ($M = 2.38$, $SD = 1.841$). The between-group differences were found primarily in the comparisons of humanities people with three of the other subject disciplines.[1] Their publications were significantly fewer than engineering/technology ($MD = -8.548$, $p = 0.023$), sciences ($MD = -7.272$, $p < 0.0001$), and social science ($MD = -3.56$, $p < 0.0001$). Further investigations found that between-group differences existed only two types of publications, articles in referred scholarly journals ($F = 8.83$, $p < 0.00001$) and non-referred articles ($F = 2.281$, $p = 0.047$).[2] Since humanities scholars are more likely to publish books this is not surprising.

Significant between-group differences were also found across rank levels.[3] On average, professors published most ($M = 10.81$, $SD = 12.791$), followed by associate professors ($M = 6.16$, $SD = 6.347$), adjuncts ($M = 6.14$, $SD = 4.148$), assistant professors ($M = 5.58$, $SD = 6.348$), and instructors/lecturers ($M = 1.1$, $SD = 1.012$). Professors published significantly more than associate professors ($MD = 4.654$, $p = 0.014$), assistant professors ($MD = 5.231$, $p = 0.002$) and instructors/lecturers ($MD = 9.707$, $p < 0.0001$). In addition,

[1] The homogeneity of variances was not guaranteed. Tamhane's T2 that does not require equal variances across groups was used in ANOVA.
[2] Same as Footnote 1.
[3] Same as Footnote 1. In addition, the rank group "other" was taken out when ANOVA was run, since there was one respondent.

associate professors, assistant professors and adjuncts published more than instructors/lecturers. No differences existed between the other pairs.

Detailed examinations found that between-group differences across rank levels existed in each type of publication, articles in refereed scholarly journals ($F = 9.178$, $p < 0.0001$), non-refereed articles ($F = 2.48$, $p = 0.44$), scholarly books ($F = 3.193$, $p = 0.014$), and chapters in scholarly books, proceedings, etc. ($F = 2.507$, $p = 0.042$). Differences existed more extensively in articles in refereed scholarly journals and chapters in scholarly books, proceedings, etc. than in non-refereed articles and scholarly books, in that more pairs with significant differences were found in the first two types of publications.[4] There was only one pair differing from each other respectively in the last two types.

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.) Approximately 35% of respondents reported receiving awards in the past two years.

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

[4] Same as Footnote 1.

free, or purchased by a grant or other source for personal or shared use in either print or electronic form.

UT's faculty reports a similar, but slightly higher number of personal subscriptions than at our other universities, with an average of 4.32 subscriptions per faculty member. Similar to other surveys over the last decade, print is still the predominant format for personal subscriptions. In this survey 71% of faculty had at least one print subscription but only one quarter had at least one electronic subscription (27.4%) (Table 8). Social Science faculty report more subscriptions than faculty in other disciplines (Table 9).

Table 8. Number of Personal Subscriptions for UT Faculty Respondents

	Frequency	Percentage
Print-only Subscriptions	310	100.0
0	90	29.0
1	40	12.9
2	58	18.7
3	37	11.9
4	37	11.9
5	15	4.8
6	11	3.5
> 6	22	7.1
Electronic-only subscriptions	310	100.0
0	225	72.6
1	45	14.5
2	21	6.8
3	10	3.2
>3	9	2.9
Print and Electronic Subscriptions	310	100.0
0	178	57.4
1	46	14.8
2	38	12.3
3	20	6.5
4	12	3.9
5	12	3.9
>5	4	1.3

Table 9. Personal Subscriptions by UT Faculty Respondents' Disciplines

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Mini-mum	Maxi-Mum
					Lower Bound	Upper Bound		
Social Sciences	105	5.27	4.100	.400	4.47	6.06	0	20
Humanities	49	5.22	11.205	1.601	2.01	8.44	0	80
Medical/ Health	23	4.70	2.285	.476	3.71	5.68	1	9
Engineering / Technology	26	2.27	1.663	.326	1.60	2.94	0	5
Sciences	101	3.32	3.566	.355	2.61	4.02	0	25
Others	6	4.67	3.011	1.229	1.51	7.83	1	10
Total	310	4.32	5.581	.317	3.70	4.94	0	80

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 the University of Tennessee was 22.1 articles (*SD* =30.499, *n* = 410). Extrapolated to an entire year, the average number of articles read by UT faculty across all disciplines was 266, with all outliers included. If a single outlier of 255 is excluded the mean is 21.6 articles.

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. This shows a significant increase in the number of readings per year. 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 other surveys in U.S. 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. 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 UT 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 Tennessee 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 30.1 (*SD* = 49.023) Almost half of the readings (47.2%, 158) meet our criteria for coming from a core journal, with 11 or more readings from this same title (Table 10).

Table 10. Number of Articles Read from the Same Journal in the Last Year by UT Faculty Respondents

	Frequency	Percentage
0 – 4	87	26.0
5 – 10	90	26.8
11 – 25	69	20.6
Over 25	89	26.6
Total	335	100.0

Although they tend to read many articles from the same journals, the specific article was new to most readers; over three-quarters of respondents (78.6%) reported that this was the first time they had read this article and the information contained in the article was new to more than half (51.1%) of respondents. For the 162 respondents who indicated they knew about the information found in the article before this reading, more than one-third (38.9%) knew it from other journal articles, while the remainder learned about the information in other ways (see Table 11.)

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

	Frequency	Percent
Specified sources		
1. Journal article	63	38.9
2. Informal discussions with colleagues	27	16.7
3. Conference/workshop	18	11.1
4. Email from colleague	9	5.6
5. Listserv or news group or e-alerts	4	2.5
6. Website of author	4	2.5
7. E-print server	1	.6
Unspecified sources		
Other	36	22.2
Total	162	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 UT is evident in the following tables with slightly more than half of all readings within the first year of

publication (Table 12). 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, 55% (188) of UT faculty readings are from within the first year of publication. The other 45% of readings after the first year of publication are concentrated within the next 2-5 years (27.3%), with a long tail of dates after that (see Table 13.)

Table 12. Year of Last Article Read by UT Faculty Respondents

	Frequency	Percent
1943	1	.3
1947	1	.3
1967	1	.3
1970	1	.3
1971	1	.3
1972	1	.3
1974	1	.3
1976	1	.3
1978	1	.3
1979	1	.3
1980	1	.3
1981	1	.3
1982	2	.6
1983	1	.3
1984	1	.3
1985	2	.6
1986	2	.6
1987	3	.9
1988	1	.3
1989	3	.9
1990	1	.3
1992	3	.9
1993	1	.3
1994	2	.6
1995	3	.9
1996	3	.9
1997	3	.9
1998	12	3.5
1999	7	2.0
2000	8	2.3
2001	13	3.8

2002	17	4.9
2003	22	6.4
2004	45	13.1
2005	177	51.5
Total	344	100.0

Table 13. Age of Articles Read by UT Faculty Respondents Arranged by Date Groupings

Year	Frequency	Percentage
Over 15 years (1943~1988)	27	7.8
11 years ~ 15 years (1990~1994)	7	2.0
6 years ~ 10 years (1995~1999)	28	8.1
2 years ~ 5 years (2000~ 3/4 of 2004)	94	27.3
1st year (1/4 of 2004~2005)	188	54.7
Total	344	100.0

Time Spent Reading.

Tennessee faculty report spending an average of approximately 36 minutes per article reading (*SD* =34.697), an amount of time consistent with our other surveys. Although this may sound like a short time to read an article, the mode for UT is even lower (15 minutes), with a range of from zero to 255 minutes per article reading (Table 14). We have 95% confidence that UT faculty on average spend between 32.8 to 40.2 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 UT is typical for today's faculty members and is similar to average of time spent reading per article found at other universities surveyed from 2004-2006.

Table 14. Average Time Spent Reading per Article by UT Faculty Respondents

Time Range (minutes)	**Frequency**	**Percentage**
1 ~10	44	13.0
11 ~ 20	108	32.1
21 ~ 30	72	21.4
31 ~ 40	20	6.0
41 ~ 60	56	16.7
61 ~ 80	6	1.8
81 ~ 100	10	3.0
> 100	20	6.0
Total	336	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 1-8 (see Table 15) 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 UT faculty (38.1%, 126) were found initially by one of these methods of browsing. Browsing through a print personal subscription was most common. Searching accounted for just 22.1% of all readings, while "other", including following a citation in another publication or hearing about the article from someone, accounted for 39.8% of all readings.

Table 15. How UT Faculty Respondents Initially Found Out About Articles

	Frequency	Percent
Browsing	126	38.1 (100.0)
1. Print: Personal subscription	65	(51.6)
2. Electronic: Library subscription	30	(23.8)
3. Print: Library subscription	10	(7.9)
4. Electronic: Personal subscription	3	(2.4)
5. Print: School, department etc. subscription	3	(2.4)
6. Free web	2	(1.6)
7. Electronic: other	2	(1.6)
8. Unknown	11	(8.7)
Searching	73	22.1 (100.0)
1. Indexing/abstracting database	43	(58.9)
2. Online journal collection	8	(11.0)
3. Web search engine	9	(12.3)
4. Electronic: other	2	(2.7)
5. Print index or abstract	1	(1.4)
6. Unknown	10	(13.7)
Other	132	39.8 (100.0)
1. Cited in another publication	63	(47.7)
2. Another person told me about it	52	(39.4)
3. Sent to me as a part of alerting service	5	(3.8)
4. Don't know or other	12	(9.1)
Total	331	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 126 instances of readings located through browsing, can be categorized as 68 coming from personal subscriptions, 43 coming from library or department subscriptions, and 4 from other electronic sources. Of the articles found by browsing, 78 (61.9%) came from print and 37 (29.4%) 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 43 of 330 (13%) readings reported by UT 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 16). 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.

Table 16. Final Form of Reading for UT Faculty Respondents

	Frequency	**Percent**
1. Print article in a print journal	129	39.1
2. Downloaded and printed on paper	127	38.5
3. Online computer screen	43	13.0
4. Photocopy	19	5.8
5. Previously downloaded/saved and read, on computer screen	11	3.3
6. Facsimile copy	1	.3
Total	330	100.0

Many libraries have observed that faculty rarely read in the physical library, even though their use of the virtual library collections may be substantial. UT faculty are like others in this respect. The vast majority of their article readings are from home or their offices (88.5%, 299) (Table 17).

Table 17. Location of UT Faculty Respondents When Reading

	Frequency	Percent
Office or lab	203	60.1
Home	96	28.4
Library	27	8.0
Traveling	11	3.3
Other	1	.3
Total	338	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). UT's faculty falls in line with this finding, where half of the articles were read for research (50%, 165) (Table 18).

Table 18. Principal Purposes of Readings by UT Faculty Respondents

	Frequency	Percent
Research	165	50.0
Teaching	66	20.0
Administration	3	.9
Current awareness/keeping up	33	10.0
Writing proposals, reports, articles, etc.	34	10.3
Consulting, advising others	10	3.0
Internal or external presentations	4	1.2
Continuing education for self	11	3.3
Other (please specify)	4	1.2
Total	330	100.0

Respondents with different principal purposes of reading did not differ in amount of reading and total subscriptions. No association was found between principal purpose and whether respondents have received any awards. However, reading purposes made a difference at UT in other respects. Different principal purposes significantly varied with reading time ($F = 3.073$, $p = 0.017$), total publications of readers ($F = 3.142$, $p = 0.015$), and the importance of reading ($F = 8.481$, $p < 0.0001$). Principal purposes were also significantly associated with reading form ($\chi^2 = 12.227$, $p = 0.016$), way of finding out articles ($\chi^2 = 22.347$, $p = 0.004$), and resource of locating articles ($\chi^2 = 34.136$, $p < 0.0001$).

Reading for writing proposals, reports, etc. ($M = 45$, $SD = 51.449$) ranked top in reading time, followed by research ($M = 39.98$, $SD = 34.151$), other unspecified purposes ($M = 37.66$, $SD = 33.792$), teaching ($M = 28.64$, $SD = 25.049$), and current awareness ($M = 23.85$, $SD = 18.875$). Yet only one pair significantly differed from each other. Reading for research took significantly more time than reading for current awareness ($MD = 16.127$, $p = 0.003$).[5]

In terms of total publications, people reading for research published most ($M = 8.77$, $SD = 10.796$), followed by writing proposals, reports, etc. ($M = 7.63$, $SD = 11.967$), other unspecified purposes ($M = 6.36$, $SD = 7.395$), teaching ($M = 4.65$, $SD = 4.733$), and current awareness ($M = 4.42$, $SD = 4.848$). Significant differences existed between two

[5] Same as Footnote 1.

pairs, research and teaching ($MD = 4.127$, $p = 0.001$), and research and current awareness ($MD = 4.348$, $p = 0.005$).[6]

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 =2.35, SD = 0.504), a finding consistent with our past surveys. Over 60% of readings were rated "somewhat important" (62.3%, 202 of 324), with the majority of the remaining readings (36.4%, 118) rated as "absolutely essential". Reading for research was rated more highly (M =2.41, SD = 0.493) than reading for other purposes. Significant between-group differences in the rate of importance of reading were primarily reflected in that readings for current awareness as principal purpose significantly differed from all the other groups of principal purposes. The average rating ($M = 1.94$, $SD = 0.242$) was significantly lower than reading for research ($MD = -0.468$, $p < 0.0001$), teaching ($M = 2.33$, $SD = 0.506$; $MD = -0.394$, $p < 0.0001$), writing proposals, reports, etc. ($M = 2.58$, $SD = 0.502$; $MD = -0.636$, $p < 0.0001$), and other purposes ($M = 2.3$, $SD = 0.535$; $MD = -0.361$, $p = 0.016$).

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 three readings were described as not helpful, all others resulted in positive outcomes. Most often the readings "improved the result" or "inspired new thinking" (Table 19).

[6] Same as Footnote 1.

Table 19. Outcome of Reading for UT Faculty Respondents*

	Frequency	Percent
Inspired new thinking	184	56.8
Improved the result	122	37.7
Narrowed/broadened/changed the focus	79	24.4
Saved time or resources	40	12.3
Resolved technical problems	38	11.7
Others	27	8.3
Resulted in faster completion	19	5.9
Resulted in collaboration/joint research	12	3.7
Wasn't helpful	3	.9
Total	329	

*Respondents could select more than one outcome.

As mentioned above, principal purpose was also significantly associated with reading form and ways of locating articles. Whereas the majority of readings for research (61.2%, 101 of 165), writing proposals/reports (64.7%, 22 of 34), and other purposes (53.1%, 17 of 32) were in electronic form, readings for teaching (46.2%, 30 of 65) and current awareness (33.3%, 11 of 33) were more likely to be from print form (see Table 20).

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

		Reading Form		Row Total
		Print	Electronic	
Principal Purpose	Research	64 38.8%	101 61.2%	165
	Teaching	35 53.8%	30 46.2%	65
	Current Awareness	22 66.7%	11 33.3%	33
	Writing Proposals/Reports	12 35.3%	22 64.7%	34
	Others	15 46.9%	17 53.1%	32
Column Total		148	181	329

Readings for teaching and current awareness were more likely to be found from browsing (44.6%, 29 of 65; 69.7%, 23 of 33). Readings for current awareness were less likely to be found by searching, with a very low percentage 6.1% (2 of 33), compared to the others ranging from 23.8% to 27.3% (see Table 21).

Table 21. Association between Principal Purpose of UT Faculty Respondents and Way of Finding out Articles

		Way of finding out articles			**Row Total**
		Browsing	Searching	Other	
Principal Purpose	Research	49 29.9%	39 23.8%	76 46.3%	164
	Teaching	29 44.6%	15 23.1%	21 32.3%	65
	Current Awareness	23 69.7%	2 6.1%	8 24.2%	33
	Writing Proposals/Reports	10 30.3%	9 27.3%	14 42.4%	33
	Others	11 34.4%	8 25.0%	13 40.6%	32
Column Total		122	73	132	327

Two purposes, research and writing proposals/reports, exhibit similar patterns including what resource was used to locating articles (see Table 22). Readings for both research and writing proposals were more likely to come from library-provided resources, 62.4% (103 of 165) for research, and 64.7% (22 of 34) for writing proposals/reports, and had relatively equal percentages for personal subscriptions and other resources. Readings for teaching equally came from two types of resources, library-provided and personal subscriptions, both with a percentage 42.4% (28 of 66).

Table 22. Association between Principal Purpose of UT Faculty Respondents and Resource for Finding out About Articles

		Resource of Finding out About Articles			Row Total
		Library-Provided	Personal Subscriptions	Other	
Principal Purpose	Research	103 62.4%	35 21.2%	27 16.4%	165
	Teaching	28 42.4%	28 42.4%	10 15.2%	66
	Current Awareness	10 30.3%	17 51.5%	6 18.2%	33
	Writing Proposals/Reports	22 64.7%	6 17.6%	6 17.6%	34
	Others	9 28.1%	11 34.4%	12 37.5%	32
Column Total		172	97	61	330

Differences of Reading Patterns by Demographic Factors.

Differences in Reading Patterns by Subject Discipline.

Reading patterns of UT faculty from different subject disciplines differed significantly in terms of amount of reading ($F = 3.355$, $p = 0.006$), reading time ($F = 2.394$, $p = 0.038$), principal purpose, resources for finding out about the articles, and final form of reading.

Science respondents report reading the most scholarly articles each month ($M = 32.6$, $SD = 50.264$) of all subject disciplines, followed by "other unspecified disciplines" ($M = 24.5$, $SD = 24.607$), medical/health ($M = 23.33$, $SD = 16.436$) and social sciences ($M = 21.66$, $SD = 19.372$). Far behind were engineering/technology ($M = 13.63$, $SD = 10.263$) and humanities ($M = 13.2$, $SD = 10.966$), which both had an average amount of reading

significantly less than sciences ($MD_{\text{engineering – sciences}}$ = 19.005, p = 0.007; $MD_{\text{humanities-sciences}}$ = 19.435, p = 0.004). [7] The reading amount of humanities respondents was also significantly less than social science (MD = 8.464, p = 0.009). No other pairs were found to be significantly different from each other. Lower amounts of article readings by engineers and humanists are consistent with our other findings. Typically medical disciplines, particularly physicians, report the highest amount of article reading. This difference at UT, Knoxville may be because the Medical school is located on the Memphis campus and was not included in this survey. The major medical/health discipline on the Knoxville campus is nursing.

In terms of reading time, engineering respondents reported the longest average time spent in reading the article most recently read (M = 48.52 minutes, SD = 41.898). Humanities respondents came next (M = 41.6, SD = 39.246) followed by sciences (M= 39.3, SD = 35.708), social sciences (M = 33.9, SD = 31.1), other unspecified disciplines (M = 25, SD = 13.784), and medical/health (M = 21.0, SD = 12.682). Medical/health respondents spent the shortest time, significantly shorter than engineering/technology (MD = -27.477, p = 0.041), humanities (MD = -20.558, p = 0.019), sciences (MD = -18.285, p = 0.001), and social science (MD = -12.139, p = 0.039).[8] This is also consistent with our other findings over the years. Significant differences were not found between other pairs.

[7] Same as Footnote 1.
[8] Same as Footnote 1.

Subject discipline was significantly associated with principal purpose ($\chi^2 = 40.628$, $p = 0.001$, see Table 23).[9] Respondents reading for research dominated the group of engineering/technology (81.5%, 22 of 27), with a few responses given to other principal purposes. Although research was also the primary purpose among humanities (56%, 28 of 50) and sciences respondents (60.6%, 63 of 104), these two groups displayed more diversity in other reading purposes than engineering/technology respondents. Particularly, sciences respondents had rather evenly split percentages of teaching, current awareness, writing proposals/reports, and other purposes. Social science respondents and those from the discipline of medical/health both had relatively equal emphasis on reading for research and teaching.

Table 23. Association between Discipline of UT Faculty Respondents and Principal Purpose

	Principal Purpose					**Row Total**
	Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Social Sciences	41 36.9%	33 29.7%	12 10.8%	13 11.7%	12 10.8%	111
Humanities	28 56.0%	11 22.0%	3 6.0%	4 8.0%	4 8.0%	50
Medical/ Health	8 33.3%	8 33.3%	3 12.5%	3 12.5%	2 8.3%	24
Engineering/ Technology	22 81.5%	0 .0%	2 7.4%	2 7.4%	1 3.7%	27
Sciences	63 60.6%	10 9.6%	10 9.6%	10 9.6%	11 10.6%	104
Column Total	162	62	30	32	30	316

[9] Since the number of respondents from other faculties unspecified in the categorization was as few as 3, they were excluded from analysis. Same in the similar tests below. 36% of cells have expected count less than 5. The Likelihood Ratio was used.

Significant association existed also between subject discipline and resource of finding out about articles ($\chi^2 = 17.789$, $p = 0.023$, see Table 24). Compared to the other disciplines, the percentage of humanities respondents relying on library-provided resources was particularly high, 70% (35 of 50). In contrast, among the social science and medical/health groups, such reliance tended to be relatively lower, respectively with a percentage 41.4% (46 of 111) and 41.7% (10 of 24). These two disciplines also were more likely to use personal subscriptions to locate articles, with a percentage respectively ranked first (38.7%, 43 of 111) and second (29.2%, 7 of 24). Engineering/technology respondents were less likely to use personal subscriptions (14.8%, 4 of 27).

Table 24. Association between Subject Discipline of UT Faculty Respondents and Resource of Finding out Articles

	Resource of Finding out Articles			**Row Total**
	Library-Provided	Personal Subscriptions	Other	
Social Science	46 41.4%	43 38.7%	22 19.8%	111
Humanities	35 70.0%	10 20.0%	5 10.0%	50
Medical/ Health	10 41.7%	7 29.2%	7 29.2%	24
Engineering/ Technology	16 59.3%	4 14.8%	7 25.9%	27
Sciences	57 54.8%	27 26.0%	20 19.2%	104
Column Total	164	91	61	316

When the association between discipline and final form of reading was examined ($\chi^2 = 29.889$, $p < 0.0001$, see Table 25), subject disciplines appeared to be separated into three

distinct groups. The humanities group has notably heavy reliance on print form (74%, 37 of 50) and particularly low percentage of using electronic form (26%). Social science and medical/health people had relatively even usage of both forms with a slight tendency to electronic forms. Engineering/technology and sciences respondents are notable for their high likelihood of using electronic form (77.8% (21 of 27) and 67.3% (70 of 104) respectively.)

Table 25. Associations between Subject Discipline of UT Faculty Respondents and Final Form of Reading

	Reading Form		**Row Total**
	Print	Electronic	
Social Science	54 49.1%	56 50.9%	110
Humanities	37 74.0%	13 26.0%	50
Medical/ Health	10 41.7%	14 58.3%	24
Engineering/ Technology	6 22.2%	21 77.8%	27
Sciences	34 32.7%	70 67.3%	104
Column Total	141	174	315

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

In terms of rank,[10] no significant differences were found in amount of reading, total subscriptions, ways of finding out articles, rating of importance of reading. However, between-group differences were found in the time respondents spent in last reading (F =

[10] The group "other" was excluded from tests, because there was only one respondent. Same in the similar tests below.

2.748, $p = 0.044$). Professors reported significantly more time ($M = 43.71$ minutes) than instructors/lecturers ($M = 25.55$; $MD = 18.157$, $p = 0.018$). The other groups did not differ from each other, though.[11]

Faculty members of different rank groups significantly varied by the amount of total publications ($F = 8.909$, $p < 0.0001$). Professors published most with a leading average amount, 10.8, significantly more than associate professors ($M = 6.16$, $SD = 6.347$; $MD = 4.654$, $p = 0.014$), assistant professors ($M = 5.58$, $SD = 6.348$; $MD = 5.231$, $p = 0.002$), and instructors/lecturers ($M = 1.10$, $SD = 1.012$; $MD = 9.707$, $p < 0.0001$). The average amount of publications of instructors/lecturers was also significantly fewer than those of associate professor ($MD = -5.054$, $p < 0.0001$), assistant professors ($MD = -4.476$, $p < 0.0001$), and adjuncts ($M = 6.14$, $SD = 4.148$; $MD = -5.039$, $p = 0.005$).[12]

The chi-Square test showed that rank was significantly associated with principal purpose ($\chi^2 = 30.667$, $p = 0.015$). Although all groups read the most for research, assistant professors were particularly likely to read for this purpose (63.7%). In contrast, the percentage of instructors/lecturers was relatively low (38.7%). Instead, this group of UT faculty members had a much greater likelihood of reading for current awareness (29%) than the others, with a percentage ranging from 0% to 11%. Compared to the others, associate professors seemed to be likely to read for teaching, with a higher percentage (28.8%). Professors, together with adjunct members, differed from the others for their higher percentages in two categories of reading purposes, writing proposals/reports and

[11] $M_{\text{associate professors}} = 32.58$, $M_{\text{assistant professors}} = 34.02$, $M_{\text{adjunct}} = 38.36$.
[12] Same as Footnote 1.

other unspecified purposes. Adjunct members also differentiated themselves for the fact that none of the respondents reported reading for current awareness. (See Table 26).

Table 26. Association between Rank of UT Faculty Respondents and Principal Purpose

	Principal Purpose					**Row Total**
	Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Professor	52 46.4%	20 17.9%	12 10.7%	14 12.5%	14 12.5%	112
Associate Professor	33 45.2%	21 28.8%	8 11.0%	6 8.2%	5 6.8%	73
Assistant Professor	58 63.7%	14 15.4%	4 4.4%	9 9.9%	6 6.6%	91
Instructor/ Lecturer	12 38.7%	6 19.4%	9 29.0%	2 6.5%	2 6.5%	31
Adjunct	7 50.0%	2 14.3%	0 .0%	2 14.3%	3 21.4%	14
Column Total	162	63	33	33	30	321

Rank was also significantly associated with reading form ($\chi^2 = 20.442$, $p < 0.0001$) and resource of finding out about articles ($\chi^2 = 21.487$, $p = 0.006$). While professors and instructors/lecturers reported more readings in print, assistant professors and adjuncts heavily relied on electronic forms. Associate professors gave an equal weight to the two types of reading form (see Table 27). Professors and associate professors were much more likely to use their personal subscriptions to locate articles, with a percentage (38.4%) as more than twice as the others, ranging from 14.3% to 17.6% (see Table 28). Compared to the others, assistant professors particularly used library-provided resources with the highest percentage among the groups (60.4%). Instructors/lecturers and adjuncts

differed from the others for their greater likelihood of using resources other than both library-provided resources and personal subscriptions.

Table 27. Association between Rank of UT Faculty Respondents and Reading Form

	Reading Form		Row Total
	Print	Electronic	
Professor	60 53.6%	52 46.4%	112
Associate Professor	36 50.0%	36 50.0%	72
Assistant Professor	26 28.6%	65 71.4%	91
Instructor/ Lecturer	19 61.3%	12 38.7%	31
Adjunct	3 21.4%	11 78.6%	14
Column Total	144	176	320

Table 28. Association between Rank of UT Faculty Respondents and Resource of Finding out Articles

	Resource of Finding out Articles			Row Total
	Library-Provided	Personal Subscriptions	Other	
Professor	55 49.1%	43 38.4%	14 12.5%	112
Associate Professor	32 43.8%	28 38.4%	13 17.8%	73
Assistant Professor	55 60.4%	16 17.6%	20 22.0%	91
Instructor/ Lecturer	17 54.8%	5 16.1%	9 29.0%	31
Adjunct	7 50.0%	2 14.3%	5 35.7%	14
Column Total	166	94	61	321

Whether or not a respondent had a doctoral or similar terminal degree did not make a difference in amount of reading, total subscriptions, form, receipt of an award, resource

of finding out articles, and rating of importance of reading. Yet respondents with a doctoral degree (or similar) and those without significantly differed from each other in reading time (t = -1.658, p = 0.049, one-tailed) and total publications (t = -2.535, p = 0.006, one-tailed). Respondents with a doctoral or similar degree spent much more time on average (M = 37.93 minutes) in last reading and published more (M = 7.52) than those without the degree (M_{time} = 25.83; $M_{publication}$ = 2.43). They also varied with principal purposes (χ^2 = 16.997, p = 0.002).[13] Compared to their peers, faculty respondents with a doctoral or similar degree were more likely to read for research (52.2% vs. 33.3%) and teaching (20.1% vs. 4.2%), but less likely for current awareness (8.9% vs. 29.2%) and other unspecified purposes (8.2% vs. 25%). The two groups were similar in reading for writing proposals/reports (See Table 29).

Table 29. Association between Degree of UT Faculty Respondents and Principal Purpose

	Principal Purpose					**Row Total**
	Research	Teaching	Current awareness	Writing proposals/ reports	Others	
Without a Doctoral Degree	8 33.3%	1 4.2%	7 29.2%	2 8.3%	6 25.0%	24
With a Doctoral Degree	153 52.2%	59 20.1%	26 8.9%	31 10.6%	24 8.2%	293
Column Total	161	60	33	33	30	317

[13] 40% of cells have expected count less than 5. The Likelihood Ratio was used.

Age was not a factor in terms of amount of reading, time spent in last reading, amount of publications, rating of importance of reading, yet did differ in other ways. In terms of way of finding out articles ($F = 3.467$, $p = 0.032$), respondents using browsing to locate articles were significantly ($M = 51.03$) older than those using searching ($M = 46.42$; $MD = 4.61$, $p = 0.028$). Age also varied with principal purpose ($F = 6.17$, $p < 0.0001$). Respondents with research as their primary reading purpose tended to be significantly younger than those reading for teaching ($MD = -4.829$, $p = 0.041$), writing proposals/reports ($MD = -7.097$, $p = 0.012$), and other purposes ($MD = -8.278$, $p = 0.041$). In addition, people reading in print ($M = 50.67$, $SD = 12.4$) were significantly older those reading electronic versions ($M = 47.93$, $SD = 11.056$; $t = 2.057$, $p = 0.0205$, one-tailed).

In terms of gender, male faculty members at UT significantly led their female peers in amount of reading ($t = 2.219$, $p = 0.0145$, one-tailed; $M_{male} = 26.56$, $M_{female} = 19.16$), the time spent in last reading ($t = 3.123$, $p = 0.001$, one-tailed; $M_{male} = 40.79$ minutes, $M_{female} = 29.61$), total publications ($t = 5.335$, $p < 0.0001$; $M_{male} = 9.04$, $M_{female} = 4.17$) and total personal subscriptions ($t = 1.928$, $p = 0.0275$, one-tailed; $M_{male} = 4.73$, $M_{female} = 3.67$). No differences were found in rating of importance of reading, principal purpose, way of finding articles, reading form, and whether respondents had received any rewards in the past two years.

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. UT faculty relies on their personal subscriptions and library sources to locate over three-quarters of all the articles they read (81.7%). This is consistent with other recent surveys. Since 1977 faculty have relied more on library provided articles and less on personal subscriptions.

Table 30. Source of Reading by UT Faculty Respondents

	Frequency	Percent
Library-provided	178	51.6
Personal subscriptions	104	30.1
Others	63	18.3
Total	345	100.0

Significant associations were found between resource of finding articles and principal purpose ($\chi^2 = 34.136$, $p < 0.0001$). Library-provided materials are primarily used for research, with 59.9% of those who use library-provided materials designating this as the principal purpose of use. However, personal subscriptions are used for a combination of both research and teaching.

Table 31. Association between Principal Purpose of UT Faculty Respondents and Resource of Finding Articles

Count Row %	**Principal Purpose**					**Row Total**
	Research	Teaching	Current awareness	Writing proposals/reports	Others	
Library-Provided	103 59.9%	28 16.3%	10 5.8%	22 12.8%	9 5.2%	172
Personal Subscriptions	35 36.1%	28 28.9%	17 17.5%	6 6.2%	11 11.3%	97
Others	27 44.3%	10 16.4%	6 9.8%	6 9.8%	12 19.7%	61
Column Total	165	66	33	34	32	330

Readings from personal subscriptions are more likely to be of recent articles. More than half of library-provided articles were published between 2004 and 2005, and that number increases for personal subscriptions and other to 77.9% and 73% respectively (Table 32).

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

Count Row %	**over 15 years**	**1990~1994**	**1995~1999**	**2000~2003**	**2004~2005**	**Row Total**
Library-Provided	21 12.0%	3 1.7%	20 11.4%	37 21.1%	94 53.7%	175
Personal Subscriptions	2 1.9%	3 2.9%	5 4.8%	13 12.5%	81 77.9%	104
Other	4 6.3%	1 1.6%	2 3.2%	10 15.9%	46 73.0%	63
Column Total	27	7	27	60	221	342

There is also significant association between the resources used to find articles and age of respondent. The average age of those utilizing library provided materials was 48; however, the average age of those using personal subscriptions was 51 (p = .022).

Significant association was also found between resources of finding articles and subject disciplines (chi^2 = 19.842, sig. = .031). Those in the humanities (70.0%), medical or health disciplines (41.7%), engineering or technology disciplines (59.3%), and the sciences (54.8%) all use library-provided resources more than other resources for finding their article. Although the social sciences used library-provided resources most often (41.4%), the difference was not as pronounced as among the other subject disciplines. Faculty who classified themselves in other subject disciplines used library-provided resources and personal subscriptions equally.

Table 33. Associations between Resources of Finding Articles and Subject Disciplines of UT Faculty Respondents

	Resource of Finding out Articles			**Row Total**
	Library-Provided	Personal Subscriptions	Other	
Social science	46 41.4%	43 38.7%	22 19.8%	111
Humanities	35 70.0%	10 20.0%	5 10.0%	50
Medical/ Health	10 41.7%	7 29.2%	7 29.2%	24
Engineering/ Technology	16 59.3%	4 14.8%	7 25.9%	27
Sciences	57 54.8%	27 26.0%	20 19.2%	104
Others	3 50.0%	3 50.0%	0 .0%	6
Column Total	167	94	61	322

Respondents from different subject disciplines had different preferences in the resource for finding articles ($\chi^2 = 21.174$, $p = 0.02$).[14] Respondents from the disciplines in the category of "other," were equally split, respectively choosing library-provided resources and personal subscriptions. All the other disciplines had a higher percentage of respondents favoring library-provided resources. Yet, compared to people from social science and medical/health, respondents from humanities, engineering/technology and sciences, especially humanities, were more likely to use library-provided resources. With regard to personal subscriptions, respondents from social science, medical/health, and sciences use personal subscriptions more often than those from humanities and engineering/technology. Medical/health and engineering/technology respondents also reported a relatively higher percentage of using resources other than library resources and personal subscriptions.

Open Ended Comments

As part of this study, faculty members at the University of Tennessee were asked to comment on if and how their use of scholarly resources has changed over time. By and large, comments showed a growing reliance on electronic resources to access scholarly materials due largely to ease and increased efficiency. This growing reliance is exemplified in numerous comments.

Growing Reliance on Electronic Sources

- *I no longer need personal subscriptions as nearly all my needs for scholarly materials are provided by the UT library electronic databases.*

[14] 22.2% of cells have expected count less than 5. The Likelihood Ratio was used.

- *Searches more Internet based (EconLit, etc.). Use more electronic versions of journal articles. Like being able to get electronic form quickly (from libr. and other sources). Like being able to save electronic version of article to the "project file" on my computer, for future reference.*

- *Almost exclusively from on-line resources. I seldom physically go to the library.*

- *During past 15-20 years, have *increasingly heavy* usage of online journals, web-based electronic information, preprint servers (physics ArXiv), sometimes manufacturers' websites.*

- *I probably use electronic journals more frequently than in the past, because many of my professional associations have gone electronic to keep costs down (even though I prefer reading hardcopy). I read journals to keep abreast of new things in my profession, thus I prefer to have them for "leisurely reading" at home, etc. I use electronic databases to conduct required literature reviews for research, but seldom simply "browse" them for enjoyable reading. As more journals move to electronic format, I find that I do less and less "browsing" and/or reading for enjoyment, because the journals are less accessible, electronically.*

- *I am now accessing most articles via web as PDF files that I then print in my office. Going to the library for consultation of hard-copy journals has become rare*

- *More and more use of electronic versions of journals - I rarely need to physically go to the library any more.*

- *I read papers online instead of getting print copies. I almost never read a paper from a print source -- usually I can find it online, or through the library's e-journal subscription.*

- *I more frequently read articles online, through electronic subscription. It makes me much more willing to browse. I'm also able to access archival material without traveling.*

- *I do most of my paper research on line. I never have to go to the library. If it is not available on line I will order it through interlibrary loan*

- *I am using multiple search databases, supplementing First Search, CINAHL, Psych Info and PubMed with broader Google Scholar*

- *Some web material, such as bibliographies, JSTOR, and primary texts, are extremely useful. For most things, traditional books and journals are most reliable.*

- *Much more electronic searches and retrieval. Increasing value of personally constructed EndNotes database*

- *I mainly use electronic searches of databases and websites to find material. I don't trust website data, but use it to find references to publication. The only exception are the government websites (USGS, EPA, etc.), where many peer-reviewed documents can be downloaded for free.*

- *Far greater reliance on electronic sources. Use print now mainly for browsing/relaxing, but search engines and PDF download for most targeted research, or search engines and library express or interlibrary loan for what's unavailable electronically.*

- *I download a lot more articles electronically and find myself less willing to physically walk over to the library to find something.*

- *I rely more on JSTOR and delivery of PDF's through ILS. Both for reading and for storage of scholarly material, am shifting away from hard-copy towards digital.*

- *I have fewer personal subscriptions because our library has subscriptions to electronic versions of most journals I use.*

- *I archive electronically everything that I read. Formerly I kept paper copies. Next time I move, stuff that's still in paper files gets recycled.*

- *Tools such as scholar.google.com have increased my use of web-based searching. Although I still prefer to read hardcopy, I am starting to develop my own PDF database locally on my computer of articles that I reference. Previously, I have maintained 3-ring binders of articles.*

- *I have grown more dependent on electronic journals (not by choice) and interlibrary loan. Besides, I am building a collection of my own of books, articles, and artifacts not typically held in US libraries.*

- *I make more use of electronic journal back files now that UT has a large number of them. I also use electronic bibliographic tools (Web of Science, SciFinder) nearly every day. Several years ago, UT did not have these electronic tools so I was not able to use them.*

- *Now almost exclusively obtain them in electronic format and via the web, rather than via library photocopies or author reprints as in prior decades*

- *Everything is now accessed electronically. I will print hard copies of some papers for convenience. What used to take an afternoon in the library, I can now do in 30 min*

- *I have not been to the library in over two years. I retrieve all of my materials through the online subscriptions through the library. I also subscribe to an electronic alert service which emails me when papers of interest to me are published.*

Survey Instrument

Some UT faculty commented on how the survey instrument did not completely reflect their type of scholarship:

- *First of all I hate this kind of survey. Having said that I am so dependent on the Library's Electronic Database and the on-line access to journal articles that I was willing to complete the survey. I use Web of Science almost every day (usually at night from home) and have read between 700-800 articles on line this year. I may read 10 papers in order to pick one to assign to students. I seldom pick a paper to which the students will not have electronic access. These resources are essential to my research and teaching functions here at U.T.*

- *Your publication question is directed at traditional scholarship. You had no real category for the type of work I do which is typically sponsored Masterplans with accompanying reports. It is typical not published in books ,scholarly or refereed journals until 2-3 years after the work is complete*

Summary.

In summary, the reading patterns of UT faculty are often similar to their counterparts in other U.S. research universities. For example, UT 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. Like other universities, UT faculty in the sciences and social sciences read more journals and rely more on electronic journals than faculty in humanities. UT medical and health faculty read less on average than do faculty on campuses that house a medical school. Because this is the third survey of UT faculty in a decade, we will be able to look more deeply at changes over time. The amount of reading of scholarly articles by UT faculty has gone up significantly, from an

average of 186 articles per year six years ago to over 250 readings now. There are many reasons for this, including better access to electronic articles and an increase in the number of articles published.

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

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Survey of Scholarly Journal Article Reading and Use
Faculty

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 Carol Tenopir (ctenopir@utk.edu).

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: ☐Print ☐Electronic

   ☐b. Library subscription: ☐Print ☐Electronic

   ☐c. School, department, etc. subscription: ☐Print ☐Electronic

   ☐d. Free Web journal

   ☐e. Preprint copy of the article: ☐Print ☐Electronic

   ☐f. Personal copy of the article: ☐Print ☐Electronic

   ☐g. Copy of the article from a colleague, author, etc.: ☐Print ☐Electronic

   ☐h. Interlibrary loan: ☐Print ☐Electronic

   ☐i. Document delivery service: ☐Print ☐Electronic

   ☐j. An author's Web site

   ☐k. Other Web site (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 were not available?

   ☐a. I would not bother getting the information

   ☐b. I would obtain the information from another source
   Please specify source here: _____

   If b. is checked:
   In order to obtain the same information, if this source were not available, I would expect to spend _____minutes of time and/or $ _____. (If the answer is zero, please enter "0" instead of leaving a blank.)

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)? (If the answer is zero, please enter "0" instead of leaving a blank.)
   _____ 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

    ☐b. No (Skip to Question 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. E-mail from colleague

    ☐f. E-print server (e.g., 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):

☐ Personal subscription: ☐Print ☐Electronic

☐ Library subscription: ☐Print ☐Electronic

☐ School, department, etc. subscription: ☐Print ☐Electronic

☐ Other (please specify) _____: ☐Print ☐Electronic

Approximately how much time did you spend browsing? _____ Minutes

As a result, how many articles did you read and plan to read? _____ Articles

☐b. Found while I (or someone on my behalf) was searching (i.e., by subject or author's name):

☐ Web search engine (e.g., Google, Yahoo!, AltaVista)

☐ Electronic indexing/abstracting service (e.g., Academic Search Premier, ERIC, PsycINFO)

☐ Print index or abstract

☐ Online journal collection (e.g., HighWire, JSTOR)

☐ Current awareness service (e.g., Current Contents): ☐Print ☐Electronic

☐ Preprint/e-print service

☐ Other (please specify) _____: ☐Print ☐Electronic

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

As a result, how many articles did you read and plan to read? _____ Articles

☐c. Cited in another publication

☐d. Another person (e.g., a colleague) told me about it

☐e. Do not know

☐f. Other (please specify) _____

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 affected the principal purpose?

☐a. Yes

☐b. No (Skip to Question 16)

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?

☐1. Agricultural Sciences and Natural Resources

☐2. Anthropology

☐3. Architecture and Design

☐4. Art

☐5. Audiology and Speech Pathology

☐6. Business Administration

☐7. Biology
☐8. Chemistry
☐9. Classics
☐10. Communication and Information
☐11. Computer Science
☐12. Earth and Planetary Sciences
☐13. Education, Health, and Human Sciences
☐14. Engineering
☐15. English
☐16. Geography
☐17. History
☐18. Mathematics
☐19. Law
☐20. Modern Foreign Languages & Literatures
☐21. Music
☐22. Nursing
☐23. Philosophy
☐24. Physics and Astronomy
☐25. Political Science
☐26. Psychology
☐27. Religious Studies
☐28. Social Work
☐29. Sociology
☐30. Theatre
☐31. Veterinary Medicine

19. What is your rank?

☐a. Professor

☐b. Associate Professor

☐c. Assistant Professor

☐d. Instructor/Lecturer

☐e. Adjunct

☐f. Other (please specify) _____

20. What is the highest degree you have earned?

☐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. Doctorate (Ph.D., Ed.D., M.D., J.D., or equivalent)

☐d. Other (please specify) _____

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

22. What is your age? _____

23. What is your sex/gender?

☐a. Male

☐b. Female

24. What percentage of your work time do you spend doing the following? (The total should equal 100%. If the answer is zero, please enter "0" instead of leaving a blank.)

_____% 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? (If the answer is zero, please enter "0" instead of leaving a blank.)
_____ Articles in refereed scholarly journals
_____ Non-refereed articles
_____ Scholarly books
_____ Chapters in scholarly books, proceedings, etc.

26. What sources did you use for the last substantive piece of information you used for work? (Select all that apply.)

☐a. Journal article

☐b. Conference proceeding

☐c. Web site

☐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?

☐a. Yes

☐b. No

28. How many sections of courses did you teach in the last academic year? (If the answer is zero, please enter "0" instead of leaving a blank.)
_____ 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. (If the answer is zero, please enter "0" instead of leaving a blank.)
_____ 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 that are personally addressed to you at your home, office, or lab.) If the answer is zero, please enter "0" instead of leaving a blank.
_____ 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!

Please return to:

Scholarly Reading and Use Survey
Office of the Dean of the Libraries
606 Hodges Library
Knoxville, TN 37996-1000