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## Usability of E-Journals and Preference for the Virtual Periodicals Room: a Survey of Mathematics Faculty and Graduate Students

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ELECTRONIC JOURNAL OF ACADEMIC AND SPECIAL LIBRARIANSHIP

**v.4 no.2-3 (Fall 2003)**

**Usability of E-journals and Preference for the Virtual Periodicals Room:  
a Survey of Mathematics Faculty and Graduate Students**



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## **Introduction**

Using several variables, the University of Arkansas Libraries conducted a survey in 2002 to measure the nature and extent of journal use in the Mathematics Reading Room, the Virtual Periodicals Room and Mullins Library.

The aims of this survey were two-fold: firstly, to collect information on the current level of support for electronic-only journals to aid in collection development, and secondly, to ascertain whether a Virtual Periodicals Room is a viable alternative to the physical Reading Room for the Mathematics faculty.

## **Background**

The University of Arkansas Libraries at Fayetteville consists of a main library (i.e., Mullins Library), Chemistry, Physics, Fine Arts, and Law libraries. Reference services at the main library are centralized from one service point. There is also a Mathematics Reading Room that houses the current issues only of mathematics and statistics journals. At the time of this study in 2000, 145 current titles were in the Mathematics Reading room. Of these, 45 titles were available electronically, free of cost, with the print subscriptions.

The Mathematics Department was making arrangements to relocate temporarily to another location because of construction. Discussions were held between the faculty and the mathematics librarian regarding the availability of current serials. During the discussions, it was obvious that the faculty wanted to move all the current titles held in the Mathematics Reading Room with them to the new location, but space was limited. At a well-attended departmental faculty meeting, the mathematics librarian presented three options regarding the Reading Room. The first was to move all the titles to Mullins Library until after the renovations, which would have lasted about two years. This was clearly unacceptable to the faculty, as some of them felt this would be the end of their Reading Room. The second option was to relocate the titles that were currently available electronically to Mullins Library and to continue to send the remaining ones to a Mathematics Reading Room located temporarily in close proximity to the Mathematics faculty. The third option was to use the forty-five titles that were available electronically to create a Virtual Periodicals "Room" (i.e. an alphabetical listing of titles on the web) and to study the usefulness of this "room" as an alternative to the physical reading room. The journals in paper format were to remain in a Mathematics Reading Room located in the temporary location near to the faculty in their new location.

The Mathematics faculty unanimously agreed to the third option. The University Libraries agreed to conduct this study and to design and administer a survey to measure the usefulness of the Virtual Periodicals Room. The 45 electronic titles in the Virtual Periodicals "Room" have since grown to 174 titles with the addition of the electronic journals in the Wiley, Kluwer and Blackwell Synergy packages.

This paper will outline and discuss the results of this study on the usability of e-journals and preferences for a Virtual Periodicals Room by faculty and graduate students in the Department of Mathematics and Agricultural Statistics at the University of Arkansas in Fayetteville.

## **Survey Method**

A questionnaire was placed on the Libraries' web site, and e-mail was sent to faculty and graduate students in the Mathematics Department requesting their input. Two follow-up e-mails were sent.

## Results of the Survey

Questionnaires sent	No.	Response	%
Tenure track Faculty (Math. + AgStat.)	26	17	65.38
Lecturers/Instructors	11	2	18.18
Graduate Students	42	9	21.43
Total	79	28	35.44

### (a) Use of Math Journals in Three Different Locations

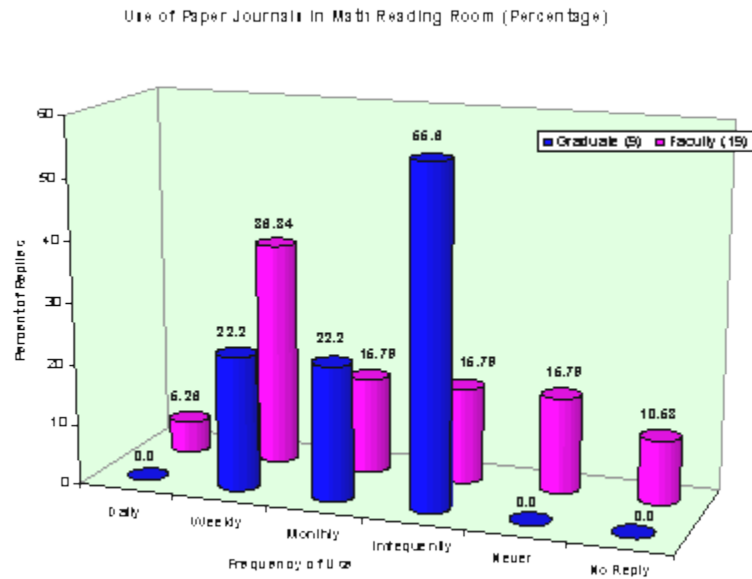
#### (1) Faculty Response

How often do you browse/use journals in:	Daily		Weekly		Monthly		Infrequently		Never		No Reply	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Math Reading Room	1	5.26	7	36.8	3	15.8	3	15.8	3	15.8	2	10.5
Mullins Library	0	0	1	5.26	4	21.1	8	42.1	4	21.1	2	10.5
Virtual Math Periodicals Room	0	0	6	31.6	2	10.5	4	21.1	4	21.1	3	15.8

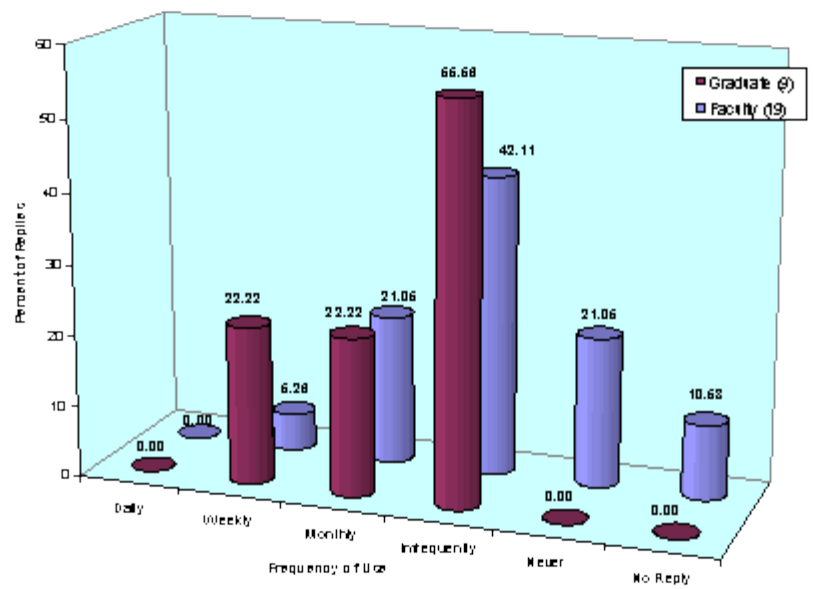
#### (2) Graduate Students' Response

How often do you browse/use journals in:	Daily		Weekly		Monthly		Infrequently		Never		No Reply	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Math Reading Room		0.0	2	22.2	2	22.2	5	55.6		0.0	0	0.0
Mullins Library		0.0	2	22.2	2	22.2	5	55.6		0.0	0	0.0
Virtual Math Periodicals Room		0.0	1	11.1	3	33.3	4	44.4		0.0	1	11.1

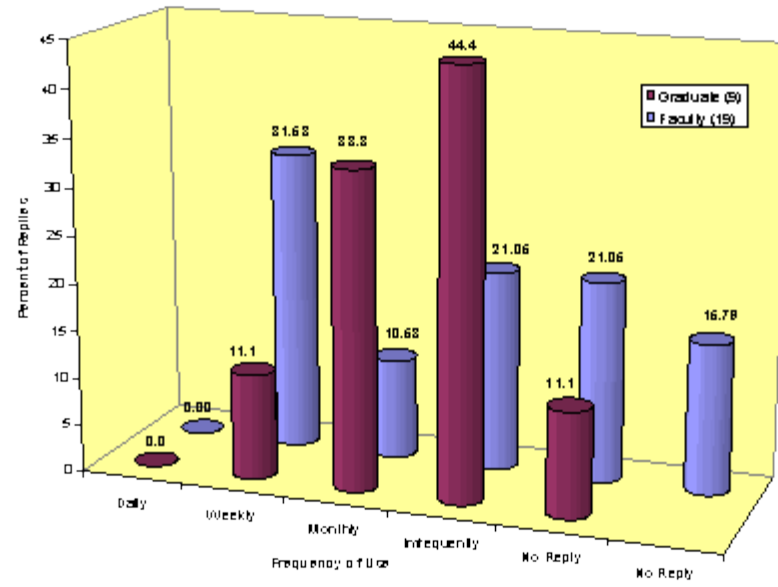
***(3) Use of Math Journals in Three Different Locations by Type of Respondents***



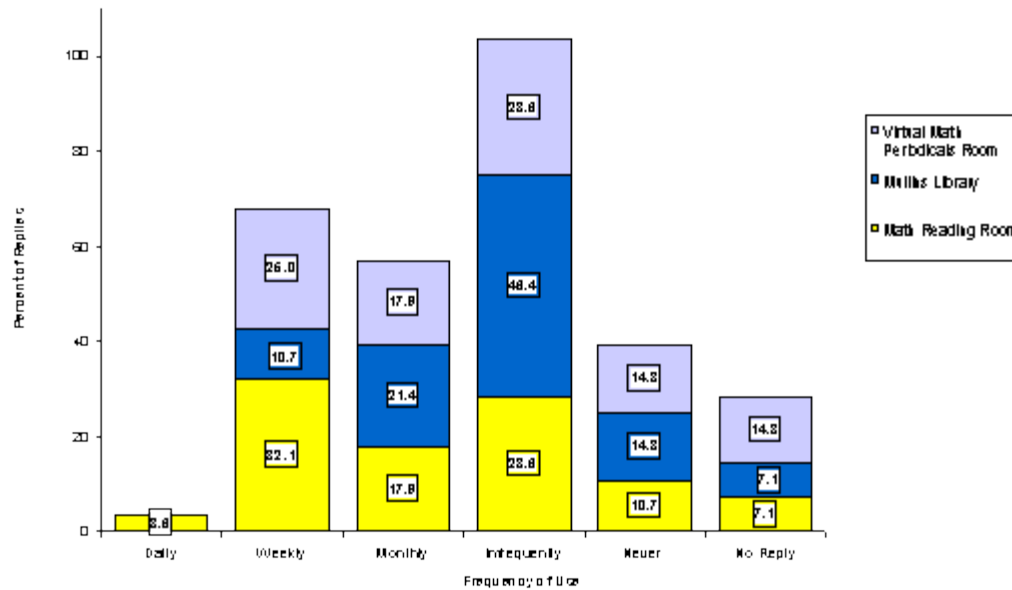
Use of Math Journals in Mullins Periodicals Room (Percentage)



Use of Journals in the Virtual Mathematics Periodicals Room (Percentage)



Use of Math Journals in three Different Locations by Total Respondents

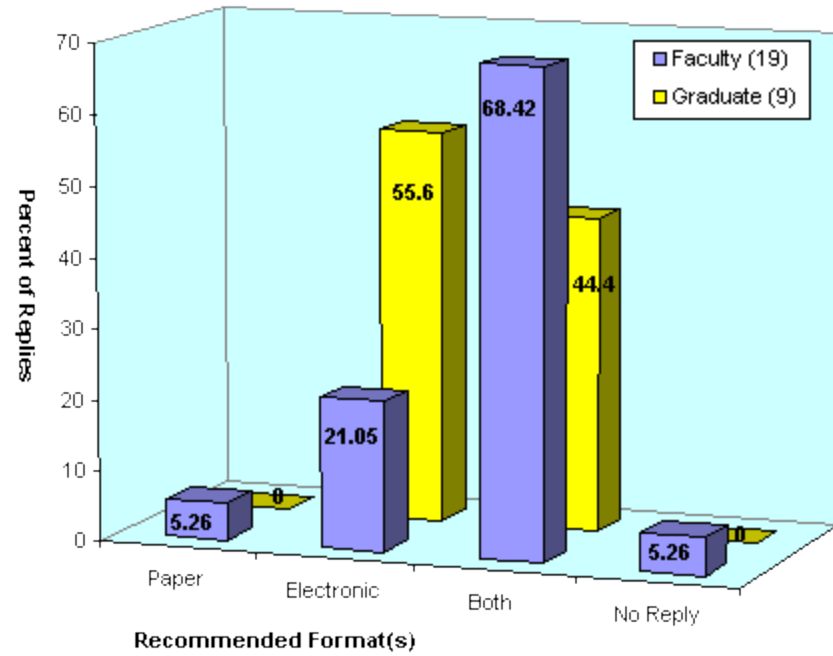


***(b) Recommended Format(s)***

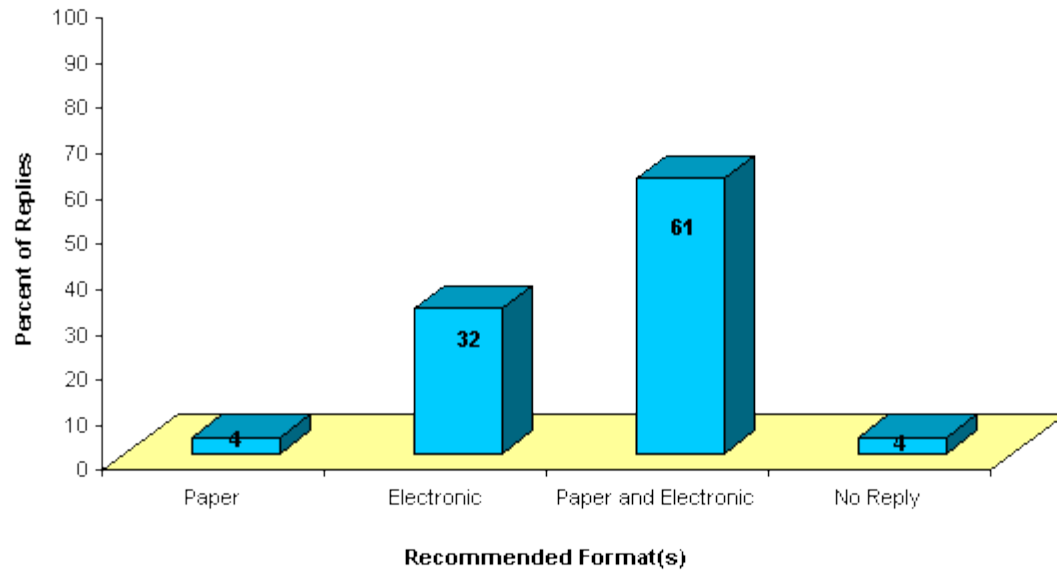
Which of the following format(s) do you recommend?	Paper		Electronic		Both		No Reply	
		%		%		%		%
Faculty	1.0	5.3	4.0	21.1	13.0	68.4	1.0	5.3
Graduates		0.0	5.0	55.6	4.0	44.4	0.0	0.0
Total Respondents	1.0	3.6	9.0	32.1	17.0	60.7	1.0	3.6



Recommended Journal Format(s) by Type of Respondents



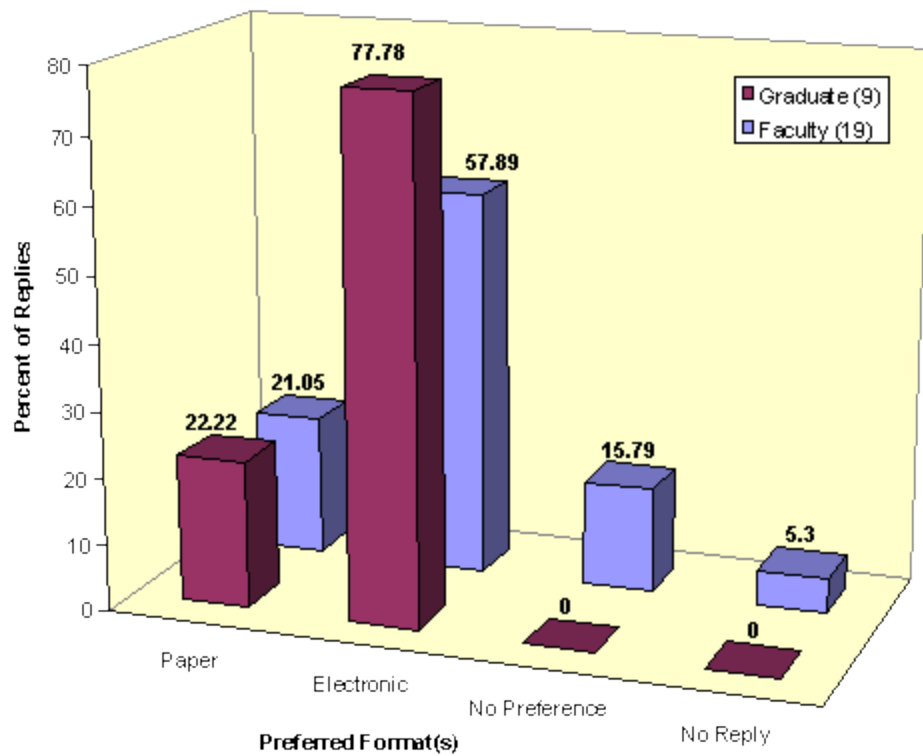
**Recommended Journal Format(s) - Total respondents**



***(c) Preferred Format(s)***

If only one format was available, which one would you prefer?	Paper		Electronic		No Preference		No Reply	
	Count	%	Count	%	Count	%	Count	%
Faculty	4.0	21.1	11.0	57.9	3.0	15.8	1.0	5.3
Graduates	2.0	22.2	7.0	77.8	0.0	0.0	0.0	0.0
All Respondents	6.0	21.4	18.0	64.3	3.0	10.7	1.0	3.6

Preferred Journal Format(s) by Type of Respondents



***(d) Importance of E-journal Characteristics***

***(1) Faculty Response by Importance***

<b><i>E-journals Characteristics</i></b>	<b>V. Important</b>	<b>%</b>	<b>Important</b>	<b>%</b>	<b>Not Important</b>	<b>%</b>	<b>No Reply</b>	<b>%</b>
Access to full content	14	73.7	3	15.8		0.0	2	10.5
Reliable access	14	73.7	2	10.5	1	5.3	2	10.5
Ease of use	13	68.4	4	21.1		0.0	2	10.5
Convenience of use	13	68.4	4	21.1		0.0	2	10.5
Browsability	11	57.9	6	31.6		0.0	2	10.5
Ease of printing	11	57.9	6	31.6		0.0	2	10.5
Back issues on line	10	52.6	7	36.8		0.0	2	10.5
Ability to search within journal issues	8	42.1	8	42.1	1	5.3	2	10.5
User friendly interface	8	42.1	7	36.8	2	10.5	2	10.5
Image Quality	8	42.1	6	31.6	3	15.8	2	10.5
Remote acces to journals	5	26.3	10	52.6		0.0	4	21.1
Book reviews online	2	10.5	7	36.8	7	36.8	3	15.8
Added online features		0.0	7	36.8	7	36.8	5	26.3
Color images		0.0	6	31.6	10	52.6	3	15.8
Subscription costs		0		0		0.0	19	100

**(2) Graduate Students Response by Importance**

<b><i>E-journals Characteristics</i></b>	<b>V. Important</b>	<b>%</b>	<b>Important</b>	<b>%</b>	<b>Not Important</b>	<b>%</b>	<b>No Reply</b>	<b>%</b>
Reliable access	9	100		0.0		0.0	0	0.0
Convenience of use	7	77.8	2	22.2		0.0	0	0.0
Browsability	7	77.8	2	22.2		0.0	0	0.0
Access to full content	7	77.8	2	22.2		0.0	0	0.0
Ease of use	6	66.7	3	33.3		0.0	0	0.0
Remote acces to journals	6	66.7	3	33.3		0.0	0	0.0
Ease of printing	5	55.6	4	44.4		0.0	0	0.0
Ability to search within journal issues	5	55.6	2	22.2	2	22.2	0	0.0
User friendly interface	4	44.4	5	55.6		0.0	0	0.0
Back issues on line	3	33.3	6	66.7		0.0	0	0.0
Image Quality	3	33.3	5	55.6	1	11.1	0	0.0
Added online features	2	22.2	4	44.4	3	33.3	0	0.0
Book reviews online	1	11.1	5	55.6	2	22.2	1	11.1
Color images		0.0	3	33.3	5	55.6	1	11.1
Subscription costs		0.0		0.0		0.0	9	100

**(3) Combined Response by Importance**

<i>E-journals Characteristics</i>	<i>V. Important</i>	<i>%</i>	<i>Important</i>	<i>%</i>	<i>Not Important</i>	<i>%</i>	<i>No Reply</i>	<i>%</i>
Reliable access	23	82.1	2	7.1	1	3.6	2	7.1
Access to full content	21	75.0	5	17.9	0	0.0	2	7.1
Convenience of use	20	71.4	6	21.4	0	0.0	2	7.1
Ease of use	19	67.9	7	25.0	0	0.0	2	7.1
Browsability	18	64.3	8	28.6	0	0.0	2	7.1
Ease of printing	17	60.7	9	32.1	0	0.0	2	7.1
Back issues on line	13	46.4	13	46.4	0	0.0	2	7.1
Ability to search within journal issues	13	46.4	10	35.7	3	10.7	2	7.1
User friendly interface	12	42.9	12	42.9	2	7.1	2	7.1
Remote acces to journals	11	39.3	13	46.4	0	0.0	4	14.3
Image Quality	11	39.3	11	39.3	4	14.3	2	7.1
Book reviews online	3	10.7	12	42.9	9	32.1	4	14.3
Added online features	2	7.1	11	39.3	10	35.7	5	17.9
Color images	0	0.0	9	32.1	15	53.6	4	14.3
Subscription costs	0	0.0	0	0.0	0	0.0	28	100

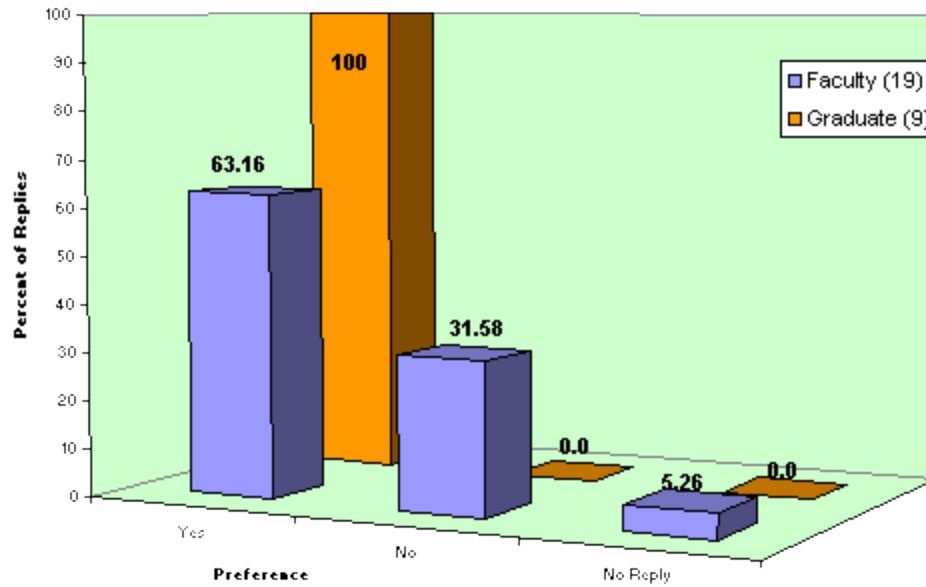
**(4) Total Responses by Importance (VI+I= very important +important)**

<b>E-journals Characteristics</b>	<b>VI+I</b>	<b>%</b>	<b>Not Important</b>	<b>%</b>
Ease of use	26	92.9	0	0.0
Browsability	26	92.9	0	0.0
Ease of printing	26	92.9	0	0.0
Back issues on line	26	92.9	0	0.0
Reliable access	26	92.9	0	0.0
Access to full content	26	92.9	0	0.0
Convenience of use	25	89.3	1	3.6
Remote acces to journals	24	85.7	2	7.1
User friendly interface	24	85.7	0	0.0
Ability to search within journal issues	23	82.1	3	10.7
Image Quality	22	78.6	4	14.3
Book reviews online	15	53.6	9	32.1
Added online features	13	46.4	10	35.7
Color images	9	32.1	15	53.6
Subscription costs	0	0.0	0	0.0

**(e) Viability of a Virtual Periodicals Room**

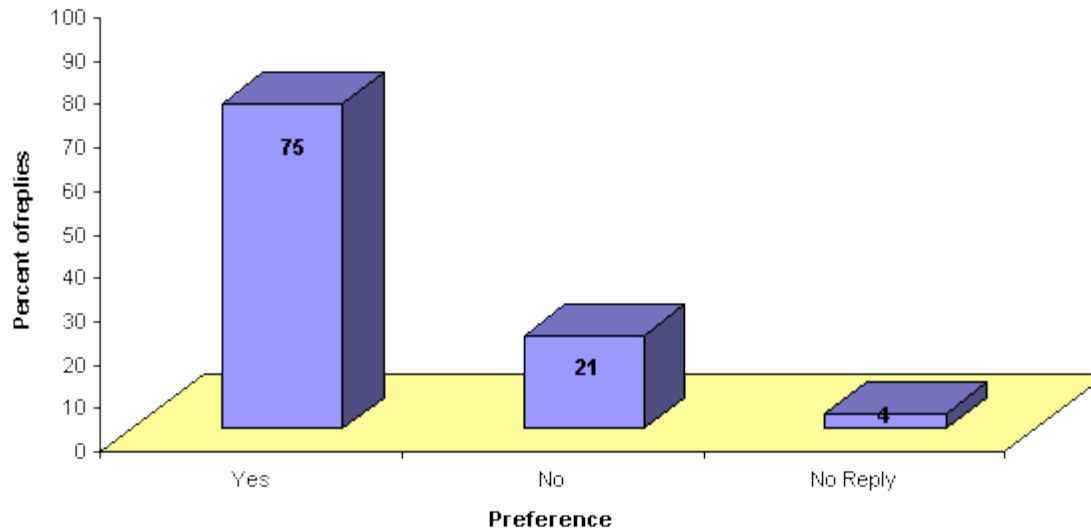
<b>Would a Virtual Periodicals Room be a viable alternative?</b>	<b>Yes</b>	<b>%</b>	<b>No</b>	<b>%</b>	<b>No Reply</b>	<b>%</b>
Faculty	12.0	63.2	6.0	31.6	1.0	5.3
Graduates	9.0	100.0		0.0	0.0	0.0
Total Respondents	21.0	75.0	6.0	21.4	1.0	3.6

Viability of Virtual Priodicals room by Type of Respondents





Viability of a Virtual Periodicals Room- Total Repondents



### Summary and Discussion

The results obtained from this survey clearly demonstrate that the majority of the faculty use the Mathematics Reading Room and the Virtual Periodicals Room on a weekly basis. Only one faculty member uses Mullins weekly. Twelve (63%) of the faculty never or infrequently uses Mullins Library Periodicals room for browsing current periodicals.

Only 10.7% of the total respondents use the Mullins Library Periodicals reading room on a weekly basis, but 57.1% use either the Math Reading Room or the Virtual Periodicals Room for current information.

Most of the faculty (68.4%) recommended that the library continue to subscribe to both print and electronic formats, while 21.1% recommend electronic access only. Only one faculty recommended subscription to paper format only. However, if only one format was available, the majority of the faculty (57.9%) and the graduate students (77.8%)

identified electronic access as the preferred option. Four (21.1%) of the faculty identified paper as the preferred option and 3 (15.8%) of them had no preference. Overall, 18 respondents (64.3%) recommend electronic access, 6 (21.4%) recommend paper, and 3 (10.7%) had no preference.

On the question of whether a Virtual Periodicals Room would be a viable alternative to paper format, the majority of the faculty (12, 63.2%) and all the graduate students (9, 100%) agreed, while six (31.6%) of the faculty do not think it is a viable option. Overall, 21 (75%) of the respondents agreed and 6 (21.4%) disagreed.

E-journal characteristics that are desirable for all respondents in order of importance are: reliable access; access to full content, convenience of use (remote access); ease of use, browsability, ease of printing, back issues of journals online, ability to search within journal issues, user- friendly interface, book reviews online, and image quality. Color images and subscription costs are not important to them.

## **Conclusion**

It is obvious from the results of the survey that greater use is being made of the Mathematics Reading Room and the Virtual Periodicals Room than Mullins Library Periodicals Room. Faculty and graduate students are beginning to accept the use of electronic journals. The majority of faculty and graduate students agree that electronic journals access is indeed a viable alternative to the physical Mathematics Reading room. This information will certainly help us in our selection decisions when we are considering whether to buy journals in online or print formats. However, in order to satisfy the needs of faculty and researchers in this department in the short term, we continue to maintain a Mathematics Reading Room and to build the Virtual Periodicals Room. In the long term, as more journals are added to the Virtual Periodicals Room and with options to purchase electronic-only subscriptions, fewer and fewer journals will be available for housing in the Mathematics Reading Room. Of course, the added advantage to continuing to build the online collection of serials for this department is the accessibility of the full-text current and retrospective articles from their remote locations either through MathSciNet or through InfoLinks, the online catalog. The Library will also benefit because there will no longer be the need to house the current issues of these journals in another location. However, we need to be sure that when deciding on electronic-only subscriptions, that the criteria identified as being important to the users are present in the interface selected.

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