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Information-seeking Behaviour and Issues of Agriculture Undergraduates of University of Peradeniya

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Abstract

This paper discusses the information seeking behaviour of the agriculture undergraduates in a Sri Lankan university. It established that the undergraduates often use the search engines, Wikipedia, and their own classmates than the other information resources; they use more self-taught methods than standard methods to evaluate the resources and seek help from the classmates in using the information resources. Findings further proved that their uses of various productivity tools are very low and the information-related research tasks are difficult for the majority. The paper concludes that these are the effects of inadequate information literacy (IL) training they receive and the study strongly recommends offering appropriate, context specific IL programmes, to enhance their information resource usage and research skills.

Keywords: Information-Seeking Behaviour, Agriculture Undergraduates, Information Resources, Evaluation, Productivity Tools, Research Process.

Introduction

Globally, there is a rapid growth of research literature in agriculture which makes it imperative for the students to develop their information seeking and using behavior. However, searching, accessing and using information is a complex issue for them without any support or guidance from the library and teaching staff. Understanding the trends, strengths and weaknesses of the information seeking behaviour of the agriculture students is vital for the library staff in order to provide them with a quality and relevant service.

This paper emanates from a comprehensive research on "Information seeking and research strategies of undergraduates in the digital age" carried out at University of Peradeniya during December 2012 to December 2013. The objectives of the study were to 1) to study the information seeking practices of undergraduates in the digital age, 2) to study the

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research strategies of undergraduates in the digital age and 3) to make recommendations for the future developments of the information seeking and research practices of the undergraduates.

Survey of Literature

There is little evidence of research carried out on the Sri Lankan agriculture undergraduates. Therefore, the survey of literature was extended to international studies carried out since 2000. Cheunwattana *at.al.* (2012) surveyed 2,435 respondents in six public universities in Thailand selected using stratified random sample with the objective studying the information literacy practices of college students in course-related and everyday-life research. The study established that the students heavily rely on search engines while their abilities in evaluating information resources were only moderate. The majority of students did not give enough importance to evaluation. Defining a topic for the assignment, narrowing down the topic, getting started on the assignment and evaluating the sources were recorded as the most difficult research-related tasks. Rhoades...et.al. (2008), surveyed 255 second and third year students enrolled in the College of Agricultural and Life Sciences of University of Florida, and established that search engines and WebCT were utilized by most. The Internet was seen to be moderately good, easy to understand, important, easy to find, beneficial, believable and credible. Hadimani and Rajgoli (2010) carried out a survey in a College of Agriculture in Rainchur, India using a questionnaire distributed to 90 randomly selected undergraduates. The study established that 94.44% know when they are in need of information, 100% know where to find information, 66.66% search Internet for information and 100% search in the college library. Of the respondents, 95.55% are able to search exact information, 94.44% contact library staff to access information, 91.11% has the ability to evaluate information in terms of currency, authority and appropriateness. The authors have concluded that the college should have separate funding and other support for an information literacy agenda, technological infrastructure needs to be improved and that the librarians and faculty should collaborate to develop discipline-specific research skills. These conclusions imply that many development initiatives are required to increase the information skills of the undergraduates although

their attitudes toward their information skills are highly positive according to the responses. Adio and Arinola (2012) studying 180 senior students in the Faculty of Agricultural Sciences in LAUTECH[1], established that Internet was used by 74% followed by textbooks (66%), theses and dissertations (63%), and CD/ROM databases (39%), and that most students lack basic knowledge and skills in using available resources and services in the library. Lack of facilities and inadequacy of computers in the library were identified as barriers. Aggressive information awareness for all students, an orientation in information searching tools and improving computer and Internet facilities are recommended.

In the Sri Lankan context, two studies on undergraduates are reported. Ileperuma and Mudannayake (2008), studied the agriculture and science undergraduates and postgrdautes and the findings established that , books are the most important information source followed by lecture notes and handouts. Electronic material had a low priority but an increasing trend to use Internet as an infromation source was perceived. Nevertheless, the paper present only the cumulative findings, therefore the specific characteristics of agriculture undergraduates cannot be known. The second study by Dilrukshi (2014) examined the usage of online journals by the fourth year undergraduates (number not specified), and established that 52% prefer online journals and 48% prefer printed journals. The study further established the barriers to the use of online journals as; the absence of proper training on using online resources, limited time available for students to search online journals, poor knowledge of online jorunals, and lack of computer facilities in the faculty. Sound awareness programmes, allocation of time in the timetables to use the library, frequent training programmes and increased computer facilities in the faculty have been recommended.

Methodology

An online questionnaire used by Head and Eisenberg (2009) was adapted to suit the Sri Lankan context and to be administered as a printed questionnaire. This instrument was

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particularly considered because; access to it is open, its content and construct validity has already been established by the researchers (Head and Eisenberg 2009, 2010), and a pilot survey conducted in 2010 by the researcher proved its usability in the Sri Lankan context. Moreover, the original instrument has been used with some customizations in several other Asian countries in 2012 (i.e.Cheunwattana.*et.al*, 2012) therefore the findings would be comparable in the future. However, only the academic research component was used in this survey as the aim of the information seeking behavior in the academic research.

Several changes were made to make the instrument suitable for the Sri Lankan context. Instead of listing university names in Question 1 of the original instrument, a space was provided for respondents to write their university. The American terms used in Question 2 to denote the year of study were replaced with the terminology used in Sri Lanka (second, third and fourth year of study). Question 3 on disciplines, was divided in to three parts to obtain the a) faculty, b) department of study, and c) Grade Point Average of the previous year. Two new questions (Question 4 and 5) were added to obtain the age and gender of the respondents. Six new questions on the access to computers by the undergraduates and the training they have received in using the library and Internet were also added to the instrument, as comprehensive data on these were not available in the university. The final survey instrument contained 20 questions, but this paper is based on the data gathered on, types of assignments the students have to answer, types of information resources used often, methods used to evaluate them, and difficulty of research related information tasks as encountered by the undergraduates.

Since access to e-mail by the students is limited, a printed version of the questionnaire was administered through the faculty library in early 2013 and the data collection was completed within two months. Faculty web sites and annual reports as well as some faculty members and the Senior Assistant Librarian of the faculty were used to triangulate the findings. To provide the theoretical foundations for the study and the findings, international and Sri Lankan research literature related to information seeking behaviour of agriculturalists was used. Of 688 students in their second, third and fourth years, 10% were

selected using Stratified Random Sample method. The questionnaire was administered through the faculty library and the departments and the response rates were 92%, 100% and 100% respectively, while the overall response rate was 97%. First year students were disregarded as their use of information was not expected to be advanced enough to respond to the questionnaire effectively. This paper discusses the findings of all students surveyed instead of making a year-wise analysis.

Students were given seven choices[1], as in the original survey to express their responses on frequency of using information resources and methods of evaluating them. In presenting data, the response categories "Almost Always" and "Often" were conflated in to a new category of "Often Used". For difficulties of course-related research also, seven choices[2] were given and Strongly Agree and Somewhat Agree were conflated into "Agree". These two new categories were used to present the findings throughout this paper. The rest of the categories (Sometimes - No Experience[3]and Neither Agree Nor Disagree - No Experience with this Situation[4]) were not considered for the analysis as the number of responses for these categories were extremely few and would not have made any significant change in the findings. MS. Excel was used to quantitatively analyze and present findings graphically.

As the responses are personal judgments of the respondents, of their information seeking strategies, and the findings of the survey are mostly based on their responses, the reliability of the findings largely depends on the accuracy of their revelations. Nevertheless, the findings can be generalized to the total student body of the faculty as the sample is representative and the student cohorts are principally homogenous.

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[1]Almost Always, Often, Sometimes, Rarely, Never, Do Not Know and No Experience

[2]Strongly Agree, Somewhat Agree, Neither Agree Nor Disagree, Somewhat Disagree, Strongly Disagree, Don't know, No Experience with this Situation.

Findings

The following sections discuss the findings under several themes; age, gender and GPA of the respondents, types of assignments received, resources consulted, evalution criteria, people asked for assistantce with evaluation of material, and difficulty of tasks related to course-related research.

Age, Gender and GPA of the Respondents

Of the total respondents, the majority (66%) were in the age group of 24-26 years, 51% were females and, 55% had received a Grade Point Average (GPA) of 3.0-3.5 Table 1 presents the details.

Table 1: Age, Gender and GPA of the Respondents

Aspect	Frq.	%
Age		
18-20	0	0
21-23	3	4
24-26	44	66
over 26	20	30
Gender		
Male	33	49
Female	34	51
GPA		
2.0-2.5	0	0
2.6-2.9	7	10
3.0-3.5	37	55
3.6- above	23	34
Not given	0	0

Types of Assignments Received

Table 2 depicts the types of assignments they receive during their study period. Sixty one percent (61%) stated that they receive "Oral presentations" and 52% commented that they receive "Papers that present a case study analysis" while 49% confirmed that they receive "Multimedia product preparation that requires research". These findings denote that they have been provided with many opportunities to use a wide variety of information resources for their course-related research.

Table 2: Types of Assignments Received

Types of Assignments	Frq.	%
1.Papers that present an argument about an issue (s)	41	59
2.Papers that present a historical analysis of an event (s)	35	51
3.Papers that present a "close reading" or interpretation of a text	33	48
4.Papers that present a case study analysis	36	52
5.Papers that present a literature review	46	67
6.Papers that present a proposed study	53	77
7.Oral presentation	42	61
8.Oral presentation and accompanying paper	47	68
9.Multimedia product that requires research	43	62

Resources Consulted

Three types of resources they used were surveyed; digital, human and printed (Table 3). Of the digital resources the most often used were the search engines (96%) and Wikipedia (73%), but only 18% often used full text databases. Of the human resources, classmates (66%), lecturers (64%), and friends and family (37%) were the most often used. Of the

printed resources, recommended readings (58%), and the library collections (45%) were the most often used while 40% used their personal collections.

Table 3: Resources Consulted

Resources Consulted	O	%	S	%	N	%	D/N	%
1. Recommended readings	39	58	28	42	1	1	1	1
2. Search Engines	64	96	5	7	0	0	0	0
3. Wikipedia	49	73	17	25	1	1	1	1
4. Government Web Sites	35	52	26	39	4	6	2	3
5. E-resources through the library	12	18	32	48	13	19	10	15
6. Librarians	14	21	38	57	7	10	5	7
7. Library Collection	30	45	27	40	5	7	2	3
8. Lecturers	43	64	19	28	3	4	1	1
9. Classmates	44	66	23	34	0	0	0	0
10. Friends/family	25	37	28	42	9	13	2	3
11. Personal Collection	27	40	27	40	6	9	6	9

O – Often S – Sometimes N – Never D/N – Don't Know/No Experience

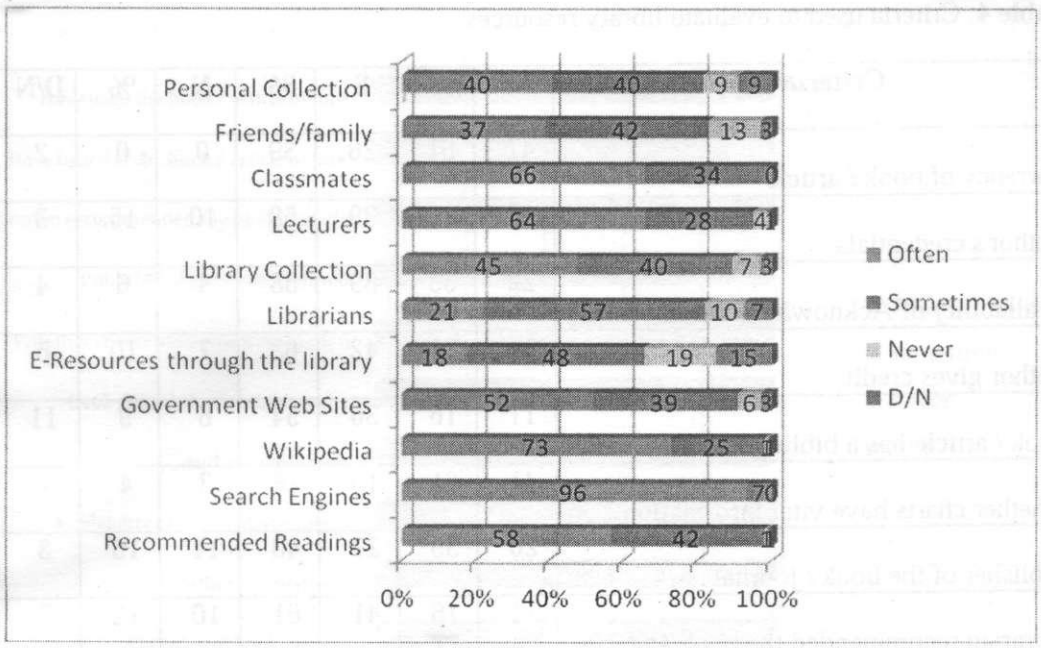


Figure 1: Resources Consulted

Evaluation Criteria

This section surveyed two aspects; criteria used to evaluate library material and criteria used to evaluate web-based material. Respondents were offered ten criteria (Table 4 and Figure 2) to select according the frequency they used each criteria to evaluate library material. In evaluating library material, 61% each considered the currency of the book, and, whether the charts of the item contain vital information. Whether they have used the item before, is considered by 46%. The reputation of the publisher and whether the respondents have heard about the item before, is considered each by 39%. Authors' credentials are used by 25% while librarians' recommendation is considered by 16%.

Table 4: Criteria used to evaluate library resources

Criteria	O	%	S	%	N	%	D/N	%
1.Currency of book / article	41	61	26	39	0	0	2	3
2.Author's credentials	17	25	39	58	10	15	3	4
3.Availability of Acknowledgements	22	33	39	58	4	6	4	6
4.Author gives credit	14	21	42	63	7	10	6	9
5.Book / article has a bibliography	11	16	36	54	6	9	11	16
6.Whether charts have vital information	41	61	19	28	3	4	4	6
7.Publisher of the book / journal	26	39	27	40	11	16	3	4
8.Librarian recommended the book / article	11	16	41	61	10	15	6	9
9.Have heard of the book / article before	26	39	36	54	6	9	0	0
10.Have used the book / article before	31	46	30	45	7	10	0	0

O – Often S – Sometimes N – Never D/N – Don't Know/No Experience

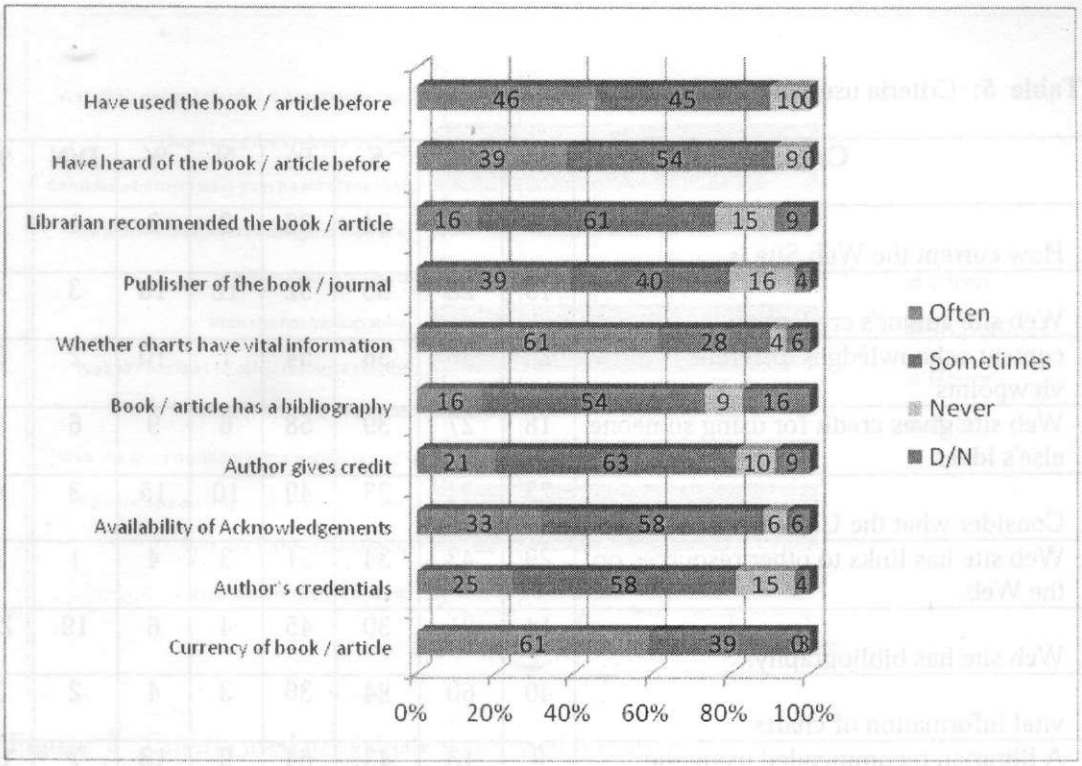


Figure 2 : Criteria used to evaluate library resources

Respondents were offered twelve criteria (Table 5 and Figure 3) to select according to the frequency they used each to evaluate web-based resources. Currency of the website (63%), availability of vital information in the charts of the item (60%), while, 48% each considered whether they have heard of the website before (48%) or used the website before (48%) and whether the website has links to the other resources (43%). URL (34%), design of the website (30%) and librarians recommendations (13%) are not used by many.

Table 5: Criteria used to evaluate web-based resources

Criteria	O	%	S	%	N	%	D/N	%
1. How current the Web Site is.	42	63	24	36	2	3	1	1
2. Web site author's credentials	19	28	35	52	12	18	3	4
3. content acknowledges different viewpoints	24	36	36	54	7	10	2	3
4. Web site gives credit for using someone else's ideas.	18	27	39	58	6	9	6	9
5. Consider what the URL mean	23	34	33	49	10	15	3	4
6. Web site has links to other resources on the Web.	29	43	34	51	3	4	1	1
7. Web site has bibliography.	14	21	30	45	4	6	19	28
8. vital information of charts	40	60	24	36	3	4	2	3
9. A librarian recommended using the Web site.	9	13	43	64	9	13	7	10
10. Consider whether I have ever heard of the Web site before.	32	48	26	39	7	10	1	1
11. I have used the Web site before.	32	48	31	46	4	6	1	1
12. Web site's design tells me it's a legitimate site.	20	30	33	49	5	7	10	15

O – Often S – Sometimes N – Never D/N – Don't Know/No Experience

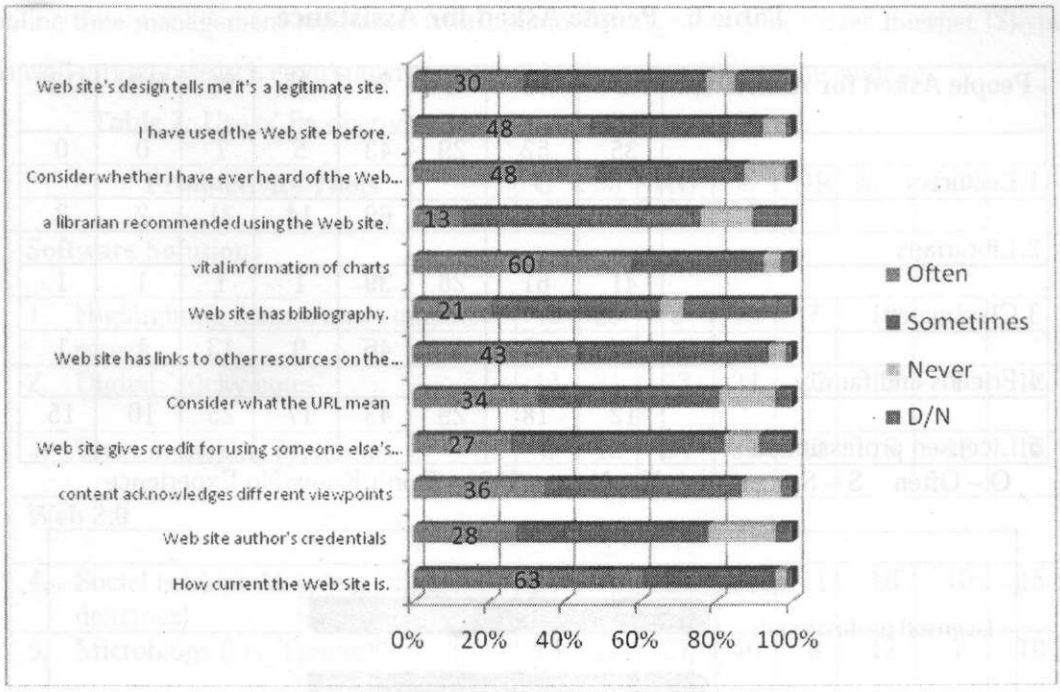


Figure 3 : Criteria used to evaluate web-based resources

People Asked for Assistance

The respondents were asked about the people they consult when they need assistance in selecting the most relevant information resources from the plethora (Table 6 and Figure 4). Classmates are the most consulted group (by 61%) followed by lecturers (52%), and friends and family (by 40%) and licensed professionals (18%). Only 10% claimed that they consult librarians.

Table 6 - People Asked for Assistance

People Asked for Assistance	O	%	S	%	N	%	D/N	D/N
1.Lecturers	35	52	29	43	5	7	0	0
2.Librarians	7	10	46	69	14	21	2	3
3.Classmates	41	61	26	39	1	1	1	1
4.Friends and family	27	40	31	46	9	13	1	1
5.Licensed professionals	12	18	29	43	17	25	10	15

O – Often S – Sometimes N – Never D/N – Don't Know/No Experience

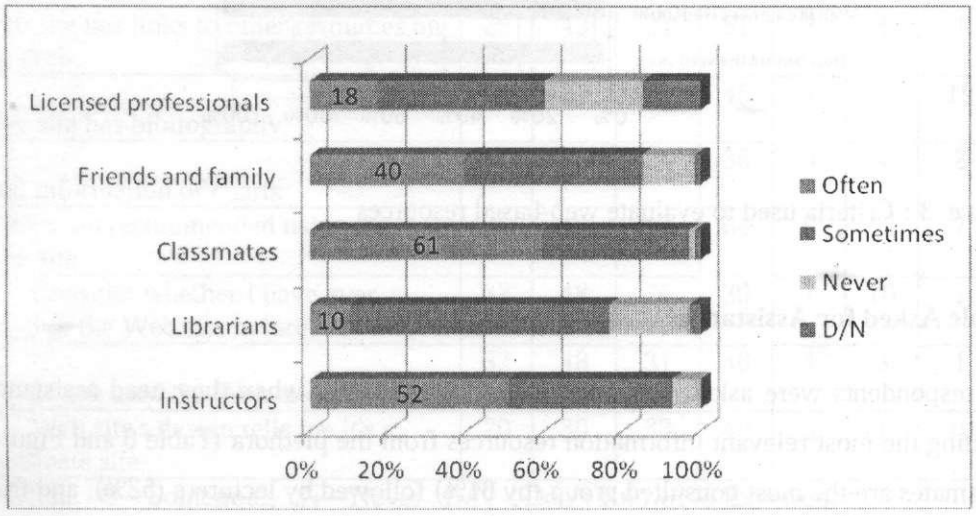


Figure 4 : People asked for assistance

Use of Productivity Tools

Use of Productivity Tools were anaylsed under three headings; software solutions, Web 2.0, and Virtual Research Environment (Table 7 and Figure 5). Of the Software solutions, 60% use highlighting features, 21% use digital sticky notes but only 12% use citation-making programs like End Note. Of the Web 2.0 elements, a higher percentage (69%) uses only the document sharing but others (social bookmarking, microblogs and blogging,

online time management programs, wikis, photo-sharing sites, voice over Internet (Skype) as well virtual research environments are used by, less than 50% of the students.

Table 7: Use of Productivity tools

Productivity Tools	U	%	NU	%	DR	%	D/N	%
Software Solutions								
1. Highlighting feature on a computer screen	40	60	9	13	7	10	1	1
2. Digital "sticky notes"	14	21	23	34	12	18	8	12
3. Citation-making programs	8	12	24	36	13	19	12	18
Web 2.0								
4. Social bookmarking (e.g., digg, delicious)	11	16	25	37	11	16	10	15
5. Microblogs (i.e., Twitter)	15	22	27	40	8	12	7	10
6. Document sharing programs	46	69	9	13	1	1	1	1
7. Online time mgt. programs with sharing	17	25	28	42	9	13	2	3
8. Wikis	22	33	22	33	7	10	3	4
9. Photo-sharing sites	15	22	29	43	8	12	5	7
10. Blogging	20	30	27	40	9	13	1	1
11. Voice over Internet Protocol	19	28	28	42	9	13	1	1
12. An online forum where I can post a question and get an answer from someone	19	28	28	42	9	13	0	0
Virtual Research Environments								
13. Alerting services	15	22	22	33	11	16	8	12
14. Virtual research environments	12	18	26	39	9	13	8	12

U – Used **NU** – Not Used **DR** – Don't Remember **D/N** – Do not Know / No Experience

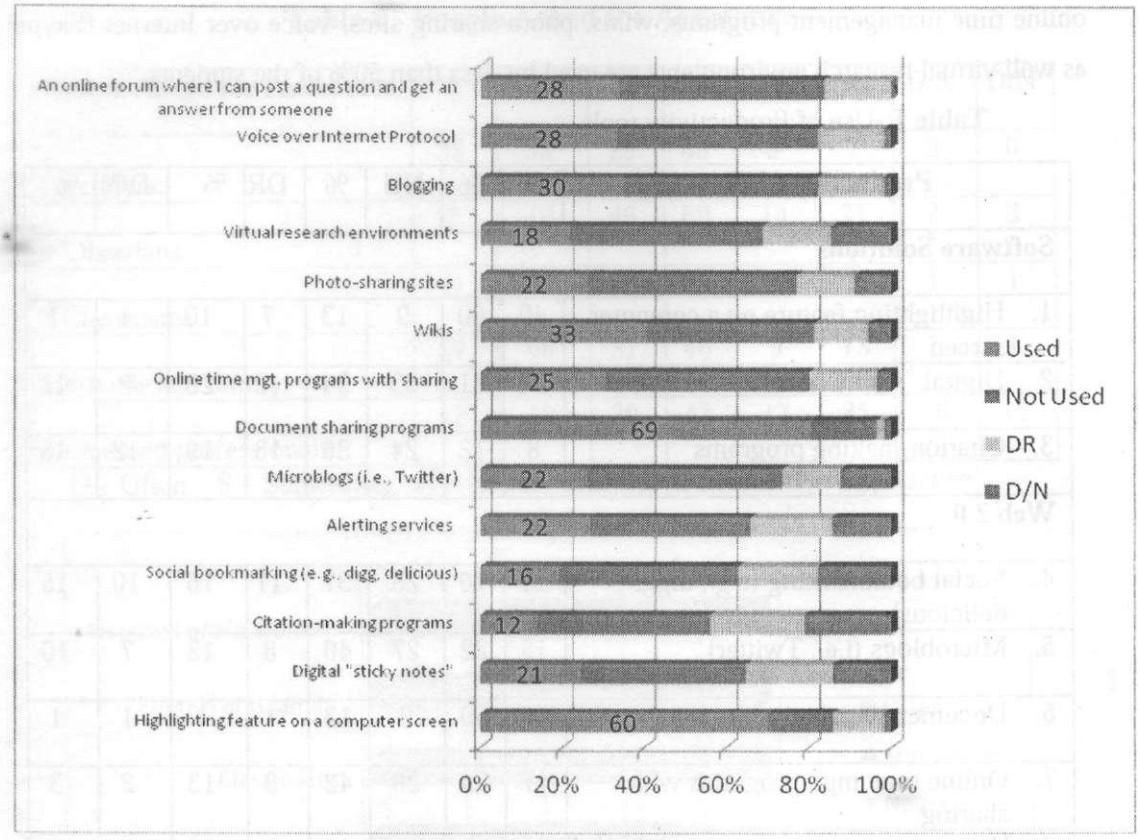


Figure 5 : Use of Productivity Tools

Difficulty of Tasks

Respondents were presented with twenty different tasks related to getting started, searching, evaluating, using, citing information, and completing the assignment writing process and were asked to state their opinion on the difficulty of these tasks (Table 8 and Figure 6) .Of the starting process, 76% confirmed that starting is difficult while 72% found narrowing down the topic is difficult and defining the topic of the assignment was difficult for 67%. With regard to searching for information, 58% claimed that finding up-to-date material is difficult and 55% expressed that sorting through irrelevant results to find what is relevant is difficult, while 52% confirmed that it is difficult to find the information within the different parts of the university. For 42%, identifying the keywords to be used was difficult while for

37%, finding articles from the library databases were difficult. Finding information from Internet was difficult for 33%. As far as evaluating of sources is concerned, 49% agreed that determining the credibility of a web site is difficult while 48% agreed that evaluating the sources is difficult.

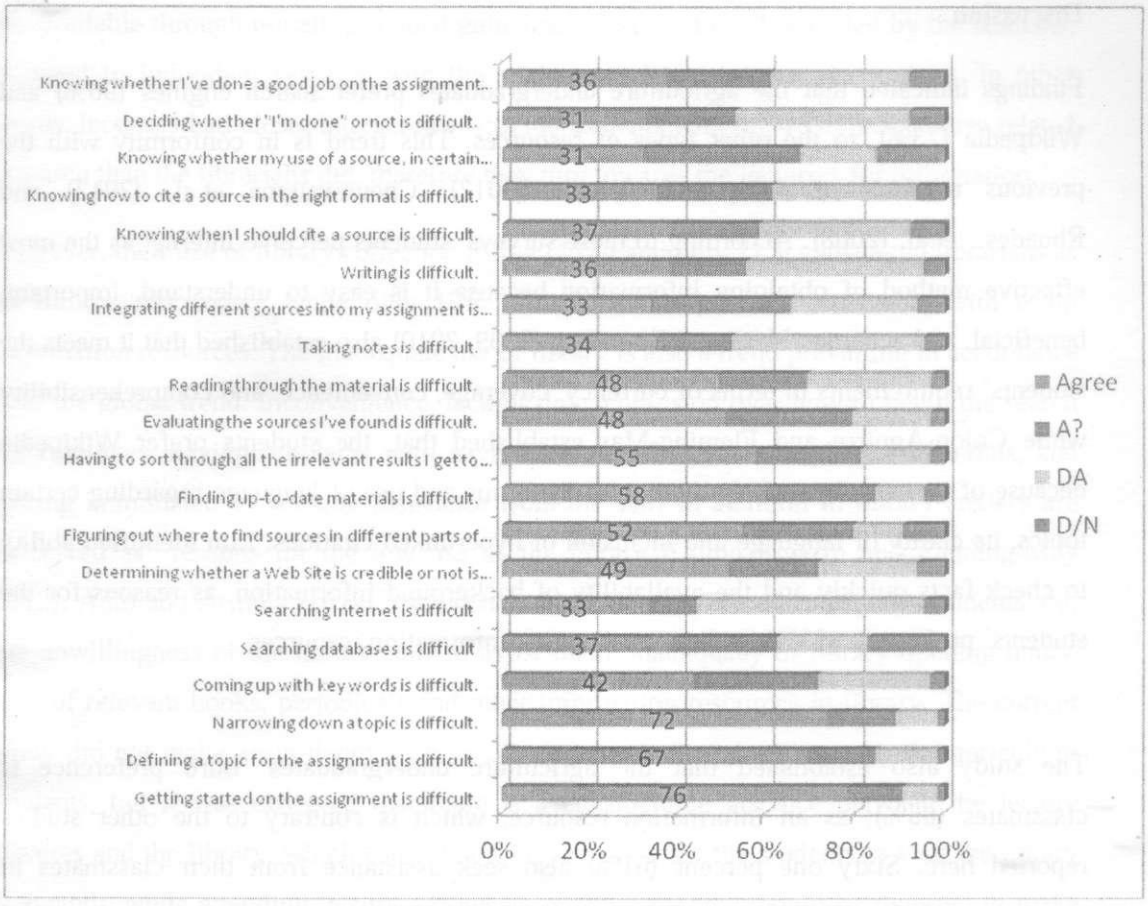
As far as using the information is concerned, 48% agreed reading through the material is often difficult and for 36% writing is often difficult. As far as the citing is concerned, 37% agreed that they often have a difficulty in knowing when to cite and for 33% it is often difficult to know how to cite a source and 31% 38% agreed that knowing whether the use of a source in certain circumstances constitutes plagiarism or not is often difficult. With regard to completing the process, 36% claimed that it is often difficult to know whether a "good job" is done or not and 31% claimed that deciding whether the writing is finished or not is difficult.

Table 8 : Difficulty of Tasks

Difficulty of Tasks	**A**	**%**	**A?**	**%**	**DA**	**%**	**D/N**	**%**
Starting process								
1. Getting started on the assignment is difficult.	51	76	8	12	5	7	1	1
2. Defining a topic for the assignment is difficult.	45	67	10	15	9	13	1	1
3. Narrowing down a topic is difficult.	48	72	10	15	6	9	1	1
Searching								
4. Coming up with key words is difficult.	28	42	18	27	16	24	2	3
5. Finding articles in the databases on the library's Web site is difficult	25	37	15	22	13	19	11	16
6. Finding sources from Internet is difficult	22	33	7	10	33	49	3	4
7. Figuring out where to find sources in different parts of the university is difficult.	35	52	16	24	7	10	6	9

8. Finding up-to-date materials is difficult.	39	58	16	24	7	10	3	4
9. Having to sort through all the irrelevant results I get to find what I need is difficult.	37	55	15	22	10	15	2	3
Evaluation								
10. Determining whether a Web Site is credible or not is difficult.	33	49	13	19	14	21	4	6
11. Evaluating the sources I've found is difficult.	32	48	18	27	11	16	2	3
12. Using Information								
13. Reading through the material is difficult.	32	48	13	19	18	27	2	3
14. Taking notes is difficult.	23	34	11	16	28	42	3	4
15. Integrating different sources into my assignment is difficult.	22	33	20	30	18	27	4	6
16. Writing is difficult.	24	36	11	16	25	37	3	4
Citing								
17. Knowing when I should cite a source is difficult.	25	37	13	19	22	33	5	7
18. Knowing how to cite a source in the right format is difficult.	22	33	16	24	20	30	4	6
19. Knowing whether my use of a source, in certain circumstances, constitutes plagiarism or not is difficult.	21	31	23	34	11	16	10	15
Completing Process								
20. Deciding whether "I'm done" or not is difficult.	21	31	13	19	25	37	5	7
21. Knowing whether I've done a good job on the assignment or not is difficult.	24	36	15	22	20	30	5	7

A – Agree A? Neither Agree Nor Disagree D – Disagree D/N – Do not Know/No Experience



A – Agree **A?** Neither Agree Nor Disagree **D** – Disagree **D/N** – Do not Know/No Experience

Figure 6 : Difficulty of tasks

Discussion

Findings indicated that the agriculture undergraduates prefer search engines (96%) and Wikipedia (73%), to the other types of resources. This trend is in conformity with the previous research of Adio and Arinola (2012), Cheunwattana et.al. (2012) and Rhoades...et.al. (2008). According to these surveys, students perceive Internet as the most effective method of obtaining information because it is easy to understand, important, beneficial, and accurate. Head and Eisenberg (2009, 2010) also established that it meets the students' requirements in terms of currency, coverage, convenience, and comprehensibility while Colon-Aguirre and Fleming-May established that, the students prefer Wikipedia because of its capacity to help them with the terms and use of language regarding certain topics, its clarity of language and inclusion of hyperlinked citations. Lim identified ability to check facts quickly and the availability of background information, as reasons for the students' preference of Wikipedia over the other information resources.

The study also established that the agriculture undergraduates' third preference is classmates (66%), as an information resource, which is contrary to the other studies reported here. Sixty one percent (61%) also seek assistance from their classmates in evaluating information resources. While further in-depth study is required to confirm why such a higher percentage of Sri Lankan agriculture undergraduates turn to their classmates for support with their research, findings of a previous study throw some light on this trend. Lee, Paik, and Joo (2012) ascertained that the undergraduates in their study used their friends and colleagues for comparison of findings with one's own, to obtain advice on a task and to obtain advice on search process. They further established that the colleagues and friends are used because of ease of accessibility, efficiency, and understanding.

Their fourth preference is the lecturers as an information resource (64%) and 52% also turn to lecturers when they need assistance. This trend has been perceived by the other studies reported here. Head and Eisenberg (2009) identified several reasons for the students turning to their lecturers for information; because they graded the assignments of the students, they

are available through e-mail, provided guidelines, reviewed draft provided by the students, engaged in individual sessions with the students and had in-class discussions. In other words, lecturers had closer interactions with the students with regard to their course related research than the librarians did, therefore they turn towards the lecturers for information.

However, their use of library collection is low (45%) and only 21% considered librarians as an information source while only 10% turned to librarians for assistance with using information resources. The inadequate use of library is also a trend prevailing in accordance with the global trend. Inconvenience, lack of time, confusion over how to begin the search for resources, having problems with navigating the mechanisms to locate materials, and getting intimidated by seeking assistance from the staff in addition to library anxiety are perceived as reasons for the low use of the library (Colon-Aguirre and Fleming-May 2012). Adio and Arinola (2012), established that the constraints faced by the students are; the unwillingness of the library staff to assist them, inadequacy of library opening hours, lack of relevant books, periodicals and other information resources in library. The current study did not make an in-depth analysis of usage pattern of the library by the agriculture students, but it was observed that there is a considerable distance between the lecture theatres and the library, which can make it inconvenient for the students to visit the library frequently while attending lectures. However, further research would be required to make any comments about why the usage is low.

Several studies have established why student prefer certain information resources over the others, even if the librarians and their teachers perceive that certain other resources are better in quality than what the students prefer. It indicates that the Sri Lankan respondents select their information resources based on convenience and ease of access.

Head and Eisenberg (2009) have identified three criteria (Traditional standards of timeliness and authority, Domain specific standards, and Self-taught standards) for evaluating information resources. Findings indicated that the respondents use one traditional (currency) and two self-taught methods (previously used, and availability of vital information in charts of the item) often, to evaluate the library material. They often use

three self-taught methods (previously heard, previous use, and availability of vital information in charts) and one traditional method (currency) to evaluate Internet-based resources. Although Head and Eisenberg established that their subjects evaluate internet-based material more than the library material, this was not evident in this Sri Lankan study. The percentages of students who use evaluation methods were almost equal for both types of resources. It was observed that the use of reliable evaluation methods was not adequate. Their evaluation methods need to be improved especially as they often use search engines, Wikipedia, and classmates more than the other more reliable resources.

Very low use of productivity tools by the respondents are similar to that of Head and Eisenberg (2010). They established that, except the highlighting features (by 62%), citation making programmes (by 55%) and document sharing programmes (by 48%) other tools are not adequately used for academic research. Cheunwattana et.al. (2012) also established that the respondent' use productivity tools is not significant. Head and Eisenberg (2010) opined that "even though the students may be heavy users of social networking sites such as Facebook, Web 2.0 applications for academic research have not yet found their way into students' research repertoire – yet" (Head and Eisenberg (2010, p. 23). However, a study carried out in Malaysia (Zakaria, Watson and Edwards 2010) has confirmed that the general opinion about integrating Web 2.0 tools in to learning is positive although some degree of inexperience and hesitancy was noted in particular tools. Students are passive in the context of content construction but regularly download information. Kumar (2009) presenting the findings of a study undergraduate perceptions of the usefulness of Web 2.0 comment that students' familiarity with the new technologies for other purposes, does not always translate to their use of those technologies for learning. She further comments that the students welcome the use of technologies for teaching and learning when they have had prior successful experience with them. In her study, the familiarity of the students with certain technologies like Facebook, outside education, made it possible for them to reflect on their educational value.

Students' lack of knowledge in routine research practices was ascertained by the findings on their difficulties of research related tasks implying that their research related information skills are considerably low. Of the ten most difficult tasks for them, three are related with the starting process and the other seven are related to evaluation of the sources, knowing the credibility of a website, finding information from different parts, filtering relevant information from irrelevant, and finding up-to-date material. The findings have proved that they need to develop their research related information skills. Nevertheless, these findings are not uncommon. Head & Eisenberg (2009, 2010) established that for 84% of their respondents, getting started was difficult. Cheunwattana et.al. (2012) also established that starting the research was difficult for 46%.

Conclusion and Recommendations

The findings lead to the conclusion, that the agriculture undergraduates use search engines, Wikipedia and classmates often as information resources, use more self-taught methods to evaluate resources, consult classmates more often than any other group of people for help, and they have problems in research-related tasks. Under these circumstances, serious attention should be paid to the quality of the Information-seeking behavior of the agriculture students. These findings strongly establish that the agriculture students urgently need more support from the faculty and the librarians to improve their information-seeking behaviour if they are to exploit the rich library and internet-based information resources for their learning and research. Delving in to the training they receive in Information Literacy or library usage proved that 52% have not received any such training while 48% accepted they received such training. This training is limited to the 45-60 minute orientation programme provided once the new students enrolled in the faculty. Absence or lack of training in information skills can be identified as the main reason for the weaknesses in their information- seeking behaviour and the research practices.

Therefore, it is strongly recommended that the students be provided with adequate training in to use the information resources effectively and consult librarians for assistance when they need expertise to help them. They need to be trained in searching for information from

reliable websites so that they can search beyond Wikipedia or Google. They also need to be trained to evaluate internet-based material as the most often used resource is search engines. Searching and evaluating skills will enable them to obtain more quality and relevant information from the internet. It is also recommended to provide training in the research process, so that the difficulties in research-related information tasks are minimized.

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