

## **BIBLIOGRAPHY**

OLATIC, RHEA T. APRIL 2013. Utilization of BSU TEEAL Service: An Agricultural Journal Compilation Database. Benguet State University. La Trinidad, Benguet.

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## **ABSTRACT**

The study aimed to determine the utilization of BSU students on the University library TEEAL Service.

Specifically, the study aims to determine the socio-demographic profile of the respondents, determine the awareness of respondents on the University library TEEAL service, determine the frequency of the use of TEEAL service by the students, enumerate the reasons of the respondents in using the TEEAL service, determine the perceived advantages of utilizing the TEEAL service, enumerate problems encountered by the respondents in using the TEEAL service and enumerate suggestions for the improvement of TEEAL service.

The study was conducted from December 2012 to February 2013 at Benguet State University, La Trinidad, Benguet. The respondents of the study were 298 students from the selected four colleges, of Benguet State University using accidental sampling



Most of the respondents were not aware of the service because of lack of information. Among those who were aware on the TEEAL service, only few tried to open and use it.

Findings showed that for school requirement is the major reason that they use the service mostly under Agriculture subjects.

Posting of TEEAL posters on bulletin boards, creating IEC materials and announcing it during orientations and student gatherings were the suggestions for the TEEAL service improvement.

It is recommended that the BSU library may consider more orientations and information dissemination on the existence of the TEEAL service and further study on the effectiveness of TEEAL may be done.



## INTRODUCTION

### Rationale

Agricultural information is needed not just by farmers but of anyone engaged in agriculture in order to gain more knowledge on Agriculture.

Agriculture is one of the oldest ways of living in the Philippines and is said to be the backbone of its economic system. Also, agriculture is highly practiced in the Cordillera Region because the soil is fertile and is very good for planting.

There are so many queries on what agriculture is although its history started more than 10,000 years ago. The Webster Dictionary-Tenth Edition (2001) defined agriculture as the science, art or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees, the preparation and marketing of resulting products.

Agriculture is a sector of economic activity that provides human beings with some of their basic needs. Its outputs are food and raw materials. Without the food products, life can easily be sustained; without the raw materials, the industrial sector of the economy cannot be fully developed. This is because the agricultural sector of the economy supplies most of the raw materials used by the industrial sector (AGU, 2007).

In order to inquire information on agriculture, people use different kinds of materials such as journals. A journal is a written record of incidents, experiences and ideas as defined by Nordquist (2012). Writers often keep journals to record observations and explore ideas that may eventually be developed into more formal essays, articles, and stories.



The level of quality of an institution of higher education is determined to a great extent by that of its library that is by the adequacy of its collections of books, journals, and other research materials, and services (Salaam and Aderibigbe, 2010).

BSU was founded in 1916 and has a focus in the fields of Agriculture, Education and Medicine. The University's educational goals emphasize service to society and it has collaborated with environmental experts and researches to boost farming in the local community. BSU has also been a forerunner in environmental protection and natural resource development (Gorinto, 2009).

BSU library's mission is to be a university committed to the achievement of BSU mission, goals, and objectives through higher quality services, resources and functional ICT. Its vision is to be a university library ICT model in CAR region that facilitates information access to all.

Just like other universities and colleges that offer services to help students for easy access on information about a certain topic they need for academic purposes, the BSU Library has its own The Electronic Essential Agricultural Library or TEEAL.

TEEAL is a project of the Cornell University Albert R. Mann Library which comes in CD-Rom and External hard drive format (Ramos and Reyes, 2001). It is a digital collection of a full-text and bibliographic library of the world's important scientific journals in the field of agriculture.

The idea for TEEAL arose in the 1980s, and was created by Wallace Olsen, former Senior Research Associate, and Jan Olsen, former Director, of Mann Library. TEEAL was



born in order to effect long-term improvements in food security and agricultural development by giving scientists better access to current research.

BSU, known as the oldest Agricultural School in the Region continues to heighten its prominence by institutionalized programs that are aided at bridging the digital divide where in it purchased library resources amounting to 1.76 million making the BSU library the first library in Cordillera to be automated (Caasi, 2010). Through the university library TEEAL service, students can now easily make research about agriculture and other studies on just few clicks on the computer.

The TEEAL database of BSU was purchased in 2005, installed in 2008 and was last updated in 2011 with the 2010 version. According to Ma. Teresa Marques, head of General Circulation Section of the University Library, BSU is the only school that has the TEEAL database in the whole Cordillera Region.

There was a need to conduct the study to see who use the services and consider their comments and suggestions for the improvement of the TEEAL Service if there are any. Furthermore, there was also a need to conduct the study to know the frequency of utilization of students on the service.



## Statement of the Problem

The study focused on the utilization of BSU students on the University Library TEEAL Service.

Specifically, it aimed to answer the following questions:

1. What is the socio-demographic profile of the respondents?
2. What is the awareness of the respondents on the University Library TEEAL Service?
3. What is the frequency of the use of the TEEAL service by the students?
4. What are the reasons of the respondents in using the TEEAL service?
5. What are the perceived advantages of utilizing the TEEAL service?
6. What are the problems encountered by the respondents in using the TEEAL service?
7. What are the suggestions for the improvement of TEEAL service?

## Objectives of the Study

Generally, the study aimed to determine the utilization of BSU students on the University Library TEEAL Service.

Specifically, it:

1. determine the socio-demographic profile of the respondents;
2. determine the awareness of the respondents on the University Library TEEAL Service;
3. determine the frequency of TEEAL service by the students;



4. enumerate the reasons of the respondents in using the TEEAL service;
5. determine the perceived advantages of utilizing the TEEAL service;
  
6. enumerate problems encountered by the respondents in using the TEEAL service; and,
  
  
7. enumerate suggestions for the improvement of TEEAL service.

### Importance of the Study

The results of the study may be used as a document for the profile of TEEAL service in BSU.

The study conducted also determined the frequency of the use of the TEEAL service by the students, the reasons of the respondents in using the TEEAL service and determine the perceived advantages of utilizing the TEEAL service.

Lastly, the results of this study may also be used by the BSU main library in improving the TEEAL service according to the comments and suggestions given by the respondents.

### Scope and Limitations of the Study

The study focused on the TEEAL service only of the university library, thus, it did not cover any other e-services of the university library.

Also, the students from the selected four colleges of the university (College of Agriculture, College of Engineering and Applied Technology, College of Forestry and College of Veterinary Medicine) were the respondents of the study, therefore, Open



University, Graduate School, faculty, researchers, outsiders and other university staff were not included.

Lastly, the study focused on the utilization of BSU students on the service and did not cover the effectiveness of the respondents on the TEEAL Service.





## REVIEW OF LITERATURE

### The Essential Electronic Agricultural Library (TEEAL)

TEEAL is a project of the Albert R. Mann Library of Cornell University with the support from the Rockefeller Foundation and publishers. It is a digital collection of 145 major journals in agriculture issued from 1993 with full-text and graphics that is sometimes being called “Library in a Box” (Ramos and Reyes, 2007). It is a digital collection of a full-text and bibliographic library of the world's important scientific journals in the field of agriculture and related sciences. Researchers, students, faculty and librarians can discover and access thousands of full-text PDF articles without the use of the internet. TEEAL is available to institutions in income-eligible countries.

It is a searchable, offline, digital library that contains over 200 Agricultural journals. It include subjects such Agriculture, Agricultural Engineering, Animal Science/ Veterinary Medicine, Biology, Biotechnology/ Applied Microbiology, Chemistry/ Biochemistry/ Biophysics, Economics/ Ecology/ Natural Resources, Fisheries/ Aquatic Science, Food Science/ Nutrition, Forestry, Human Medicine/Physiology and Plant Science/ Soil Science (Mann, 2010).

TEEAL is available for purchase at a low cost, and is solely for education and research in public and non-profit institutions in eligible-income countries that when you purchase it for the first time, you receive an external hard drive of journal content from 1993-2009. TEEAL is updated each year and that updates are shipped to current subscribers every December on a small set of DVDs (Mann, 2010).



Also, there are minimum necessary requirements the database needed to host TEEAL on computers for compatibility. They are as follows: Processor- 1500MHz, Memory- 1GB, Operating System- Windows 2000, XP, Vista, or windows 7, Free hard drive space-4GB, Miscellaneous- DVD reader; Adobe Reader 6.0 (provided with TEEAL); one free USB 2.0 port.

While TEEAL run on computers with less than 1 GB of RAM, performance may be compromised. On the other hand, the following are the minimum necessary to host the TEEAL collection on a network; Processor- 1500MHz, Memory- 1GB, Operating System- Windows Server 2000, 2003, or 2008, Free hard drive space at least 500GB, usually from a RAID configuration; Miscellaneous- DVD reader; one free USB 2.0 port. To purchase TEEAL, you must be a public or non-profit organization in an eligible country. TEEAL is a self-funded non-profit project. The content itself is free to eligible institutions. Publishers have generously donated journals with an estimated value over \$1 million. However, TEEAL is a physical information product that involves expenses related to the annual production of updates, upgrades, shipping, administration, outreach and training. TEEAL is available at a fraction of the cost of individual subscriptions to its journals. Participating publishers graciously assist in producing TEEAL by providing their journals at no cost (Mann, 2010).

According to Ochs (2005), You can't do research out of the blue. You need to access to some published literature. Before the introduction of TEEAL, it was really hard to get literature. Some students would have only three citations in an assignment. If i am looking for literature, I go to TEEAL first.



According to the study conducted by Hutchinson (2002), The Essential Electronic Agricultural Library (TEEAL) has been called a “library-in-a-box” because it is made up of 172 CD ROMs which include the full text of 130 agricultural journals. This impressive products can be purchased by 115 of the most low per capita income countries, as identified in the World Bank’s 1998-1999 World Development Report. The first installment contains journals published from 1993-1996 and is comprised of 735,000 pages of text that were scanned and digitalized by a contractor supervised by Mann Library staff.

Hutchinson also added that annual installments for subsequent years are in progress and include even more journals. The 1997 edition contains 140 journals and has been available since May 2000. The 1998 edition also includes 140 journals and will be ready for shipping in September 2000.

According to Friedlander (1999) as cited by Hutchinson (2002), negotiations are ongoing with publishers to include additional journals titles in four editions.

### Purposes of TEEAL Service

The library serves the information needed by scientists, field workers and professional staff (Ramos and Delos Reyes, 2007).

The ultimate goal of TEEAL is to increase the quality and effectiveness of agricultural and environmental science research in low-income countries. TEEAL was based on the premise that by providing access to the research literature of agriculture and environmental sciences, scientists and decision-makers in developing countries would have better access to the work of the global scientific community and thus would be better able



to incorporate proven scientific knowledge into their research and outreach programs, Ochs (2005).

According to Friedlander (1999) as cited by Ramos and Delos Reyes (2007), researchers in developing countries find it frustrating trying to keep abreast of the latest agricultural research because hard currency shortages prevent the purchase of hugely expensive scientific journals.

The electronic revolution has brought about new ways of generating, retrieving and disseminating information to enrich projects, researches, assignments and so forth. The existence of electronic resources, has allowed users faster and easier access in their search for information, which are current, elaborate, and far-reaching (Akobi, 2007).

Evans and Zarnosky (2000) as cited by Salaam and Aderibigbe (2010), described electronic resources in libraries as mixed blessing. Electronic resources are popular because they provide more flexibility in searching than their paper –based counterpart, and they can be accessed remotely at any time.

The world of the electronic databases, just like the evolution of the printing press in the past has changed information delivery. The electronic revolution has brought about new ways of generating, retrieving and disseminating information to enrich projects, researches, assignments and so forth. The existence of electronic resources, has allowed users faster and easier access in their search for information, which are current, elaborate, and far-reaching (Akobi, 2007).

In a study conducted by Salaam and Aderibigbe (2010), student’s preference of journal format, print, CD-ROM or online, conducted at the University of Agriculture,



Aboekuta, found that the users preferred the CD-Rom databases, particularly the TEEAL, to other media.

Ochs (2005), as cited by Akobi (2007), observed that TEEAL is the solution to a problem adding that in the last decade, there has been a huge investment in research and education programs in these countries. In spite of the monumental strides made in improving these programs, little has been accomplished in bringing these countries access to the world's scholarly publishing. Without access to the scientific literature, researchers in the developing countries cannot know that others have already found solutions to the problems they are struggling with. Ochs also noted that many students from the developing countries come to the United States and Europe to complete their graduate work. Upon returning to their own countries, they no longer have access to the literature that they have relied upon for their research programs in developing countries.

In the case of Egerton University, the Public Agricultural University in Kenya, until February of 2000, the library system lacked the means to provide the University's teaching, research, and extension programs with access to worldwide agricultural literature. Up to the present time, the library's annual budget allowed only for the purchase of a limited number of textbooks, undergraduate support materials and local newspapers. Books and scientific journals related to graduate studies and research have not been acquired unless through donations or contributions by donor agencies and, as yet, the technological infrastructure is not extensive enough to obtain scientific information through online journals and other electronic publications.

Recognizing the experiences like Egerton's are not unique and that institutions through the developing world face similar problem of resource and Information



deprivation, the Rockefeller Foundation teamed up with Cornell University's Albert R. Mann Library, to develop product to fill this gap. The Essential Electronic Agriculture Library was then created and was called "library-in-a-box" (Hutchinson, 2002).

### Advantages of Using TEEAL Service

According to the study of Ochs (2005), the TEEAL User Study demonstrates the high value that students and researchers place on access to current scientific literature. It also illustrates how they are using such resources to enrich their work, address agriculture-related problems, and enhance their participation in international peer-reviewed publications.

One of the most pressing issues for higher education institutions in developing countries is the lack of access to the world's current scientific literature in any given discipline (Ozowa, 1994; Gathegi, 1990; Mann, 1986) as cited by Hutchinson (2002). This situation is even more pronounced in the field of Agriculture, Hutchinson added. Students, educators and researchers consider TEEAL to be very useful in their work, enhancing both their productivity and the quality of their work. They find the articles in TEEAL relevant and trustworthy, and generally adequate in scope (Ochs, 2005).

On the study, Awareness and Utilization of The Essential Electronic Agricultural Library by Academic Staff: A Case Study of University of Agriculture, Abeokuta, Nigeria conducted by Salaam and Aderibigbe (2010), the respondents believed that TEEAL make it possible for them to access more easily information from different sources which helps enormously with their research, thus, the respondents of the study do found it easy to use.



TEEAL, which contains up-to-date information and, which in turn, has improved the quality of their work.

Ochs (2005) also found out on her study “TEEAL (The Essential Electronic Agricultural Library): A User Study” that people were involved in research and teaching and that TEEAL is useful in their research and teaching. The respondents agreed that the literature in TEEAL has influenced how they search and teach for scientific literature. Another key goal of TEEAL is to improve the availability of resources for teaching. Not nearly as many survey takers said they were involved in teaching. TEEAL is very useful in teaching and that having TEEAL has improved the quality of their teaching. She also found out that all of the Teaching professionals said that they used TEEAL and articles from the e-journals in their classes Ochs added

Akobi (2007), found out in his study, that researchers found the TEEAL collections to be solutions to the problem of quality research work and that the use of TEEAL collections has afforded them faster and easier access to the world’s scholarly publishing literature. He also found out that user-friendly is the nature of the database.

### Problems in Using TEEAL Service among the Students

TEEAL was born in order to effect long-term improvements in food security and agricultural development by giving scientists better access to current research. But somehow on its way, it met a lot of problems and discouragements before successfully installed and distributed.



According to Friedlander (1999), as cited by Ramos and Delos Reyes (2007) TEEAL had to clear years of hurdles, including about five years of negotiations to gain the cooperation of the world's leading scholarly journals on agricultural and life sciences to assemble the collection. The maker had spent considerable time negotiating copyright agreements and convincing publishers that distributing back issues of their journals to developing countries would not hurt potential subscription sales. Library-in-a-box sales are restricted to those developing countries where publishers normally would not find a market for their journals.

Providing access to rich scholarly literature is the key to the success of research programs in higher institutions in the developing countries. Experience has shown that one of the greatest barriers to the improvement of agricultural research in Nigerian institutions is the absence of literature and Libraries to support the research. There is a dire need to make core literature available, but it has to be in a form that the libraries in Nigeria can afford, support technically, and maintain under less than an ideal environmental condition (Akobi, 2007).

The database makes it possible for libraries in resource poor countries to have access to relatively current agricultural journals in CD-ROM format. However, electronic resources adoption and usage have their associated issues, especially so in Nigeria, which hinders an effective utilization of e-resources, affect the attitude of users towards resources, and make them prefer the traditional print information resources (Salam and Adirebigbe, 2010). Additionally, they found out on their study, Awareness and Utilization of The Essential Electronic Agricultural Library by Academic Staff: A Case Study of University of Agriculture, Abeokuta, Nigeria, that their respondents complain that TEEAL offers only





a limited number of journals published in Africa. This corroborates the finding on this same subject matter by Oduwole and Sowole (2006). They also identified lack of content in some subject areas and copyright implications.

In the study, Utilization and Impact of The Essential Electronic Agriculture Database on Library Services in Nigerian University of Agriculture, conducted by Oduwole and Sowole (2006), they found out that though the most of the users are computer literate, they still seek the assistance of library staff for database searching and that the major constraints to the use of TEEAL database include the high cost of printing of selected papers and the limited number of work station.

It is evident that some constraints to optimum use of TEEAL exist due to language barriers, inadequate infrastructure (computers, electricity, paper, toner cartridges, etc.), the cost of printing of articles, limited access (library hours) and the need for ongoing training (Ochs. 2005).

Additionally, Oduwole and Sowole (2006), as cited by Salaam and Adirebigbe (2010), electronic resources do not reduce library operating cost and present new challenges for staff. Moreover, electronic system can fail as a result of inadequate power supplies. Waiting for files to download, waiting to have a server to accept your query or being abruptly cut off in mid-session are sources of frustration that do not exist with paper-based resources. On the other hand, torn-out articles, miss-shelved or missing volumes, or library holiday gaps are not issues with the electronic resources, provided offline access to the required system is available.



### Suggestions for the Improvement of TEEAL Service

On the study “The Impact and Use of TEEAL on Researchers of Faculty of Agriculture, Ahmadu Bello University Samaru, Zaria,” conducted by Akobi (2007), the respondents leave their comments and suggestions as follows; the full text of TEEAL, particularly the ones on the Acrobat Reader should be made darker so that the print can be read easily; Most researchers complain about the faint print; There should be immediate provision for the Lan-based TEEAL and that more hardware are needed.

Awareness and orientation should be a continuous effort. The University Library should find an alternative way to generate power supply such as a stand by generator, inverter or solar energy system (Salaam and Aderibigbe, 2010).

According to Ochs (2005), surveys and case studies will allow the TEEAL team to identify more specifically those institutions struggling with these issues and arrive at a more targeted approach to help them overcome the problem’s they’ve identified. Addressing these issues should increase the number of individuals who can take advantage of TEEAL’s resources. Successful strategies can be extended to institutions that did not participate in the survey as needed.

Hutchinson (2002) found out on her study, “The Essential Electronic Agricultural Library (TEEAL): A Tool for Agricultural Education and Research in Developing Countries (A Case Study)” that the number of TEEAL requests continues to increase and the successful operation of the service has led to purchase an additional printer to help provide printouts as well as a modem and internet connection for the library.



Additionally, Ochs (2005) said that despite the availability of TEEAL, there remains a large unmet demand for access to scientific literature throughout the developing world, though most particularly in Africa. In mid-2003, as part of public awareness initiative directed at current and potential TEEAL donors, the TEEAL Office estimated that there were almost 100 institutions in Africa alone that were interested in acquiring the TEEAL set based on the number of direct approaches to the office with request for funding support for base sets or updates. “I can confidently tell you that this database has done me well. TEEAL has given me that research excellence”, Anonymous (2007) as cited by Akobi (2007) on his study.



## METHODOLOGY

### Locale and Time of the Study

The study was conducted in Benguet State University, the oldest institution among all other universities and colleges not just in La Trinidad but in the whole region. The University is committed to attain Center of Excellence and Center of Development status from the Commission on Higher Education for its degree programs. BSU is 5 kms from Baguio City; it is located in La Trinidad, Benguet (Figure 1) and so with the University library. The Library is located between the College of Teacher Education (CTE) and the BSU Secondary Laboratory School (SLS).

The University library was divided into 6 sections namely General Reference and Information Section, Periodicals/Serials Section, Filipiniana Section, General Circulation Section, Multimedia Section and the Virtual Library where the computer units with TEEAL database is located.

The study was conducted from December 2012 to February 2013.

### Respondents of the Study

Ten percent of each of the entire population of the College of Agriculture, College of Engineering and Applied Technology, College of Forestry and College of Veterinary Medicine were the respondents of the study because the TEEAL database contains subject journal related to the courses of these Colleges.



The College of Agriculture has the highest population with a total of 1,950 students as of the second semester of school year 2012-2013. College of Veterinary

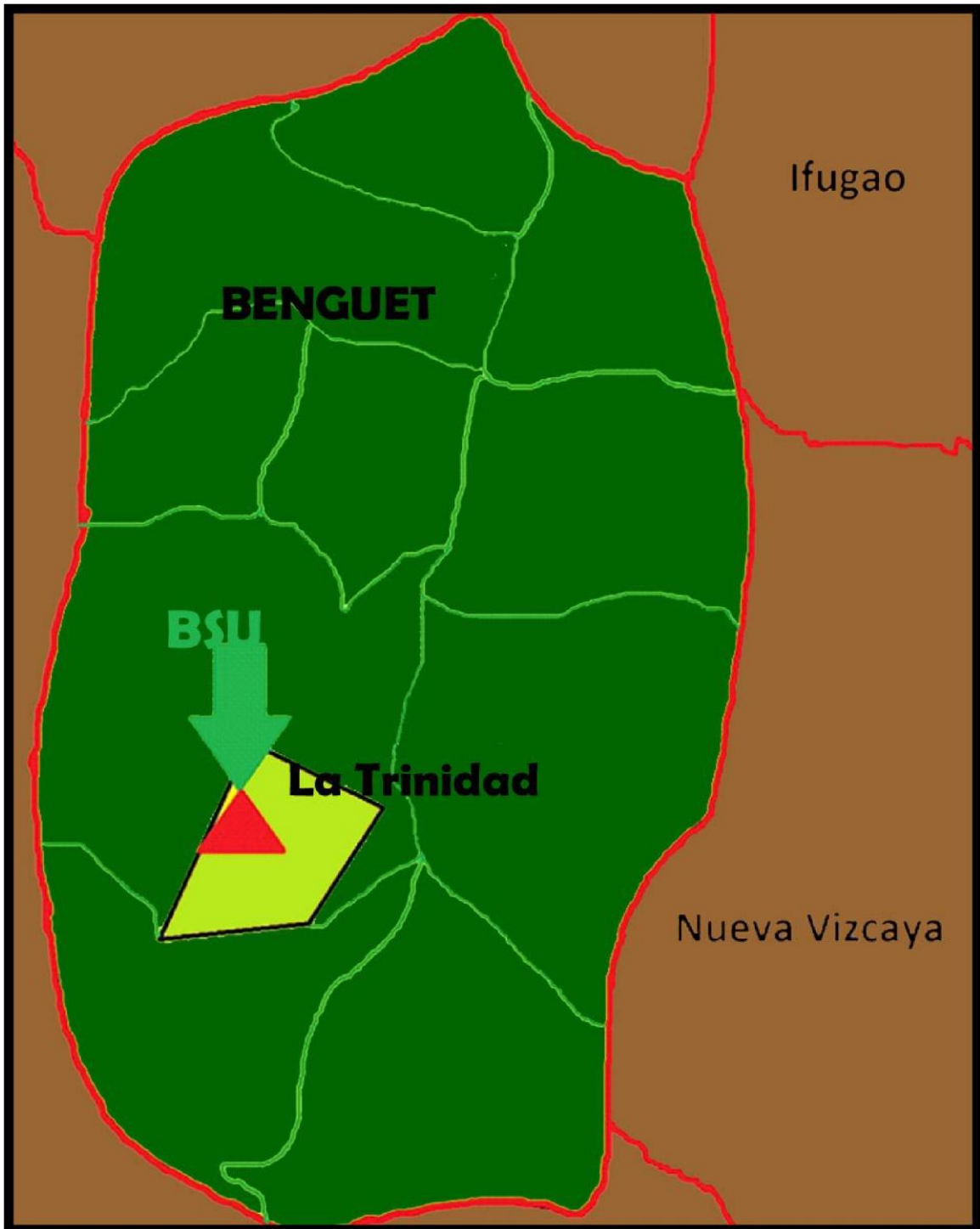


Figure 1. Map of Benguet showing La Trinidad where Benguet State University is located, the locale of the study 20



Table 1. Population of the four Colleges

COLLEGE	POPULATION	PERCENTAGE (10%)
CA	1,950	195
CEAT	297	29.7
CF	309	30
CVM	434	43

Medicine is the second highest population with a total of 434 students for the second semester of the same school year. College of Forestry has a total of 309 students and College of Engineering and Applied Technology has a total student's population of 297, excluding the Auto Mechanical course of the College, for second semester of school year 2012-2013 as well.

The library staff Ma. Teresa Marques, head of General Circulation Section was the key informant of the study since she is also in-charge of the maintenance of the TEEAL service in BSU.

### Data Collection

The key informant of the study was personally interviewed by the researcher regarding the profile of the TEEAL service in BSU. During the initial interview to the key



informant, the researcher was accompanied to one of the computer to show how TEEAL looks like and how to open and use it.

A survey questionnaire was used to ask the respondents about the utilization of the TEEAL service of the University library and accidental sampling was the method used to determine respondents.

The researcher checked the TEEAL service in the university library by testing the programs of the entire 30 computer, if there really is a TEEAL service found on them while looking for the respondents that are using TEEAL.

### Data Gathered

The data gathered were the socio-demographic profile of the respondents, the awareness of the respondents on the University library TEEAL Service, the frequency of the use of TEEAL service by the students, the purposes or reasons of the respondents in accessing the service, the perceived advantages of utilizing the service, the problems encountered in accessing the service, and the suggestions for the improvement of TEEAL service if there are.

### Data Analysis

The data gathered were consolidated, tabulated, analyzed using frequency counts and was described in narrative form.



## RESULTS AND DISCUSSIONS

### Socio-Demographic Profile of the Respondents

Table 2 shows the socio-demographic profile of the 298 respondents who were students of the four colleges (College of Agriculture, College of Engineering and Applied Technology, College of Forestry and College of Veterinary Medicine) of BSU where Agriculture and other related science subjects are offered. The table presents their sex, college and year level.

*Sex.* Most of the respondents were male (57%), most of them were from the College of Agriculture.

*College.* The College of Agriculture has the highest number of respondents (66%) due to high enrollment population followed by the College of Veterinary Medicine(14%).The College of Engineering and Applied Technology andthe College of Forestry have the same population which is 10% of the whole population of the respondents.

*Year level.* Most of the respondents were seniors (42%) mostly from the College of Agriculture because most of them are having their thesis which requires a lot of researches followed by the juniors (30%) who are also starting to work with their thesis. Sophomore (19%) and freshmen (9%) had smaller population at the study because they do not have a lot of agricultural subjects yet.





Table 2. Socio-demographic profile of the respondents

CHARACTERISTICS	NUMBER (n=298)	PERCENTAGE %
<b>Sex</b>		
Male	169	57
Female	129	43
<b>Total</b>	<b>298</b>	<b>100</b>
<b>College</b>		
Agriculture	195	66
Engineering and Applied Technology	30	10
Forestry	30	10
Veterinary Medicine	43	14
<b>Total</b>	<b>298</b>	<b>100</b>
<b>Year Level</b>		
Freshmen	29	9
Sophomore	56	19
Juniors	87	30
Seniors	126	42
<b>Total</b>	<b>298</b>	<b>100</b>



### Awareness on the University Library TEEAL Service

Table 3 shows the awareness of the respondents on the University library TEEAL service. Majority (58%) of the respondents were not aware on the said service because according to them, they are not oriented on what TEEAL is. Moreover, they are not a library goer because they prefer to go to computer shops to research for their school assignments and requirements because the virtual section of the university library is always full of students and that there are no space for them. As a result, they never heard about the TEEAL service.

Aragon (2009) cited that awareness comprises a human perception and cognitive reaction to a condition or event.

AWARENESS	NUMBER (n=298)	PERCENTAGE (%)
Table 3. Awareness of the respondents on the university TEEAL service		
Yes	126	42
No	172	58
Total	298	100

From the 126 population of the respondents, 126 of them were aware on the existence and usage of TEEAL service (shown in table 4). Seventy one among them were aware on the existence of TEEAL but they never try to use it while the other 55 respondents knew about the existence of TEEAL and they have already tried to open and use the service.



Table 5 shows the sources of information to where or whom the respondents learn about the service.

Most of the respondents learned the information of having the TEEAL service on the University Library through their friends (70.6%) who knew about the TEEAL service and have tried to use it. From a printed material such as poster from the library was the answer of 30.1% respondents and 5.5% respondents said that they learned the information through the internet from the BSU-library site.

Table 4. Characteristics of the awareness of the respondents on the TEEAL

NUMBER	PERCENTAGE (n=126)	(%)
Aware but never use it	71	56.35
Aware and tried to use it	55	43.65
Total	126	100

Table 5. Sources of information on the existence of TEEAL service

SOURCES (n=126)	NUMBER	CENT %
Friends	89	70.6
Printed Materials	38	30.1
Internet surfing	7	5.5

\*Multiple responses

Frequency of the Use of TEEAL Service by the Respondents



Table 6 shows the frequency of the use of TEEAL service by the students of College of Agriculture, College of Engineering and Applied Technology, College of Forestry and College of Veterinary Medicine.

Table 6 shows that 36% respondents have tried to use the service once because they just use it when necessary especially for their home works and assignments only, while 47% said they used it twice, 13% used it thrice and 4% used it four times these respondents were those that are having their thesis wherein they need to research more. This means that among the respondents who tried to open and use the service, almost half use the service twice because they find it helpful during their first time of use.

Table 6. Frequency and percentage distribution of using the University library TEEAL service

FREQUENCY	NUMBER (n=55)	PERCENTAGE (%)
Twice	25	47
Once	19	36
Thrice	7	13
Four times and above	3	4

#### Reasons of Utilizing the TEEAL Service by the Respondents

Table 7 shows the reason of the respondents in utilizing the university TEEAL service.

According to Ramos and Delos Reyes (2007), library serves the information needed by scientists, field workers and professional staff. In BSU, library is the house of



information where students search for their assignments, projects, reports and other school requirements.

The table presents the reasons of the respondents in using the TEEAL service of the University library. Four possible reasons were presented to the respondents.

*School requirements.* 41.9% of the respondents said that they use the TEEAL for school requirements, these includes assignments and projects on Agricultural subjects.

*Additional knowledge.* Some respondents (45.5 %) claim that they use the TEEAL for additional knowledge purposes. They say that to gain more knowledge on a certain subject and topic, they read journals from TEEAL. They also say that they use TEEAL because they are curious on what journals on TEEAL contains.

*Research requirements.* 41.8% of the respondents said that they use TEEAL for research requirements in and out of the University either educational or not. Some of the respondents said while they study, they also work on a certain agricultural institute or businesses where in they need to research for their jobs.

*Personal reasons.* Students said they have their own personal reasons in using the TEEAL service, 36.6% of the respondents are among them.

Table 7. Reasons of using the University library TEEAL service

REASONS	SUM (n=55)	PERCENTAGE (%)
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School requirements	27	49.1
Additional knowledge	25	45.5
Research requirements	23	41.8
Personal reasons	20	36.6

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\*Multiple Responses

Advantages of Utilizing the TEEAL Service by the Respondents

According to Ma. Teresa Marques, head of General Circulation Section of the University library, TEEAL is an agricultural database of over 240 scientific journals in agriculture and other related fields. Students therefore gain knowledge on a certain subject from the service. The respondents were asked on the perceived advantages in using the service. Their answers were as follows;

*Gain knowledge.* From TEEAL, one can gain knowledge on a certain topic and subject especially in Agricultural because it contains different kind of journals about Agriculture and different related fields. There are things that we don't know about something, through the journals the TEEAL contains we gain quality knowledge.

*Offers information.* Agriculture and other related field journals were created to share information about a certain literature. TEEAL contains journals on Agriculture and other related field which contains information that can be helpful to students for their studies and works especially the seniors who needs more extensive researches for their review of literature. This corroborates the study of Ochs (2005) where in Students, educators and researchers consider TEEAL to be very useful in their work, enhancing both



their productivity and the quality of their work. They find the articles in TEEAL relevant and trustworthy, and generally adequate in scope.

*User-friendly.* Some of the respondents said that TEEAL is user-friendly because it is an easy access on agricultural journals without the use of the internet. TEEAL is a searchable digital library that can be accessed without the use of internet because it is a database saved on a certain unit. This corroborates the study of Akobi (2007) and Salaam and Aderibigbe (2010) wherein they also found out that user-friendly is the nature of the database in a sense that it gives accurate knowledge and information without the aid of the internet.

#### Problems Encountered by the Respondents in Using the TEEAL Service

There are many possible factors that affect the usability of the TEEAL service. Three of them, personal, technical and software, was asked to the respondents. These are shown in table 8.

The frequency of using the service is also affected by some other factors though. As much as the students want to use the service more often, they could not do so because of the slow access of the database that takes a lot of time. According to some respondents, when waiting for the program to open, they open different search engines on the internet instead and they won't be able to use the program anymore. This supports the study of Salaam and Aderibigbe (2010), wherein the respondents claimed that they take a lot of time in just opening the program.



*Not familiar of the TEEAL service.* The respondents who tried to use the TEEAL are having hard time in utilizing the service because they are not familiar with it because the service was just recently introduced.

*Technical words used.* One of the problems the respondents encounter when they use the TEEAL service is the technicality of the words used. Some of the respondents say that there are some words that they don't understand because they are new to them.

*Not familiar with language used.* The language used on the TEEAL Service is English, though the respondents understand English, The respondents are getting a hard time in understanding points on the TEEAL because of its language, this corroborates the study of Ochs (2005), where in the result said that it is evident that some constraints to optimum use of TEEAL exist due to language barriers, inadequate infrastructure (computers, electricity, paper, toner cartridges, etc.), the cost of printing of articles, limited access (library hours) and the need for ongoing training.

*Slow database access.* Another problem the respondents encounter when they use the TEEAL Service is the slow database access. Due to the database's heavy capacity, the unit's performance in the Virtual Section of the University library may be compromised.

*No access/ no electricity.* In order to run a unit, there must be electricity. The respondents cannot access the TEEAL service simply because there is no electricity. Some of the respondents say that though the university library use generator during brown outs or black outs, they still do not open the virtual section where the units are located. Other respondents say that they cannot utilize the service because sometimes, the university





library closes the virtual section due to some reasons and that no student is allowed to enter the room and use the units, thus, there is no access on the service.

*Incomplete information.* Majority of the respondents claims that TEEAL Service lack information. There are those that on a certain subject, some information is not complete.

*Unavailable journals.* Some of the respondents say that there are journals that are not available on the TEEAL. This corroborates to the finding on the same subject matter by Salaam and Aderibigbe (2010) and Oduwole and Sowole (2006).The respondents say that every time they type a certain journal, nothing with the same title appears.

*Incomplete subjects.* All of the respondents say that on the TEEAL service, there are incomplete or unavailable subjects. This corroborates to Salaam and Aderibigbe (2010) that journal on TEEAL lack content in some subject areas.

Table 8. Problems encountered in using the TEEAL service

PROBLEMS	TOTAL SUM	RANK
<b>PERSONAL</b>		
Not familiar of the service	32	1
Technical words used	19	2
Not familiar with the language used	12	3
<b>TECHNICAL</b>		
Slow database access	44	1
<b>SOFTWARE</b>		



Incomplete information	27	1
Unavailable journals	21	2
Incomplete subjects	7	3

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Suggestions for the Improvement of TEEAL Service

The respondents gave their suggestions for the improvement of the TEEAL service. Some of the respondents said that TEEAL should be made known for other students to utilize because it is really helpful especially for students. This is the same to the suggestions on the study of Salaam and Aderibigbe (2010) that awareness and orientation should be a continuous effort. The University Library should find an alternative way to generate power supply such as a stand by generator, inverter or solar energy system.

According to Marques, they are announcing the existence of TEEAL during orientations especially to the freshmen, however, it did not cover the usage of the TEEAL as a whole.

Moreover, the respondents who are not aware on the service gave also their suggestions.

*Post TEEAL posters on bulletin boards.* Majority of the respondents said that in order to disseminate information on the existence of TEEAL, the university should post it on bulletin boards around the university compound so that all students can see it and they will know that such service exists.



*Create IEC materials.* The respondents suggested that the university library may create pamphlet or flyers and other IEC materials which contains information on the existence of TEEAL, how to access and its usage so it can be distributed to everyone.

*Announce during orientations and student gatherings.* The university library should also announce the existence and usage of the TEEAL service to the students so can also be oriented on how to use it.



## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### Summary

The study was conducted from December 2012 to February 2013 at Benguet State University, La Trinidad, Benguet. The respondents of the study were 298 students from the four colleges, College of Agriculture (195), College of Engineering and Applied Technology (30), College of Forestry (30) and College of Veterinary Medicine (43). Accidental sampling was the method used in determining the respondents. Survey questionnaires were used to gather information. Data gathered were consolidated, tabulated and analyzed using descriptive statistics.

Most of the respondents were male, belonging to the College of Agriculture are in their senior year.

Most of the respondents are not aware of the service and lack of information is the majority reason. Among those that are aware, only few tried to open and use it and they learned the information on the existence of the service from friends.

Findings showed that majority of the students use the service once a month and most of them tried to use it twice. School requirement is the major reason that they use the service and Agriculture is the subject they needed.

There are problems that affect the usage of the respondents on the university library: personal problems, technical problems and software problems. Highest percentages among the problems are as follows: not used of the TEEAL service, slow database access and incomplete information.



## Conclusions

Based on the results of the study, the following conclusions were derived: 1. TEEAL is not commonly used by the intended users in the university.

2. There is low awareness of the TEEAL among the students of BSU.
3. TEEAL served its purpose to provide information about Agriculture supported by the purpose indicated by the respondents.
4. TEEAL is not utilized by the students in the university.

## Recommendations

Based on the conclusions, the following recommendations were formed;

1. The BSU main library may consider more orientations and information dissemination on the existence of the TEEAL service.
2. The BSU main library may also come up with Information Educational Materials on TEEAL.
3. The TEEAL database access should be improved.
4. The Students should also utilize the service since many are aware but are not using.
5. The Teachers should also use the service.
6. Further study on the effectiveness of TEEAL may be done.



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