E-LIBRARY MANAGEMENT: A STUDENTS SERVICES ENHANCEMENT TOOL TO THEIR BEHAVIOR AND STUDY HABITS

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ABSTRACT

This study was conducted to determine the relationship between the features of E-Library Management System to the behavior and study habits of the students of Lumban National High School.

Specifically, it sought answers to the following questions: What is the level of Features of E-Library with regards to: Functionality, Usability, Reliability, Maintainability and Efficiency. What is the level of students' behavior in terms of: Persistence, Curiosity and, Creativity. What is the status of study habits relative to: Set study goals. Does the features of E- Library have a significant relationship to the behavior of the respondents. Does the feature of E-Library have a significant relationship to the study habits of the respondents?

The descriptive method of research was used in conducting this study. The study used a questionnaire as the research instrument. 200 students each from the abovementioned school were selected purposively.

It implies that there is significant relationship between the features of E-Library management system and the behavior of the respondents. While there is no significant relationship between the study habits of the respondents who assessed the E-Library Management system.

Keywords:

Library management, study habits, behavior, curiosity

INTRODUCTION

An e-library management system is a digital platform that allows users to access and manage electronic resources in a library. These resources can be accessed from anywhere with an internet connection, making it a convenient option for students who may be learning remotely or unable to access physical libraries.

The researcher believed that providing students with an E-Library Management System will modernize the distribution of reading materials available in the Library and accommodate the needs of teachers and learners in searching resources that meets their need in their teaching and learning process inside and outside the school. As a result, the primary goal of this research is to create and verify an E-Library Management System. This resource is intended to assist Lumban National High School Grade 7-10 Learners in having simple access to the courses at any time and from any location. This E-Library Management System material will enhance existing learning resources while adhering to the Department of Education's (DepEd) CALABARZON Enhanced Basic Education-Learning Continuity Plan (BE-LCP).

Statement of the Problem

1. This study aimed to create a web application for the Lumban National high school to develop and modernize their distribution of modules and enhance the students services in terms of learning using E-library management system.
2. Specifically, it sought to answer the following questions:

    1. What is the level of Features of E-Library with regards to:

1.1 Functionality;

1.2 Usability;

1.3 Reliability;

1.4 Maintainability and;

1.5 Efficiency?

2. What is the level of students' behavior in terms of:

2.1 Persistence;

2.2 Curiosity and;

2.3 Creativity?

3. What is the status of study habits relative to:

3.1 Set study goals

4. Does the features of E- Library have a significant relationship to the behavior of the respondents?

5. Does the feature of E-Library have a significant relationship to the study habits of the respondents?

REVIEW OF RELATED LITERATURE

A recent study by Fasi in 2018, investigated attitudes of 240 Saudi Arabian students toward the use of digital libraries in higher education at Taibah University in Madina. Regarding their attitudes toward digital libraries, participants agreed the most that using digital libraries to support learning is a good idea. A moderate number of students perceived that digital libraries are usable and agreed that they feel very confident in using digital libraries.

To support this according to Yalagi et. al. (2021), entitled "Smart Library Automation Using Face Recognition" This study focused on the students who can borrow books using face

recognition software so that the librarian can easily trace the students if the book are damaged or lost. The system is effective in tracing, however this system is limited services for the students who have smart phones only.

Furthermore, Technological change in the course of human life is not particularly significant in the field of education. The eloquence and skill of the next generation of professionals such as teachers will be in vain if it continues to rely on traditional methods (Blair, 2016).

Moreover, Bilbao (2015) stated that one of the fundamental goals of the 21st-century learning is promoting technical skills. This is because such skills adapt to the fast-changing and dynamic global competition. Therefore, emphasis is laid on the 4Cs: critical thinking and problem-solving, communication, collaboration, and creativity and innovation.

To develop such skills among learners, the currently implemented curricula should be affixed to empowering modern-day pedagogies and enhancing innovation skills and ICT integration in education (Nithyanantham, 2019).

METHODOLOGY

The descriptive method was used to analyze the relationship between the features of E-Library Management system to the Behavior and Study Habits of the students. According to Sevilla et. Al (2013), the descriptive method is used to describe the nature of the situation as it exists at the time of the study and explore the causes of the particular problem.

The study is about developing and validating E-Library Management System as an innovation to the existing learning materials in Lumban National High School.

The samples consisted of 200 select students (50 from grade 7, 50 from Grade 8, 50 from Grade 9 and 50 from Grade 10) who evaluate and validated the application as the main user of the application E-Library management system.

RESULT AND DISCUSSION

Table 1. Level of Features of E-Library with regards to Functionality

STATEMENT	Mean	SD	Remarks
The user is capable of creating and updating account.	4.60	0.62	Strongly Agree
The user is capable of monitoring users and their transaction.	4.72	0.57	Strongly Agree
The user can monitor the available resources in the school library.	4.60	0.61	Strongly Agree
The user can monitor the borrowed resources in the school library.	4.57	0.51	Strongly Agree
The user is capable of downloading digital modules and e-modules.	4.32	0.80	Strongly Agree
Grand Mean	**4.56**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 1 illustrates the level of functionality of the features of E-Library. It can be gleaned that the respondents strongly agree that the user is capable of monitoring users and their transaction in the E-Library, it gained the highest (M=4.72, SD=0.57). Similarly, respondents strongly agree that the user is capable of downloading digital modules and e-modules from it though it received the least (M=4.56, SD=0.80).

Overall, level of level of functionality of the features of E-Library attained the grand mean of 4.56 and was interpreted as Very High. This further implies that the E-Library was functioning very well.

Table 2. Level of Features of E-Library with regards to Usability

STATEMENT	Mean	SD	Remarks
The system possesses appropriate user-friendly interface and acceptable.	4.34	0.73	Strongly Agree
The system can be used on mobile devices	4.61	0.63	Strongly Agree
The system functions can be easily understood by the user.	4.34	0.68	Strongly Agree
The system can handle multiple user request and transaction	4.52	0.64	Strongly Agree
The system provides ease of access.	4.33	0.63	Strongly Agree
Grand Mean	**4.43**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 2 illustrates the level of usability of the features of E-Library. It can be gleaned that the respondents strongly agree that The system can be used on mobile devices, it gained the highest (M=4.61, SD=0.63). Similarly, respondents strongly agree that the system provides ease of access, though it received the least (M=4.33, SD=0.63).

Overall, level of level of usability of the features of E-Library attained the grand mean of 4.33 and was interpreted as Very High. This further implies that the E-Library was very useful.

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Table 3. Level of Features of E-Library with regards to Reliability

STATEMENT	Mean	SD	Remarks
The user is capable to track the number of books available in the library	4.67	0.51	Strongly Agree
The system provides accurate records handling	4.71	0.47	Strongly Agree
Modules are reliable based on MELC.	4.50	0.56	Strongly Agree
The system is capable of handling errors	4.41	0.59	Strongly Agree
The system can resume working and restore lost data	4.68	0.53	Strongly Agree
Grand Mean	**4.59**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 3 illustrates the level of reliability of the features of E-Library. It can be gleaned that the system provides accurate records handling, it gained the highest (M=4.71, SD=0.47). Similarly, respondents strongly agree that the system is capable of handling errors, though it received the least (M=4.41, SD=0.59).

Overall, level of level of reliability of the features of E-Library attained the grand mean of 4.59 and was interpreted as Very High. This further implies that the E-Library was reliable.

Table 4. Level of Features of E-Library with regards to Maintainability

STATEMENT	Mean	SD	Remarks
The user is capable in accessing the system in a short period of time.	4.76	0.43	Strongly Agree
The system provides easy updating of modules and books record	4.78	0.42	Strongly Agree
The system provides user account recovery	4.61	0.51	Strongly Agree
The system provides usage stability	4.70	0.50	Strongly Agree
The system can keep its compatibility with the changing user environments such as hardware and operating systems	4.70	0.50	Strongly Agree
Grand Mean	**4.71**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 4 illustrates the level of maintainability of the features of E-Library. It can be gleaned that the system provides easy updating of modules and books record, it gained the highest (M=4.78, SD=0.42). Similarly, respondents strongly agree that the system provides user account recovery, though it received the least (M=4.61, SD=0.51).

Overall, level of level of maintainability of the features of E-Library attained the grand mean of 4.71 and was interpreted as Very High. This further implies that the E-Library was maintainable.

Table 5. Level of Features of E-Library with regards to Efficiency

STATEMENT	Mean	SD	Remarks
The uploading and downloading of modules and books can be done in the short period of time.	4.80	0.44	Strongly Agree
The system can be used with a minimum amount of time spend in learning.	4.82	0.39	Strongly Agree
The system immediately responds in every action of the user.	4.57	0.51	Strongly Agree
The system can be used in any computer or mobile devices	4.73	0.46	Strongly Agree
The system achieves its intended output using more than planned resources	4.74	0.44	Strongly Agree
Grand Mean	**4.73**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 5 illustrates the level of efficiency of the features of E-Library. It can be gleaned that the system can be used with a minimum amount of time spend in learning, it gained the highest (M=4.82, SD=0.39). Similarly, respondents strongly agree that the system immediately responds in every action of the user, though it received the least (M=4.57, SD=0.51).

Overall, level of level of efficiency of the features of E-Library attained the grand mean of 4.73 and was interpreted as Very High. This further implies that the E-Library was very efficient.

Level of Students' Behavior

Table 6. Level of Students' Behavior in terms of Persistence

STATEMENT	Mean	SD	Remarks
The system helps the user to be determined in catching up with missed lectures.	4.64	0.61	Strongly Agree
The system reminds the user to finish the task at a given schedule.	4.63	0.61	Strongly Agree
The system motivates the user to persist on doing schoolwork despite perceived challenges.	4.52	0.63	Strongly Agree
The user gains self-regulation abilities such as time management	4.51	0.51	Strongly Agree
The system helps the user accomplish their task in the time being.	4.22	0.79	Strongly Agree
Grand Mean	**4.50**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 6 illustrates the level of persistence of the features of E-Library. It can be gleaned the system helps the user to be determined in catching up with missed lectures, it gained the

highest (M=4.64, SD=0.61). Similarly, respondents strongly agree that the system helps the user accomplish their task in the time being, though it received the least (M=4.22, SD=0.79).

Overall, level of level of persistence of the features of E-Library attained the grand mean of 4.50 and was interpreted as Very High. This further implies that the E-Library was motivates the user to persist on doing schoolwork despite perceived challenges.

Table 7. Level of Students' Behavior in terms of Curiosity

STATEMENT	Mean	SD	Remarks
The system makes the user investigate.	4.39	0.72	Strongly Agree
The system makes the user eager to learn.	4.57	0.65	Strongly Agree
The system increases the interest of the user.	4.35	0.68	Strongly Agree
The system makes the user thirst for knowledge.	4.56	0.66	Strongly Agree
The system makes the user wonder.	4.34	0.63	Strongly Agree
Grand Mean	**4.44**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 7 illustrates the level of curiosity of the features of E-Library. It can be gleaned the system makes the user eager to learn, it gained the highest (M=4.57, SD=0.65). Similarly, respondents strongly agree the system makes the user wonder, though it received the least (M=4.34, SD=0.63).

Overall, level of level of persistence of the features of E-Library attained the grand mean of 4.44 and was interpreted as Very High. This further implies that the E-Library captures the learners' curiosity.

Table 8. Level of Students' Behavior in terms of Creativity

STATEMENT	Mean	SD	Remarks
The system motivates the user to brainstorm new ideas.	4.63	0.55	Strongly Agree
The system stimulates the user's creative thinking and creative skill.	4.73	0.48	Strongly Agree
The system engages the user to participate in collaborative processes with other individuals or groups.	4.48	0.58	Strongly Agree
The system assists the user to maximize efficiency in the process of creative thinking.	4.40	0.59	Strongly Agree
The system motivates the user to create artistic output.	4.68	0.53	Strongly Agree
Grand Mean	**4.59**		**Strongly Agree**
Interpretation	**Very High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 8 illustrates the level of creativity of the features of E-Library. It can be gleaned the system stimulates the user's creative thinking and creative skill, it gained the highest (M=4.73, SD=0.48). Similarly, respondents strongly agree the system assists the user to maximize efficiency in the process of creative thinking, though it received the least (M=4.40, SD=0.59).

Overall, level of level of creativity of the features of E-Library attained the grand mean of 4.59 and was interpreted as Very High. This further implies that the E-Library divulge the creativity of the learners.

Status of Study Habits

Table 9. Status of Study Habits Relative to Set Study Goals

STATEMENT	Mean	SD	Remarks
The system helps the user improve their interest in reading.	4.22	0.72	Strongly Agree

The system helps the user follow and accomplish their task/s.	4.29	0.68	Strongly Agree
The system improves the users' critical thinking skills.	4.18	0.68	Agree
The system helps the users to be engaged in classes.	4.00	0.67	Agree
The system aids user to better managing and maximizing their time.	3.84	0.57	Agree
Grand Mean	**4.10**		**Agree**
Interpretation	**High**		

Legend:

Scale	Range	Remarks	Interpretation
5	4.20 – 5.00	Strongly Agree	Very High
4	3.40 – 4.19	Agree	High
3	2.60 – 3.39	Moderately Agree	Moderately High
2	1.80 – 2.59	Disagree	Low
1	1.00 – 1.79	Strongly Disagree	Very Low

Table 9 illustrates the status of study habits relative to set study goals. It can be gleaned the system helps the user follow and accomplish their task/s, it gained the highest (M=4.29, SD=0.68). Similarly, respondents agreed that the system aids user to better managing and maximizing their time, though it received the least (M=3.84, SD=0.57).

Overall, status of study habits relative to set study goals attained the grand mean of 4.10 and was interpreted as High. This further implies that the status of study habits relative to set study goals.

Minitab 14 was used in computing the data gathered and treated them statistically using Pearson's Moment of Correlation Coefficient (Pearson's R). The computed p-values were compared to the level of significance at 0.05 to determine the significant relationship between features of E- Library to the behavior and study habits of the respondents.

Significant Relationship of the features of E- Library to the Behavior of the Respondents

Table 10. Significant Relationship of the features of E- Library to the Behavior of the Respondents

Variables		r-value	Degree of Correlation	p-value	Analysis
Functionality	Persistence	0.860	Very Strong	0.000	Significant
	Curiosity	0.017	Negligible	0.809	Not Significant
	Creativity	0.101	Negligible	0.155	Not Significant
Usability	Persistence	0.021	Negligible	0.765	Not Significant
	Curiosity	0.951	Very Strong	0.000	Significant
	Creativity	0.221	Weak	0.003	Significant
Reliability	Persistence	0.071	Negligible	0.317	Not Significant
	Curiosity	0.234	Weak	0.001	Significant
	Creativity	0.916	Very Strong	0.000	Significant
Maintainability	Persistence	0.053	Negligible	0.459	Not Significant
	Curiosity	0.236	Weak	0.001	Significant
	Creativity	0.365	Weak	0.000	Significant
Efficiency	Persistence	0.021	Negligible	0.771	Not Significant
	Curiosity	0.224	Weak	0.001	Significant
	Creativity	0.441	Moderate	0.000	Significant

**significant at .05 level of significance*

Range	Degree of Correlation
±.0.81 – ±.1.00	Very Strong
±.0.61 – ±.0.80	Strong
±.0.41 – ±.0.60	Moderate
±.0.21 – ±.0.40	Weak
±0.00 – ±.0.20	Negligible

Table 10 revealed the relationship features of E- Library in terms of functionality, usability, reliability, maintainability and efficiency to the behavior of the respondents in terms of persistence, curiosity and creativity.

It can be manifested that the features of E-Library in terms of usability, reliability, maintainability and efficiency convey a *significant* relationship to the students' behavior in terms of curiosity and creativity as indicated by the obtained r-values ranging from (0.224) to (0.951) with a *weak to very strong degree of correlation* and p-value (0.000-0.003) which was lower than the 0.05 level of significance that supports the result of the analysis. However, the mentioned variables showed a *not significant* relationship to students' persistency, gaining a *negligible* r-values ranging from (0.021) to (0.071) and p-value (0.317-0.765).

Differently, features of E- Library in terms of functionality indicated a very *strong significant* relationship to students' persistency as implied by the obtained (r=0.860) and

(p=0.000) which was lower than the 0.05 level of significance that supports the result of the analysis while in terms of students' curiosity and creativity it was found out to have a *not significant* relationship, attaining (r=0.017 and 0.101) and (p=0.809 and 0.155).

These means further that the majority of the features of the E-Library may boosts students' curiosity and creativity while it is not relative to their persistency.

Table 11. Significant Relationship of the features of E- Library to the Study Habit of the Respondents

Variables		r-value	Degree of Correlation	p-value	Analysis
Functionality		0.078	Negligible	0.270	Not Significant
Usability		0.016	Negligible	0.828	Not Significant
Reliability	Set Study Goals	0.064	Negligible	0.368	Not Significant
Maintainability		0.013	Negligible	0.852	Not Significant
Efficiency		0.115	Negligible	0.105	Not Significant

**significant at .05 level of significance*

Range	Degree of Correlation
±.0.81 – ±.1.00	Very Strong
±.0.61 – ±.0.80	Strong
±.0.41 – ±.0.60	Moderate
±.0.21 – ±.0.40	Weak
±0.00 – ±.0.20	Negligible

Table 11 revealed the relationship features of E- Library in terms of functionality, usability, reliability, maintainability and efficiency to the Study habits of the respondents in terms of Set Study Goals.

It can be manifested that the features of E-Library in terms of functionality, usability, reliability, maintainability and efficiency convey a *not significant* relationship to the students' study habits in terms of set study goal as indicated by the obtained *negligible* r-values ranging from (0.013) to (0.115) with a *Negligible degree of correlation* and p-value (0.105-0.852).

These means further that the majority of the features of the E-Library is not relative to their Study habits in terms of Set study goals.

CONCLUSION

In the light of the outcomes mentioned above, the study has drawn the following conclusions:

The null hypothesis indicating no significant difference between the features of E- Library to the behavior of the respondents is hereby rejected. Since, it has been proven that the features of the E-library Management System has significant relationship on the behavior of students in terms of persistence, curiosity and creativity. Differently, the null hypothesis indicating the no significant relationship between the features of E-Library to the study habits of the students is hereby accepted.

E-Library management system is perceived as an alternative to the current printed learning material utilized in the currently implemented learning modality. This result also implies that the developed learning material is perceived to help improve the quality of the students' learning even if they are studying independently without the teacher's presence.

RECOMMENDATIONS

The following are hereby recommended for consideration from the findings and conclusions drawn.

1. The E-Library Management System is recommended for the use of Grade 7-10 students in their study.

2. It is suggested that school administrators support the teachers to create interactive digital learning materials for other subjects.

3. It is recommended for teachers to equip themselves with the minimum technological skills by attending related trainings.

4. Teachers are also urged to utilize cost-efficient ICT services related to producing interactive digital learning materials to minimize personal expenditures.

5. Similar studies about the use of E-Library management system as intervention are therefore recommended in other subjects may develop may add for the effectiveness.

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