

ENHANCED ONLINE LIBRARY MANAGEMENT SYSTEM: ITS IMPACT ON STUDENTS' LEARNING EXPERIENCE AND ACADEMIC PERFORMANCE IN INQUIRIES, INVESTIGATION, AND IMMERSION

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ABSTRACT

The purpose of this study is to determine how the enhanced online library management system impacts the learning experience and academic performance of grade 12 students' in inquiries, investigation, and immersion. True-experimental design was implemented. Collection of inquiries, investigation, and immersion average and likert-scale questionnaire was administered to grade 12 students. The data were analyzed using both descriptive and inferential statistics. The study revealed that the enhanced online library management system positively impacted the respondents' learning experience and academic performance. Thus, it revealed that strand is insignificant in the learning experience of students, though, it is significant in their academic performance. The study concluded that the learning experience and academic performance of the respondents who used the enhanced online library management system is significantly different than those who did not use the aforementioned website. This study examines the impact of the enhanced online library management system on academic performance and learning experience in inquiries, investigation, and immersion. The study concentrated solely on grade 12 senior high school students, limited to 40 respondents. The findings offer practical value in widening the accessibility of students in learning materials. This study concludes the impact of the enhanced online library management system improved the learning experience and academic performance of students that will benefit and assist a school library and teachers in providing information accessibility through the enhanced and new features offered by a website such as Quick Response features, Video Lessons Page, Book Page, and Announcement page.

Keywords: academic performance, impact, library, learning experience

INTRODUCTION

Learning materials are helpful tool for students in their learning experience, but the lack of its availability resulting to unequal access of students is a difficulty encountered by them. It has been apparent that there is shortage in the availability of copies of learning materials in schools. Due to this, students rely on soft copies of learning materials that can be found online. Through the use of technology, knowledge and information have now become convenient and effective to access. It supports learners' ability with the increased learning interactivity of students with digital technology (Raja et al., 2018).

Despite this, students are still struggling on finding the right information and accurate learning materials for the lessons they need to study. These difficulties encountered by the students affect their learning experience and academic performance. The researchers would like to aid the difficulty experienced by the students, especially of Dr. Maria D. Pastrana National High School. The researchers will be creating an online website product, called “Online Library Management System” that focuses on managing and providing a much wider variety of learning materials and accurate learning information through an online website to provide a solution to various difficulties faced by the Grade 12 students of Dr. Maria D. Pastrana National High School.

The researchers conducted a study about the impact of Enhanced Online Library Management System on the learning experience and academic performance of grade 12 students of Dr. Maria D. Pastrana National High School. The researchers wanted to provide a solution to the difficulties faced by students and help them through this research.

REVIEW OF RELATED LITERATURE AND STUDIES

According to Ahmad Uzir, et al. (2019), three distinct forms of planning, monitoring, and regulating processes that result in effective time management are heavily emphasized in self-regulated learning. When students make an effort to use their time wisely as they get closer to predefined learning objectives, this is referred to as time management. Planning in this study's context refers to cognitive preparation. For instance, rather than delaying task participation, students may decide to access specific course resources earlier than expected or to accomplish a learning project just in time. Students can measure the gaps between their learning objectives and progress through monitoring, though. Last but not least, regulatory techniques are the deliberate acts that students do to assess their comprehension within a specific learning environment.

It is said by Orsini et al., (2019), self-motivation and academic achievements are positively correlated, according to research done in many educational environments. Studies consistently show that self-motivated students demonstrate greater learning approaches, adopting an in depth or meaning-oriented approach to learning over a superficial or reproductive-oriented one. On the other hand, a lack of motivation has been associated with poor academic performance. Thus, encouraging students to be self-motivated is advised because it can have a favorable effect on their academic performance and general well-being, as well as improve the use of deep study techniques and academic achievement while decreasing the use of surface study strategies. These results, which showed that internalization and self-motivation played a significant impact in improving students' academic and personal performance, were supported by a study of dentistry students.

Based on the study of Prasetya & Rahmi, (2022) the use of online library resources and library borrowing were found to significantly correlate with students' final grades. The monitoring of retention, student success, and academic engagement at the University of Minnesota served to emphasize this relationship even more. The study looked at how often students used library resources and services, and the results indicated that most undergraduate and graduate students did as well. The study also discovered a strong relationship between library use, Grade Point Average

(GPA), and retention, with low or non-use of libraries possibly causing students to drop out or exhibit a decline in attendance, both of which are signs of retention issues.

RESEARCH QUESTIONS

This study aimed to determine the impact of the Enhanced Online Library Management System on students' learning experience and academic performance in Dr. Maria D. Pastrana National High School.

Specifically, this study sought to answer the following:

1. What is the demographic profile of the respondents in terms of:
 - 1.1 Strand; and
 - 1.2 Type of Respondents?
2. What is the impact of the Enhanced Online Library Management System on learning experience of the students in terms of:
 - 2.1 Time Management; and
 - 2.2 Self-Motivation?
3. What is the impact of the Enhanced Online Library Management System on Academic Performance of students in Inquiries, Investigation, and Immersion based on their Weighted Average?
4. Is there a significant difference between the learning experience and the group of respondents in terms of:
 - 4.1 Strand; and
 - 4.2 Type of Respondent?
5. Is there a significant difference between the academic performance and the group of respondents in terms of:
 - 5.1 Strand; and
 - 5.2 Type of Respondent?

METHODOLOGY

Project Flowchart

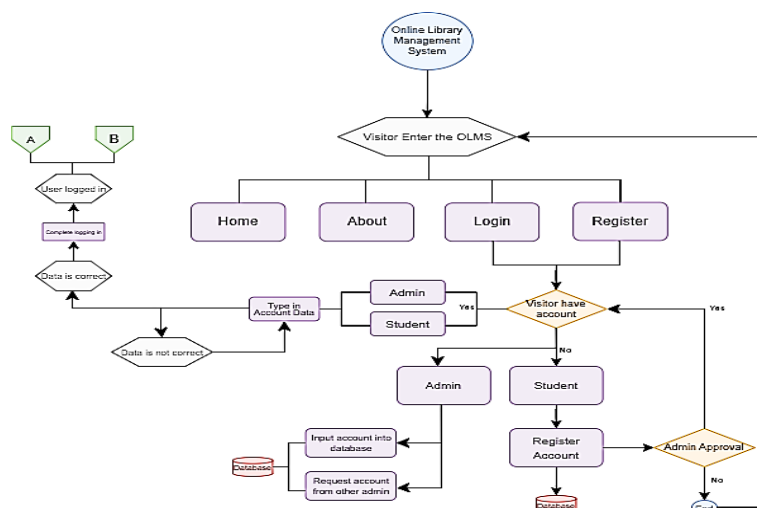


Figure 1. Flowchart of the Enhanced Online Library Management System for Visitor

The figure above shows the Enhanced Online Library Management System visitor page which features Homepage, About page, Service page, and Register/Login page. If visitors do not have an account, they can create one. The account info will then go to the database and will have to wait for an admin to approve the account before using it. For teachers, they'll have to request an admin for an account. Completing the Google reCAPTCHA and entering in the correct details (username & password) is required to use the account.

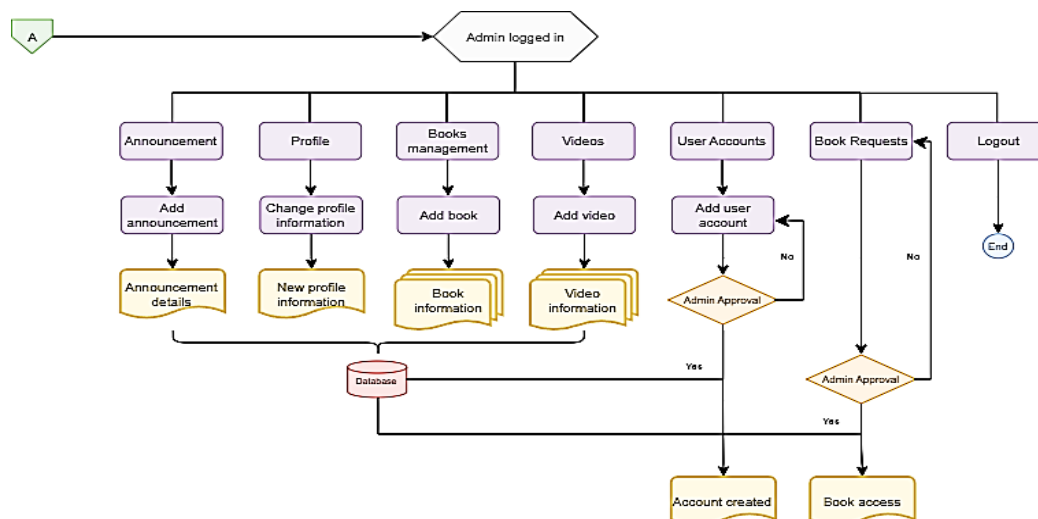


Figure 2. Flowchart of the Enhanced Online Library Management System for Admin Page

The figure above shows the Enhanced Online Library Management System admin page which contains various features. Announcement Profile is where admins can view their basic account information. Admins can also change their password in this section. Book Management is where verified admins can view and edit the book's information and pdf file redirecting. Admins can also add books in this section of the website. Video is where admins can upload and manage video lessons for students. This section also contains details of the video. User Accounts is where admins can create accounts for other admins and students. This section of the site also contains the approval section where they can accept or reject students that created their own accounts. Book Requests is where admins can approve or reject the book requests of students, this section also allows the admin to see the request history to see the approved or rejected requests by other admins.

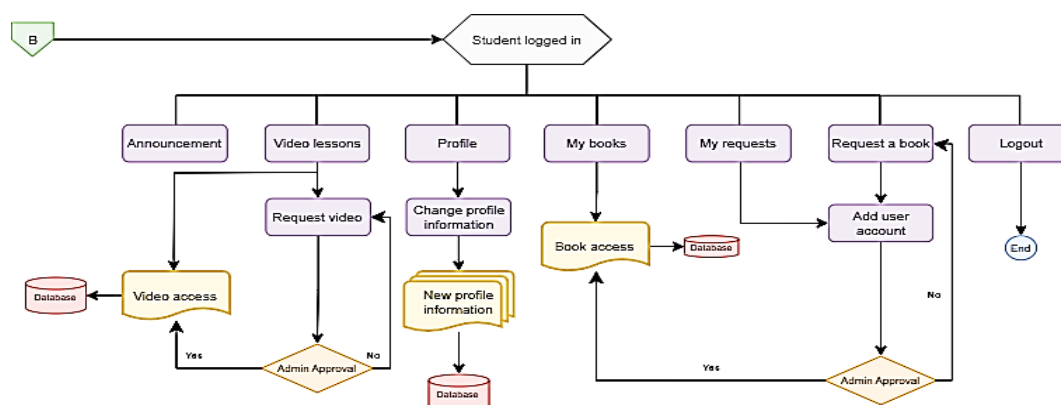


Figure 3. Flowchart of the Enhanced Online Library Management System for Student Page

The figure above shows the Enhanced Online Library Management System student page which contains various features. Announcement is where students can view message or announcement regarding the books or the website. Profile is where students can view their basic account information. Students can also change their password in this section. Videos is where students can view and manage video lessons. My Videos is where students can view and watch the videos the admin accepted. My Video Requests is where students can view the status of the video they requested. My Books is where students can access the books that they have (after the admins approval). My Request is where students can see the books that they have requested and book requests that are currently pending approval from admins. Request a Book is where students can see the array of books that the site currently has. They have options to search for a book and request a book that will have to be approved by an admin.

Research Design

The researchers used a true-experimental research design with a quantitative approach to assess the impact of the Enhanced Online Library Management System on Students' Learning Experience and Academic Performance in Inquiries, Investigations, and Immersion. The manipulated variable is known as the experimental treatment, while constant variable is known as the control group. This can be considered as the most appropriate design because the main objective of experimental research is to determine whether a specific approach or method of doing something is "better" than the "older" or more traditional method that has been the standard practice (Lodico et al., 2006, p. 12).

Research Locale

This study was conducted in Dr. Maria D Pastrana National High School located at Quezon Street, Brgy. Bagong Bayan, and Sitio Pilaway, Brgy. Polo, Mauban, Quezon.

Respondents of the Study

The study selected forty (40) respondents from the grade twelve (12) senior high school students of DMDPNHS using multistage sampling technique. Ten (10) respondents were selected from each strand, resulting in five (5) control group respondents and five (5) experimental group respondents for each strand.

Sampling Technique

The respondents of the study are the grade twelve (12) senior high school students of DMDPNHS, who were selected randomly using multistage sampling technique. All grade 12 students were part of the population. For the 1st stage, students with General Weighted Average (GWA) ranging from 75 to 85 were selected, if not, the lowest average possible was selected. In 2nd stage 10 students were randomly selected from each strand. All students selected participated in the study. The study included forty (40) senior high school students, with ten (10) students from each strand. There was a total of twenty (20) control group respondents, who received post-test only. Additionally, there was twenty (20) experimental group respondents, who received intervention and post-test. The respondents' strand was also considered, and each control and experimental group had an equal number of 5 respondents from each strand.

Research Procedure

The data collection method employed for this research is the Post-test only control group. Under this experimental design, there are at least two groups whereas participants will be randomly assigned to either receive an intervention or not. The outcome of interest will then be measured only once after the intervention, to determine its effect. The group that does not receive the treatment or intervention of interest is the control group.

Research Instrument

The researchers used traditional paper questionnaire for the post-test of this study. The post-test was held after the interventions have been conducted. The goal of this test was to determine the impact of the Enhanced Online Library Management System on Students' Learning Experience and Academic Performance in Inquiries, Investigations, and Immersion. The study

consists of three variables, two of which - Time Management and Self-Motivation - was measured using Likert scale questionnaire, while the third variable was measured using the Mean of Average in Inquiries, Investigation, and Immersion. The Likert scale questionnaire contained ten items, with five items for each variable. The respondents received the post-test. The validated questionnaire also contained simple directions or instructions that served as guide for the respondents.

Statistical Treatment of Data

The data gathered in this study was subjected to the following statistical treatment:

Frequency and Percentage Distribution

Frequency and percentage distribution was used in measuring the demographic profile of respondents in terms strand and type of respondents.

Weighted Mean (WM)

The collected data were treated statistically by using standard statistical tools. Weighted mean (WM) was applied in measuring the impact of online library management system on learning experience of students.

Mean

Mean was applied in measuring the impact of online library management system on academic performance of students. The mean is calculated by taking the sum of the Inquiries, Investigation, and Immersion grades of students, then dividing the sum by the count of the respondents.

Two Sample T-test

Two sample t-test was applied to compare the means of experimental and control group. It is used to measure the impact of online library management system on learning experience and academic performance of students in terms of type of respondents after getting the WM of the

score. The 5 percent level of significance, that is, $\alpha = 0.05$, is the most common used level of significance value.

Anova One-Way

The one-way analysis of variance (ANOVA) is used to determine whether there are any statistically significant differences between the means of three or more independent (unrelated) groups. It is used to measure the significant difference of learning experience or academic performance and respondents' group in terms of strand using their total likert scale data or their average on Inquiries, Investigation, and Immersion subject. The 5 percent level of significance, that is, $\alpha = 0.05$, is the most common used level of significance value.

RESULTS AND DISCUSSION

This part presents the tables with corresponding interpretation and analysis. This study sought answers to specific problems, to test the enhanced online library management system and its impact on the learning experience and academic performance of Grade 12 students of Dr. Maria D. Pastrana National High School.

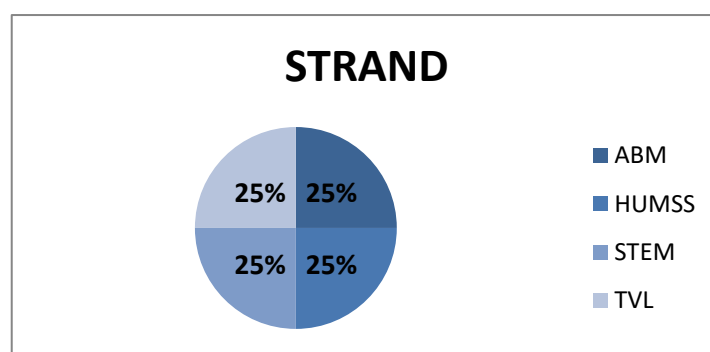


Figure 4: Percentage Distribution of Respondents in terms of Strand

The pie chart above shows the demographic profile of the respondents in terms of strand. The pie chart above shows that the number of respondents from the four strands is equal by 25%. In conclusion, it can be stated that the result of this research would give a balanced point of view from all of the four strands.

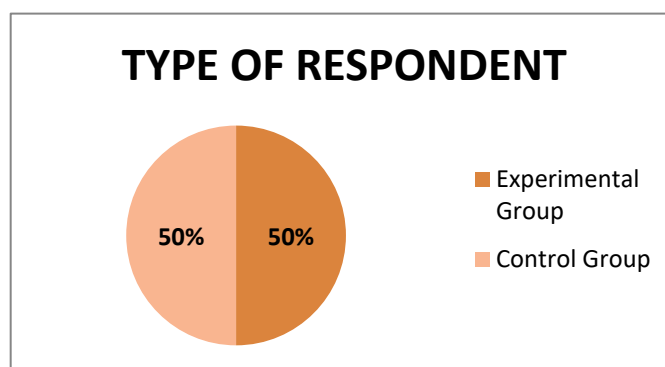


Figure 5: Percentage Distribution of Respondents in terms of Type of Respondents

The pie chart above shows that the Experimental Group and Control Group of the population are equally 50%. In conclusion, it can be stated that the result of this research would give a balanced point of view from both type of respondents.

Indicators	Weighted Mean	Qualitative Index
2.1 I am able to effectively manage my time for academic tasks.	2.93	Agree
2.2 I am satisfied with the way I use my time.	2.95	Agree
2.3 I am able to balance my academic work with other responsibilities.	2.88	Agree
2.4 I make an effort to accomplish one task before moving on to the next.	2.90	Agree
2.5 I set distinct and well-defined goals for myself.	2.85	Agree
Average Weighted Mean	2.90	Agree

Legend:

3.26 – 4.00 – Strongly Agree (SA) 1.76 – 2.50 – Disagree (D)
 2.51 – 3.25 – Agree (A) 1.00 – 1.75 – Strongly Disagree (SD)

Table 1. Impact (Time-Management) of Enhanced Online Library Management system on Learning Experience of Students

Table 1 shows the impact of the enhanced online library management system on learning experience of students in terms of time management. With an average weighted mean of 2.90, which is within the "agree" qualitative index, it can be concluded using weighted mean that the study's respondents were generally in agreement that they are able to manage their time well. The data suggests that the vast majority of research participants possess the skills and personality traits necessary to effectively manage their time. Interestingly, the claim was supported by the study of Raadt & Dekeyser, (2019) in which it stated that most students' methods of time management play a big part in their academic success in education, especially in online and blended learning. The Learning Management System (LMS) can be used to organize and support time management in strands where multiple tasks are designed to involve students continuously.

Indicators	Weighted Mean	Qualitative Index
3.1 I am motivated to succeed academically.	3.05	Agree
3.2 I am able to stay focused and productive when studying.	2.78	Agree
3.3 I am able to overcome challenges in my academic work.	2.85	Agree
3.4 I am motivated to learn new information.	2.98	Agree
3.5 I am committed for my academic success.	2.95	Agree
Average Weighted Mean	2.92	Agree

Legend:

3.26 – 4.00 – Strongly Agree (SA) 1.76 – 2.50 – Disagree (D)
 2.51 – 3.25 – Agree (A) 1.00 – 1.75 – Strongly Disagree (SD)

Table 2. Impact (Self-Motivation) of Enhanced Online Library Management system on Learning Experience of Students

Table 2 shows the impact of the enhanced online library management system on learning experience of students in terms of self-motivation. It may be concluded by using weighted mean that the study's respondents were primarily in agreement that they are able to exhibit self-motivation in studying well as the average weighted mean, which is inside the "agree" qualitative index, is 2.92. According to the findings, the vast majority of study participants have the skills and qualities required for being effectively motivated to learn. Interestingly, the claim was supported by the study of Prayekti, (2015) in which it stated that the level of motivation that students have at any one point in time has a significant impact on whether or not they choose to learn or engage in other activities, especially if the need to accomplish the goal is urgent. Individual behavior is motivated, directed, and maintained by motivation in order to take action and arrive at a desired outcome or objective. The term "motivation" was used to describe the process by which a person is inspired to begin working toward a goal or set of goals.

Group	Mean (%)
Control	84.7
Experimental	89.7

Table 3. Mean percentage of students' grades in Inquiries, Investigation, and Immersion

Table 3 shows the impact of the enhanced online library management system on academic performance of students. The data in the columns are the mean of students' grades percentage in

inquiries, investigation and immersion. The first column is for control group which resulted with 84.7, while the second column is for experimental group which resulted with 89.7. Therefore, the table shows that the intervention used in this study, which is the enhanced online library management system, had an impact on the students' academic performance. This result was supported by a study between 2013 and 2016, the Action (AiA) Project produced convincing evidence about the connection between student learning and results and library use. One of the AiA Project participants, Eastern Kentucky University, looked at undergraduate students' utilization of online library resources and their GPAs. According to the findings, students who used the library's online services had a higher GPA than their counterparts who did not (Brown et al., 2018).

F-value	Degree of Freedom		F- Critical Value	Interpretation	Decision
	Between the group	Within the group			
.00443	3	36	2.866266	Not Significant	Accept Ho

* Significance level at 0.05 (1-tailed)

Table 4. One-Way Analysis of Variance (ANOVA) Results of Difference for Learning Experience and Strand

The table above shows that there is no significant difference between the learning experience and the group of respondents in terms of the strand. The use of a library, especially at the undergraduate level, is very important as part of experience in learning, and all the facilities provided to students while using the library is the utilization of library sources, which encourages them to improve their academic careers and get more and more updated knowledge while using the library (Olajide, 2017). The researcher used the One-Way Analysis of Variance (ANOVA) as their statistical treatment to get a significant difference in the learning experience and strand of respondents. Brewer et al. (2017) indicated that there was no statistical significance between groups of students in how undergraduate and graduate students rated how likely they were to use the Literature Review library guide again or how satisfied they were with their experience with the Literature Review library guide. Graduate students were more likely to report that elements of the guide that supported effective search and evaluation strategies were valuable, whereas undergraduate students tended to value the links to writing resources.

t-test value	Degree of Freedom		T - tabular Value	Interpretation	Decision
	Between the group	Within the group			
2.34	1	38	2.048	Significant	Reject Ho

* Significance level at 0.05 (2-tailed)

Table 5. Two Sample T-test Results of Difference for Learning Experience and Type of Respondents

The table above demonstrates that the group of respondents and the learning experience had a significant difference in terms of the types of respondents. The outcome shows that the calculated value for t, which is $t = 2.34$, is greater than the value for the tabular data, which is table $t = 2.048$. The null hypothesis is therefore rejected. According to Zimmerman and Kulikowich (2016) computer usage has been the subject of other studies. The relationship between computer self-efficacy and online learners' satisfaction and intention to register in more online courses was examined by Lim (2001). The capacity to utilize computers and gain new computer skills, according to her definition of computer self-efficacy. The likelihood of future online course enrolment and computer self-efficacy showed a weak positive association. A 2009 study by Simmering, Posey, and Piccoli also looked at computer self-efficacy. They discovered a little but favourable association between test scores on average and computer self-efficacy. Although none of the aforementioned research found a positive correlation between technology-related self-efficacy and performance in an online course, other categories of self-efficacy and performance were found to be positively correlated. These results imply a clear relationship between technology-related self-efficacy and students' success in online courses, however this relationship only explains a tiny percentage of variation.

F-value	Degree of Freedom		F- Critical Value	Interpretation	Decision
	Between the group	Within the group			
12.25	3	36	2. 866266	Significant	Reject Ho

* Significance level at 0.05 (1-tailed)

Table 6. One-Way Analysis of Variance (ANOVA) Results of Difference for Academic Performance and Strand

The table above shows that there is a significant difference between the academic performance and the group of respondents in terms of the strand. Rodrigues & Mandrekar (2020), stated that there is a significant and remarkable relationship between the library usage and the students’ academic performance and success. A finding of another study showed that subject background had strong influence and makes the difference in undergraduates’ ability to use digital literacy skills in accessing information. The direction of the difference is that those in science-related disciplines demonstrated greater skills than those in Arts- related fields in the application of digital literacy skills for information access Uche, Igbo. (2020). Baterna et al. (2020), stated that STEM students are digitally literate to some extent in terms of access and evaluation of information; utilization and management of information; media analysis; creation of media products; effective application of technology; and interaction through technology. This supports that the different academic strand of a library user causes a significant difference between their group and academic performance after conducting the experiment.

t-test value	Degree of Freedom		T - tabular Value α=0.05	Interpretation	Decision
	Between the group	Within the group			
3.92	1	38	2.042	Significant	Reject Ho

* Significance level at 0.05 (2-tailed)

Table 7. Two Sample T-test Results of Difference for Academic Performance and Type of Respondents

The table above demonstrate that there has been a significant difference between the academic performances and group of respondents in terms of type of respondents, which is the experimental and control group. The outcome shows that the calculated value for t, which is $t = 3.92$, is greater than the value for the tabular data, which is table $t = 2.042$. The null hypothesis is therefore rejected. According to Bawacka and Kamdjoug (2020), giving students access to reliable

online information sources improves their academic performances and increase their appreciation to the government’s effort in funding them with good academic gadgets or materials. Their results resoundingly confirms that the behavior of students on information

usage is highly influence by their information needs and sources. Although their information use behavior is unaffected by their information seeking activity, the student's information need has an impact on information seeking behavior. Meanwhile, the students' habit on information usage has been discover that it has a significant impact on the students' academic success, teamwork, and contentment at HEIs in developing nations.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

The following findings are summarized based on the data obtained in the study:

1. There were 40 respondents of the study, there were 10 students selected from each strand respectively. 5 control group respondents and 5 experimental group respondents were selected from each strand.
2. The Online Library Management System was able to make an impact on time-management and self-motivation of students throughout their learning experience. An average arithmetic of 2.90 and 2.92 was revealed, which is within the "agree" qualitative index, proving that the respondents have managed their time well and improved their self-motivation towards their learning experience through the help of OLMS.
3. Through the data gathered it was revealed that Online Library Management System was able to make an impact on the academic performance of students. A mean of 84.7 for the control group and 89.7 for the experimental group was computed using the students' grades percentage in Inquiries, Investigation, and Immersion.
4. It was determined that there is no significant difference between the group of respondents and their learning experience in terms of strand. Having an f-test value of .00443. On the other hand, there is a significant difference between the group of respondents and their learning experience, a calculated value of t being $t=2.34$ is greater than the value of the tabular data which is $t=2.048$.
5. It was determined that there is a significant difference between the group of respondents and their academic performance in terms of strand. Having an f-test value of 12.25. Meanwhile, there is a significant difference between the group of respondents and their academic performance, a calculated value of t being $t=3.92$ is greater than the value of the tabular data which is $t=2.042$.

Conclusion

Based on the findings of the study the researchers conclude that:

1. There were 40 respondents of the study, 10 students were selected from each strand and there were 5 control group respondents and 5 experimental group respondents for each strand.
2. The respondents "agree" to the impact in learning experience of online library management in terms of time-management and self-motivation based from the qualitative index of the average weighted arithmetic mean.
3. There is an impact in academic performance of the students when using online library management system. The experimental group had a higher mean of grades compared to the control group.

4.1. There is no significant difference between the learning experience of ABM, HUMSS, STEM and TVL strand.

4.2 There is a significant difference between the learning experience of control and experimental group. The experimental group had a better time-management and self-motivation with the help of the online library management system compared to the control group.

5.1 There is a significant difference between the academic performance of ABM, HUMSS, STEM and TVL strand in Inquiries, Investigation, and Immersion subject.

5.2 There is a significant difference between the academic performance of control and experimental group in Inquiries, Investigation, and Immersion subject. The experimental group resulted with a higher average grade in Inquiries, Investigation, and Immersion subject compared to the control group.

Recommendations

In view of the forgoing findings and conclusions, the following points were hereby recommended:

1. As we hand over control of the website to a school library, or senior high school faculty we advise making it safer and more valuable by continuing to develop it, especially with regard to data protection because it involves intellectual property.
2. By including elements that aren't just for research, including school forums and event announcements, they can broaden the website's scope and utilize it for publication or even turn it into an actual school website.
3. Senior high school students should use this website normally to widen the distribution of learning resources throughout the school.

REFERENCES

1. Baterna, Hazel & Mina, Teodolyn Deanne & Rogayan Jr, Danilo. (2020). Digital Literacy of STEM Senior High School Students: Basis for Enhancement Program. *International Journal of Technology in Education*. 3. 105-117. 10.46328/ijte.v3i2.28.
2. Bawack, R. E., & Kala Kamdjoug, J. R. (2020). The role of digital information use on student performance and collaboration in marginal universities. *International Journal of Information Management*, 54, 102179. doi:10.1016/j.ijinfomgt.2020.1021
3. Brewer, L., Rick, H. & Grondin, K.A. (2017). Improving digital library experiences and support with online research guides. *Online Learning*, 21(3), 135-150. doi: 10.24059/olj.v21i3.1237
4. Lodico, M., Spaulding, D., & Voegtle, K. (2006). METHODS IN EDUCATIONAL RESEARCH http://stikespanritahusada.ac.id/wp-content/uploads/2017/04/Marguerite_G._Lodico_Dean_T._Spaulding_KatherinBookFi.pdf
5. Olajide, O. & Adio, G. (2017). Effective Utilization of University Library Resources by Undergraduate Students: A Case Study of Federal University Oye-Ekiti, Nigeria: *Library Philosophy and Practice (e-journal)*. 1503. <http://digitalcommons.uni.edu/libphilprac/1503>
6. Orsini, Binnie, & Jerez. (2019). Motivation as a Predictor of Dental Students' Affective and Behavioral Outcomes: Does the Quality of Motivation Matter? <https://core.ac.uk/download/305118463.pdf>

7. Prasetya, & Rahmi. (2022). Students's performance and utilization of Universitas Indonesia Online Library during the pandemic. <https://core.ac.uk/download/523004212.pdf>
8. Orsini, Binnie, & Jerez. (2019). Motivation as a Predictor of Dental Students' Affective and Behavioral Outcomes: Does the Quality of Motivation Matter? <https://core.ac.uk/download/305118463.pdf>
9. Prasetya, & Rahmi. (2022). Students's performance and utilization of Universitas Indonesia Online Library during the pandemic. <https://core.ac.uk/download/523004212.pdf>