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Designing Library Spaces Based on College Students' Reading and Usage Habits

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Abstract. This study assessed college students' library utilization and reading habits at NORSU - Guihulngan Campus to propose improvements to its library space design. Despite the growing importance of libraries in fostering learning, limited research exists on how student preferences and habits influence library space design, particularly in rural academic settings. A descriptive research design was employed to address this gap, utilizing a structured questionnaire with three parts: demographic profile, reading habits, and preferred learning space attributes. Data were analyzed using the weighted mean to derive insights. The study revealed that most respondents were female, with business students dominating the sample, while agriculture, forestry, and fishery students were underrepresented. Most respondents had moderate library experience, with second-year students being the most frequent users and fourth-year students the least. The primary reasons for library use were research, studying lessons, and completing assignments, while Wi-Fi access was the least cited. Students preferred learning spaces emphasizing Access and Linkages, Uses and Activities, Comfort and Image, and Sociability, all critical for enhancing their reading habits. Respondents predominantly favored print books over digital devices and read at least twice a week, though primarily for academic purposes. The most preferred genres were adventure, informational texts, fantasy, myths, and legends, with personal enjoyment and school assignments as primary motivators for reading. Based on these findings, it is recommended that the library encourage a culture of reading by promoting print resources, fostering collaboration among library staff, teachers, and students, and integrating seamless access to resources through digital and physical platforms. Enhancing library spaces to align with students' preferences in comfort, accessibility, and sociability can further support their learning and reading engagement.

Keywords: Access and linkages; Comfort and image; Learning space; Library; and Reading habit.

1.0 Introduction

Modern technology has generated a great demand for a knowledgeable and informed population. Indeed, "with the fast pace and change of our society, reading is perhaps even more important" than ever before (Cohen, 2019). According to one expert, the need to read for knowledge and enrichment is no longer pressing; it is urgent. Technology has rendered the ability to read adequately unnecessary today. Modern devices generally need the capacity to read and follow instructions on terminal screens or in printed manuals and use language when saving and retrieving data. Accordingly, studying reading habits and the readabilities of today's generation may be judged desirable.

On December 3, 2019, the Programmed for International Student Assessment (PISA) released its assessment on reading comprehension, which was participated by nine countries. PISA is an international assessment measuring student reading, mathematical, and scientific literacy performance. The outcome demonstrates that the Philippines ranked bottom (Juan, 2019). "Reading proficiency is essential for a wide variety of human activities - from following instructions in a manual to finding out the five W's of the occasion. To join forces with others for a certain goal or transaction," the summary of the PISA 2018 results reads as cited by (Juan, 2019). Furthermore, (Juan, 2019) stated that "the country has the largest percentage of low performers in reading among socio-economically disadvantaged students."

As support to Instruction, the library contributes significantly to providing students with a comfortable reading space. Libraries are necessary at all academic institutions, regardless of their financial status. A library's study area, whether real or virtual, may significantly influence learning. Learning Spaces examines how student expectations affect such places, concepts, and learning activities and the use of technology as seen through the eyes of the individuals who construct learning environments: academics, technologists of education, librarians, and administrators. Technology has created unique learning environments by encouraging more meaningful connections through collaborative tools, videoconferencing with foreign experts, or offering virtual worlds for exploration. According to an architect, even if individuals are no longer required to visit libraries for knowledge, they will visit if the library is a "pleasant location." According to him, innovation in place design is called "place-making," it involves people in the community in design planning (Kent, 2013). The most important aspect is managing and programming the space. Great locations are defined by what people do and how they feel utilized and 'own' them. Since the mid-1990s, academic institutions have benefited from new, enlarged, refurbished, or redesigned buildings. Given current worries about the physical library's future and space requirements, it is critical to understand what improvements have been achieved in recent facility developments and what influence these enhancements have had on physical library use (Tonner, 2013).

The assessment of reading space requirements and reading habits prompted this study to evaluators-Guihulngan regarding space available since it was established for educational and research purposes. Sufficient rooms are available space-wise and in groups. This research provides results by designing learning environments that support learner autonomy and resemble authentic workspaces; students can effectively engage in self-directed learning. Learning environments are intended for home-like comfort, wayfinding, balance, valued behavior, openness, security, and welcomeness.

The NORSU-Guihulngan library occupies a small space that can only accommodate 70-80 students at a time. The library must address the increase in the student population's physical needs. Section VI- Physical Facilities of the Standards for Philippine Academic Libraries stipulates that "a. The academic library shall have adequate space and appropriate facilities accessible to the students, faculty, and other users. It shall be designed to allow for future rearrangement and expansion, b. The academic library shall have adequate space to accommodate its clientele's reading and research needs; to house the growing collections, the appropriate offices for staff, librarian's office, and storage space; and areas for special services such as electronic and audiovisual programs; c. The academic library shall have a seating capacity of not less than 15% of the total enrollment; d. The educational library facilities shall be adequate in size with proper lighting and ventilation and furnished with functional furniture and equipment to encourage maximum use and convenience for the clientele. Facilities for people with disabilities (PWD) shall be considered.

The connection between NORSU Guihulngan's reading habits and preferred reading space is critical to ensuring that the proposed library space design will make students feel, use, and own the place; thus, they will inevitably return and use the library as often as expected.

2.0 Methodology

2.1 Research Design

The study uses a quantitative research method that employs a descriptive survey questionnaire to accumulate the desired information and data needed for the study. Ardales (2008) states that this research design is appropriate for studies that aim to discover what prevails in the present conditions or relationships, held opinions and beliefs, processes and effects, and developing trends. Based on its results. It also attempts to establish the link between

variables, investigates the causes of occurrences, etc. This research methodology is appropriate for this study because it describes the current state of the NORSU-Guihulngan library. It is geared toward developing the library and learning spaces to offer a conducive and pleasant environment for library users.

2.2 Research Participants

The respondents of this research were the students of the NORSU-Guihulngan campus in the City of Guihulngan, Negros Oriental. Specifically, it consisted of six (6) colleges: the College of Teacher Education, the College of Business Administration, the College of Arts and Sciences, the College of Criminal Justice Education, the College of Agriculture and Forestry, and the College of Industrial Technology. Three hundred fifty students were selected to determine the data's authenticity. The researcher used the Slovin formula to get the sample size of the respondents from 2,760 students down to 350 respondents. Additionally, in getting the respondents per college, sampling assumptions were met by employing stratified random sampling to ensure proportional representation across academic disciplines and year levels.

Table 1. *Respondents of the study*

College	N	n
College of Arts and Sciences	220	28
College of Business Administration	857	109
College of Teacher Education	547	69
College of Criminal Justice Education	315	40
College of Agriculture, Forestry and Fishery	162	20
College of Industrial Technology	659	84
Total	**2,760**	**350**

2.3 Research Instrument

This study used two questionnaires to gather the data: a self-made survey and an adapted questionnaire by Santes (2018). Part I of the questionnaire outlines the respondents' demographic profile regarding sex, course, year level, and reason for using the library and technological profile. Part II dealt with their reading habits and covered their preferred format and time spent reading, frequency, means, chosen genre, and motivation. Respondents' preferred learning space regarding comfort and image, sociability uses, activities and access, and linkages comprised part III of the questionnaire. Instrument reliability was ensured through a pilot test, achieving a Cronbach's alpha of 0.85, indicating high internal consistency.

2.4 Data Gathering Procedure

The researcher sent a letter to the administrator of NORSU-Guihulngan Campus asking for approval to conduct a study; after the research, the instrument was validated and found to be reliable. The researcher then ran the survey questionnaires to the respondents in their respective classes and explained the questionnaire to ensure that the correct data was obtained.

2.5 Data Analysis

To analyze the data, the researchers used frequency and percentage to determine the demographic profile of the respondents. The researchers also used weighted mean or average mean to interpret the respondents' Reading Habits and the Preferred Reading Space Design. Pearson's R correlation was used to determine the significant relationships between Reading Habits and Preferred Learning Space. The Eta Squared and Spearman Rho Correlation were utilized to determine the association between Reading Habits and Profile of Respondents and Preferred Learning Space. Eta Squared Correlation was used when the variables were nominal and scale-like, like Sex, Department/College, Gadgets Used, and Reasons for Using the Library. Pearson's Correlation Coefficient of 0.2 was used as the minimum level for acceptance of an association. Eta Squared Correlation was also used in determining the associations between profiles with nominal variables such as Sex, College/Department, Reasons for Using the Library, and Technological Profile, specifically the Gadget Ownership, Correlated with Scale Reading Habits Variables such as Number of Preferred Format and Number of Motivators as well as with Preferred Learning Space. Pearson Rho was used when the variables were ordinal and scaled, such as hours spent per day Using the internet for school activities and hours spent per day Using the internet for personal activities.

2.6 Ethical Considerations

Ethical considerations were rigorously addressed. The study received approval from the institutional ethics review board, and informed consent was obtained from all participants. Confidentiality and anonymity were upheld throughout the research process.

3.0 Results and Discussion

3.1 Demographic Profile

Table 2 shows that 63.71 percent (223 respondents) were female, and only 36.29 percent (127) were male. The result reveals that male respondents dominated females. Gentile and McMillan (2015) observe that boys would read better if they had more male role models who read but that the preponderance of elementary school teachers is female. Lehr notes that "research conducted in the United States and Canada for almost a century has confirmed that sex differences, favoring females, do exist in reading performance, especially in the lower grades." However, he asserts that these differences are more cultural than gender-related and that it should be possible to "find ways to free our students from sex-role stereotypes that unnecessarily affect their academic performance" (Gentile & McMillan, 2015).

Table 2. *Descriptive statistics of the demographic profile of the respondents (n= 350)*

Sex	Frequency	Percentage (%)
Male	127	36.3
Female	223	63.7
Total	350	100

Table 3 displays that 31.14 percent (109) of respondents were from the College of Business Administration, and only 5.72 percent were from the College of Agriculture, Forestry, and Fisheries. The study results indicate that several responses were influenced by the business students and only a little by the agriculture, forestry, and fishery students. Soliman and Neel (2010) Concluded that medical students spend sufficient time reading medical pocketbooks and lecture handouts with less time spent on online sources. Most students reported problems in reading that medical educators need to address. While online sources are easily accessible and provide up-to-date information on patient management, they may not be the most efficient means for students to obtain critical information. However, students must be encouraged to use online sources to facilitate patient management and diagnose an illness in clinical ward rounds. Many students reported problems with reading. The main problem was the unclear sources of information about their patients. This finding can be attributed to the lack of students' skills to search and find the correct information. This issue must be enhanced in the first year of medical school to teach students how to be self-learners and use the available learning resources.

Table 3. *Descriptive statistics of the department/college of the respondents (n=350)*

Department/College	Frequency	Percentage (%)
Business Administration	109	31.1
Teachers Education	84	24.0
Arts and Sciences	69	19.7
Agriculture, Forestry, and Fisheries	28	8.00
Criminal Justice Education	20	5.72
Industrial Technology	40	11.4

Table 4 exhibits that 52 percent (182) of the respondents were from the second year, and only 8.29 percent (29) were from the fourth year. The result shows that most respondents already had enough experience using the library. Balan, S. et al. (2019) In their study regarding the academic level of respondents, the analysis shows that 42.4 % (106 respondents) were freshmen and 25.2 % (63 students) were sophomores. Respondents from the junior level represented 20.0% (50 students), and 12.4 % (31 respondents) were senior-level students.

Table 4. *Descriptive statistics of the year level of the respondents (n=350)*

Year Level	Frequency	Percentage (%)
First Year	42	12.0
Second Year	182	52.0
Third Year	97	27.7
Fourth Year	29	8.29

Table 5 shows that researching, studying the lessons, and doing assignments are the top reasons students use the library while using Wi-Fi was considered the only reason. The result shows that students used the library when they needed more references for the requirements and used it to learn more of what had been taught and required to do in class. Applegate (2009) believes that a well-functioning library "addresses [es] the whole range of student requirements and complements the overall campus space-use ecosystem" (p. 345). We identified common themes during several institutions' "ideal library space" visioning and interior design seminars. Students have various assignments and assignments, need varied spaces, furnishings, and tools. Despite all their computing gadgets, these amenities are still required. Beyond student participation, researchers have found that the four support institutions that provide academic services result in increased engagement (Cohen, 2019).

Table 5. *Descriptive statistics of the reasons for using the library*

Reasons	Number of Responses	Rank
Attend a program	24	9
Borrow/return materials	143	4
Do my assignment	207	3
Get help from library staff	52	6
Leisure reading	137	5
Research	221	1
Study my lesson	209	2
Socialize/meet with friends	37	7
Use the computer	25	8
Use the discussion room	2	10
Use the Wi-Fi	1	11

Table 6 exposes that 71.49 percent (321) of the respondents' gadgets were smartphones, and only 5.12 percent (23) were desktops. The result shows that most respondents used handy smartphones for their technological use, and some used more than one gadget. Cell phones are popular among American adults, especially those 65 and older (Madden & Zickuhr, 2011). About 85% of adults own cell phones. 76% of cell owners snapped photographs, and 72% of cell owners texted, two non-voice features generally popular among all mobile phone users. Desktop computers are most popular with individuals 35-65, with 69% of Gen X, 65% of Younger Boomers, and 64% of Older Boomers having these devices. Millennials are the only generation more likely to own a laptop computer or netbook than a desktop: 70% have laptops, while 57% have desktops.

Table 6. *Descriptive statistics of the respondents' technological profile in terms of gadget ownership*

Gadget	Frequency	Percentage (%)
Desktop	23	5.12
Smartphone	321	71.4
Tablet/Ipad	28	6.24
Laptop	77	17.1

Table 7 exhibits that 78.29 percent (274) of the respondents spent 1 -3 hours per day using an internet connection for school activities, and only 4 percent (14) spent more than 8 hours. The result indicates that the university trained the respondents to learn through the Internet. Subramanian and Gomathi (2019) emphasized the time used to read the book & other reading materials. 215(56.57%) of the respondents spent less than 1 hour for reading, 116(30.52%) respondents spent 1-3 hours for reading, and 49(12.89%) respondents spent 3-6 hours for reading.

Table 7. *Descriptive statistics of the respondents' technological profile in terms of hours spent per day in using internet connection for school activities*

Hours Spent Per Day	Frequency	Percentage (%)
1 – 3 Hours	274	78.2
4 – 7 Hours	62	17.7
8 hours or more	14	4.00

Table 8 shows that 68.00 percent (238) of the respondents spent 1 -3 hours per day using an internet connection for personal activities, and only 12.86 percent (45) spent 8 hours or more. The result indicates that the respondents spent more or less the same time on personal and school activities. The technological profile of the respondents shows that they were using portable gadgets that had easy access to the Internet. Still, the time spent on it was combined with school and personal activities, which may affect their time for studying and doing requirements

for school. Hastings and Henry (2006) reveal that more than half of respondents (56%) spend less than an hour a day reading, and 13% say they do not read. The results reveal that most college students (66.86%) have a positive attitude towards reading and spend an average of 1.90 (i.e., 1:54) hours daily on academic and non-academic assignments. It is a positive indicator that students should develop a timetable to spend time on different print and electronic media activities like watching television, listening to music, playing video games, etc. It should always pay its share on academic and non-academic reading without any fall to keep its reading habit alive.

Table 8. *Descriptive statistics of the respondents' technological profile in terms of hours spent per day using internet connection for personal activities*

Hours Spent Per Day	Frequency	Percentage (%)
1 – 3 Hours	238	68.0
4 – 7 Hours	67	19.1
8 hours or more	45	12.8

3.2 The Reading Habits of Respondents

The reading habits considered in the study were the preferred format, time spent in reading, means of reading, preferred genre, frequency, and motivation. Table 9 shows that 22.38 percent (243) of the respondents preferred print books as their reading materials, followed by magazines (18.88 percent) and newspapers (18.60 percent). Moreover, only 4.88 percent preferred e-Newspaper. The result shows that many respondents considered the print book their best choice. On average, the respondents had three preferred formats. The University of California (2011) Students were asked if they still believed "that print books and print periodicals have something to contribute, and if so, what?" Three hundred ninety-four University of Toronto undergraduates answered their poll. The findings indicated that print provided superior reliability, showing a cautious attitude toward online sources and belief in using printed books to produce "high-quality work." Online sources were almost always used to help do tasks fast and efficiently. Additionally, students claimed that reading printed material was simpler than reading digitally. While many considered online journals acceptable, they "believed that novels were too lengthy to read online." Furthermore, according to a Malaysian Reading Profile survey, Malaysians aged ten and up read eight to twelve books yearly (National Library of Malaysia, 2010). In 2016, 78 percent of Malaysians read often selected newspapers, 3% read magazines, 3% read books, and 1.6 percent read comics (Borneo Post Online, 2017). Malaysians with diverse reading tastes are displayed. Much research has been carried out to look at the relationship between library use, student learning, and student involvement.

Table 9. *Descriptive statistics of the preferred format of the respondents*

Choices	Frequency	Percentage (%)
Printed books	243	22.3
Magazines	205	18.8
Newspapers	202	18.6
Printed journals	112	10.3
eBooks	137	12.6
eMagazines	60	5.52
eNewspaper	53	4.88
eJournals	74	6.81

Table 10 reveals that 37.71 percent (132) of the respondents Read At Least 2 Times Per Week, and only 0.30 percent (1) did not read at all. Results signify that more respondents spent less time reading. According to Kirmizi (2010), students should try to allocate time to reading during the day. The amount of time that students devote to reading may be monitored by the family and teachers. Students who give little time to reading at home should be encouraged to spend more time reading.

Table 10. *Descriptive statistics of the time spent in reading*

Preferred Time	Mean	Percentage (%)
Read Every Day of The Week	104	29.7
Read At Least 4 Times Per Week	80	22.8
Read At Least 2 Times Per Week	132	37.7
Only Read Because Someone Makes the Respondent Read	26	7.42
Hate Reading and Read as Little as Possible	7	2.00
Don't Read at All	1	0.30

Table 11 presents that 59.43 percent (208) of the respondents Read from a Print book, and only 2.86 percent (10) Read from A Tablet/iPad. The result shows that most respondents preferred reading material that could be clearly read and commonly found in the library. Students also stated that reading and engaging with print was more manageable than reading electronically; many found reading online journals acceptable but "thought that books were too long to be read online." (Dilevko & Gottlie, 2012).

Table 11. *Descriptive statistics of the means of reading*

Preference	Frequency	Percentage (%)
Reading from a print book	208	59.4
Reading from the e-reader device	14	4.00
Reading from a computer	29	8.28
Reading from iPhone/smartphone/iPod	89	25.4
Reading from a tablet/iPad	10	2.86

As shown in Table 12, the most Preferred Genre of the respondents was Adventure, followed by Informational and Fantasy, Myths, and Legends. Horror was the least Preferred Genre. This means the respondents were most interested in the genre that provided excitement, which usually involved danger and unknown risk. In Grant's (2011) study, female students with poor reading skills preferred reading fiction books. Despite gender differences in genre preferences and adult extracurricular reading, there were no gender preferences in the measured cognitive skills. The result may encourage purchasing more reading genres at home and within the school system. According to Shaffer (2015), adolescents feel a sense of independence when choosing their reading materials. He discovered boys read science fiction, fantasy, sports-related, and war/spy stories more often than girls. There is no differential gain from reading in one genre over another. Most importantly, children will benefit from professionals learning that the types of materials they read do not differentially affect the development of their reading skills.

Table 12. *Descriptive statistics of the preferred genre*

Books	Actual Rank
Adventure	1
Autobiographies	9
Biographies	10
Fantasy, Myths and Legends	3
Historical fiction	4
Horror	13
Informational	2
Science fiction	7
Mysteries	6
Poetry	5
Realistic fiction	8
Sports	12
Magazines and Newspapers	11

Table 13 displays that 34.86 percent (122) of the respondents read 1-2 times per week of the materials not required in their class, and only 2,57 (9) did not read. The result suggests that the respondents seldom read their favorite readings and read at least three times per week. They also preferred exciting risk books that were seldom read. The school assignments and information need to motivate them to do the readings. Tella and Akande (2007) disclose that most students (53.3%) read between 1 and 2 hours daily in Botswana. The Department of Education, Hong Kong (2001) states that students read weekly for two or more hours.

Table 13. *Descriptive statistics of the frequency (not assigned in school)*

Choices	Frequency	Percentage (%)
Read Everyday	103	29.4
1-2 Times Per Week	122	34.8
3-4 Times Per Week	75	21.4
5-6 Times Per Week	41	11.7
Not At All	9	2.57

Table 14 displays that the respondents were motivated mainly by their reading habits, school assignments (26.71 percent), need for information for themselves personally (24.28 percent), and enjoyment (21.41 percent). Moreover, they were least motivated by the recommendation from a Friend (8.40 percent). The result shows that the respondents' reading habits were inspired by the class requirements and the information they needed, and they enjoyed what they read.

Table 14. *Descriptive statistics of motivation of the respondents*

Choices	Frequency	Percentage (%)
School Assignments	242	26.7
Recommendation From a Friend	76	8.40
Need For Information for Oneself Personally	220	24.2
Enjoyment	194	21.4
Relaxation	174	19.2

Generally, the respondents preferred three reading materials with print books as their most selected and read them twice per week only. Their preferred genre was an adventure but seldom read-only. Being a requirement, the need for information and being enjoyed were the respondents' motivations in reading. According to Adkins and Brendler (2015), "Teenagers do better at reading when motivated to read. The International Student Assessment (PISA) program assesses reading literacy for 15-year-olds in over 70 countries worldwide and includes questions that explore the relationships between motivation and reading. Country-level results indicate that developing countries have lower reading scores than developed countries. However, they also suggest that many developing countries are more motivated to read and spend more time reading than students in developed countries. These results indicate that the ideal role for libraries is to ensure students' motivation to read through the provision of a variety of materials, a supportive environment for literacy and reading conversations, and encouraging student autonomy in making their reading choices.

The respondents' Reading Habits were rated based on the number and time they were allotted. Table 15 illustrates the different reading habits of the respondents and the rubrics for rating the extent of their reading habits, as well as the qualitative description.

Table 15. *The rating and qualitative description on the reading habits of respondents*

Reading Habits						Rating	Qualitative Description
Number of Preferred Format	*Time Spent in Reading*	*Means of Reading*	*Number of Preferred Genre*	*Frequency*	*Number of Motivators*		
7-8	1	5	11-13	5	5	5	Excellent
5-6	2	4	8-10	4	4	4	Best
3-4	3	3	5-7	3	3	3	Better
1-2	4	2	2-4	2	2	2	Fair
0	5-6	1	0-1	1	1	1	Poor

Table 16 shows that the respondents had the best reading habits in terms of time spent reading and frequency, as shown by the weighted mean of 3.69 and 3.77, respectively. They spent at least 3-4 times per week reading, as revealed in Table 3.2.2, and Read 5-6 Times Per Week for materials Not Assigned in School (Frequency), as shown in Table 3.2.5. This means that the respondents had allotted ample time to enhance their reading habits on materials both required and not required by the school. On the other hand, they were fair only in the Means of Reading and Motivation as presented by the Weighted Means of 2.07 and 2.55, respectively. Most were limited to reading from printed books and iPhones, smartphones, and iPods, as illustrated in Table 16. Furthermore, the majority were motivated only by school assignments and the need for information for themselves personally, as cited in Table 2.6. This connotes that the respondents' reading habits were limited regarding means of reading and motivation. Generally, the respondents had better reading habits, as demonstrated by the mean weighted mean of 2.95. This implies that the library clients have allotted enough time and read enough preferred reading materials.

Table 16. *Grand mean of reading habits*

Attributes	Mean	Description
1. Preferred Format (Printed books, Magazines, News Papers, Print Journals, e-books, e-newspapers, ejournals)	2.83	Better
2. Time Spent in Reading (Read Every Day of The Week, at least 4 Times Per Week, at least 2 Times Per Week,	3.69	Best
3. Only Read Because Someone Makes the Respondent Read, Hate Reading and Read as Little as Possible and Don't Read at All	2.07	Fair
4. Means of Reading (Reading from a print book, e-reader device, a computer, from iPhone/smartphone/iPod, a tablet/iPad	2.79	Better
5. Preferred Genre (Adventure, Autobiographies, Biographies, Fantasy, Myths and Legends, Historical fiction, Horror, Informational, Science fiction, Mysteries, Poetry, Realistic fiction, Sports, Magazines and Newspapers)	3.77	Best
6. Frequency (Not Assigned in School - Read Every day, 5-6 Times Per Week, 3-4 Times Per Week, 1-2 times per week, not at all (School Assignments,	2.55	Fair
7. Motivators (Recommendation from A Friend, Need for Information for Oneself Personally, Enjoyment, Relaxation	2.95	Better

Scale: 4.21-5.00 (Excellent), 3.41-4.20 (Best), 2.61-3.40 (Better), 1.81-2.60 (Fair), 1.00-1.80 (Poor)

3.3 Preferred Learning Space

The preferred learning spaces considered in the study were comfort and image, sociability, uses and activities, and access and linkages. Table 17 shows that the respondents considered the comfort and image of the reading space to be very important, as evidenced by the Mean of Weighted Mean of 4.01. These were mainly related to room temperature and aesthetic appearance, as proven by the weighted mean of 4.20 and 4.07, respectively. However, they preferred the Most Important, the Cleanliness and Amount of Light, as presented by the Weighted Means of 4.56 and 4.22, respectively. The result shows that the respondents were keener on the relief and facsimile of the reading space, precisely its degree of coldness and beautiful image. According to Kent (2013), innovative library space should include the following characteristics: abundant, flexible learning space based on fluid design principles; welcoming, lively, and culturally inclusive atmosphere; a place to study from beginning to end: consuming, creating, generating, and sharing new information; a center of discovery and inquiry with equitable access to print, digital, and multimedia collections. These characteristics will: a) encourage readers to acquire a love of books and reading and develop into critical thinkers. b) enable collaboration between library staff, instructors, and students to search for, use, share, and create information; c) give seamless access to information resources, guidance, and assistance for the classroom, home, and mobile devices. Twenty-four hours a day; d) strengthen the connection between home and school (Sullivan, 2011).

Table 17. *Comfort and image*

Attributes	Mean	Description
Aesthetic Appearance	4.09	Very Important
Cleanliness	4.56	Most Important
Room Temperature	4.20	Very Important
Color of the Wall	3.67	Very Important
Color of the Furniture	3.53	Very Important
Amount of Light	4.22	Most Important
Noise Level	4.07	Very Important
Furniture Arrangement	3.95	Very Important
Lay-out Quality (space between furniture; section & shelf arrangement)	4.04	Very Important
Stunning Entrance with Ornamental Plants	3.78	Very Important
Mean	**4.01**	**Very Important**

Scale: 4.21-5.00 (Most Important), 3.41-4.20 (Very Important), 2.61-3.40 (Important), 1.81-2.60 (Less Important), 1.00-1.80 (Not Important)

Table 18 shows that the respondents' preferred sociability is very important in the learning space, as exhibited by the Mean of Weighted Mean of 3.90. Specifically, they chose the Most Important Space for Individual Study, Flexible Reading Area, and Space for Group Work, as demonstrated by the Weighted Means of 4.34, 4.26, and 4.24, respectively. They particularly preferred Very Important Discussion Room, Collaborative Rooms with LCD Projectors & Computer, and Ease of Interaction as shown by the Weighted Means of 4.12, 4.01 1st 3.93. Moreover, they preferred Important the Café (Resto inside the library), as exhibited by the Weighted Mean of 3.09. This result signifies that the respondents preferred Sociability as Very Important in Learning Space, emphasizing individual adjustable space designed for group activities and conference individuals to act upon one another. Sullivan (2013),

a library must be designed as a critical, stimulating, and inviting environment that will benefit teaching and learning in the school when adequately staffed and resourced. A how-to manual for creating creative school library spaces: a) When creating a library space for educational purposes, the design approach should incorporate a strategy for obtaining information and guidance. b) Critical learning spaces within an innovative library learning environment; explore incorporating learning spaces into the library: quiet place - to contemplate, read, and study; collaboration space - to talk, brainstorm, share, and tell stories; presentation space - to present, share, and celebrate; breakout space - to investigate, create, practice, and share; maker space - to experiment, play, and design.

Table 18. *Sociability*

Attributes	Mean	Description
Space for Group Work	4.24	Most Important
Space for Individual Study	4.34	Most Important
Ease of Interaction	3.93	Very Important
Adjustable Furniture	3.67	Very Important
Collaborative Rooms with LCD Projectors and Computer	4.01	Very Important
Flexible Reading Area	4.26	Most Important
Discussion Rooms	4.12	Very Important
Café (Resto inside the library)	3.09	Important
Office space for student organization	3.68	Very Important
Maker Space	3.69	Very Important
Mean	**3.90**	**Very Important**

Table 19 shows that the respondents' preferred uses and activities are very important in the learning space, as shown by the Mean of Weighted Mean of 4.03. Specifically, they chose the Most Important Quiet Study Area and Computer Section With 20 to 50 units as revealed by the Weighted Means of 4.42 and 4.25, respectively. In addition, they preferred the Discussion Room and Large Table with Comfortable Chairs, which are very important, as displayed by the Weighted Means of 4.06 and 4.02, respectively. The result shows that the respondents regarded uses and activities, particularly a conference room with a sizable table and comfy chairs. Most importantly, the respondents preferred a calm study area with highly accessible computer units. Horizon report (2017): In interviews, the authors discovered that 77% of architects and 50% of librarians valued flexibility, meaning rooms are moveable and adaptable. One objective was to serve a range of learning requirements. More than 80% of participants mentioned that new library facilities were designed to assist academic learning activities, such as cooperation, individual study, and point-of-need services.

Table 19. *Uses and activities*

Attributes	Mean	Description
Adjustable Furniture and Equipment	3.88	Very Important
Comfortable Furniture	3.99	Very Important
Individual Carrels	3.86	Very Important
Small tables with comfortable chairs (2 and 4 seaters)	3.96	Very Important
Large tables with comfortable chairs (5 to 10 seaters	4.02	Very Important
Lecture Room (10 users)	4.00	Very Important
Discussion Room	4.06	Very Important
Archives and museums (art galleries, etc.)	3.82	Very Important
Quiet Study Area	4.42	Most Important
Computer Section with 20 to 50 units	4.25	Most Important
Mean	**4.03**	**Very Important**

Table 20 shows that the respondents preferred access and linkages as very important in the learning space, as shown by the Mean of Weighted Mean of 4.04. These were mainly on the Accessibility to Librarian's Office and Cleared and Readable Signage posted on Walls/Shelves as exhibited by the Weighted Means of 4.17 and 4.09, respectively. Specifically, the Most Important for them was the Accessibility to Library Materials and Comfort Rooms, as proven by the Weighted Means of 4.39 and 4.30, respectively. The result indicates that the respondents considered the Accessibility and linkages in the learning space very important, especially their easy accessibility to the librarian and easy reading on the signs posted in the library. Most Important for them was the easy access to the materials they needed in the library and their necessities. Gullikson and Meyer (2016) found the pupils to sit alone. Additionally, 60% of students who sat together worked collaboratively, whereas 40% did not. Two-thirds of the library was intended to encourage collaboration. Our previous calculations underestimated the amount of

space required for collaboration. Because most furniture is mobile, individuals can easily modify a collaborative environment to meet their own needs; they can break apart tables, pull chairs from a group cluster, or use mobile whiteboards to create a room on the fly. In the future, student needs and behaviors could change, and again, the flexibility of this space would likely minimize the impact of this change.

Table 20. *Access and linkages*

Attributes	Mean	Description
Accessibility to Circulation Counter	4.01	Very Important
Accessibility to comfort rooms	4.30	Most Important
Accessibility to library materials	4.39	Most Important
Accessibility to the librarian's office	4.17	Very Important
Movable partition	3.67	Very Important
Collaborative spaces	3.98	Very Important
Mobile phone zone	3.78	Very Important
Lobby/lounge area	3.96	Very Important
Clear and readable signage posted on walls/shelves	4.09	Very Important
Crowdedness (distance of furniture and equipment)	4.03	Very Important
Mean	**4.04**	**Very Important**

Generally, the respondents preferred Access and Linkages, Uses and Activities, Comfort and Image, and Sociability as Very Important in a learning space, as displayed in Table 21. The result indicates that the essential attributes of the respondents' needs in a learning space were imperative to help them develop or improve their reading habits.

Table 21. *Summary of respondents' preferences in reading space*

Particular	Mean	Description
Comfort and image	4.01	Very Important
Sociability	3.90	Very Important
Uses and activities	4.03	Very Important
Access and linkages	4.04	Very Important
Mean	**4.00**	**Very Important**

3.4 Relationship Between Variables

The relationship between reading habits and preferred learning space attributes was tested using Pearson R and Eta Correlation. Table 22 shows that Reading Habits had little correlation with Preferred Learning Space, as exhibited by the Pearson Correlation of 0.149, but the correlation is significant at the 0.05 level. The result shows that the relationship between reading habits and preferred learning space exists, though it is negligible.

Table 22. *Correlation between reading habits and preferred reading space*

Correlation		Preferred Learning Space
Reading Habits	Pearson Correlation	.149**
	P-Value	.005
	N	350

**. Correlation is significant at the 0.01 level (2-tailed).

The relationship between reading habits, preferred learning space attributes, and demographic profile of the respondents was tested using the ETA, Spearman Rho, and Pearson R Correlations. Table 23 shows no Significant Association between Profile and Reading Habits, though the correlation coefficient ranged from 0.005 to 0.064, which means no to negligible association. No Significant Association was also observed between Profile and Preferred Learning Space, though the correlation coefficient ranged from 0.010 to 0.092, which means no to negligible association. The result indicates that the students' profiles have nothing to do with reading habits and the preferred learning space.

However, their Reading Habits had a significant association with their Preferred Learning Space, as reflected by the P-value of 0.005. However, the association was negligible, as evidenced by the correlation coefficient of 0.149. The result shows that the student's reading habits were related to the preferred learning space, though it was insignificant.

Table 23. *Correlation between profile, reading habits, and preferred learning space of students*

Demographic Profile	Reading Habits		Preferred Learning Space	
	P-Value	Correlation Coefficient	P-Value	Correlation Coefficient
Sex	η = .187 #	η^2 = .035$_2$	η = .139 #	η^2 = .019 $_2$
College/ Department	η = .069 #	η^2 = .005$_1$	η = .132 #	η^2 = .017$_2$
Year Level	P = .233 #	R = -.064$_2$	P = .085 #	R = .092 $_2$
Reasons for using The Library	η = .177 #	η^2 = .031$_2$	η = .099#	η^2 = .010$_2$
Gadgets Used	η = .151 #	η^2 = .023 $_2$	η = .159 #	η^2 = .025 $_2$
Hours Spent in Using Internet For School Activities	P = .463 #	R = .039 $_2$	P = .073 #	R = .096 $_2$
Hours Spent Using Internet for Personal Activities	P = .484 #	R = .038 $_2$	P = .454 #	R = .040$_2$
Preferred Learning Space	P = .005 *	R = .149 $_2$		

3.5 Proposed Library Space Design

Negros Oriental State University-Guihulngan Campus library proposed a space design plan to improve physical space facilities and services, enhance the flexible learning space, and support various learning styles. The library designs that can attract readers, a welcoming place, available staff, and updated resources. It aims to provide reading materials, exact facilities, and services to students, teachers, and other researchers to enhance their reading habits. In planning the library space design, the four preferred learning space attributes should be considered: access and linkages, uses and activities, comfort and image, and sociability as very important to adopt the CHED Minimum Requirements for Libraries HEIs to meet the needs of the users efficiently.

Based on the survey conducted by the researcher, the respondents preferred access and Links as being very important in the learning space and the highest among the four characteristics that create desirability. These were mainly on the Accessibility to Library Materials and comfort rooms as the most important for them for their necessities. The updated and distinct collection of reading materials can motivate students' reading habits using the library learning spaces. Accessibility to comfort rooms, especially for people with disabilities (PWD), emergency exits, fire extinguishers, built-in emergency lights, and other facilities necessary and required by the National Building Code of the Philippines is provided, as mandated by the CHED Minimum Requirements for Libraries of HEIs.

The respondents considered Uses and Activities very important in the learning space; they liked the quiet study area and computer section with 20 to 50 units. The respondents regarded services and activities, particularly a conference room with a sizable table and cozy chairs. Most importantly, the respondents preferred a calm study area with highly accessible computer units. The size of the library is adequate, with proper lighting and ventilation, and it is furnished with functional furniture and equipment to encourage its maximum use and convenience for the clientele, as required by CHED Minimum Requirements for Libraries of HEIs.

The respondents preferred the Comfort and Image of the learning space, as well as the cleanliness and amount of light. The result shows that the respondents were keener on the learning space's relief and facsimile, exactly its degree of coldness and beautiful image. Comfort and appearance have a substantial impact on library use. The overall ambiance is significant in creating a more welcoming and pleasant environment. A library is made with a grand entrance to signify its importance in inspiring pride in students' reading habits. The CHED Minimum Requirements for Libraries of HEIs state that adequate space and appropriate facilities are accessible to the students, faculty, and other users. Future growth of the library must be considered while designing the interior—spaces for workers, librarians, and storage. Special services areas must be offered as well. Likewise, the respondents' preferred social ability is essential in learning. Specifically, they chose the space for individual study, flexible reading area, and room for group work. The respondent's preferred sociability is very important in reading the play, emphasizing a personal adjustable space for group activities and a conference where individuals can act upon one another. There is no ideal learning space regarding sociability; it is a student's choice of where to stay. Some students wish for seclusion, while others need social involvement. Students like having time to be alone and in a serene environment. They want to establish relationships with other students; an excellent site to see and meet each other is also in the mix. The proposed space design plan accommodates a seating capacity of 5% of the total enrollment, as stipulated in the CHED Minimum Requirements for Libraries of HEIs.

Indeed, here is a breakdown of budgetary requirements for the proposed library space design: reading tables, chair steel chairs, an audio-visual center, durable storage steel bookshelf, steel magazine shelf, computers, tablets, television smart, office tables with chairs, counter desk, touch screen bulletin board, file cabinets steel, photocopy machine, printers, sofa set, and others. Besides, the library space in the new normal is designed to figure out how to enforce social-distancing policies in an open area, such as installing protective barriers, space for hand washing/sanitation, and implementing procedures to maximize the safety of staff and customers. Furthermore, the library services offer valuable resources and support to enhance students' reading habits. Onsite and Online services are provided. The Onsite services are as follows: a) Reference Services, which Help customers locate information and resources to meet their informational needs; b) Circulation Services: Lending and managing library materials to customers, ensuring that library users can borrow, renew, and return items efficiently; c) Internet Research Services: Assisting customers with accessing and utilizing online resources effectively; d) Audio-Visual Services: Accessing various multimedia resources and technologies to support learning, research, and entertainment; e) Study Spaces: Supporting learning, research, and academics among customers; f) Library Orientation & Instruction Services: Conducting library tours and orientations for new students, faculty, and staff to familiarize them with library facilities, resources, and services; and g) design instructional sessions, workshops, and tutorials focusing on database searching and accessing electronic databases (e-books).

The Online Services are as follows: a) Electronic Document Delivery Services: Customers can request and receive documents in electronic format and access materials such as articles, book chapters, reports, and other documents that are not readily available in the library's physical collection; b) Access to Electronic Databases Services: Customers can have digital access to a wide range of electronic resources, including eBooks, scholarly journals, databases, and digital archives.

Additionally, the Library Reading Program offers various initiatives to foster a culture of reading and continuous improvement among students and faculty, such as: a) Faculty Author Showcases: Showcase books, articles, and other scholarly works authored by faculty members through exhibitions, displays, or virtual platforms. This program celebrates faculty achievements and promotes awareness of research conducted within the academic community; b) Research Reading Groups: Promote student engagement with available reading materials in the library for their research activities through participation in research reading groups. Encourage discussions on research methodologies, sharing insights on specific topics, and evaluating sources; and c) Library Extension Program: To assist other schools and communities in organizing, cataloging, and orienting staff about library rules and procedures.

In conclusion, the design of library spaces for college students plays a crucial role in shaping their reading habits and overall academic experience. A well-designed library space should provide access to resources and create an environment conducive to study, research, collaboration, and personal enrichment. By incorporating elements such as comfortable study areas, flexible seating arrangements, designated quiet zones, modern technology infrastructure, and interactive learning spaces, libraries can cater to college students' diverse needs and preferences. Furthermore, a thoughtful layout and design can encourage students to engage with library resources, foster a sense of community, and promote a culture of lifelong learning. Additionally, the library should consider incorporating sustainable and environmentally friendly features into their design to align with broader campus sustainability initiatives. Ultimately, the proposed library space design should prioritize student engagement, accessibility, and well-being, aiming to enhance the overall library experience and contribute to the development of strong reading habits among college students.

4.0 Conclusion

Based on the findings cited above, the following conclusions are drawn: The study discloses that the respondents were dominated by females, mostly business students, with enough experience using the library. The majority used handy smartphones for their technology use, and the library is where they need more references for the requirements and a place to learn more about what has been taught and required to do in class. The respondents allotted the same time daily to access the Internet for school and personal activities. Most respondents liked to read in print, such as books, at least twice a week, and their favorite genres were informative, fantasy, myths, and legends, and they wanted to read them as printed books. They preferred Access and Linkages, Uses and Activities, Comfort and Image, and Sociability as very important in a learning space to help them develop or improve their

reading habits. There is a significant relationship between the respondents' Reading Habits and Preferred Learning Space. There is no significant relationship between the respondent's profile and reading habits and their preferred learning space. However, a negligible considerable relationship exists between the respondent's reading habit and select learning spaces. There is a need to design various learning spaces in the library to motivate students to read.

In conclusion, the findings underscore the importance of the library as a vital resource for supporting students' academic endeavors and fostering a conducive environment for reading and learning. By understanding and addressing the preferences and needs of students, particularly regarding access to resources and suitable learning spaces, the library can effectively promote and encourage a culture of reading among its patrons. Based on the findings and conclusions drawn, the following recommendations were suggested to enhance the student's reading habits: the library management may orient/reorient students to prioritize their time doing activities required by their class rather than for their actions. The library must develop a curriculum-based collection and recreational reading materials in print format. The reading habits of the students may improve if the library management initiates a system that can make the library materials highly accessible to students in a quiet, calm, and well-lighted study area with clean, comfortable rooms. Moreover, to develop the students' reading habits well, the library must provide enough space to cater to the various learning styles of the respondents. Moreover, we must develop a well-planned library space to enhance students' reading habits.

In conclusion, the findings and recommendations underscore the critical role of the library environment in fostering and enhancing students' reading habits. Prioritizing time allocation towards academic activities, developing a comprehensive collection of curriculum-based and recreational reading materials, and ensuring high accessibility to library resources in conducive study areas are key initiatives that can positively impact students' reading behaviors. Moreover, acknowledging and accommodating students' diverse learning styles through adequate space provision is essential. Overall, developing a well-planned library space geared towards promoting and nurturing students' reading habits is crucial for supporting their academic success and lifelong learning journey.

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There is no conflict of interest.

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9.0 References

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