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IMPACT OF SCHOOL LIBRARY ENVIRONMENT ON KNOWLEDGE ACQUISITION OF STUDENTS; A CASE STUDY OF FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI

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Abstract: **This paper is an attempt to study the impact of school library environment on knowledge acquisition of students in Federal University of Technology, Owerri with a view to unravel, the environmental comfort needs of the library users and also if there is any significant relationship between environmental comfort needs and level of knowledge acquisition of students of FUTO. A test-retest reliability method of two weeks interval was conducted, responses obtained were subjected to Pearson Products Moment Correlation (PPMC) method and a reliability coefficient of 0.78 was obtained. Multistage sampling technique was employed, 1656 respondents were selected for the study, with 88% response rate. Descriptive and inferential statistics were employed in the study, the study found that Majority of the respondents needs an environment with computer access (3.71±526.30, RII=4), Space to spread out (3.54±393.39 RII=6), Quiet place (3.87±589.08 RII=2), Physical comfort (3.69±458.18 RII=5), Proper room temperature (3.88±588.25 RII =1) colourful surrounding (3.81±558.53 RII=3), Art on walls (3.25±297.84 RII=8) and view of nature (3.43±393.53 RII=7) as it helps them to achieve high level of knowledge while studying however only few of the respondents indicated that music helps them achieve high level of knowledge while studying. However significant relationship was found to exist between the respondents environmental needs and level of knowledge acquisition (r=0.879, p=0.02<0.05). Therefore, as the library users comfort needs are been met, there level of knowledge acquisition increases It was recommended that more school libraries should apply the environmental comfort needs of the library users to help them achieve high level of knowledge acquisition.**

Keywords: **Acquisition Environment, Knowledge, Library, promoting.**

1. INTRODUCTION

The school library is a room or building in a school where books, magazines, journals, periodicals, cassettes, computers among others are kept for student's use. In other words, it is the central laboratory of the whole school, where all books in all subject areas, taught in the school and non-book materials are stocked. Altman (1992) sees school library as a learning

laboratory par excellence where learners find the world of knowledge, interact directly with resources, acquire information and develop research skill for lifelong learning.

It is generally assumed that human beings perceive and understands the world through their senses, and that the epistemic connection with the world occurs via the transmission of information from the world through those senses into the mind (Mark, 2007). If this is true then one can debatably assert that environment has an effect on our ability to acquire knowledge.

Dynamic and thought-provoking literate environments are crucial to literacy acquisition, it is the role of school libraries to assist in finding, interpreting, and using appropriate information that opens up opportunities for lifelong learning, literacy enhancement and ultimately empowerment in an increasingly complex world. According to UNESCO, (2012) "the goal of education for all also involves development of literate environments and this cannot be solely attained by providing quality learning materials to schools alone.

Over the years, designers of educational environments have always instinctively known that the built environment has profound effect on those that inhabits it. According to Oliver (2004) Libraries can no longer uphold the old 20th century design which principally focused on library functions but not on the user's needs.

In searching for ways to attract more students into the library and increase library retention, which will eventually translate to high level of literacy in the environment, the researcher sought to know how the school library environment affects knowledge acquisition, it was further hoped that a correlation theory could be established between school library design and literacy. This is by trying to know what environment students perceive as helping them to achieve success.

School library environment includes all the external condition and influences in the school library that affects the academic achievement of the student such as library facilities, qualified librarians, furniture, school library building, good administrative management, teacher pupil relationship and school library location among others.

Weiss (2007) have pointed out that for effective teaching and learning situation, school buildings and educational goals, should be viewed as being interwoven. Apart from protecting the pupils from the sun, rain, heat and cold, school building represent learning environment which has great impact on the comfort, safety and performance of the library users.

2. REVIEW OF RELATED LITERATURE

The researcher began by trying to find out theories and empirical studies related to the study, several theories however, has been postulated on how environment can promote literacy.

Learning theory and learning environment

Prakask Nair (2017) advocates those new learning environments are the single most important innovation needed to improve education. He affirmed that deep learning comes from interaction with a subject, experimentation and emotional involvement. For classrooms he recommended learning studios, open areas instead of corridors for social interaction, rooms for project based learning, teacher workrooms, multi-age groupings and places to think. He highlights the importance of a learning model of education as the driving standard of designing a space, instead of a schooling model. For academic libraries Nair pointed out three trends for facility designers to take note of which are particularly relevant: emphasis on informal learning spaces, de-emphasis on the class room, and imaginative furniture design to support active learning.

Dent-Read & Zukow-Goldring (1997) echoes much of what is known from learning theory that "...educators who deal with learning styles will tell you the most deeply affected learning, the most remembered learning is learning that employs the senses and particularly the emotions, and that's what design does particularly well" the design of library has a crucial role to play in literacy acquisition, a library user has to be provided with an environment that stimulates him to read with pleasure, this also fosters library retention and increase usage. Preference for an environment leads to motivation to interact with the environment which leads to learning. Therefore school library environment must be designed to engage many senses and create a somewhat emotional response in the user.

Intrinsic and Extrinsic motivation theory

Csikszentmihdyi and Hermason (2007) offered reassurance that natural motivation to learn can be rekindled by supportive environment, meaningful activities by being freed of anxiety, fear and other negative mental states, and when the

challenges of the task meet the person' skills. They stated that intrinsic motivation leads a student to learn for the sake of learning while extrinsic motivation pertains to meeting performance goals such as obtaining certain grades or a degree. Learning is assisted by a level of familiarity or acquaintance with the topic and an absence of distraction allowing the mind to become engrossed in the learning activity. Total spontaneous concentration and abandonment to the subjects is referred to as reaching a state of flow were learning is optimized. The question that begs for urgent answer is "What does optimally library supportive environment look like?"

Practice Theory: Interaction between learners and learning environment

Researchers and designers of learning environment often argue whether the learner should adjust to the learning environment or whether the learning environment should adjust to them. However a better question should be: how does the environment shape the learner and in turn, how does the learner influence the learning environment? In other words: what is the transactional association of the learning environment? This thus involves understanding the motivations of the learner with respect to the time and place in which he or she acquires knowledge (Lave and wenger, 1991).

According to Ekington J.(1997), the twenty-first century learning environments are visualized as places where the learner is engaged in self-directed and cooperative learning activities, and the physical environment is planned so that it can be routinely re-organized to mediate learning. Practice theory recognizes that the learner and the learning environment are active; learners are transformed and shaped by their transactions alongside others and their physical settings.

Bennett introduced the fundamental idea of designing library spaces around user's activities rather than librarians' service functions in order to understand students' needs. Bennett not only focused on changing technologies and shrinking spaces due to expanding collections, but he also took a good look at the changing nature of teaching and learning practices surfacing in education at all levels. He noted pedagogy's recognition of the social aspects of learning and different learning styles of schools.

Emerging technology and learning environment

The advent of new technologies, robust software, advance fibre optics technology, internet etc., has also influenced the learning environment, most library users now prefer accessing information via the internet. Therefore school library administration should welcome the idea of technology revolution in order to meet the needs of library users. In a study conducted by Joyce and Diane (2007) it revealed that most respondents picked computer as a need that makes them comfortable and helps them in their academic success.

Findings from surveys of students' perception imply that the school library is more than just a place to check out books, provisions should be made for research (Bleidt, 2011). Partenership (2002) suggested that there should be different types of seating for different learning styles.

Learning environment in school library is to be designed in such a way that it appeals to users sense, as over the years it has been proven that learning through the use of many senses makes literacy last longer.

Objectives of the study

The general objective of the study is ascertain how the school learning environment can promote literacy

The specific objectives are;

1. To identify those places students most often go to study.
2. To identify the Physical environmental needs of library users
3. To find out if there is any relationship between physical environment needs and level of knowledge acquisition

3. METHODOLOGY

Survey approach was adopted for this Study. Primary data were collected with the aid of a questionnaire administered to students of FUTO. The Population of the students at FUTO is 16, 558 which was obtained from the University's Information and Communications Technology records (ICT, 2017). According to Nwana (1981), if a population is in many hundreds, one needs a sample size of 20%. But if a population is in few thousands, one needs a sample size of 10%. Based on the abovementioned recommendation, a sampling fraction of 10% was used to select the sample size,

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which one thousand six hundred and fifty six (1,656) students in the University. A multistage sampling technique was employed. FUTO is made up of 46 departments, from which 36 students were selected from each department. The researcher concentrated on students of 200 to 400 levels of study. 12 respondents were selected from each level giving a total of 1,656 respondents. 1,451 (88%) copies of the administered questionnaire were returned and 1319 (80%) were properly completed and thus 1319 responses were therefore used for the study.

To guarantee the reliability of the instrument, it was administered on thirty (30) participants out of the envisaged population of the study. A test-retest reliability method of two weeks interval was conducted, response obtained were subjected to Pearson Product Moment Correlation method and a reliability co-efficient of 0.78 was obtained, which indicated high level of internal consistency.

Simple Percentage, frequency, relative important index (R.I.I) and regression Analysis were employed in the analysis of data.

4. RESULT

Demographic Data

Table 1: Age of respondents

Age range	Frequency	Percentage (%)
16-20	568	43
21-25	318	24
26 -30	314	24
31 and above	119	9
TOTAL	**1319**	**100**

Table 1 shows that 568 (43%) of the respondents are within the age range of 16-20 years, 318 (24%) of the respondents are within the age range of 21-25 years of age, 314(24%) of the respondents are within the age range of 26-30 years of age while 119(9%) of the respondents are within the age range of 31years and above. This Table shows that majority of the respondents are within the age range of 16-20 years of age.

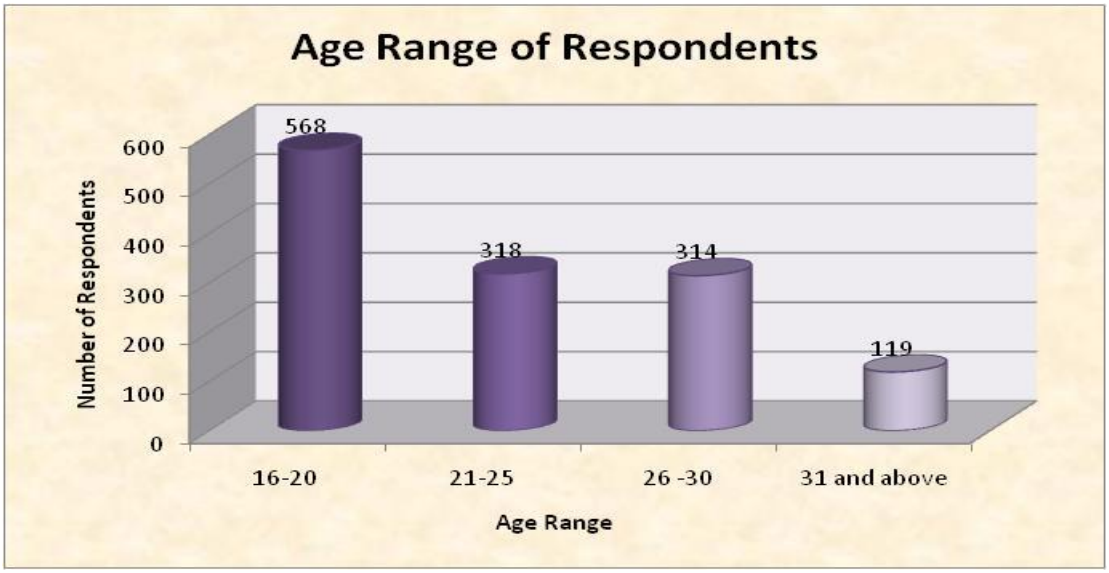

Table 2: Respondents' Year of Study

Level	Frequency	Percentage (%)
200	457	35
300	531	40
400	331	25
TOTAL	**1319**	**100**

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Table 2 shows that 457 (35%) of the respondents are students in 200 Level, 531 (40%) of the respondents are students from 300 Level, while 331 (25%) of the respondents are students from 400 Level. Therefore majority of the respondents (40%) are students from 300 Level. The levels represent the students Year of Study. The distribution is represented in the Chart below:

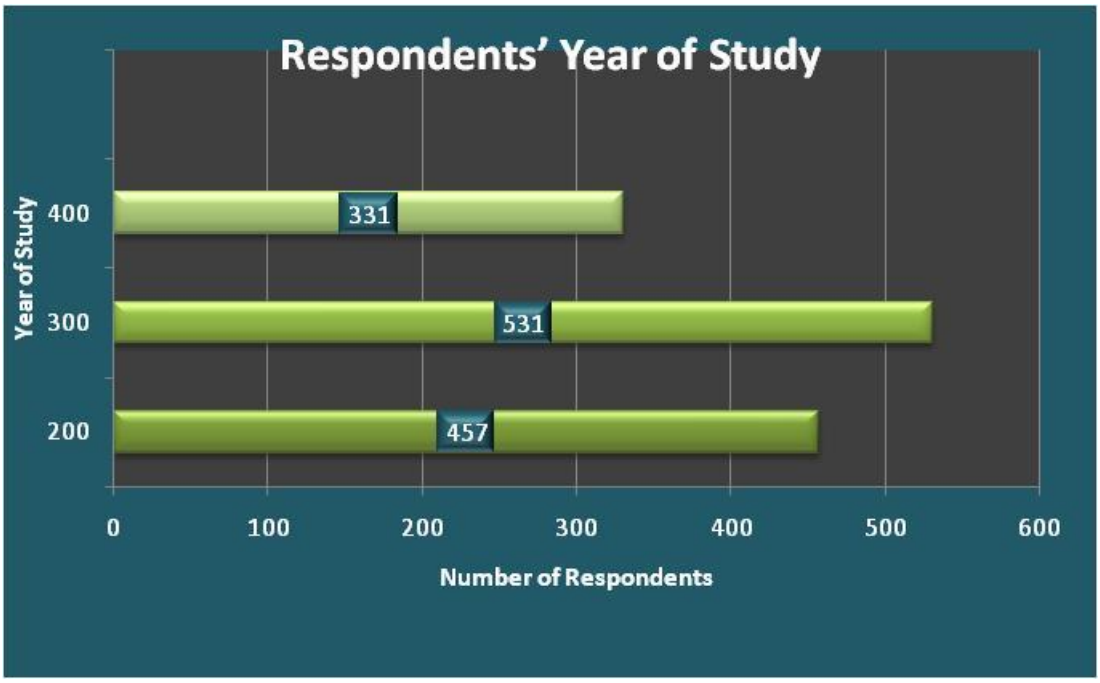

Table 3: Gender of Respondents

Gender	Frequency	Percentage (%)
Male	897	68
Female	422	32
TOTAL	**1319**	**100**

Table 3 shows the distribution of respondents by gender. The Table reveals that 897(68%) of the respondents are males while 422(32%) of the respondents are Females. Therefore, majority of the respondents (68%) are males. This is understandable being a University of Technology. Perhaps, the result could have been different if this university had been a conventional one.

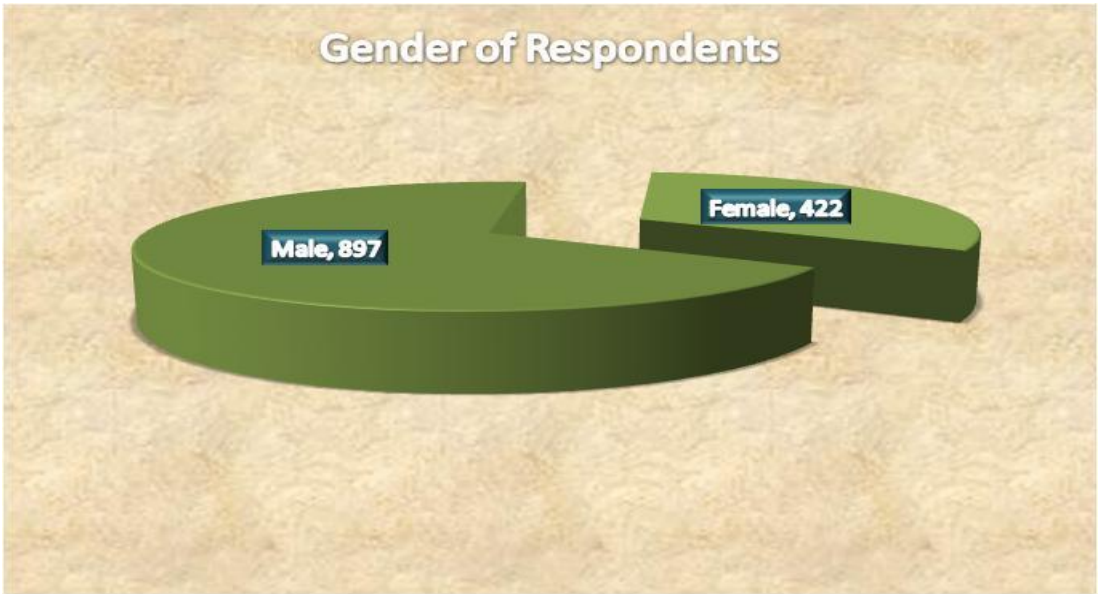

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Table 4: Where students like studying

Location studied most often	Frequency	Percentage (%)
At my desk at home	1211	92
On my bed at home	234	18
At a table at the school library	789	60
At a kitchen	12	1
In an empty class room	1009	76
At the hostel common room	451	34
Under a tree	112	8
On the floor at home	23	2
State Library	103	8

Table 4 revealed that 1211 (92%) of the respondents likes studying at their desk at home, 234(18%) like studying on their bed at home, 789(60%) of the respondents indicated that they like studying at a table in school library, 12(1%) of the respondents like studying in a kitchen, 1009(76%) of the respondents likes studying in an empty class room. 451(34%) indicated that they like studying at the hostel common room, 112(8%) revealed that they like studying under a tree, 23(2%) indicated that they like studying on the floor at home while 103(8%) indicated that they like studying in the state library. Therefore majority of the students like studying at their desk at home.

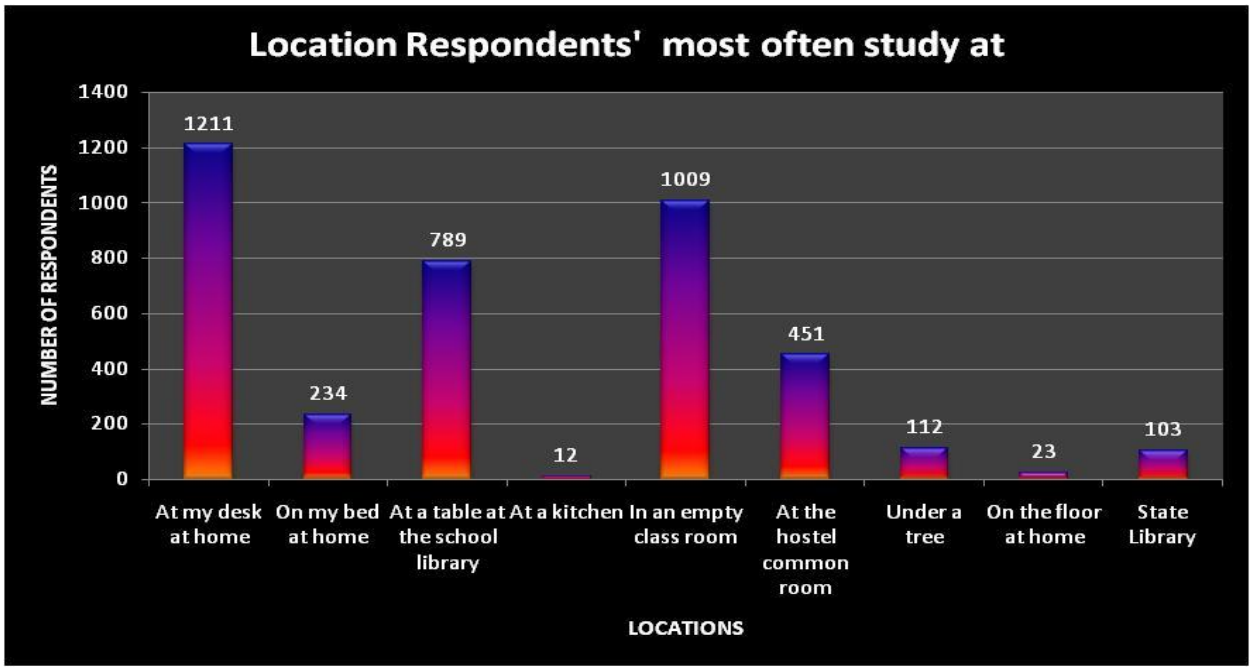

Table 5: Environmental needs of the Respondents.

Environmental Needs	Frequency	Percentage (%)
Computer access	1142	87
Space to spread out	897	68
Quiet place	1003	76
Physical comfort	1319	100
Proper room temperature	1319	100
Music	411	31
Colorful surroundings	1021	77
Art on walls	678	51
View of Nature	879	67

Table 5 shows the environmental needs of the respondents, 1142(87%) of the respondents revealed that they need an environment where they will have easy computer access, 897(68%) of the respondents indicated that they need

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environment where they can have space to spread out, 1003(76%) of the respondents revealed that they need an environment that is quiet, All the respondents 1319(100%) of the respondents indicated that they need an environment with physical comfort, also all respondents 1319(100%) indicated that they need an environment with proper room temperature, 411(31%) of the respondents said they need an environment with music played on, 1021 (77%) of the respondents indicated that they need an environment with a colourful surrounding while 897(67%) of the respondents revealed that they need an environment where they can have a view of nature.

Table 6: Impact of Environment on the Level of Knowledge Acquisition

Environment and level of Acquisition	**Very High**	**High**	**Low**	**Very Low**	**Mean**	**SD±**	**R.I.I**
Computer access	1119 (85%)	83 (6%)	55 (4%)	62 (5%)	3.71	526.30	4
Space to spread out	890 (67%)	317 (24%)	43 (3%)	69 (5%)	3.54	393.39	6
Quiet place	1213 (92%)	56 (4%)	36 (3%)	14 (1%)	3.87	589.08	2
Physical comfort	1002 (76%)	234 (18%)	77 (6%)	6 (1%)	3.69	458.18	5
Proper room temperature	1211 (92%)	78 (6%)	14 (1%)	16 (1%)	3.88	588.25	1
Music	233 (18%)	311 (24%)	693 (53%)	82 (6%)	2.53	260.16	9
Colorful surroundings	1167 (88%)	78 (6%)	44 (3%)	30 (2%)	3.81	558.53	3
Art on walls	767 (58%)	213 (16%)	240 (18%)	99 (8%)	3.25	297.84	8
View of Nature	913 (69%)	123 (9%)	215 (16%)	68 (5%)	3.43	393.53	7
Significant Mean					**3.52**		

Majority of the respondents indicated that computer access (3.71±526.30, RII=4), Space to spread out (3.54±393.39 RII=6), Quiet place (3.87±589.08 RII=2), Physical comfort (3.69±458.18 RII=5), Proper room temperature (3.88±588.25 RII =1) colourful surrounding (3.81±558.53 RII=3), Art on walls (3.25±297.84 RII=8) and view of nature (3.43±393.53 RII=7) helps them to achieve high level of knowledge while studying however only few of the respondents indicated that music helps them achieve high level of knowledge while studying.

Table 7: Environmental needs do not significantly affect the level of knowledge acquisition

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.879[a]	.773	.740	.21787	.773	23.813	1	7	.002
a. Predictors: (Constant), Environment									

The table above depicts a very strong relationship between environmental needs and level of knowledge acquisition. It shows that 87.9% level of coefficient exist between Environmental needs and Level of knowledge acquisition, The coefficient of multiple determination denoted by R-Square is therefore strong thus indicating that the data does fit well in the statistical model (77.3%) since it is very near to 100%, therefore a reasonable amount of level of knowledge acquisition is been determined by the Environmental needs of the respondents, this therefore appears to be useful for making predictions since the value of *R-Square* is close to 1.

Also when the R-Square was adjusted for possible error in fitness an Adjusted error of 74% was observed, this normally do serve as an indication that some other explanatory variable(s) by which without them the dependent variable level of knowledge acquisition cannot be fully measured. Therefore other predictor variables are needed to be sourced out in order to fully measure the dependent variable.

An F-test was also performed to determine if the model is useful for prediction at 5% level of significance.

The F-ratio was calculated of the predictor variable to be 23.813 with an alpha value of 0.002 which was found to be higher than f-tabulated value at 0.05 and df= 1 and 7 is 5.59. This therefore shows that the model is useful for predicting level of knowledge acquisition based on Environmental needs.

On these bases we therefore reject the null hypotheses that say "Environmental needs does not significantly affect the level of knowledge acquisition." and accept the Alternate Hypothesis.

5. CONCLUSION

Findings shows that Majority of the respondents needs an environment with computer access (3.71±526.30, RII=4), Space to spread out (3.54±393.39 RII=6), Quiet place (3.87±589.08 RII=2), Physical comfort (3.69±458.18 RII=5), Proper room temperature (3.88±588.25 RII =1) colourful surrounding (3.81±558.53 RII=3), Art on walls (3.25±297.84 RII=8) and view of nature (3.43±393.53 RII=7) as it helps them to achieve high level of knowledge while studying however only few of the respondents indicated that music helps them achieve high level of knowledge while studying.

Also a significant relationship was found to exist between the respondents environmental needs and level of knowledge acquisition ($r=0.879$, $p=0.02<0.05$). Therefore, as the library users comfort needs are been met, their level of knowledge acquisition increases.

RECOMMENDATION

Based on the findings, the researcher makes the following recommendations:

i. School libraries should try to provide computers and internet facilities as it helps the students in knowledge acquisition.

ii. A space for students to spread out should be made available, as this will make the library users feel at home.

iii. The library staff should make sure they uphold the culture of quietness in the library as this helps students concentrate and become engrossed in what they are reading.

iv. Physical comfort should be a priority for the library management as it goes for to enhance literacy.

v. School library should try to make sure that the library temperature is conducive for its inhabitants.

vi. The library environment also, should be made more colourful with art on walls, as these helps stimulate the senses in knowledge acquisition.

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