Vol. 7 No.1 June (2024)
**JOURNAL OF ENVIRONMENTAL AND TOURISM EDUCATION**
**ISSN: 2659-0794 (PRINT) ISSN:2659-0808(ONLINE)**
Content Available at: **https://jeate.net/index.php/Jete/issue/archive**

# Whatsapp Usage and Academic Achievement of Environmental Education Students' in Post covid-19 Era in Cross River State, Nigeria.

| | | |
|---|---|---|
| **Usang, Nkanu Onnoghen**[1] usangonnoghen@gmail.com | A | [1,2,3,]Department of Environmental Education, Faculty of Arts and Social Science Education, University of Calabar |
| **Unimtiang, Unimke Sylvanus**[1] unimkefelaa@gmail.com | B | |
| **Rose, Usang Onnoghen**[2] Roseusang012@gmail.com | C | |
| **Amadi, juliet odinaka**[2] | D | |
| **Chinwemeri, Blessing Chile**[3] | E | |

**Keywords**
WhatsApp, usage, academic achievement, Environmental Education students,' Cross River State

**Correspondence**
unimkefelaa@gmail.com

**Abstract**

This study investigates WhatsApp usage and academic achievement of Environmental Education students' in post covid-19 era in Cross River State, Nigeria. Two theories were adopted to guide the study. To achieve the purpose of this study, a null hypothesis was formulated. The review of related literature was carried out accordingly in line with the specific objective raised. Correlational research design was adopted for the study. The area of the study was Cross River State. The target population is Environmental Education students in the research area. Multiple sampling techniques were adopted in selecting four hundred and fifty one (451) respondents used for the study. A ten item modified four point Likert scale questionnaire titled "WhatsApp Usage Questionnaire" (WUQ) and Achievement Test were the instruments used for gathering data for the study. To test the hypothesis formulated for the study, simple linear regression statistical tools was used as statistical tools for data analysis. The hypothesis formulated was tested at 0.05 level of significance. The result of the analysis revealed that WhatsApp usage significantly predict academic achievement of Environmental Education students' in post covid-19 era in Cross River State, Nigeria.

## Introduction

Students attend school to obtain knowledge and skills, but various circumstances influence their academic achievement. For example anxiety, depression, family monthly income, study hour, stimulant use, English proficiency, and a variety of other factors all affect students' academic achievement. Stake holders in education seem to blame students for general un-preparedness to study as one of the major causes of student's failure. Lecturers, similarly, appear to receive blame for lack of dedication to their jobs which may affect the academic achievement of students. The concern for quality education has placed pressure on school administrators and government to assess and upgrade all teaching staff, insert new leaning facilities and phase lift the academic environment to meet world approve standard. This is so because of the great importance that education has on the national development of the country. With the efforts of stakeholders in education failing to yield tangible results, the researcher ponder what might be the predictor variable responsible for the fall in academic achievement in the research area. Could this constant fall in the outcome of learning be connected with the geometric rise in the use of social media by students in the research area? Could the time students spent chatting on WhatsApp be the main predictor predicting the fall in academic achievement in the research area?

WhatsApp usage refers to the means of interactions among people in which they create, share and exchange information and ideas in virtual communities and network. The internet revolution worldwide has occasioned great strides in storage, retrieval and sharing of information, as well as increased the speed through which information is shared. This has made a number of web technologies to develop through the Internet and created immense networks associated with social media. Negative and positive effects have been manifested in the evolution of social media in the society. In Nigeria, by December 2023, there were an estimated 100,612,460 social media users. Cross River State for instance, had 75.1% internet penetration and 1,471,993 internet users as at June 2023. In Cross River State, there are 843,233 WhatsApp users apart from other internet users (Internet World Statistics, 2023). The utilization of social media in the State has undermined students' performance in academics which is affected by internet as reported by the National Communication Commission (NCC, 2022).

The education sector has thus been transformed in terms of learning, research and communication. Many types of online tools such as WhatsApp and others have been provided by internet but the emergence of social networking sites (SNS) has enhanced global linkages of people (Asemah & Edegoh, 2022). In the sustainable development goals, the use of technology within the social sphere has become a key communication strategy for many people. Internet has become an integral part of social life relied upon even for routine activities (Aghazamani, 2010). Provision of electronic communication in the society has been dominated by Social Media Networks (SMN) like WhataApp, LinkedIn, 2go and Facebook of which have

enriched communication in the society. In Nigeria, for example, social media has grown rapidly and gained importance in the daily lives of the population (Baldwin, Bedell & Johnson, 2007). Many students in tertiary schools have adopted the use of social networking sites as part of their lives via internet (Buettner, 2016). In many high schools, students actively engage in connections for new information, knowledge sharing, research groups and other interests as an online academic society (Mingle & Adams, 2015).

Going by the above records, the researcher got inquisitive and wondering if, the latest fall in academic achievement in Environmental Education in Cross River State is significantly connected to time spent by students on social media platforms. It is on this background that this research was poised to investigate WhatsApp usage and academic achievement of public Environmental Education students' in post covid-19 era in Cross River State, Nigeria.

**Statement of the problem**

In recent times, the poor performance of students in Environmental Educations in Cross River State have been of great concern for education curriculum planners, government and even individual in private and public sectors. Stakeholders in education seem to blame students for general un-preparedness to study as one of the major causes of student's failure. Lecturers, similarly, appear to receive blame for lack of dedication to their jobs and protracted strikes with lose of concentration which may affect the academic achievement of students. The concern for quality education has placed pressure on school administrators and government to assess and upgrade all teaching staff, insert new leaning facilities and phase lift the academic environment to meet world approve standard. This is so because of the great importance that education has on the national development of the country.

With the efforts of stakeholders in education failing to yield tangible results, the researcher ponder what might be the predictor variable responsible for the fall in academic achievement in the research area. Could this constant fall in the outcome of learning be connected with the geometric rise in the use of WhatsApp by students in the research area? It is on this background that this research was poised to investigate use of WhatsApp usage and academic achievement of Environmental Education students' in post covid-19 era in Cross River State, Nigeria.

**Purpose of the Study**

The purpose of this study was to investigate the extent to which WhatsApp usage predict academic achievement of Environmental Education students' in post covid-19 era in Cross River State, Nigeria.

**Statement of the Hypothesis**

The following hypothesis was formulated to guide the study:

WhatsApp usage does not significantly predict academic achievement of Environmental Education students' in post covid-19 era in Cross River State.

## Literature Review

### Theoretical background

Uses and gratification theory by Katz (1974)

Uses and Gratification Theory was brought about in 1974 by Katz. The theory focusses on the reasons why individuals use certain media. One of the implications of this theory is that individuals use certain media so as to get some gratification. Theusers of this media have several options to choose from by use of criteria of which of the available options satisfy their personal needs.

Uwem (2013) modify the theory and suggested that while people are suing the different media, they try to customize their experience so that they are able to fulfill their gratifications. The uses and gratification approach is a good base for our study. Social media sites have a wide range of provisions from which different users are able to use and satisfy their needs (Uwem, 2013).

The relevance of this theory to the study is that it will help the researcher to understand what gratification the target population under study seek to fulfill, whether the needs are met and what impact the student acquires from the use of the social media site. Therefore, the two theories supported this research study comprehensively.

### WhatsApp and Environmental Education students' in post covid-19 era academic achievement

Odiel (2022) analyze the effect of the educational use of Telegram on student engagement. An experiment (pretest and posttest with a control group) is designed using a mixed-methods approach based on a convergent or concurrent triangulation design. The study populations (coincides with the sample) are those enrolled (229) in the six editions of a virtual postgraduate course. The techniques used for data analysis were scatter plots, content analysis of teachers' narratives, and statistical methods. The triangulation of the quantitative and qualitative results confirms that the educational use of digital social networks promotes engagement in all experimental groups (use of the virtual learning environment and Telegram) obtaining greater significant differences than in the control groups. It is concluded that the use of the following Telegram functionalities, chat groups, peer assessments, support for various types of online interaction, the exchange of digital media, and the design of surveys contributed, under the guidance of teachers, is to increase the student's engagement.

Rilwan and Umoru (2021) investigate the effects of WhatsApp on the academic performance of business education students in cost accounting in Federal Colleges of Education in North-West Nigeria. Quasi experimental design was adopted for the study. In order to achieve this,

three specific objectives and three research questions were raised. Three null hypotheses were tested for the study. The population of the study was 241 students and the sample was 91. Cost Accounting Performance Test (CAPT) was used as the instrument for data collection. The instrument consisted of two sections. Section A was the pre-test and section B was the post-test. The data collection procedure lasted for five weeks. The research questions one to three were answered using mean and standard deviation. Null hypotheses one to three were tested using Analysis of Covariance (ANCOVA). All the hypotheses were tested at 0.05 level of significance. Null hypotheses one were rejected, while hypotheses two and three were retained. The study found that WhatsApp had positive effects on the academic performance of Business Education students in Cost accounting. However, there was no significant gender effect on the academic performance of male and female students who were taught cost accounting using WhatsApp. There was a significant difference in the academic performance of business education students taught Cost Accounting using WhatsApp and lecture method. Based on the findings, it was concluded that WhatsApp affected the academic performance of business education students in cost accounting. It was recommended among others that WhatsApp should be used to teach cost accounting to Business Education students in Colleges of Education.

Mumtaz, Irfan, Shahzeb and Aijaz (2021) examined the use of WhatsApp for Academic performance and achievements among the students of higher education institutes (Private/Public) of Sindh province. This study used descriptive survey method to explore and describe the collected data. It utilized purposive sampling technique to gather data from this research's respondents. The sample of the population for layering the usage of WhatsApp services and academic performance was of 175 students (respondents) that categorically were 94 students from Private Institutes and 81 students from Public Institutes. The findings of the study show that students of both types of Institutes are using WhatsApp application for many academic and social purposes. Academic's purpose show that students use WhatsApp for group discussion about class assignments, class work discussion, instructor announcements regarding the subject, examination preparation, and research publication groups. Students also use WhatsApp for sending and receiving notes, audio - video lectures and books in electronic format shared from instructor or library.

Zahid, Ahmad, Syed and Faisal (2016) determined the effect of growing use of social media sites on the academic performance of the students of universities and colleges. On the basis of random sampling a sample of 300 students was selected. Questionnaire was used as an instrument for data collection. 97% questionnaire received back from respondents on which descriptive statistics apply for data analysis. Results indicate that the effect of WhatsApp can be positive as in this study closely determined the real effect of social media sites. In recent time it encouraged the carrier and future of students. The social media sites like WhatsApp, Facebook, twitter, Google+ and Skype capture the attention of students for study and affecting positively their academic Grade points.

Junco, Heiberger and Loken (2011) examined the effect of Twitter on college student Engagement and grades. The authors describes the semester-long experimental study to determine if using Twitter, the micro-blogging and social networking platform most amenable to ongoing, public dialogue for educationally relevant purposes can impact college student engagement and grades. A total of 125 students taking a first year seminar course for pre-health professional majors participated in this study (70 in the experimental group and 55 in the control group).With the experimental group, Twitter was used for various types of academic and co-curricular discussions. Engagement was quantified by using a 19-item scale based on the National Survey of Student Engagement. To assess differences in engagement and grades, we used mixed effects analysis of variance (ANOVA) models, with class sections nested within treatment groups. We also conducted content analyses of samples of Twitter exchanges. The ANOVA results showed that the experimental group had a significantly greater increase in engagement than the control group, as well as higher semester grade point averages. Analyses of Twitter communications showed that students and faculty were both highly engaged in the learning process in ways that transcended traditional classroom activities. This study provides experimental evidence that Twitter can be used as an educational tool to help engage students and to mobilize faculty into a more active and participatory role.

Levent (2017) explore the effects of WhatsApp use for education and determine the opinions of students towards the process. The study was designed in mixed research model which combines both qualitative and quantitative data. In the quantitative aspect of the study, quasi-experimental design, with a pretest-posttest control group, was used and the data were analyzed by two factor variance analysis for mixed measurements. The analysis indicated that both learning environments have different effects on the success of students and that supporting the traditional environment by using WhatsApp is more effective for the increase of success. For the qualitative aspect of the study, content analysis techniques were employed to analyze the data which were collected by open-ended question forms. The analysis showed that students developed positive opinions towards the use of WhatsApp in their courses. They demanded the same practice in their other courses as well. They reported that learning could also take place unconsciously and the messages with images were more effective for their learning. However, a few students have expressed adverse opinions about the timing of some posts and the redundant posts within the group. Finally, it is suggested that use of WhatsApp in education process be encouraged as a supportive technology.

Chandrasena and Ilankoon (2022) investigate the impact of social media on academic performance and interpersonal relations among health sciences undergraduates. Social media has become a most inseparable part of young adults' lives with the rapid development of information and communication technology. The study aimed to assess the use of social media and its association with academic performance, well-being, and interpersonal relation of the

health sciences undergraduates. A descriptive cross-sectional study was conducted among undergraduates in Faculty of Allied Health Sciences (n = 220), University of Sri Jayewardenepura, Sri Lanka. Data were collected using a pretested, self-administered questionnaire and analyzed using descriptive and inferential statistics. The response rate was 79.5%. All undergraduates (n = 175) had social media accounts, and WhatsApp was the most frequently used social media site (96.0%), followed by Facebook (70.9%), mainly for communicating (85.1%), entertainment (83.4%), and online learning (65.7%). Most undergraduates (72.0%) spent 2–5 h daily on social media sites and followed social media 1–10 times per day (54.9%). The majority of them wished to use social media for academic purposes (94.9%), and the most preferred site for academic work was WhatsApp (65.1%). Most undergraduates self-reported Grade Point Average (GPA) (46.3%) was <2.9. There was a statistically significant association between the mean GPA and frequencies of using social media (P = 0.02) (not daily [3.3 ± 0.3], 1–10 times a day [2.9 ± 0.4], and more than 10 times a day [3 ± 0.4]). Perceived social media addiction and duration of sleep (P = 0.02), activities of daily living (P = 0.004), and study time (P = 0.02) were found to be significantly associated. Despite the undergraduates' willingness to use social media for academic purposes, the frequency of using social media had a significant influence on their academic performance. This highlights the importance of guidance on effective use of social media and social media addiction to improve undergraduates' academic performance, well-being, and interpersonal relationships.

**Research Methodology**

The research design adopted for the study was correlational research design. This design was adopted because the researcher had no control of the independent variables; social media usage as well as the dependent variable which is students' academic achievement. The research area for this study was the entire Cross River state comprising eighteen (18) local government areas. The state is made up of three (3) education zones namely Calabar, Ikom and Ogoja. Cross River State is coastal state in South-South Nigeria named after the Cross River, which passes through the state located in the Niger Delta. Cross River State occupies 20,156 square kilometers. It shares boundaries with Benue State to the north, Ebonyi and Abia to the west, to the east by Cameroon Republic and the south by Akwa Ibom and the Atlantic Ocean. The state lies between $7^0$, $3^0$'E of the Greenwich Meridian and in latitude $47^0$ 5'N -$7^0$ 00'N of the equator. The state is composed of several ethnic groups, which include the Efik, Ejagham, Yakurr, Bette, Boki, Yala, Igede, Ukelle and the Bekwarra and Boki etc. The Efik language is widely spoken in the southern part of Cross River State. There are many festivals in Cross River State. The festivals bring in tourist from far and wide into the state to enjoy themselves and also do business in the state.

These festivals include, the Calabar Carnival, the Yakurr leboku, yam festivals from the soaring plateaus of the mountaintops of Obanliku to the rain forest of Afi, from the water falls of Agbokim and Kwa to the spiraling Ox-bow Calabar River which provides sights and images of the Tinapa Business Resorts. Calabar Marina Resort, Calabar Residency Museum and the

Calabar Slave Park. Other tourists attractions are the Ikom Monoliths, the Mary Slessor Tomb, Cross River National Park as well as Obanliku Mountain Resort. Environmental Educations in the state includes; University of Calabar, University of Cross River State, Federal College of Education Obudu, College of Health Technology Iboko Okpoma and Cross River state college of Education Akamkpa.

The population of the study was made up of 15,729 year three (3) tertiary school students in 4 tertiary schools in Cross River State. All participants were year three (3) students. This is so because they are exposed enough to adequately communicate their attitude on various issues and as it affect on their academic achievement (see Table 1). The research adopted multiple techniques to select the sample for this study. Stratification was based on Environmental Educations in Cross River State. Purposive sampling technique was used in selection of faculties and departments used for the study. Purposive sampling technique was used to select the number of respondents in each department in the institution while accidental sampling techniques was used to administer the questionnaire to year three (3) students in the departments and schools selected for data collection (see Table 1).

The sample size was determined using Taro Yamane's formula (1973). This formula is use to generate sample size for large population. (See Appendix 2). The sample for this study consisted of 400 male and female students from four (4) tertiary schools in Cross River State. The number of respondents selected is to obtain adequate representative samples of students from each school in the area under study. All the selected schools were to ensure equal representation in the study. The instruments that were used for data collection included a set of survey questionnaire called "WhatsApp Rating Scale (WRS) and adapted Achievement Test (AT) from Tertiary School examination. The questionnaire consisted of two sections; A and B. Section A focused on the personal data of the students such as sex, age and name of the school while section B elicited information on WhatsApp usage and students' academic achievement. The questionnaire (WRS) was drawn based on a modified four point scale of Strongly Agree (SA) Agree (A) Strongly Disagree (SD) Disagree (D) as shown in Appendix 1.

**Table 1: Distribution of sample by institution**

| **Institution** | **No of Yr (3) students** |
|---|---|
| UNICROSS | 3,340 |
| Fed. Collage of Edu | 2,213 |
| Collage of Edu Akampka | 3,576 |
| Unical | 6,600 |
| **Total** | 15729 |

Source: Examination and Certificate Units, (2022)

Validity refers to the ability of a research instrument to measure what it is meant to measure. To ensure the extent to which the instrument measured what it purports to measure, the WhatsApp Rating Scale (WRS) developed by the researcher through extensive literature review. The initial pool was made up of 30 items. The instrument was first given to two lecturers in the Department of research and evaluation to scrutinize for item relevance to the variables under consideration. While some items were merged few others were re-written for inclusion in the instrument as a result of the scrutiny. The instruments were validated by two experts in Measurement and Evaluation in the Department of Educational Foundation, Guidance and Counseling and finally examined by the project supervisor. A final draft of 20 items was used in the study.

For the achievement test, a 30 question multiple choice test for Tertiary School examination in Government from Cross River State Ministry of Education will be adapted as the test of academic achievement. This instrument was first examined by two experts in Measurement and Evaluation. Finally the supervisor certified the face and content validities of the instrument. Coverage, appropriateness and consistency with the test blue print of the instrument were certified by the supervisor. The test consisted 30 questions of multiple choice types with three fake options and one correct option to each question. Reliability refers to the consistency with which the items measure what they are supposed to measure. To ascertain the reliability of the instrument, a trial test was conducted on 50 students drawn from the population but who are not members of the sample to be used for the study. The single test reliability method was adopted. In this approach, the instrument was administered to the sample. The responses from the administration were correlated using Crombach alpha Coefficient statistic. The Cronbach alpha coefficient results showed a reliability coefficient ranging from 0.73 to 0.84 which indicated that the instrument was reliable enough to be used for this study (See Table 3). The researcher with research assistants will undertake the administration of the questionnaire and achievement test in all the schools that were selected to participate in the study. There will be prior notice given to all the heads of the schools selected about the researcher's intention to visit their schools. The instrument will be administered on the sample group under the closed supervision of the researcher and research assistants. The research assistants will be trained of the techniques involved in the administration of the instrument. There will therefore be asked to ensure individual students' concentration and also prevent exchange of information and discussion of any form among the subjects.

The researcher developed a key, which served as a guide for coding the data collected for, analysis. The items on the questionnaire will be sorted based on the variables they were to measure. The questionnaire were structured in a four point likert, type scale was both positively and negatively worded. The responses set include; Strongly Agree (SA) Agree (A) Disagree (D) and Strongly Disagree (SD). These were rated in a descending order as 4, 3, 2 and 1 for the responses. The total number of the responses ticked (√) in each of the section covering all the variables under the study will be added. The total scores for each section will be recorded

against these variables. Simple linear regression and multiple regression statistical techniques will be used in the analysis. These scores will be recorded on the blank column as will be indicated by the researcher.

## Results and Discussion

### General description of data/variables

In this section, the mean and standard deviation for the main variables in the study are presented. The main independent variable is WhatsApp usage. The dependent variable is students' academic achievement. The population of the study was made up of 15,729 year three (3) tertiary school students in 4 tertiary schools in Cross River State, Nigeria. All participants were year three (3) students. A sample of four hundred (400) respondents was used for the study. The computed mean and standard deviation of the sub-variables is presented in Table 3.

### Presentation of results

The results of data analyzed and their interpretation are presented. The presentation is done hypothesis by hypothesis followed by interpretation of results obtained from the analysis of data. Each hypothesis is tested at 0.05 level of significance.

**Table 4: General description of variables**

| Variables | X | S.D |
|---|---|---|
| WhatsApp usage | 17.0050 | 1.21188 |
| Students' academic achievement | 33.9300 | 2.14864 |

### Hypothesis

WhatsApp usage does not significantly predict academic achievement of Environmental Education students' in post covid-19 era in Cross River State. The independent variable in this hypothesis is WhatsApp usage while the dependent variable is students' academic achievement. Simple linear regression statistical tool was used for data analysis. The result of this analysis is presented in Table 5.

The result of analysis presented in Table 5 showed that the predictor or independent variable (WhatsApp usage) significantly predict the predicted variable (students' academic achievement). The predictor variable accounted for only 1% of the variance in academic achievement of Environmental Education students' in post covid-19 era in Cross River State. This showed a very weak positive relationship between the predictor and predicted variables.

Furthermore, the regression ANOVA revealed there was a weak positive significant influence of WhatsApp usage on academic achievement of Environmental Education students' in post covid-19 era $F(1, 398) = 4.039$; $p<.05$. It was on this note that the null hypothesis was rejected

while the alternate hypothesis was upheld. Based on this result, it was stipulated that frequent manipulation and usage of WhatsApp may influence academic achievement of Environmental Education students' in post covid-19 era in the study area

**Table 5: Simple linear regression analysis of the prediction of WhatsApp usage on academic achievement of Environmental Education students' in post covid-19 era in Cross River State.**
**(N = 400)**

| **Model** | **R** | **$R^2$** | **Adj.$R^2$** | **Std error of estimate** |
|---|---|---|---|---|
| 1 | .100 | .010 | .008 | 2.14050 |

| Source of variance | SS | Df | MS | F | Sig |
|---|---|---|---|---|---|
| Regression | 18.507 | 1 | 18.507 | 4.039* | .045 |
| Residual | 1823.533 | 398 | 4.582 | | |
| Total | 1842.040 | 399 | | | |

Significant at p<.05 level. df = 1 and 398; critical F-value of 2.26

**Discussion of findings**

The finding from analysis and testing of hypothesis two showed that the null hypothesis was rejected. This implied a significantly positive prediction of Use of Whatsapp on academic achievement in Environmental Education in the research area. The finding of this study contradicted the finding of Odiel (2022) analyze the effect of the educational use of Telegram on student engagement. An experiment (pretest and posttest with a control group) is designed using a mixed-methods approach based on a convergent or concurrent triangulation design. The study populations (coincides with the sample) are those enrolled (229) in the six editions of a virtual postgraduate course. The techniques used for data analysis were scatter plots, content analysis of teachers' narratives, and statistical methods. The triangulation of the quantitative and qualitative results confirms that the educational use of digital social networks promotes engagement in all experimental groups (use of the virtual learning environment and Telegram) obtaining greater significant divergences than in the control groups. It is concluded that the use of the following Telegram functionalities, chat groups, peer assessments, support for various types of online interaction, the exchange of digital media, and the design of surveys contributed, under the guidance of teachers, is to increase the student's engagement.

The finding of this study is also in line with the finding of Rilwan and Umoru (2021) investigate the effects of WhatsApp on the academic performance of business education students in cost accounting in Federal Colleges of Education in North-West Nigeria. Quasi experimental design was adopted for the study. In order to achieve this, three specific objectives and three research questions were raised. Three null hypotheses were tested for the

study. The population of the study was 241 students and the sample was 91. Cost Accounting Performance Test (CAPT) was used as the instrument for data collection. The instrument consisted of two sections. Section A was the pre-test and section B was the post-test. The data collection procedure lasted for five weeks. The research questions one to three were answered using mean and standard deviation. Null hypotheses one to three were tested using Analysis of Covariance (ANCOVA). All the hypotheses were tested at 0.05 level of significance. Null hypotheses one were rejected, while hypotheses two and three were retained. The study found that WhatsApp had positive effects on the academic performance of Business Education students in Cost accounting. However, there was no significant gender effect on the academic performance of male and female students who were taught cost accounting using WhatsApp. There was a significant difference in the academic performance of business education students taught Cost Accounting using WhatsApp and lecture method. Based on the findings, it was concluded that WhatsApp affected the academic performance of business education students in cost accounting. It was recommended among others that WhatsApp should be used to teach cost accounting to Business Education students in Colleges of Education.

## Conclusion

Based on the result of the finding, it was concluded that there is a significant prediction of Whatsapp usage on academic achievement of Environmental Education students' in post covid-19 era in the study area. This is an indication that WhatsApp has a significant effect on learning in the study area. WhatsaApp is now an effective tool for social change, therefore; more focus should be invested on social media as a whole.

## Recommendations

Based on the findings obtained in this study, the following recommendations were made:

1. More awareness should created by lecturers and administrators about the positive effect of Use of WhataApp on academic achievement in the study area in post covid-19 era. This would enable students overcome the negative effects of poor academic achievement such as isolation and withdrawing from school in post covid-19 era.
2. The more students' experience Use of Whatsapp during day to day lessons, the better their academic achievement in Environmental Education in the study area.
3. The more students' employ the Use of WhatsApp positively, the better the academic achievement of students' in Environmental Education in the study area.

## References

Aghazamani, A. (2010). How do University Students Spend Their Time on Facebook? An Exploratory Study. Journal of American Science, 6, 730-735

Asemah, E.S &Edegoh, L.O.N (2022). Social media and insecurity in Nigeria: a critical appraisal. Being a paper presented at the 15th National conference of African Council for Communication Education, which took place at the conference Hall of Federal University of Technology, Minna, Nigeria.

Baldwin, T.T., Bedell, M. D. & Johnson, J.L. (2007) "The social fabric of a team- based M.B.A. program: network effects on student satisfaction and performance," *Academy of Management Journal*, 40(6), 50-60,

Bandura, Albert (1963). *Social learning and personality development*. New York: Holt, Rinehart, and Winston.

Buettner, R. (2016) *Getting a Job via Career oriented Social networking sites:* The weakness of Ties. 49th Annual International Conference on system sciences. Kauai, Hawii: IEEEE. Doi:10.1314/RG. 2.1.3249.2241

Chandrasena, P. P. C. M. &Ilankoon I. M. P. S. (2022).The impact of social media on academic performance and interpersonal relations among health sciences undergraduates. *Journal of Education and Health Promotion.* 11(117), DOI:10.4103/jehp.jehp_603_21. Wolters Kluwer – Medknow publishers

Junco R., Heiberger G. &Loken E. (2011).The effect of Twitter on college student Engagement and grades. *Journal of Computer Assisted Learning*; 27, 119–132. rey.junco@gmail.com

Kochhar. (2017).Tweeting for learning: A critical analysis of research on microblogging in education published in 2008- 2011. *British Journal of Educational Technology*, 43(5).

Levent C. (2017). The Impact of Whatsapp Use on Success in Education Process. *International Review of Research in Open and Distributed Learning*; 18(7).

Metz, M.H. (2016). In the aftermath: the ivory tower and the city school as sources of insight. Teachers College Record on-line: www.tcrecord.org

Mingle, J. & Adams, M. (2015). *Social Media Network Participation and Academic Performance in Senior High Schools in Ghana.* Library Philosophies and Practices (e-journal), paper 1286.

Morahan-Martin, J., & Schumacher, P. (2000). Incidence and correlates of pathological Internet use among college students. Computers in Human Behavior, 16, 13–29.

Mumtaz A. B., Irfan A. A., Shahzeb & Aijaz A. A. (2021). The Impact of WhatsApp Usage on Academic Purposes among the Students of Higher Education Institutes of Sindh Province. *Journal of Contemporary Issues in Business and Government*. 27(6), https://cibg.org.au/

Noble (2006).The effect of internet addiction and self-control on achievement of elementary school children. Korean Journal of Yeolin Education. 5(3).

Odiel E. M. (2022). The Effects of WhatsApp and Telegram on Student Engagement: An Analysis from the Mixed-Methods Approach. *Education Research International*. https://doi.org/10.1155/2022/2881404. ID 2881404|

Rilwan D. &Umoru T. A. (2021). The effects of WhatsApp on the academic performance of business education students in cost accounting in Federal Colleges of Education in North-West Nigeria. *Al-Hikmah Journal of Educational Management and Counselling*, 3(1).

Robert and Sampson. (2011). The effect of Twitter on college student engagement and grades. Journal of Computer Assisted Learning, 27(2), 119-132.

Stephen & Schaban. (2002). MySpace and facebook: Applying the uses and gratifications theory to exploring friend-networking sites. CyberPsychology and Behavior, 11.

Zahid A., Ahmad M., Syed R. H. & Faisal H. (2016). Impact of Social Media of Student's Academic Performance. International Journal of Business and Management Invention. 5(4). 22-29. www.ijbmi.org