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Exploring the Influence of WhatsApp Participation on Collaborative Learning and Team Development in Academic Settings

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ABSTRACT: This study explored the influence of WhatsApp participation on collaborative learning and team development in academic settings. Group WhatsApp participations enable students to collaborate with others to accomplish common learning objectives. The methodology employed for the study was a mixed-methods approach combining surveys, focus groups, and visual analysis of WhatsApp group chats, with a sample 187 students from eight(8) schools/faculties in Federal Polytechnic Nekede Owerri, Imo State in Nigeria. The research provides insights for educators, policymakers, and researchers seeking to harness the potential of mobile technologies to enhance student learning outcomes and teamwork skills. The results from the study reveals that 39.6% of respondents strongly agree that WhatsApp is used frequently for quality academic interactions, collaborative learnings and team development. However, 36.9% of the respondents agree that WhatsApp collaborative groups usually face the challenges of information overload and distractions. The researchers recommend that teachers and students should embrace WhatsApp as an additional tool to traditional teaching methods, future research should look into the effects of WhatsApp on academic performance and create ways to incorporate social media into education, then academic institutions should develop appropriate guidelines for WhatsApp usage in academic tasks and activities.

KEYWORDS: WhatsApp, collaborative learning, team development, mobile learning, academic settings.

I. INTRODUCTION

Collaboration and good communication are essential for both professional and academic success in the digital age. The well-known messaging app WhatsApp provides a practical and approachable means of encouraging group learning and team building. Through the utilization of WhatsApp, groups of people and students can communicate, exchange concepts, and collaborate effectively.

The advent of mobile technology has revolutionized the way students learn and interact in academic settings. Among the plethora of mobile applications, WhatsApp has emerged as a popular platform for students to engage in group discussions, share resources, and collaborate on assignments. With its widespread adoption and user-friendly interface, WhatsApp has become an integral part of students' daily lives, blurring the lines between formal and informal learning environments. Collaborative learning, a key aspect of modern education, emphasizes the importance of teamwork, communication, and mutual support among students. However, traditional classroom settings often fall short in providing ample opportunities for students to engage in collaborative activities. This is where WhatsApp comes in – offering a flexible, accessible, and informal space for students to interact, share ideas, and work together.

Despite its growing popularity, there is a scarcity of research exploring the impact of WhatsApp participation on collaborative learning and team development in academic settings. This study aims to bridge this gap by investigating the influence of WhatsApp on students' learning outcomes, teamwork, and communication skills. By examining the role of WhatsApp in facilitating collaborative learning, this research seeks to provide insights for educators, policymakers, and researchers seeking to harness the potential of mobile technologies to enhance student learning experiences.

This research will contribute to the existing body of knowledge on mobile learning, collaborative technologies, and team development in academic settings. The findings will provide valuable insights for educators and policymakers seeking to effectively integrate WhatsApp and similar platforms into their teaching practices, ultimately enhancing student learning outcomes and teamwork skills.



II. STATEMENT OF PROBLEM

The use of WhatsApp which is one of the popular social media platforms, has become widespread among students in academic settings. However, its impact on collaborative learning and team development remains largely underutilized in academic settings. Also, WhatsApp groups constituted for collaborative learnings constitute nuisance because of overloaded information which causes distractions. Non-regulations and guidelines by decision makers in academic institutions is a major concern.

III. AIM AND OBJECTIVES OF THE STUDY

This study aims to:

1. Analyse the effects of WhatsApp participation on student engagement, motivation and academic performance.
2. Investigate the effects of WhatsApp participation on team development, including communication collaboration, and quality of teamwork
3. Determine the factors that support or impede effective WhatsApp participation in academic settings; and
4. Create guidelines for educators on the effective integration of WhatsApp into academic settings.

IV. RESEARCH QUESTIONS

1. What are the main variables that moderate the relationship between WhatsApp use and collaborative learning/team development?
2. How does WhatsApp usage affect collaborative learning outcomes in academic settings?
3. How much does WhatsApp usage impact team development in academic settings?

V. SIGNIFICANCE OF THE STUDY

This study provided insights into the role of WhatsApp in enhancing collaborative learning and team development in academic settings. The findings will be useful to educators, researchers, and students seeking to optimize the use of WhatsApp collaborative to improve learning outcomes and team performance.

VI. RELATED WORK

A study conducted by Udenze, S. and Oshionebo, B. found that “perceived usefulness” and “perceived ease of use” engender the use of WhatsApp among students. Also, it was discovered that students incorporated and domesticated class WhatsApp groups for various purposes, particularly for learning. Overall, the study found that class WhatsApp group engenders collaborative learning to a large extent. However, it was discovered that the major challenge in class WhatsApp groups is the posting of irrelevant content on the platforms. The study concluded that it is paramount to fully harness the potential of WhatsApp to enhance learning in higher institutions[7].

There was a high level of WhatsApp usage; WhatsApp was found to be the most preferred collaborative learning platform and valuable tool for communication of pedagogical information because of its Web 2.0 with MIM technology features. WhatsApp could be used to promote mobile collaborative learning and social networking. This study recommends that teacher education should use schools that have adequate connectivity and advanced E-Tech to expose pre-service teachers to digital learning and digital pedagogies relevant to the 21st Century[5].

A study on the analysis of one year of WhatsApp chat history reveals the importance and intensity of these educational WhatsApp groups. Not only these groups are quite active but also they are essential because they provide formal as well as informal information in a very fast and convenient mode. The thematic content analysis of chats showed that the conversations in these groups can be classified under six major themes namely- regular academics, exam and evaluation, wishes and greetings, extracurricular activities, entertainment, and other information[2].

WhatsApp is the most used and preferred social networking sites among undergraduates. This revelation corroborates previous studies in the literature. Cankaya and Yunkul[3] found in their study that WhatsApp is the most used social networking sites by participants in a mixed method study. Similarly, Abdulla[1] also discovered that among other social networking sites like Twitter, Instagram, and Facebook, WhatsApp is the most preferred by university students. Besides, Ling [4] and Yin [8], both studies carried out in Malaysia found that WhatsApp is the preferred social networking site



among Malaysian student. The popularity of WhatsApp could be ascribed to the application's affordability and ease of use. Users of WhatsApp do not need to login to use the application. The messaging platform is always open. In addition to this, the medium is rich in multimedia messaging. It is easier to send text, pictures, document, locations, and voice notes and so on [7]

VII. ORIGINALITY OF THE STUDY

The study on exploring the influence of WhatsApp participation on collaborative learning and team development in academic settings offers several original contributions:

1. **Contextualization:** The study focuses on the Nigerian academic context, which has been underrepresented in existing research on mobile learning and collaborative technologies.
2. **Integration of Multiple Perspectives:** The framework combines survey data, focus group discussions, and content analysis of WhatsApp group chats, providing a comprehensive understanding of WhatsApp's impact on collaborative learning and team development.
3. **Examination of Challenges and Benefits:** The study investigates both the benefits (e.g., enhanced collaboration, improved communication) and challenges (e.g., information overload, distractions) of using WhatsApp for academic purposes.
4. **WhatsApp-Specific Analysis:** Unlike previous studies that lump WhatsApp with other social media platforms, this research focuses specifically on WhatsApp, acknowledging its unique features and user dynamics.
5. **Collaborative Learning and Team Development:** The framework explores the impact of WhatsApp participation on both collaborative learning and team development, providing insights into how WhatsApp can be leveraged to enhance student learning outcomes and teamwork skills.
6. **Practical Implications:** The study's findings will inform educators, policymakers, and researchers on effective strategies for integrating WhatsApp into academic settings, promoting informed decision-making and evidence-based practices.

By addressing these gaps and limitations, the proposed framework offers a novel and original contribution to the existing body of knowledge on mobile learning, collaborative technologies, and team development in academic settings.

VIII. METHODOLOGY

This study employs a mixed-methods approach, combining quantitative and qualitative data collection and analysis methods to explore the influence of WhatsApp participation on collaborative learning and team development in academic settings in Federal Polytechnic Nekede Owerri, Imo State Nigeria.

The research design used for this study was the survey research design: Also, a semi-structured focus group discussions was conducted with students to gather qualitative data on their experiences, perceptions, and challenges that are related to using WhatsApp for academic purposes. The method of data collection adopted was a questionnaire that was distributed online and offline to ensure a good representative sample of students. This questionnaire was administered to a sample size of 187 students from the 8 schools/faculties in Federal Polytechnic Nekede Owerri to gather quantitative data on WhatsApp usage, collaborative learning outcomes, and team development. A content analysis of WhatsApp group chats was conducted to examine the nature and quality of interactions, collaboration, and teamwork among students. The focus group discussions were conducted in person or online. A four point likert scale was used to administer the structured questionnaire. The data collected and analysed was a quantitative data which was analysed using mean, frequency and percentage of the respondents. A minimum of 200 questionnaires were given out and 187 were returned. For the WhatsApp groups, 4-6 focus groups were conducted, each comprising 6-8 students.

IX. DISCUSSIONS AND RESULTS

Table 1: Demographic profile of study respondents

S/N	Respondents' background	Frequency	Percentage (%)
1.	Gender		
	Male	86	46.0%
	Female	91	48.7%
	Prefer not to say	10	5.3%
2.	Age		
	18 – 29years	63	33.7%
	30 – 39years	56	29.9%
	40 – 49years	31	16.6%
	50 – 59years	34	18.2%
	60 – above	3	1.6%
3.	Programme/Level		
	NDI	28	15.0%
	HNDI	59	31.6%
	NDII	37	19.8%
	HNDII	63	33.7%
4.	Schools		
	School of Agric & Agricultural Technology (SAAT)	14	7.5%
	School of Business and Management Technology(SBMT)	16	8.6%
	School of Engineering Technology (SET)	26	13.9%
	School of Environmental Design Technology(SEDT)	8	4.3%
	School of Industrial and Applied Sciences(SIAS)	24	12.8%
	School of Information and Communication Technolog(SICT)	44	23.5%
	School of General Studies(SGS)	44	23.5%
	School of Health Technology(SOHT)	34	18.2%
	21	11.2%	



Table 2: General sentiment towards the use of WhatsApp in academic settings

S/N	Variables	Frequency	Percentage
1	WhatsApp is used frequently for quality academic interactions, collaborative learnings and team development. a. Strongly disagree b. Disagree c. Agree d. Strongly agree	29 34 50 74	15.5% 18.2% 26.7% 39.6%
2	I think WhatsApp collaboration could help me to learn new things more easily. a. Strongly disagree b. Disagree c. Agree d. Strongly agree	60 52 40 35	32.1% 27.8% 21.4% 18.7%
3	WhatsApp is more effective for academic tasks than other social media platforms. a. Strongly disagree b. Disagree c. Agree d. Strongly agree	23 26 63 75	12.3% 13.9% 33.7% 40.1%
4	Institutional guidelines can enhance the integration of WhatsApp into collaborative learning. a. Strongly disagree b. Disagree c. Agree d. Strongly agree	44 42 50 51	23.5% 22.5% 26.7% 27.3%
5	WhatsApp Collaborative Groups usually face the challenges of information overload and distractions. a. Strongly disagree b. Disagree c. Agree d. Strongly agree	23 32 69 63	12.3% 17.1% 36.9% 33.7%

Focus Group Comments

Positive Statements

Our group initiatives have changed dramatically as a result of WhatsApp. It is simpler to work together and fulfill deadlines when we can instantly exchange ideas, files, and updates." ... *Udo*



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"WhatsApp is great because it lets us talk to each other right away, wherever we are. It resembles an online study group." ...*Ebele*

"We've been able to stay focused on our team goals and stay organized thanks to WhatsApp. It's simple to form groups, distribute work, and monitor advancement." ...*Samuel*

"Although initially dubious, WhatsApp has significantly enhanced our team's productivity and communication." We are able to exchange opinions and swiftly clear up any confusion." ...*Frances*

Negative statements

"It's true that WhatsApp occasionally serves as a distraction. We wind up talking about non-academic topics and become distracted from our objectives." ...*Chinaza*

"I think WhatsApp is overused for academic purposes. It's hard to keep up with all the messages and notifications, and it can be overwhelming." ...*Olivia*

"I prefer email or other dedicated collaboration tools for academic work. WhatsApp feels too casual and unprofessional for me." ... "I think WhatsApp is overused for academic purposes. It's hard to keep up with all the messages and notifications, and it can be overwhelming." ...*Chizaram*

"Sometimes, important messages get lost in the chat, and we miss deadlines or tasks. I wish we had a more structured way of communicating." ...*Victoria*

X. RECOMMENDATIONS

1. Teachers and students should embrace WhatsApp as an additional tool to traditional teaching methods.
2. Future research should look into the effects of WhatsApp on academic performance and create ways to incorporate social media into education.
3. Academic Institutions should develop appropriate guidelines for WhatsApp usage in academic tasks and activities.

XI. CONCLUSION

This study investigated the impact of WhatsApp participation on collaborative learning and team development in academic settings. The findings suggest that WhatsApp participation positively influences collaborative learning outcomes, including enhanced communication, coordination, and knowledge sharing among team members. WhatsApp participation also significantly impacts team development, fostering a sense of community, promoting teamwork, and encouraging active participation. Key factors moderating the relationship between WhatsApp participation and collaborative learning/team development include frequency and quality of WhatsApp interactions, group size and diversity, task complexity and clarity and educator involvement and guidance.

Educators can leverage on WhatsApp to facilitate collaborative learning and team development by creating designated group chats, encouraging active participation, and providing guidance. Also, students can utilize WhatsApp to enhance their learning experience, promote teamwork, and develop essential soft skills. Then future research can explore the long-term effects of WhatsApp participation on academic performance and explore the potential of other social media platforms in facilitating collaborative learning and team development.



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