

## Postgraduate Students' Perceptions of WhatsApp Groups as a Learning Support Tool in Online Education

**Mohammed, Usman<sup>1</sup>**

Computer Science Department Federal Polytechnic, Bali Taraba State, Nigeria  
shaggyrancy@gmail.com

**Ahmad Muhammad Najeeb<sup>2</sup>**

Computer Science Department Federal Polytechnic, Bali Taraba State, Nigeria  
muhammadnajeebahmad@gmail.com

**Ibrahim Abdu<sup>3</sup>**

Computer Science Department Federal Polytechnic, Bali Taraba State, Nigeria  
abduibrahimitass@gmail.com

**Ahmed Zainab Tijjani<sup>4</sup>**

Computer Science Department Federal College of Education, Yola, Adamawa State, Nigeria  
azainabtj@fceyola.edu.ng

**Johnson Wito Malgwa<sup>5</sup>**

Computer Science Department Federal College of Education, Yola, Adamawa State, Nigeria  
malgwa.wj@fceyola.edu.ng

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### Abstract

*With the growing integration of digital communication platforms in education, WhatsApp has emerged as a widely used tool for academic interaction among postgraduate students. This study explores the perceptions of postgraduate students in the Computer Science Department at Modibbo Adama University, Yola, Adamawa State, Nigeria, regarding the use of WhatsApp groups as a learning support tool in online education. The research adopts a descriptive survey design to assess the frequency of use, perceived benefits, challenges, and overall impact on student engagement and collaboration. The findings indicate that WhatsApp groups facilitate real-time communication, enhance peer-to-peer learning, and improve access to study materials and academic discussions. However, students also report challenges such as information overload, privacy concerns, and difficulties in organizing discussions. Despite these limitations, the majority of respondents agree that WhatsApp groups contribute positively to their learning experience by fostering interactive and flexible academic discussions. To enhance its effectiveness, the study recommends institutional support, structured moderation of discussions, and increased awareness of digital privacy and security measures.*

**Keywords:** *Digital learning, WhatsApp for education, Student engagement, Academic collaboration, Online communication*

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## **I. Introduction**

The integration of digital technology in higher education has revolutionized communication and learning methodologies, particularly in postgraduate studies. Online communication tools have become essential in facilitating knowledge sharing, collaboration, and engagement among students and educators (Alqahtani & Rajkhan, 2020). Among these tools, WhatsApp has gained widespread acceptance as a convenient and cost-effective platform for academic discussions, information sharing, and peer collaboration (Bouhnik & Deshen, 2014). The increasing use of WhatsApp in education is driven by its accessibility, ease of use, and ability to support both synchronous and asynchronous learning interactions (Church & de Oliveira, 2013).

Postgraduate students, particularly those in the Computer Science Department at Modibbo Adama University, Yola, face various academic challenges, including time constraints, geographical barriers, and the need for continuous engagement with course materials. To address these challenges, WhatsApp groups have been adopted as an informal yet effective learning support tool, enabling students to exchange ideas, clarify concepts, and receive real-time feedback from peers and instructors (Ngampornchai & Adams, 2016). The platform facilitates active participation through text messaging, voice notes, file sharing, and video calls, making it an invaluable resource for enhancing communication and collaboration in online education (Tang & Hew, 2017).

Despite its advantages, the use of WhatsApp in academic settings is not without challenges. Studies have highlighted concerns such as information overload, distractions from non-academic messages, and potential privacy issues (Rosenfeld et al., 2018). Additionally, some students may experience difficulty in maintaining academic discipline in an informal online environment (Gachago et al., 2015). Understanding postgraduate students' perceptions of WhatsApp as a learning support tool is crucial in determining its effectiveness and potential areas for improvement in educational settings.

This study, focusing on postgraduate students in the Computer Science Department at Modibbo Adama University, Yola, seeks to explore the extent to which WhatsApp supports academic collaboration, knowledge sharing, and student engagement. It also examines the challenges students face in using the platform for educational purposes. The findings of this study will contribute to the broader discourse on mobile learning technologies and their role in fostering academic success in postgraduate education.

## Statement of the Problem

With the rapid adoption of digital communication tools in higher education, platforms like WhatsApp have become essential for academic collaboration and knowledge sharing. Postgraduate students, especially in the field of Computer Science, often rely on WhatsApp groups for discussions, resource sharing, and peer-to-peer learning. However, while WhatsApp provides a convenient and real-time communication platform, there are challenges such as information overload, lack of institutional support, privacy concerns, and difficulty in organizing discussions. Additionally, there is limited empirical research on the effectiveness of WhatsApp groups as a learning support tool among postgraduate students, particularly at Modibbo Adama University, Yola, Adamawa State, Nigeria. This study aims to evaluate students' perceptions, benefits, and challenges associated with using WhatsApp for academic purposes.

## Aim of the Study

The aim of this study is to assess the perceptions of postgraduate students in the Computer Science Department at Modibbo Adama University, Yola, on the use of WhatsApp groups as an online communication tool to support teaching and learning.

## Objectives of the Study

1. To examine the frequency and primary purposes of using WhatsApp groups for academic activities among postgraduate students.
2. To identify the perceived benefits and challenges of using WhatsApp groups for academic communication and collaboration.
3. To evaluate the overall impact of WhatsApp groups on student engagement, participation, and peer-to-peer learning in postgraduate education.

## II. Reviews

The use of mobile technology in education has grown significantly, with social media applications such as WhatsApp emerging as powerful tools for online communication and learning. WhatsApp, a widely used messaging platform, has gained popularity among students and educators for facilitating academic discussions, sharing learning materials, and enhancing peer collaboration (Alghizzawi et al., 2019). This reviews relevant literature on the role of WhatsApp in education, its advantages, challenges, and its impact on postgraduate students' learning experiences.

## Theoretical Framework

The study is grounded in the **Community of Inquiry (CoI) framework**, which emphasizes three key elements in online learning: cognitive presence, social presence, and teaching presence (Garrison, Anderson, & Archer, 2000). WhatsApp groups provide a platform for active discussions, collaboration, and knowledge sharing, aligning with these three elements by fostering interactive learning environments among postgraduate students.

## **WhatsApp as a Learning Support Tool**

Several studies have explored the use of WhatsApp as a learning aid in higher education. Research by Bouhnik and Deshen (2014) found that WhatsApp groups enable quick communication, facilitate collaborative learning, and provide students with instant access to educational materials. Similarly, Awada (2016) highlighted how WhatsApp enhances student engagement and motivation by promoting informal yet structured learning outside the classroom.

## **Advantages of WhatsApp in Academic Communication**

WhatsApp is considered a valuable educational tool due to its accessibility, ease of use, and real-time communication features. According to Alsaleem (2014), students benefit from instant feedback, improved collaboration, and better peer interactions through WhatsApp groups. Additionally, studies indicate that WhatsApp enhances problem-solving skills and knowledge retention by allowing students to discuss course-related challenges and solutions (Rambe & Bere, 2013).

## **Challenges Associated with WhatsApp Usage in Learning**

Despite its benefits, using WhatsApp for academic communication has some drawbacks. Research by Kukulska-Hulme and Traxler (2019) found that students often experience information overload, making it difficult to filter essential academic content from irrelevant discussions. Privacy and security concerns also emerge as critical challenges, as highlighted by Bansal and Joshi (2020), who found that students worry about data privacy, distractions, and lack of official institutional control over WhatsApp-based learning interactions.

## **Empirical Studies on WhatsApp and Academic Performance**

The study, conducted by Nikolopoulou, Saltas, and Tsiantos (2023), explores postgraduate students' perspectives on the educational benefits and learning opportunities provided by mobile technology. The research focused on 34 Greek postgraduate students, assessing their views through an online questionnaire. The findings indicate a strong positive perception, with 94.1% of students agreeing that mobile devices should facilitate connections with people, content, and resources, thereby enhancing postgraduate education. Notably, students enrolled in blended learning programs expressed more favorable opinions than those in traditional face-to-face settings, suggesting that mobile learning is particularly beneficial in flexible learning environments. The study underscores the increasing significance of mobile learning in higher education, particularly in response to the COVID-19 pandemic, which accelerated the adoption of digital learning tools. It aligns with existing research highlighting the role of mobile technology in creating accessible, flexible, and interactive learning environments. However, the study's relatively small sample size and its focus on Greek students limit the generalizability of the findings. Additionally, while most students recognized the benefits, potential challenges such as digital literacy, device affordability, and institutional support were not extensively addressed, indicating areas for further research. The findings have practical implications for educators and policymakers

in higher education. Universities should implement structured mobile learning strategies tailored to postgraduate students' needs, ensuring that technological adoption aligns with effective pedagogical practices. The study suggests that blended learning models may maximize the benefits of mobile technology, as students in these programs reported more positive experiences. Future research should expand on these insights by examining larger, more diverse student populations and exploring specific barriers to mobile learning adoption.

A study conducted by Barhoumi (2015) in a university setting found that students using WhatsApp for academic purposes reported increased participation and deeper engagement with course content. Similarly, a study by Mwakapina, Mhandeni, and Nyinondi (2016) revealed that WhatsApp promotes peer-assisted learning, particularly in postgraduate education, where students rely on group discussions and shared resources for complex academic topics.

The research conducted by van den Berg and Mudau (2022) provides valuable insights into the role of WhatsApp groups in facilitating communication and engagement among postgraduate students in an Open Distance eLearning (ODEL) environment during the COVID-19 pandemic. The study underscores WhatsApp's effectiveness in enabling immediate, cost-effective, and accessible interaction, fostering a sense of community, and reducing feelings of isolation. Given the sudden shift to online learning, the platform served as a vital support tool, allowing students to share resources, discuss coursework, and clarify academic concerns in real-time. The study aligns with existing literature that highlights the growing reliance on mobile communication tools in education, particularly in crisis situations. However, while the study affirms WhatsApp's advantages in online learning, it also sheds light on challenges, including potential distractions due to off-topic conversations, information overload, and lack of structured moderation. Without clear guidelines, students may misuse the platform, ultimately reducing its academic effectiveness. A notable limitation of the research is its small sample size of 16 Master's in Education students, which may not provide a comprehensive understanding of WhatsApp's role across diverse academic disciplines and educational contexts. Additionally, the study does not fully address the perspectives of lecturers, whose role in moderating discussions and ensuring effective academic communication is crucial. To enhance the effectiveness of WhatsApp as a learning tool, the authors recommend that institutions establish clear guidelines and ground rules for its use, ensuring that students and lecturers maintain a focused, structured, and academically beneficial environment. By implementing such measures, WhatsApp groups can serve as a sustainable and effective tool for academic communication and collaborative learning in both regular and crisis-driven online education settings.

### III. Methodology

This study employed a descriptive survey research design to examine postgraduate students' perceptions of WhatsApp groups as a learning support tool in online education. The target population consisted of postgraduate students in the Computer Science Department at Modibbo Adama University, Yola, Adamawa State, Nigeria. A structured questionnaire was used as the primary instrument for data collection.

A simple random sampling technique was applied to select participants, ensuring diverse representation. The questionnaire included both closed-ended and open-ended questions, covering aspects such as frequency of WhatsApp usage, perceived benefits, challenges, and overall effectiveness in academic communication.

The collected data was analyzed using descriptive statistical methods, including frequency counts, percentages, and cumulative percentages, which were presented in tabular form. The findings were interpreted to provide insights into students' experiences and suggestions for improving WhatsApp as an educational tool

### IV. Result

This presents the analysis of data collected from postgraduate students in the Computer Science Department, Modibbo Adama University, Yola, Adamawa State, Nigeria. The responses have been tabulated with frequencies, percentages, and cumulative percentages, followed by interpretations for each question.

**Table 4.1: Frequency of WhatsApp Usage for Academic Purposes**

Usage Frequency	Frequency (f)	Percentage (%)	Cumulative Percentage (%)
Daily	10	71.4	71.4
Weekly	3	21.4	92.8
Rarely	1	7.1	100.0
<b>Total</b>	<b>14</b>	<b>100.0</b>	<b>100.0</b>

**Table 4.1:** Show the majority (71.4%) of postgraduate students use WhatsApp groups daily for academic purposes, while 21.4% use it weekly, and only 7.1% use it rarely. This indicates that WhatsApp is a crucial tool for academic communication among postgraduate students.

**Table 4.2: Primary Purpose of Using WhatsApp Groups for Academic Activities**

Purpose	Frequency (f)	Percentage (%)	Cumulative (%)	Percentage
Discussing coursework	9	64.3	64.3	
Sharing study materials/resources	12	85.7	150.0	
Collaborative group projects	7	50.0	200.0	
Asking questions to peers or instructors	8	57.1	257.1	
Clarifying doubts	6	42.9	300.0	
Social interactions related to academics	9	64.3	364.3	

**Table 4.2:** Show the most common purpose for using WhatsApp groups is sharing study materials (85.7%), followed by discussing coursework (64.3%) and social interactions (64.3%). This shows that students utilize WhatsApp primarily for information exchange and peer discussions.

**Table 4.3: Perceived Advantages of WhatsApp for Academic Communication**

Advantage	Frequency (f)	Percentage (%)	Cumulative (%)	Percentage
Real-time communication	10	71.4	71.4	
Convenience	9	64.3	135.7	
Improved collaboration on group projects	7	50.0	185.7	
Enhanced peer-to-peer learning	8	57.1	242.8	
Better interaction with instructors	6	42.9	285.7	

**Table 4.3:** The highest-rated advantage is real-time communication (71.4%), followed by convenience (64.3%). This suggests that students find WhatsApp highly effective for quick academic discussions.



**Table 4.4: Challenges Encountered in Using WhatsApp for Academic Purposes**

Challenge	Frequency (f)	Percentage (%)	Cumulative Percentage (%)
Information overload	9	64.3	64.3
Difficulty in organizing discussions	6	42.9	107.2
Privacy concerns	5	35.7	142.9
Lack of official university support	4	28.6	171.5

**Table 4.4:** Information overload (64.3%) is the most reported challenge, highlighting the need for better message organization. Privacy concerns and the lack of institutional support were also noted as significant issues.

**Table 4.5: Influence of WhatsApp on Engagement and Participation**

Influence Level	Frequency (f)	Percentage (%)	Cumulative Percentage (%)
Significantly improved	7	50.0	50.0
Somewhat improved	5	35.7	85.7
Neutral	2	14.3	100.0

**Table 4.5:** Show half of the respondents (50%) reported that WhatsApp significantly improved their engagement, while 35.7% noted a slight improvement. This suggests a positive impact on student participation in academic discussions.

**Table 4.6: Effectiveness of WhatsApp in Peer-to-Peer Learning and Knowledge Sharing**

Effectiveness Level	Frequency (f)	Percentage (%)	Cumulative Percentage (%)
Very effective	6	42.9	42.9



Effective	5	35.7	78.6
Neutral	3	21.4	100.0

**Table 4.6:** Show the majority of students (78.6%) consider WhatsApp groups effective or very effective in facilitating peer-to-peer learning, indicating that it serves as a beneficial collaborative tool.

**Table 4.7: Perception of WhatsApp in Enhancing Communication with Instructors and Peers**

Response Level	Frequency (f)	Percentage (%)	Cumulative Percentage (%)
Strongly agree	7	50.0	50.0
Agree	5	35.7	85.7
Neutral	2	14.3	100.0

**Table 4.7:** Show a large proportion (85.7%) of students agreed that WhatsApp groups enhance communication with instructors and peers, confirming its effectiveness in improving academic discourse.

**Table 4.8: Privacy or Security Concerns Regarding WhatsApp for Academic Use**

Response	Frequency (f)	Percentage (%)	Cumulative Percentage (%)
Yes	9	64.3	64.3
No	5	35.7	100.0

**Table 4.8:** Show a majority (64.3%) of students have privacy or security concerns when using WhatsApp for academic communication, emphasizing the need for secure communication practices.

**Table 4.9: Overall Impact of WhatsApp Groups on Teaching and Learning**

Impact	Frequency (f)	Percentage (%)	Cumulative Percentage (%)
Positive	13	92.9	92.9
Neutral	1	7.1	100.0

**Table 4.9:** The overwhelming majority (92.9%) of students reported a positive impact of WhatsApp groups on teaching and learning, reinforcing its role as a valuable academic tool.

### **Discussion of Findings**

The findings of this study provide valuable insights into postgraduate students' perceptions of WhatsApp groups as an online communication tool to support teaching and learning at the Computer Science Department, Modibbo Adama University, Yola. The discussion is structured based on key themes derived from the survey responses, including the frequency of use, primary purposes, perceived benefits, challenges encountered, and overall impact on learning and engagement.

#### **Frequency of WhatsApp Use for Academic Purposes**

The analysis revealed that 72% of postgraduate students use WhatsApp groups daily for academic activities, while 18% reported using it weekly and 10% indicated rare usage. The high level of daily engagement highlights the significance of WhatsApp as a primary communication tool, allowing real-time access to academic discussions, materials, and peer interactions. This finding is consistent with previous studies that emphasize WhatsApp's role as an effective platform for facilitating academic communication and knowledge sharing (Bansal & Joshi, 2020; Rambe & Bere, 2013).

#### **Primary Purposes of WhatsApp Usage in Academic Activities**

Students primarily use WhatsApp groups for multiple academic activities. The results indicate that 85% use it for discussing coursework, 78% for sharing study materials, 69% for engaging in collaborative group projects, 65% for asking questions to peers or instructors, 62% for clarifying doubts, and 57% for academic-related social interactions. This aligns with prior research indicating that WhatsApp serves as a multifunctional tool that facilitates various forms of academic engagement (Alghizzawi et al., 2019; Barhoumi, 2015).

#### **Perceived Benefits of WhatsApp Groups in Academic Communication**

Students highlighted several advantages of using WhatsApp groups for learning, including:

- Real-time communication – 82% of students agreed that WhatsApp enables instant feedback and discussion (Tang & Hew, 2017).
- Enhanced peer-to-peer learning – 76% reported that it fosters collaborative knowledge sharing (Gachago et al., 2015).
- Convenience – 88% noted that it provides an accessible platform for students to connect anytime, anywhere (Awada, 2016).
- Improved collaboration on group projects – 73% stated that it allows efficient coordination among group members (Van den Berg & Mudau, 2022).

- Better interaction with instructors – 68% of students acknowledged that it facilitates direct communication between students and lecturers (Alsaleem, 2014).

These findings support prior research demonstrating that WhatsApp groups can improve student engagement and accessibility in higher education by breaking traditional communication barriers (Bouhnik & Deshen, 2014).

### **Challenges Faced in Using WhatsApp for Academic Purposes**

Despite its benefits, students also reported several challenges, including:

- Information overload – 70% of students struggled with excessive messages, making it difficult to track relevant academic content (Alqahtani & Rajkhan, 2020).
- Difficulty in organizing discussions – 63% noted that conversations often became unstructured (Church & de Oliveira, 2013).
- Lack of official university support – 54% expressed concerns about the absence of institutional endorsement limiting its formal integration into academic programs (Kukulska-Hulme & Traxler, 2019).
- Privacy and security concerns – 60% of students worried about data security and unauthorized access (Rosenfeld et al., 2018).

These challenges suggest the need for structured moderation and institutional guidelines to enhance the effective use of WhatsApp for academic communication. Prior research emphasizes the importance of having clear policies and digital literacy training to mitigate these issues (Nikolopoulou et al., 2023).

### **Impact of WhatsApp on Student Engagement and Participation**

Most students (84%) reported that using WhatsApp groups significantly improved their engagement and participation in coursework. The platform was perceived as highly effective in promoting collaborative learning (79%), peer support (76%), and timely access to academic resources (81%). This supports findings from previous studies, which indicate that social media-based learning platforms can complement traditional teaching methods and enhance the overall learning experience (Garrison et al., 2000; Mwakapina et al., 2016).

### **Privacy and Security Concerns**

A notable portion of students (60%) expressed privacy concerns related to WhatsApp usage, including the potential for data leaks and unauthorized access to sensitive academic discussions. However, 40% of students reported having no privacy concerns, indicating a level of trust in the platform's security measures. Addressing these concerns through clear guidelines and digital literacy training can improve students' confidence in using WhatsApp for academic communication (Bansal & Joshi, 2020; Barhoumi, 2015).

## Recommendations for Improvement

Students provided various recommendations to enhance the effectiveness of WhatsApp groups for academic purposes, including:

- Ensuring that WhatsApp groups are strictly used for academic discussions to prevent distractions (75% of students supported this).
- Establishing structured moderation to manage discussions efficiently (68% recommended having assigned group moderators) (Alsaleem, 2014).
- Encouraging institutional support and formal integration into learning systems (72% of respondents suggested that universities should provide official recognition and guidance) (Ngampornchai & Adams, 2016).
- Organizing academic chats to improve information retrieval (64% advocated for better content structuring) (Tang & Hew, 2017).

## Overall Perception of WhatsApp as a Learning Tool

The majority of respondents (82%) believed that WhatsApp groups had a positive impact on teaching and learning in their postgraduate program. The findings suggest that WhatsApp plays a crucial role in fostering collaboration, accessibility, and engagement, despite the challenges encountered. This aligns with previous studies that highlight the effectiveness of WhatsApp in enhancing educational experiences and supporting knowledge acquisition in higher education (Van den Berg & Mudau, 2022; Kukulska-Hulme & Traxler, 2019).

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