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To Understand The Dynamics Of Group Communication Among Faculty With Students In Education Institutions (Whatsapp); A Study In Hyderabad

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Abstract: Whatsapp Groups are the most used feature of the social networking site Whatsapp. It is an integral part of our life. Its uses have changed from only personal to professional and academic purposes as well. It is very relevant to understand the dynamics of these whatsapp groups to get a clearer understanding of the communication patterns and barriers and concerns of it among faculty. This study will be focusing on the lecturers from Hyderabad from various institutions. A survey was conducted with 71 participants with a self administered test. The results show that while whatsapp has been something that they use for many purposes, not everyone wants it to be mandatory or they are still hesitant to accept it as an official channel.

Index Terms - Whatsapp, College, Groups, Communication, Survey, Hyderabad.

I. INTRODUCTION

The rise of social media platforms has had a major impact on the way people interact and communicate with each other in today's digital age. Gone were the days where it was a long process to try to contact someone. One can talk to someone from the other end of the world in a matter of seconds. WhatsApp is one such platform that has become an ever present tool for communication and information sharing. According to the United Nations World Population Prospects report, the population of the world touched 8 Billion as of 15 November 2022. Out of this number, WhatsApp has already reached over 2.44 billion users worldwide with around 2000 million active monthly users. This instant messaging app was founded in 2009 by Brian Acton and Jan Koum, who were both former Yahoo employees. This app was initially intended to be a simple messaging app that allowed users to send text messages and share multimedia content, such as photos and videos, with their friends and family. But it has since evolved into a versatile platform that can be used for a variety of purposes, including personal communication, business communication, marketing, news dissemination, and even educational purposes.

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In recent years, due to an increase in digital classes, many educational institutions around the world have begun to explore the use of WhatsApp groups as a means of improving communication and collaboration among students and teachers. A number of institutions in Hyderabad have also instituted this method of using WhatsApp groups as a tool for academic support and student engagement. WhatsApp groups were particularly useful for students during the times of Covid-19. Through these groups, students stand connected with their classmates and teachers, participate in discussions, and receive updates and announcements related to their courses. In addition, WhatsApp groups can be used to enhance collaboration among teachers and students, as they allow for easy sharing of resources and information. For example, teachers can share notes, articles, and other materials related to their courses, as well as ask questions and provide feedback to the students.

Overall, the use of WhatsApp groups in educational institutions can be an effective tool for enhancing communication, collaboration, and engagement among students and teachers. However, it is important to establish clear guidelines and rules for the use of the platform, and to ensure that faculty privacy and confidentiality are protected. With the right approach, WhatsApp groups can be a valuable addition to the educational toolkit, helping to support student-faculty relationships and promote academic achievement.

History of Whatsapp

The app was founded in 2009 by two former Yahoo employees, Jan Koum and Brian Acton. Koum and Acton had worked together at Yahoo for almost a decade before leaving to start their own company. The two had a vision for a messaging app that would be simple, easy to use, and secure. They were inspired by the idea of people being able to stay in touch with their loved ones no matter where they were in the world. The app was first released in the Apple App Store in 2009 and was initially available only on the iPhone. It quickly gained popularity, and in 2010, the app was made available for Android users as well. WhatsApp's user base continued to grow, and by 2011, the app had over 10 million active users. In 2014, Facebook acquired WhatsApp for \$19 billion, making it one of the largest acquisitions in the tech industry. The acquisition was controversial, as many users were concerned about how their data would be used after the acquisition. Koum and Acton, however, assured users that WhatsApp's privacy policy would not change as a result of the acquisition.

Koum, who had grown up in Ukraine, was particularly concerned about user privacy. He had experienced first-hand the surveillance and censorship that were common in the Soviet Union, and he wanted to create an app that would allow people to communicate freely without fear of being monitored. As a result, WhatsApp uses end-to-end encryption to ensure that messages can only be read by the sender and recipient. Since the acquisition, WhatsApp has continued to grow and add new features. In addition to text messaging, users can now make voice and video calls, send voice messages, and share photos and videos. The app also allows users to join group chats with up to 256 participants.In recent years, WhatsApp has faced several challenges, including concerns about misinformation and fake news being spread on the platform. In response, the company has implemented several measures to combat the spread of false information, including limiting the forwarding of messages and introducing a feature that allows users to fact-check forwarded messages.

The Rise of WhatsApp Groups:

The year 2011 saw the launch of group chat in WhatsApp, same year when the app hit a record of 1 billion messages in a day. Today group chat is the most widely used feature on WhatsApp. Every WhatsApp user has at least two to three groups on his or her phone today. The introduction of WhatsApp groups revolutionized the way people communicate. It allowed users to create groups and add multiple members, facilitating group discussions and collaborations. WhatsApp groups have since become popular across various domains, including social, political, and educational spheres. It has many features vis., group description,

mute notifications, custom notifications, media visibility, starred messages, disappearing messages, community, invite via link, group admin etc.

The Dynamics of WhatsApp Groups in Educational Institutions:

The use of WhatsApp groups in educational institutions is not a new concept. However, it has slowly gained popularity in colleges and universities over the past few years. One of the reasons for this is the increasing availability of smartphones and affordable mobile data plans.WhatsApp groups have become an integral part of the academic ecosystem, especially in times of remote learning. During the COVID-19 pandemic, many colleges and universities shifted to online classes, making it challenging for teachers to communicate with their students. WhatsApp groups emerged as a practical solution, enabling teachers to continue delivering lectures, sharing study materials, and conducting quizzes and assessments remotely.

To conclude, this study focuses on the usability and the ease by which faculty are able to interact with students and how they feel about using the app in day to day communications for academic purposes. It also focuses on privacy and security concerns. The barriers of whatsapp are also divulged.

II Review of Literature

Diganta Baishya, Saurabh Maheshwari (23 Sep 2019) - "WhatsApp Groups in Academic Context: Exploring the Academic Uses of WhatsApp Groups among the Students"

The paper investigated the use of WhatsApp groups in educational institutions and identified four types of conversations: regular academics, exams/evaluations, entertainment, and wishes/greetings. Through interviews and chat analysis, the study found that despite some drawbacks, WhatsApp groups are essential for passing information and communication in educational settings. The findings suggest that WhatsApp groups play a vital role in facilitating both educational and entertainment purposes.

Hananel Rosenberg, Christa S. C. Asterhan (2018) "WhatsApp, Teacher?" - Student Perspectives on Teacher-Student WhatsApp Interactions in Secondary Schools"

The study investigated how Israeli secondary school students communicate with teachers on WhatsApp. It used questionnaires, interviews, and focus groups and found that WhatsApp offers easy access, community building, personal privacy, and group communication benefits. However, there are limitations like communication overload, and teachers struggle to monitor student interactions in WhatsApp groups.

Martin Mabeifam Ujakpa; Delene Heukelman; Victoria Kaleinasho Lazarus (2018) - "Using WhatsApp to Support Communication in Teaching and Learning"

The study concluded that using WhatsApp in teaching and learning can enhance student-to-lecturer and student-to-student interactions and increase student interest in a course if humor is used. However, the study suggests that unnecessary posts by some students can be a problem, and recommends improving the platform to allow group administrators to restrict postings.

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Sohail Dahdal (May 27 2020) - "Using the WhatsApp Social Media Application for Active Learning." This article explores the potential use of WhatsApp in course requirements, such as gradable assignments and pre/post-lecture conversations. Based on a survey and interviews with UAE undergraduate students, the study found that including WhatsApp assignments led to increased student engagement. Furthermore, students found the pre/post-lecture WhatsApp chats to be productive, which motivated them to actively engage with the lecture content.

Aditi Goyal, Nadeem Tanveer, Pooja Sharma (December 2017) - "WhatsApp for Teaching Pathology Postgraduates: A Pilot Study"

This study aimed to increase image sharing and debate on WhatsApp for educational purposes. "Pathology on the Go," a WhatsApp group with 69 resident doctors, was used for academic discussions, resulting in 647 postings in four weeks. Participants found the conversations beneficial and minimally disruptive, suggesting that integrating apps like WhatsApp into teaching strategies can maximize student screen time.

Irma Rasita Gloria Barus Marudut Bernadtua Simanjuntak - "Whatsapp Group and Google classroom - based learning materials in english classes : Student's perceptions"

This study examines the perception of students at the College of Vocational Studies - IPB University, Bogor regarding the use of WhatsApp Groups and Google Classroom for English classes. The study was conducted as part of an applied multimedia learning system by the teachers, with data collected through questionnaires and analyzed descriptively using a table scoring system. The results indicate that students find this learning approach effective and agreeable, with an average perception score of 89 across six components of the product. These components include comfortability, content, efficient use, language, clarity, and fun-use.

Agus Susilo Andriana Sofiar - "Use of WhatsApp Group as Learning Media in Higher Education During the Covid-19 Pandemic."

Education during the Covid-19 pandemic requires a shift from face-to-face learning to distance learning. This study focuses on using WhatsApp Group as a learning medium in universities during the pandemic. WhatsApp Group is a recommended online learning solution due to its powerful features and ease of use. The study used quantitative research methods and found that WhatsApp Group is an effective medium to support distance learning.

Jasmine Jain, Johan @ Eddy Luaran & Norilyani binti Abd Rahman - "Learning Beyond the Walls: The Role of WhatsApp Groups."

The study investigated how WhatsApp Group enhances the learning process among students. A quantitative study was conducted in a college located in Perak with 150 respondents selected randomly. The results revealed that WhatsApp Group significantly contributes to encouraging active communication and meaningful learning among the students. This highlights the significance of social media in transforming the education system.

Mufleh Salem M. Alqahtani. (29 July 2019) - "Whatsapp: An Online Platform for University-Level English Language Education."

The study examines if university-level students consider WhatsApp as a significant platform for language learning and its use. The research shows that students perceive WhatsApp as an effective teaching and learning platform for language learning. The research suggests integrating language courses on WhatsApp, access to

class materials through technology, and focused language learning objectives and outcomes for meaningful learning experiences. The study concludes that WhatsApp has the potential to improve language learning capabilities at university level.

Tali Gazit, Noa Aharony (28 august 2018) - "Factors explaining participation in WhatsApp groups: an exploratory study."

A study conducted in Israel aimed to explore the unique characteristics and dynamics of single WhatsApp groups, using social support, Big Five, and narcissism paradigms to predict participation levels. The study included 127 students and eight questionnaires were used to gather data. The results showed that psychological factors, such as social support, extraversion, and narcissism, significantly predicted participation levels, along with other factors such as age, group importance, and usage. The study emphasizes the importance of considering psychological factors when exploring new technological platforms, particularly in the context of WhatsApp groups.

Ashish Sharma, Aditya Kumar Shukla - "IMPACT OF SOCIAL MESSENGERS ESPECIALLY WHATSAPP ON YOUTH A SOCIOLOGICAL STUDY"

The study aims to measure the impact of WhatsApp on students in Gwalior, India by conducting a survey through a questionnaire among 100 participants. The study found that WhatsApp has adverse effects on the lifestyle and culture of youth, affecting their language, spelling, and grammar skills. The platform is a medium of mass communication that exposes them to misleading information and fake news, making them overly dependent on it. Many youths are addicted to it and struggle to abstain from constantly chatting, replying and sharing information. The study suggests the need for psychiatric intervention to manage addiction.

Cetin Guler (20 September 2016) - "Use of WhatsApp in Higher Education: What's Up With Assessing Peers Anonymously?"

The aim of this study was to investigate the use of WhatsApp application in anonymous peer assessment in higher education. The mobile phone application WhatsApp was used as a peer assessment tool in a classroom environment. The participants of the study were the students of two classes (sophomores and juniors). WhatsApp was confirmed to be a valid tool for peer assessment, and it was shown that the required anonymity of the method was appropriate for the task. The students' perceived attitudes toward the procedure were found to be rather high, with no significant difference identified between the sophomores and junior groups related to the procedure.

Ahmad Abdullahi Ibrahim (2018) - "Research Trends On The Use Of Whatsapp In Education: A Content Analysis"

The objective of the research was to analyze the patterns of research related to the use of WhatsApp in education that were published between 2013 and 2017. This analysis aimed to assist researchers who intended to conduct similar research by identifying the key areas that required further investigation. The data for the analysis was collected from publicly available sources such as Google Scholar and presented in a table format using descriptive statistics such as frequency and percentage. The research revealed that the majority of the studies were conducted in 2016, with a significant focus on using WhatsApp for teaching the English language. Most of the studies were quantitative in nature, and questionnaires and test scores were the primary methods used for data collection.Finally, the study provided recommendations for future research on the use of WhatsApp in education

Rexwhite Tega Enakrire, Fasae Joseph Kehinde (2022) - "WhatsApp application for teaching and learning in higher education institutions"

The aim of this study was to explore the potential of WhatsApp application as a tool for teaching and learning in higher education institutions. The decision to use WhatsApp was based on its affordability, ease of use, and low maintenance requirements for the mobile devices that support it. The findings of this study suggest that WhatsApp has become a popular learning and teaching tool among university students, regardless of their location, and has made them more tech-savvy, expressive, and open to new ways of using social network applications. The authors of this paper suggest that the activity theory of mobile learning, as postulated by Vygotsky, and the theory of connectives, as proposed by George Siemens, provide a framework for understanding how humans interact with technology through continuous use of tools like WhatsApp.

Levent Cetinkaya (November 2017) - "The Impact of Whatsapp Use on Success in Education Process" The aim of this study was to investigate the impact of using WhatsApp for educational purposes and to assess students' perceptions of the process. A mixed research model was used, combining both quantitative and qualitative data. In the qualitative aspect of the study, content analysis techniques were used to analyze data collected through open-ended question forms. The analysis demonstrated that students had positive opinions of using WhatsApp in their courses, and requested that this practice be extended to other courses. However, a few students expressed concerns about the timing of some posts and the redundancy of some posts within the group. In conclusion, it is recommended that the use of WhatsApp as a supportive technology in the educational process be encouraged.

3. Aim and Objectives :

The aim of this study is 'To Understand the Dynamics of Group Communication among faculty with students in education institutions (Whatsapp); A Study in Hyderabad."

- To study the communication patterns of whatsapp between faculty and students.
- To recognise the effectiveness of using WhatsApp as a platform for sharing educational resources.
- To find out the privacy and security concerns related to using WhatsApp and thus identify the barriers it has for educational purposes.
- To know the impact of using WhatsApp for classroom teaching, both in online and offline environments.

LIMITATIONS :

The study has several limitations, including a small sample size and the self-reported nature of the data. Additionally, the study only focuses on a specific geographic location and may not be generalizable to other areas. The limitations of quantitative research include a lack of in-depth understanding, the potential for oversimplification, and the potential for researchers to overlook important variables. Additionally, quantitative research may be limited by the choice of research design and difficulty in controlling extraneous variables.

DESIGN OF THE STUDY :

Research Design plays an important role in the conduct of any research. The researcher has chosen to conduct the study using the exploratory method and the justification for using the exploratory method is discussed below. The way the study is conducted, the kind of data collection instruments used and how the data is collected and analyzed is presented below.

RESEARCH APPROACH - QUANTITATIVE

Research approach is a plan and procedure that consists of the steps of broad assumptions to detailed methods of data collection, analysis and interpretation. It is therefore, based on the nature of the research and to justify the objectives, a quantitative research approach was adopted. Quantitative methods are well suitable to know the perspective of the faculty and their opinions on the usage of whatsapp groups for academic purposes. Quantitative methods like surveys give the opinion of a large number of audience with a more reliable approach. Hence, this method was chosen.

METHODS OF DATA COLLECTION

As mentioned, the quantitative method has been used for research to achieve the stated objectives. The study is based on primary data collected through a survey and partially on secondary data collected from various reports and published materials and self analysis.

SURVEY:

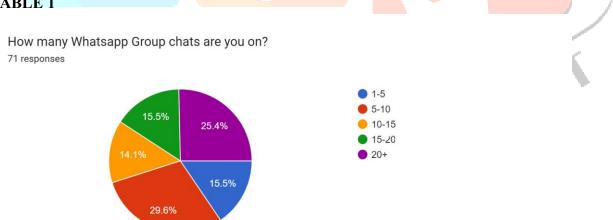
The study includes a survey of a small population of 70 people residing in Hyderabad and are working as faculty in various institutions, colleges and universities of Hyderabad.

TOOLS OF DATA COLLECTION

• QUESTIONNAIRE:

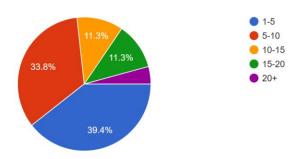
A self structured questionnaire was given to all the samples. The questionnaire consisted of a series of questions for the purpose of gathering information from respondents which would further give us an insight about the perception of the faculty members on the usage of whatsapp groups.





Out of the 71 respondents, the majority said they were in 5-10 groups while the close second said they were in more than 20 whatsapp groups.

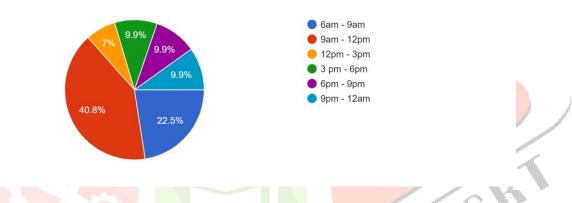
How many academic groups are there out of the groups? 71 responses



Out of the groups that they are in, 28 respondents say they are in 1-5 academic groups, 24 say they are in 5-10 academic groups, 8 people say they are in 10-15 academic groups, 8 say they are in 15-20 academic groups and 3 faculty members say they are in more than 20 academic groups

TABLE 3

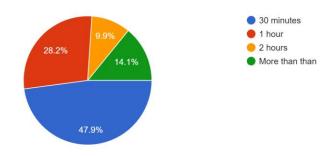
At what part of your day do you check your whatsapp academic groups? 71 responses



While 16 respondents say they open the whatsapp academic groups during the early morning hour - 6am - 9am, 29 respondents say they check whatsapp groups during the 9am - 12am slot. While 5 respondents say that they use WhatsApp during the 12am - 3pm slot, 7 respondents each say they use whatsapp during the other slots

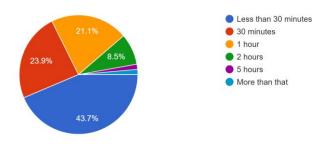
TABLE 4

How long do you spend on Whatsapp academic groups on a daily basis? 71 responses



More than 34 of the 71 respondents said that they spend 30 minutes of their time on WhatsApp academic groups. 20 respondents said that they use WhatsApp for 1 hour, 7 responded that they use WhatsApp for two hours and 10 responded that they use WhatsApp academic Groups for more than 2 hours.

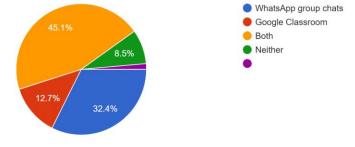
How long does it take you to respond to a text after it is sent on a WhatsApp academic group? 71 responses



Out of the 71 responding 31 respondents said that they take less than 30 minutes to respond to a text. 17 respondents said they take 30 minutes to respond while 15 respondents said that they take 1 hour to respond to a query. 6 responding said that it was to respond, and one respondent each said they take 5 hours or more than that to respond to a text

TABLE 6

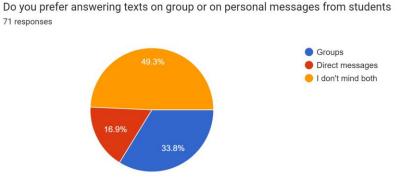
Where do you announce your test/assignment dates? 71 responses



123 response said that they announce tests on WhatsApp group chat 9 response said that they announced test on Google classroom. 32 respondents said that they use both WhatsApp group chats as well as Google classroom for announcing tests or assignment dates. 6 respondents said that they use neither of this platform

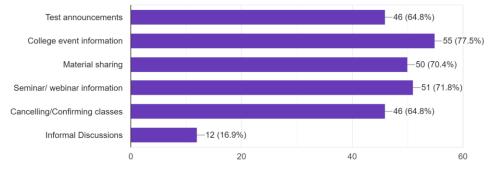
TABLE 7

71 responses

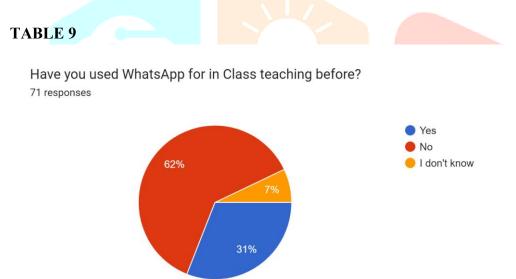


Out of the 71 respondents, 24 said that they prefer students who text over groups. 12 respondents said that they prefer personal texts to whatsapp groups. The majority - 35 members said they don't mind either.

What types of chats usually happen in your academic groups? You can choose multiple choices 71 responses



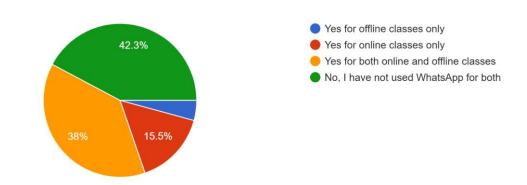
The study shows that 46 respondents say that test announcements happen in the group. 55 respondents that college event information happens in their groups. 50 respondents say that material sharing happens in their groups. 51 respondents say that seminar/webinar information happens in their groups and 46 respondents say that they cancel or confirm classes in the academic groups. 12 members say that only informal discussions happen in their group.



The study shows that while 31% of the respondents use Whatsapp groups for In-Class teaching, 62% respondents said they don't use it. 7% of respondents said they don't know.

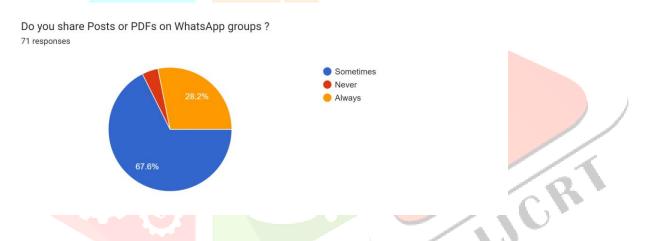
Have you used WhatsApp for online or offline class teaching

71 responses



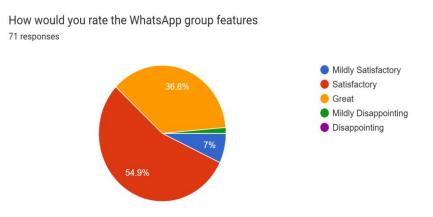
Of the 71 respondents, 15.5% used Whatsapp for online classes, 38% used whatsapp for both offline and online classes, 4.2% used for offline classes only and 42.3% said they have not used whatsapp groups for both of them.

TABLE 11



While 67.6% (48) respondents said that they do share PDFs and PPTs sometimes on the whatsapp groups, 28% (20) respondents said they always use whatsapp for PDF PPT sharing. 4.2% (3) respondents said that they never use whatsapp groups for material sharing.

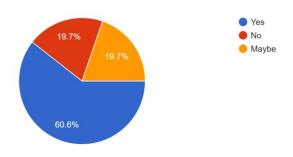
TABLE 12



The study shows that 29 respondents say that whatsapp is satisfactory, 26 said it was great, 5 said that it was mildly satisfactory, 1 said that it was just mildly disappointing.

Do you think WhatsApp groups made in class teaching easier

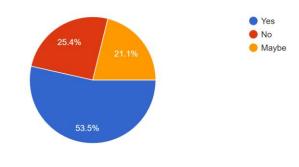
71 responses



The study shows that 43 respondents say that Whatsapp groups made teaching easier, 14 respondents say it did not make it easier. 14 respondents said maybe when asked the same.

TABLE 14

Do you think your privacy is not valued when you get texts at untimely hours 71 responses



The study shows 38 of 71 respondents said they think their privacy is not valued. 18 respondents said no, and 15 said maybe.

TABLE 15

Abundance of messages Abundance of messages Missing of messages because of vast number of groups Causes distress among students Can lead to a lot of rumours -14 (19.7%)

20

The study shows that 46 respondents think that there are an abundance of messages, 43 respondents said that they are missing messages because of the vast number of groups, and 10 respondents say that there is a distress being caused due to the groups and 14 respondents say that the groups can lead to a lot of rumors.

40

30

50

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What are some of the hardships you faced while using WhatsApp groups 71 responses

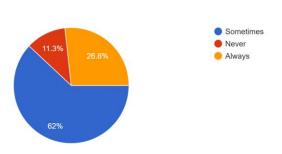
10

0

71 responses

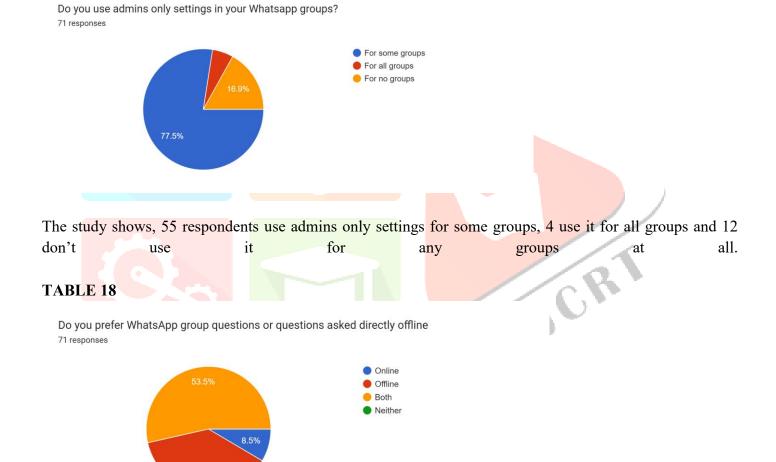
Do you use only CRs as points of information because it let's you have more privacy?

38%



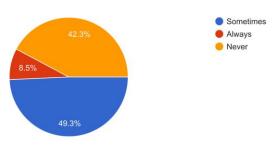
The study shows that 44 respondents use CRs as points of Information, 8 said they never do and 19 said that they do so in some cases.

TABLE 17



The study shows that 6 respondents prefer online interaction for asking questions, 27 prefer it offline and 38 respondents don't mind it either way.

Have you had any technical difficulties while using WhatsApp groups? 71 responses

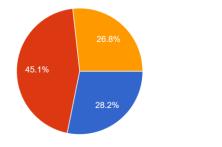


The study shows, 35 respondents face technical difficulties while using whatsapp and 6 say they always face difficulties on whatsapp. 30 respondents say they never face any issues while using whatsapp groups.

Yes
 No
 Mavbe

TABLE 20

Do you think WhatsApp groups should be made mandatory for Classroom teaching? $^{\rm 71\,responses}$



Of the respondents, 20 think whatsapp should be made mandatory for classroom teaching, 32 think that it should not be made mandatory, and 19 think that it may be made mandatory.

III CONCLUSION

In recent times, remote learning has become a norm across the world due to the COVID-19 pandemic, and it has become imperative for educational institutions to adopt new technologies and platforms to facilitate effective communication between students and faculty. In this regard, WhatsApp groups have emerged as an essential communication tool for academic purposes. These groups offer a convenient and user-friendly platform for sharing information, discussing academic topics, and collaborating on academic projects.

The dynamics of WhatsApp group communication between faculty and students are diverse, and the communication patterns vary from teacher to teacher. However, the results of research surveys on the topic have shown some consistent trends among faculty members. For instance, the majority of faculty members have academic groups as their primary groups out of the groups they are in. This highlights the significance of these groups in facilitating academic communication and collaboration.Despite some faculty members expressing dissatisfaction with WhatsApp features, the app still serves many academic purposes. This is because WhatsApp offers numerous features such as voice notes, file sharing, and video calls that can be leveraged for effective communication and collaboration. Moreover, almost all faculty members have used WhatsApp, either for online or offline purposes, and this underscores its growing importance as a communication tool in academia.

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While WhatsApp groups are yet to gain popularity for in-class usage, their potential as a major platform for academic purposes in the near future cannot be overlooked. To maximize the potential of WhatsApp groups, it is essential to establish clear guidelines for their use in academic settings. Additionally, students and faculty must be educated on the effective and responsible use of the app to minimize distractions and maintain a conducive learning environment. In conclusion, WhatsApp groups have become an integral part of academic communication and collaboration, particularly in the context of remote learning. With the increasing adoption of technology in education, the importance of these groups is likely to continue to grow, making them a valuable tool for students and faculty alike.

IV References Visited websites

- Cetin Guler (20 September 2016) "Use of WhatsApp in Higher Education: What's Up With Assessing Peers Anonymously?" http://surl.li/fqkzu
- Ahmad Abdullahi Ibrahim (2018) "Research Trends On The Use Of Whatsapp In Education: A Content Analysis" http://surl.li/fqkzw
- 3. Rexwhite Tega Enakrire, Fasae Joseph Kehinde (2022) "WhatsApp application for teaching and learning in higher education institutions" http://surl.li/fqkzy
- 4. Levent Cetinkaya (November 2017) "The Impact of Whatsapp Use on Success in Education Process" http://surl.li/fqlab
- 5. Chris Tweten, "The History of WhatsApp: Founders, Funders, and Timeline." https://www.zoko.io/post/history-of-whatsapp
- 6. "Who Founded WhatsApp?"
 https://www.worldatlas.com/articles/who-founded-whatsapp.html
- 7. Chris Lai What "Is A WhatsApp Group (Feb 2021)" https://respond.io/blog/whatsapp-group
- 8. Aashish Pahwa, "The History Of WhatsApp" https://www.feedough.com/history-of-whatsapp/
- 9. Siliguri How Facebook, WhatsApp groups are helping India in covid crisis