The Impact of Computer Mediated Communication Platforms for Hybrid Teaching on Undergraduate Students

Obinna, Nancy Ngozi
Akanu Ibiam Federal Polytechnic Unwana
Email: nancyobinna2016@gmail.com

Abstract
Different feats in communication have been achieved since the late 1960's at the wake of globalisation. The information and communication technology (ICT), which came into place in the early '70's, is one of the feats. It has ushered in the computer mediated communication (CMC) method, having both prospects and problems. This study explores the prospects of CMC platforms in using them for hybrid teaching (HT) of undergraduate students. It relies solely on secondary data, drawn from library and internet resources. It is anchored on Roger's Innovation Diffusion Theory (IDT), which proves that CMC with its platforms is an innovative feat in information and communication technology that people use and diffuse systematically. The analysis proves that HT is almost the exclusive preserved of tertiary institutions, with postgraduate students being taught through HT mode much more than undergraduate students. It also proves CMC platforms to be integral parts of ICT and the new media. The study concludes that the educational prospects of CMC are evidenced in its use for HT. It recommends that CMC platforms should be used appropriately for HT, and the challenges to effective use of CMC platforms for HT should be tackled with pragmatic measures.
Keywords: Prospects, Computer mediated communication, Platforms, Hybrid teaching, Technologies

Introduction
Computer Mediated Communication (CMC) is the kind of communication between individuals and groups using computerised gadgets, devices or technologies of the modern information and communication system. The technologies with which CMC is possible include internet, multi-media, portals, mobile phones, gaming, animations, multi-media, portals, etc. (Ravi, 2012). According to Anjugu (2013), technology includes the blogs, picture sharing, music sharing, crowd sourcing, e-mail, instant messaging, and voice record. Multimedia technologies include those technology-based devices that combine text, graphics, video, animation and audio (Keengwe et al., 2008).

CMC has different platforms on which communication takes place. The most popular among them are social media, video conferencing, GSM voice call and voice mail, VoIP (using Skype, Yahoo, Beta, IM programme, etc), chat and ICQ, email, SMS, blog post, Zula, Yammar, Slack, ezTalks Cloud Meeting, and HipChat, online forums and surveys. These platforms are together called cloud collaboration tools. Also, these are what constitute the new media. These media are also used by students for acquiring and learning necessary information and interact with their peers and instructors (Nwode, 2022; Osuchukwu & Ugoji, 2019; Nava, 2015). The persistency in conversation using CMC is one crucial thing about it (Erickson & Herring, 2007).

Olapiriyakul and Scher (2006) described HT as a higher education course model involving the utilisation of both online and face-to-face platforms for instruction. Olapiriyakul and Scher (2006) note that classroom and online classes are undertaken in HT. That is, teaching hybrid courses involves the use of technology in and outside the classroom (Olapiriyakul & Scher, 2006). Dziuban et al. (2005) have stated that the hybrid course model has no space and time constraints of the traditional course setting, which is the physical campus classroom. Thus, it is apt to look at the use of CMC for hybrid teaching of undergraduate students in Nigeria. This study seeks to ascertain and discuss the prospects of using CMC for hybrid teaching of undergraduate students in Nigeria, as in elsewhere across the globe.

Clarification of Concepts
December (1996) has defined CMC as the process by which people create, send, exchange, receive and give feedback on information using networked telecommunications systems that facilitate encoding, transmitting and decoding messages.

Crystal (2001) has described Computer Mediated Communication as 'communication through the medium of computer-like e-mail, World Wide Web and Chat rooms.'
Crystal (2001) believes that the common linguistic features that are identified in the computer mediated communication discourse include distinct orthography, vocabulary, grammar, paralinguistic and graphics. Satillo (2000) has argued that computer mediated communication is an internet based communication of e-mail and instant message. For Hassan (2016), CMC is a concept that describes the written forms of communication via the computer-based technology of internet and mobile phones.

Hybrid teaching (HT) is defined simply by Bubacz et al. (2021) as the mode of teaching that combines both traditional and online attendance. This definition, though not quite different from many others, implies that HT is a pedagogical practice involving all the features of traditional classroom teaching mode and those of online teaching mode. Brunner (2006) noted that the hybrid model takes full advantage of technological advances with the incorporation of learning technologies used during online interactions combined with in-person instruction.

The traditional teaching (TT), which involves face-to-face (in-person) interactions, is defined by Nava (2015) as 'the interactions between students and their instructors or peers, which are conducted in an in-person setting such as the campus classroom, instructor's office hours, or other in-person meeting' (p. 3). These interactions do not include any use of electronic sources to see the other person, such as Skype. Nava (2015) also states that 'a traditional course is one in which students receive only face-to-face instruction in the physical campus setting and in the designated time frame' (p. 5). She agrees that TT involves having all discussions face-to-face, even if analogue and digital learning materials and technologies are used in teaching the students.

Learning technologies are described as any form of technology used for the purpose of distributing or transmitting materials or information to students being taught using a hybrid course in higher education (Nava, 2015; Garrison & Akyol, 2009; Derntl & Motschnig-Pitrik, 2005). These technologies act as the media through which students receive information during online instruction (Nava, 2015). A few examples include a computer, tablet, or Blackboard (Garrison & Akyol, 2009; Derntl & Motschnig-Pitrik, 2005).

The concept of 'student learning experiences' is described by Nava (2015) as 'the experience of how students receive and learn information,' as in language pedagogy (p. 4). It also incorporates the type of experience learners have had as regard negative or positive processes of learning or acquiring knowledge. Student learning experiences, as a concept, 'encompasses students' learning outcomes' obtained from the learning process (Nava, 2015, p. 4).

Theoretical Framework
Following its scope and preoccupations, the study employs Innovation Diffusion Theory (IDT), propounded by Morgan Roger in 1962. IDT is an age-long theory in social sciences, applied in communication science, which explains how an idea or a product gains momentum with time and diffuses through a specific population or social system (Bittner, 1984). Roger (1962), Katz et al. (1963), Bittner (1984), and Nwode (2022), among other scholars, note that for new ideas or innovations to get diffused, certain stages must be followed. These are awareness, interest, evaluation, and trial and adoption. This claim has been championed particularly by Roger (1962), Katz et al. (1963) and Bittner (1984), early theorists of the Innovation Diffusion Theory (IDT), and sustained by other scholars.

Media technology scholars have realised the fact that apart from the manufacturers' intended default use of certain media technologies, adopters do circumvent the norm an adapt media to different plans in their private uses. This is regarded as appropriation. According to Bar et al. (2007), for a technology to evolve and users become better adapted to its usage, users' needs are important social factors behind their adoption. The long-term, innovative effects occur when users appropriate the technology, when they make it their own and embed it within their lives. The appropriation process is fundamentally political, because it is a battle for power over the configuration of a technological system and therefore

the definition of who can use it, at what cost, under what conditions, for what purpose, and with what consequences. This confrontation is deeply creative and fuels a powerful innovation engine.

Users reinvent the technology while they try out its features, tweak devices and applications so they better answer their needs, come up with different ways to use services, and develop new social, economic and political practices around the possibilities open by new technological systems (Oni, 2013). According to Oni (2013), while appropriation is important for all kinds of technologies, more importantly ICT, the concept, oscillates between two paradigms: the universal appropriation of media technology and culture-specific appropriation of media technology. The universal appropriation of media technology, as Oni (2013) notes, addresses the default use of the media technology at all places and across all social strata/demography the world over, while culture-specific appropriation of media technology revolves around linear contextual or peculiar usage within an individual group or community of people.

For instance, the manufacturer's intention for the use of mobile phones is for both voice and text messaging (including voicemail service). Nevertheless, users usually appropriate the technology by flashing or beeping or missed calling, which have been observed to be of communicative value (Donner, 2007). A study has equally observed that during IM'ing on Yahoo Messenger (and other IM systems) Nigerians could only use 9 of the 54 emoticons in their interactions being the only universally intelligible options in the pool of emoticons. In line with this perspective, users of the social network site in Nigeria have also been appropriating the media systems culture-specifically in their different individual or organisational engagements such as wall posting, expression of likes and identifying with a course, community, individual, religion and politics (Oni, 2013, p. 55).

In the context of this study, IDT explains how, why and the extent to which users of CMC and HT diffuse the innovations offered by these two technology-based developments. That is, IDT explains how new ideas, such as those brought forth by CMC and HT, spread in society or across cultures (Roger, 1983). The adoption of new ideas, products, processes, behaviours or any other things does not occur simultaneously but procedurally in a social system. Roger (1962) is of the view that 'adopters are of five categories: innovators, early adopters, early majority, late majority and laggards' (p. 150). There is an agent that helps the public to decide on the best idea to adapt by influencing their option about a new product or thereabout (Roger 1962; Bittner 1984). The change agent centres on the conditions that increase the likelihood that a new idea would be adopted or not (Goodhart et al. 1975; Barwise et al. 1982; Bittner 1984).

The implication of the foregoing is that the media constitute the said agent that influences the public to adopt a given new product or so. Diffusion, Katz et al. (1963) have pointed out, is the process of spreading a given idea or practice over time through specific channels, such as through social structures like neighbourhoods and socialisation agents, inclusive of the mass media. The theorists of IDT maintain that for a new idea or innovation to diffuse, there must be: (a) awareness stage, (b) interest stage, (c) evaluation, (d) trial stage, and (e) adoption stage. Bittner (1984) has noted that media can make persons become aware of the existence of a phenomenon. Then, from there, they get interested in it, attempt evaluating it and give a trial touch before making up their mind to acquire it (adopt it, in our case). Different types of innovation require different kind of adoption units. Diffusion is only possible when a person or a group considers a given idea, behaviour or product as something new or innovative (Bittner, 1984).

Given the above, it is quite clear that IDT suits this study. The theory obviously highlights the practical stages of attaining all the innovations that CMC and HT have in stock, and how to diffuse, adopt and apply the innovations for positive results. The relevance of adopted theory obtains in practice beyond theoretical postulations. As evident in the above exposition, the study succeeds in proving that IDT suits it. The exposition also makes it quite obvious that CMC and HT are prosperous, as innovative feats in the fields of communication, information, technology, education and research, and many others social sciences and sciences.

CMC Platforms and their Uses

CMC platforms, which are software applications, can be used for different purposes, such as personal, group, professional, business, educational, recreational or entertainment and informative or instructive purposes, among others. The platforms include social media, video conferencing, instant messaging, email, and online forums and surveys. They have many advantages or positive sides on one hand and negative sides or disadvantages on the other. The advantages include convenience, fastness, wide coverage, efficiency, accessibility, innovation, easy connecting and networking with individuals and groups far and near, teaching-learning, business, job and wealth opportunities, easy un/professional journalism, etc. In what lends credence to the above points, Crețu (2021) notes that online communication is very important because it increases media and educational trainings. The disadvantages of the platforms include miscommunication, threats to personal security, interference with personal life, identity invasion and theft, frauds, cyber crimes, misinformation, promotion and quick spread of ills (Crețu, 2021; Khalil & Ebner, 2017; Balvin & Tyler, 2014).

The most used among these platforms are social media. Interestingly, social media double as instant messaging online communication platforms (e.g. Telegram, Facebook Messenger, WhatsApp, BB Messenger and Signal) and social media online communication platforms (e.g. Instagram, LinkedIn, Facebook and Twitter). These platforms are used variously, such as for interpersonal and intergroup communication, teaching and learning, research, conferences, seminars, public speeches, news and journalism, library and information science, etc. Social media allow for voice and video calls, sharing of files, and use of emoticons, stickers and gifs. Comments are made on shared and publicised created and shared social media contents. Created contents are also liked by members of the online public. Users have followers, who follow them and like and comment on their contents. The contents are commonly called posts and statuses, which are made and displayed on a user's or a group's page, status or story.

Email and video conferencing are less used in Nigeria and many other developing nations. These two, unlike social media, are used exclusively by learned persons having the technical-know-how. This means that many educated persons in developing nations are not familiar with video conferencing platforms of online communication. They lack the technical-know-how and the logistics or devices for carrying out video conferencing. Live video meetings or webinars online involving many participants are done on video conferencing platforms. Video conferencing also involves screen sharing, whiteboards, polls and chat. It serves varied social, academic, research, business, marketing, interview, public administration and judicial purposes, among others. Skype, Zoom, Google Meet and Microsoft Teams are the commonest video conferencing online communication platforms. Discussion and bulletin boards (DBB) are aspects of OC regarded as computer mediated communication (CMC). They are provided for virtual learning. DBB include Blackboard and WebCT, which provide the facility for students and tutors to hold discussions and contact each other in groups.

CMC platforms also include social network sites, online games, video-sharing sites, and gadgets such as iPods and smart mobile phones are now a clime, where the youths live and exhibit all forms of social interaction necessary for a communal and cultural living. Also, the platforms are used by both individuals and groups for informal and formal messages. Although textual messages take precedence over others, audio-visual messages are also sent via email (Crețu, 2021). Its uses include mailing, marketing, notifications, invitations and newsletters. In other words, users can send and receive textual messages, documents, images, videos, and audio messages via email.

Prospects of CMC Platforms

Studies confirm CMC platforms are of great benefits. Such studies include Kalogiannidis et al. (2022), Nwode (2022), Omeje (2018), Wiest and Eltantawy (2015), Daluba and Maxwell (2013), Ravi (2012), Ebay (2004), Ramanathan and Becker (2001), Garson (1995), Frederick (1993), and Rafaeli and La Rose (1993). The benefits are used for accessing the internet which include: e-teaching and learning, research, social networking, information gathering, chatting, messaging (internet video calls, chats and messages), news, advertisement, e-mailing, entertainment, business, financial transaction and banking, online gaming, music, video, and job searches, blogging, hospitality, travelling and tour booking, and

governance and administration, diplomacy, among others. The highest benefits are from social media (Baron, 2010; Ahmed & Qazi, 2011; Connolly, 2011; Zwart et al., 2011; Iloene et al., 2013; Balvin & Tyler, 2014; Khalil & Ebner, 2017; Omeje, 2018; Kalogiannidis et al., 2022; Nwode, 2022).

Nwode (2022), Crețu (2021), Jacobi (2017), Omeje (2018), Baron (2000) and Schmitz (1995), among others, state that the defining characteristics of CMC platforms are publicity, digital media and digitalisation, technical transmission, multimedia, interactivity, flexibility in creating and disseminating information, universal dialogue, hybrid, hypertext structure, heterogeneity of audience, periodicity and relating to reality, as in virtual realities. Krey and Rossi (2018) reiterate the fact that CMC platforms bridge distance barriers, as in hybrid teaching and learning. Mainardes and Cardoso (2019) show that effective use of social media builds, entrenches, and fosters trust and loyalty and rises purchase intention of customers.

Temur (2020) notes that the opportunities offered by ICT include 'transformation of societies; offering and expanding self-education opportunities at any space; changing students' knowledge; provision of wide range of pedagogic oral, visual and practical materials; paving ways for searching, processing and using data on different themes' (p. 155). Damanhouri (2018) worked on 'Language use in computer-mediated communication and users' social identity.' The work examined 'the relationship between language use in computer-mediated communication and the social identity of the user' (Damanhouri, 2018, p. 16).

Its findings show that English is the predominant language used by most of the young adults, who find it flexible and compatible with modern technology and widely acceptable among their fellows of other socio-cultural backgrounds. Most of the middle-aged adults were found to speak Arabic more than any other language. Their wide usage seems to be tied to patriotism, ethnocentrism and the sustained consciousness towards their linguistic identity. On the whole, Damanhouri's (2018) study shows that there is a mutual relationship between language use in computer-mediated communication and the user's social identity, stressing that language is used both to reflect and (re)construct identity. The above findings are substantial and applicable to our case under study.

Drawing evidence from a systematic narrative review of forty-three (43), Best et al. (2014) prove that online technologies have both positive and negative effects on the mental health of adolescent users. The reported good sides are increased self-esteem, social and capital fortunes, self-exposure, social support, and safe identity testing. The adverse effects identified by Best et al. (2014) are increased social isolation, cyber-bullying, exposure to harm and depression. They conclude that although most studies report either mixed or no effects, the wide use of these technologies for healthcare and the mental wellbeing of adolescent is a proof that they have no effects on the mental health of adolescents. One of the benefits of CMC platforms is that they offer avenues for appreciable social interaction on the internet between teachers and students, friends, families, business partners, organisations, states, agencies, etc. They have eased journalism and got rid of the traditional bottlenecks of the mass media.

Access to a wide range of information has become possible with the new media. Users easily gain access to information anytime. News now takes no time to be produced and disseminated across the globe. All events are easily publicised online, especially on social media. Again, CMC platforms make it possible for students to contact tutors on an individual basis; collaborate on and share tasks, including the exchange of files; provide each other with feedback; ask questions; participate in open discussion; share experiences, ideas and resources (Jacobi, 2017). CMC platforms make it possible for users to make posts that ask questions, state views, and reviews or feedbacks on different themes or products. Online voting, rating, ranking, analysis, etc. are done on online forums and surveys. They are used majorly for customer service, marketing, research and community development. Email seems to have replaced letters and faxes, because it is faster than the aforementioned and has several new ways of communication that its traditional equivalents do not have (Crețu, 2021; Baron, 2000; Schütte, 2000; Severinson, 1994).

Finally, these platforms show the relationship between a message and the responses posted to, displayed graphically on screen in a way that gives a meaningful structure to a discussion or activity. Since discussions are also recorded, students and tutors are able to return to previous discussions. In addition, online communication is proven by Nwode and Danjuma (2023) to be what constitute new media and it helps in achieving creative healthy living, as individuals learn healthy living tips online. Also, they make it possible for teachers to: contact students individually; provide an answer to an individual question to all students; put students into tutor or other groups to work together; facilitate collaborative discussions and activities; and provide reminders and information (Jacobi, 2017).

Prospects of Using CMC Platforms for Hybrid Teaching
Hybrid teaching (HT), a new mode of teaching and learning, is more or particularly present in tertiary institutions (Baker & Spencely, 2023; Romaniuk & Łukasiewicz-Wieleba, 2022; Bubacz et al., 2021; AlNajdi, 2018; Nava, 2015; Campaign for the Future of Higher Education, 2013). HT involves face-to-face (physical or offline), online, synchronous and asynchronous participation and real time presence. It also involves the teacher, curriculum and pedagogy and assessment. It combines in-person, distance and online interaction and teaching-learning contexts (Mossberger et al., 2003; Nava, 2015; Bubacz et al., 2021). The use of technology makes hybrid advantageous. The use of technology in the classroom expands instructional options for teachers in administering learning objectives through pictures (e.g., video, animation, graphics or illustrations) and words (e.g., printed or spoken words) (Bubacz et al., 2021; Yang, 2019; Dong & Yu, 2017). One feature of distance teaching is flexibility with examination management, which can be either synchronous or asynchronous, and has a varied amount of instructor's assistance (Bubacz et al., 2021; Yang, 2019; Dong & Yu, 2017; Nava, 2015).

The course setting of HT combines or mixes up the traditional lectures held physically in the classroom with online setting (Rao, 2019; Yang, 2019; Güçyetmez & Çam, 2016; Klimova & Kacetl, 2015; Nava, 2015; Wichadee, 2015; EkwunifeOrakwue & Teng, 2014). Since there is nothing advantageous without its disadvantages, it becomes imperative to investigate the effects of hybrid teaching and learning on the performance of students of tertiary institutions, particularly those at postgraduate level. The transition from analogue teaching and learning to the digital forms has given students the ability to access information in more than one way without time and place constraints (DelaVega, 2008; Nwode, 2022). Users of new technologies easily gain access to information at anytime. All events are easily publicised online, especially on social media. These media promote interactions among teachers and students. They serve as teaching and learning aids and supplements (Osuchukwu & Ugoji, 2019; Iloene et al., 2013). Group membership and the sense of belongingness are some of the benefits of CMC platforms in HT.

The advantages of HT include time, level of flexibility, opportunity to switch to remote delivery, accessing and utilising Zoom recorded contents much later, and taking examinations either in the classroom or any location of choice, among others. Flexibility and the breach of time and space are two most noted advantages of HT (Safar & AlKhezzi, 2013). The advantages of the hybrid, particularly those bordering on convenience, make students to have change of attitude towards and tend to prefer it more at some point (Bubacz et al., 2021; Yang, 2019; Dong & Yu, 2017; Nava, 2015; Ekwunife-Orakwue & Teng, 2014; Mackey & Freyberg, 2010). That is, students who had erstwhile expressed their preference to be the traditional mode likely change their preference later to the hybrid mode (Bubacz et al., 2021).

More so, HT decreases affective and cognitive learning and full student participation in the process, which make it different from the traditional analogue mode (Ekwunife-Orakwue & Teng, 2014; Mackey & Freyberg, 2010). Full participation by many students decreases because of the absence or virtual presence of the teacher. Also, Bubacz et al. (2021), among others, found that the performance of both undergraduate and postgraduate students is better in face-to-face traditional teaching mode than in the hybrid mode or online mode. In their words,

> This study shows that although the face-to-face mode of teaching was the most popular and the most efficient mode, there is a potential for the hybrid mode of teaching to be a more successful

method of instruction, provided technological issues are resolved and better engagement strategies are implemented (Bubacz et al., 2021, p. 9).

Conclusion

The prospects of CMC abound in different areas. They are obtainable in education and research. The prospects of CMC are derived from its uses and positive impact. This study has shown that CMC platforms double as online communication platforms, and ICT and new media technologies. CMC came onboard with the rise of ICT and new media. Thus, there is a correlation between CMC and new media and ICT. Using CMC platforms for HT is beneficial. The benefits are the educational, research and social prospects of the platforms in teaching and learning through hybrid mode. On the whole, following the analysis of the secondary data, the study concludes that the educational prospects of CMC are evidenced in its use for HT. It recommends that CMC platforms should be used appropriately for HT, and the challenges to effective use of CMC platforms for HT should be tackled with pragmatic measures.

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