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The Use of Social-Media and IT Application Tools for Teaching in Ghanaian Universities: Case of University of Cape Coast, Ghana

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ABSTRACT

The use of social media and IT application tools as an alternative pedagogical approach in higher educational institutions of learning cannot be compromised. Considering their incalculable advantages especially, in these times of the COVID-19 pandemic where closure of schools characterised some of the mitigating factors which wedged pedagogy. Nonetheless, quite a few institutions have taken advantage of these technologically inclined resources to facilitate teaching and learning. Therefore, this study explores the perceived usage of social media outlets and IT application tools in the University of Cape Coast (UCC) as a means of pedagogy by the Academic Staff. The study employed a cross-sectional survey as result of which 102 Academic Staff were sampled. The findings disclosed that the use of social media (i.e., Twitter), online collaborative tool (i.e., Google Hangouts) as a means of pedagogy is conspicuously absent among the teaching staff. Whiles some IT application tools (i.e., Dropbox, Google Drive, OneDrive) were hardly used in the classroom context, although the participants revealed possessing the skills in the use of such social media outlets and the IT application tools at their individual level. However, the use of Presentation tools (i.e., Microsoft PowerPoint), Spreadsheets (i.e., Microsoft Excel) and Word Processing (i.e., Microsoft Word) were mostly used to facilitate teaching and learning. The study recommends the adoption and enforcement of these resources by the management of the university. Taking into cognizance, the numerical strength of the yearly enrollment of students into the University vis a viz its limited infrastructure.

Keywords: IT Application Tools, ICT, Pedagogy, Social Media Outlet.

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I. Introduction

In recent years, the influence of IT application tools and social media in the learning institutions and its penetration into all types of organizations globally, cannot be glossed over. In view of this, institutions of learning have purposefully positioned their pedagogy to be reflective of this worldwide phenomenon. In particular, their mode of teaching, with greater prominence attached to student-centred teaching practices. As a result, the call for the deployment of social media (SM) in these contemporary periods especially in these times of the Covid-19 pandemic been on the ascendency (Cinelli *et al.,* 2020; Haman, 2020; Hussain, 2020; Limaye *et al.,* 2020). The effectiveness of SM in natural catastrophes cannot be ignored as many recent studies have adduced evidence to this effect (Rosenberg *et al*., 2018; Saroj & Pal, 2020). In such critical times such as this COVID-19 era, Dufty (2012), elucidates that individuals tend to use wireless devices (smartphones, tablets, laptops etc.) as a means of accessing information and reaching wider audience through the convenience of SM. Thus, the employment of SM is integral to accessing information and engaging in social interactions especially in these situations of the current Covid-19 pandemic. However, what is crucial is the possession of knowledge and skills needed to use SM and whether such knowledge translate into facilitating ones' cause. In particular, using the SM as a pedagogical tool to facilitate teaching and learning in institutions of learning during school closures or out of school environments. Literature attests to the use of SM as an effective means to support active students' engagement, teachers' professional development and development of communities of learners. Again, it is argued that, the use of SM as a pedagogical tool further promotes facilitator's ICT integration skills and encourages their students to continue learning using technologies (Anasi, 2018; Beemt *et al.,* 2019; Manca & Ranieri, 2013, 2016; Vie, 2015). Nevertheless, one might claim that our passion for immersive learning through technologies and the reality of our practice remain unconnected (Roblyer *et al.,* 2010).

ICT is a generic term denoting technologies meant for the collection, storage, deletion and transition of information in numerous forms (Salehi & Salehi, 2011). ICTs comprise the use of at least a computer and the Internet as well as computer hardware and software, networks, and a host of devices that convert information (text, images, sounds, and motion) into general digital formats (Lever-Duffy, McDonald, & Mizell, 2003; USDE, 2000; ISTE, 1999). Hence, an instructor's knowledge of its application as pedagogical strategy in the learning institutions will equip teachers in the collaborative applications in computer as well as simulation activities which could be employed in addition to the traditional means of learning (Melor, 2007). Literature is suggestive of the potency of the use of ICT specifically, IT application tools in influencing the role teachers play in lessons, the methodology of teaching being employed and the mode in assessing learners.

In facilitating diverse means of equipping teachers pedagogically via ICT (IT application tools) and achieving maximum learning output in educational settings, institutions of higher learning in developed countries have moved to online learning, as reported by the World Economic Forum (2020). However, the use of SM to facilitate teaching and learning has not been well established despite its electronic communication and learning capability, as argued by Ige (2020). In light of the vast opportunities, the need for the teaching staff to be accustomed to the skills in the usage of SM and IT application tools as defined in the context of this study cannot be over-emphasized.

The rationale behind the introduction of social media is to stay connected and get as close to each other irrespective of one's limitations, religious affiliations, or cultural context. The power of social media keeps its users connected to each other (Saxena & Majumdar, 2015). In today's society, technology affords students diverse ways to be well informed of the happenings in relation to the courses of study and university programme offerings. Moreover, Kiraly (2014) asserts that, social media usage by faculty of higher learning institutions conducted by Pearson Learning Solution depicts the employment of social media as a pedagogical tool that has been progressive since 2012-2013 from 34% to 41 %. Studies further assert that the interactive nature of online technologies has been created for better learning environments and the communication is due to the introduction of digital communication (Siemens, 2014). Although social networks and IT application tools can be regarded as a platform for collaboration, it positions teachers to provide an oversight responsibility in the daily happenings in the classroom which are difficult in its identification and verification. Thereby making social networking sites suitable for exchanging information and communication by teachers (Saxena & Majumdar, 2015). The social networking sites could be employed in diverse ways by teachers, such as the creation of communities of learners, class, or discipline; sharing of methodological outlook, programs, processing of information and ideas with other teachers as well building relationships with other professionals' area of mutual interest. The varied forms of applying social media sit well with learners. In particular, the idea of sharing information, consultations in respect of one's notes and results from work, participating in reviews, examinations, clarifying doubts, case studies and task instructions among others (Taylor *et al.*, 2015).

This study examines the idea of immersive teaching and learning by concentrating on a common usage of social media as a pedagogical strategy employed by the UCC academic staff at the lecture's theatres and the supposed application of ICT resources (as discussed) during the teaching and learning processes at the University of Cape Coast. Social media 's function could introduce a different framework to improve the learning experiences of students. Greenhow and Gleason (2012) investigated into the usage of Twitter as a new literacy practice. They propose this can contribute to improved participation and stronger cooperation between students and teachers when used in higher education. Fusch (2011), argues that trade resources are as relevant as learning goals, and that resources are required to encourage social participation, build a more engaging learning atmosphere, and encourage collaborative study, also shares this opinion. Dunn (2012) accentuates that learning with technology must be given due attention. To many scholars the default setting rests on using technology to teach. When it is not synchronized, the two approaches could also generate extremely varying experiences for students. This argument is supported by Laird and Kuh (2005). They contend that successful learning and deep contact among students and teachers need comprehensive involvement in technology. Social networking helps to change teaching methods and can be used to facilitate typically restricted learning and teaching practices in schools.

It is crucial how the technological application is employed, and the manner in which its implementation is done during instruction. Zepke and Leach (2010) assert that the encouragement and learners' behavioural tendencies will affect their propensity to participate in participatory learning activities, where there is a thin line between online and socialization forms. Learning has become something of a social mechanism in the modern educational climate and the usage of social networking reinforces the cycle. The use of IT application tools and social media, as in many other jurisdictions, is here to stay in tertiary education settings and those higher learning institutions that fail to concentrate on these huge opportunities will be closed to them the benefits of the global technological world. Perhaps what needs to be realised is how these institutions of higher education welcome social media and IT application tools owing to the enormous advantages they come with. This is because the use of SM and IT application tools according to Fedock et al. (2019) is an appropriate instructional approach amid the Covid-19 pandemic. Its capabilities in facilitating teaching and learning, social interaction and enabling teachers to devise curriculum objectives and students' needs, makes their use in online learning very much relevant and timely (Hajli *et al.,* 2013). However, their use could be better examined by knowing the academic staff's attitudes and perception (Jogezai *et al.,* 2018; Asomah *et al*., 2018). This is because, as Beemt *et al*. (2019) posit, it is often the attention to teachers' responses and attitudes that could make social media integral to the teaching and learning.

This study, therefore, is aimed at how the academic staff of UCC perceives their skills and usage of IT application tools and social media outlets as a pedagogical tool in the lecture room context.

II. The Potential of Application Tools as an Educational Tool

ICT should be used as an essential and valuable pedagogical resource in the area of education, considering the benefits it provides. Some studies (see, Yunus *et al.*, 2009; 2010) indicate the need for teachers to motivate and instruct learners using IT application tools and help them find some recommendations of websites that are useful to improve language learning for students. Numerous electronic books utilize multimodal technologies including audio, video, hyperlinks, and collaborative devices. These devices allow readers to physically engage with the text by introducing, removing, or changing content. Labeling passages through highlighting, stressing, or circling words; making input by introducing remarks, downloading files, or capturing audio input; and controlling the page structure, and document scale. Also, screen layout are all prerequisites for successful teaching and learning environment. A study undertaken by Oakley and Jay (2008) showed that ETBs could be a valuable educational resource for inspiring students to learn and having them do so at home. Several of the comments from the study participants include: to summarize, the new ICTs radically alter the way adolescents are reading, writing, and connecting today. Sweeny (2010) asserts that texting or instant messaging can be used to build a writers' group where their thoughts and writing challenges are exchanged and where the group can help individual participants. Instead, IT can act as a critical resource for promoting learning. It can be outlined on the basis of the literature provided that there are several researches that indicate the usefulness of IT as a medium of instruction in the future. In addition to creating a sense of belonging in the academic setting, the internet world, whether in the form of social media sites or particular web pages could also provide assistance for the members. For the purposes of this study, IT resources are limited to the use of Word Processing (e.g., Microsoft Word, Libre Office Writer), Spreadsheets (e.g., Microsoft Excel, Libre Office Calc), Databases (e.g., Microsoft Access, Libre Office Base), Presentation tools (e.g., Microsoft PowerPoint, Libre Impress), Cloud services (e.g., Dropbox, Google Drive, OneDrive) and Word Processing (e.g., Microsoft Word, Libre Office Writer) as a pedagogical tool in the classroom context (lecture theatre) at the UCC.

III. The Impact of Application Tools on The Future of Teachers

The usage of ICT as a tool (IT application tools) in school systems has a huge effect on teachers' prospects. The effect can be considered in terms of the teacher's position, instruction, and evaluation methods. First, the teacher's position should shift from a single provider of information to a facilitator. The instructor's position today, as indicated by Mullamaa (2010) is that of a facilitator, an authority in a discipline whose job is to help the advancement of the individual student. In addition to the teacher's position, the teaching methods normally employed by teachers will also shift alongside the application of ICT to the education sector. Unlike traditional classroom conversations, teachers can use the students' online forums. Then students may reply to the platform at their own speed, at the convenience of their very own house. Teachers may also direct students via online forums to other important and helpful internet sites to provide additional knowledge on the topic under discussion. In addition to allowing the teachers to instruct as well as demonstrate some ability in the medium of instruction in the classroom context, learners could be guided in respect of certain online outlets, for instance, the writers of the materials they read. Sweeny (2010) supported this assertion and in addition clarified that to write could be a singular activity, nonetheless, the methodology applied is less alienating when writers become active in writing forums where many writers learn about the writing process. The assessment method should shift from the written ones to the e-evaluation. That would also benefit the teachers to be able to assess their students wherever they are. To teachers too it would be more comfortable. Roland (2006) supports this view, which suggests that new technologies can lessen the assessment burdens of educators and enhance effectiveness and efficiency.

IV. Social Media

The concept of social networking has been described by Anderson (2009) as the networked resources that enable users to connect, communicate and share with each other thoughts, objects and opinions. Similarly, Boyd and Ellison (2007) also described social networking websites as web-based resources that enable users to create a public or semi-public account within a bounded framework, communicate with a database of several other users with whom they share a link, and display and navigate their list of interactions within the framework and those created by others. Shirky (2008) expressed more succinctly the nature of social networking as social networks promote community formation and discovery of different forms of coming together and having stuff accomplished.

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collaborative online applications and technologies, enabling user-generated participation, connectivity, information exchange, and collaboration among the user community (Henderson & Bowley, 2010: p. 239). According to Kaplan and Haenlein (2010), SM is a group of internet-based applications based on Web 2.0's ideology and technology foundations that enable user-generated content to be created and exchanged. Facebook, YouTube, Flickr, and LinkedIn are existing social media platforms. They are perceived as inexpensive and, more often than not, completely free to use. Research has found the use of SM useful in creating and disseminating collective knowledge for academic purposes (Na'ndez & Borrego, 2013). They revealed that most students were eager to have the knowledge needed to use and apply SM.

The issue as to whether the network is a replacement for society and if the usage of social media in a networked manner is to the detriment of the broader school group or not may be addressed in the negative. As Bickford and Wright (2006) pointed out, "Community for learning was not significant, colleges and universities will have no justification to live". The crucial position of engagement in learning is enhanced, not weakened, by the application of social networking to the school environment. As a result, it is to augment the traditional approaches to learning that the use of a learning network is seen as an alternative to complement its learning approach. In this study, social media is limited to the teaching staff's use of instant messaging tools with specific mention of WhatsApp or Blackberry messaging (BBM), Facebook, online collaborative tools such as Google Hangouts, and Twitter to augment their pedagogical approach at the University of Cape Coast.

V. Research Questions

The authors were of the position that, UCC having adopted IT application tools as an alternative pedagogical tool in its strategic plan. It was incumbent on the academic staff to equip themselves with the prerequisite competencies in IT application tools and social media outlets to ensure such transition. Hence, they were well positioned to respond to the research questions in this study. Thus, the study sought to explore how the Academic Staff employed IT application tools and social media to facilitate teaching and learning. In particular, the study addressed the following specific research questions.

1. Which IT application tools do the Academic Staff employ to enhance their pedagogy?
2. Which social media outlets do the Academic Staff employ to support their pedagogy?
3. What skill do the Academic Staff possess in the use of the social media outlets?

VI. Methods

A. Participants

Multi-stage sampling technique was employed to select the academic staff of the University. The study targeted the teaching staff from the colleges, schools, faculties, and departments as the main population for the study. In all, a total of 102 academic staff participated in the study.

B. Research Design

A cross-sectional survey was employed in this study. A survey of the teaching staff of UCC's current status on the usage of social media as part of their pedagogical strategy at lecturing experiences, the employment of social media to support learning, and the use of IT application tools to enhance their teaching experience at UCC. It was deemed suitable considering that the data collection was purposed to address research questions. Moreover, the design makes room for the determination of unadulterated information and reports the same in relation to established theories or assumptions on the subject without manipulating the environment in which the participants found themselves (Cohen *et al*., 2011). Moreover, Wallen and Fraenkel (2013) designated that the survey has potency in providing useful information about the study subjects. As a result, the current study responded to three research questions on the subjects of the study. Thus, the teaching staff of UCC's current status on the use of social media as part of their pedagogical strategy at lectures, the employment of social media to support learning, and the use of IT application tools to enhance their teaching experience at UCC. Finally, the cross-sectional survey was deemed suitable since Hanson *et al.* (2009). noted that the cross-sectional survey is more economical because it makes it possible for many subjects to be studied simultaneously. This was the case in this study since the study targeted a sample of the population of the teaching staff of UCC while at the same time, taking into cognizance the economy of time to both the researchers and the teaching staff within the Colleges, Faculties, schools and Departments who participated in this study.

C. Instrument

The survey included questions regarding the academic staff's status on using social media as part of their pedagogical strategy at lectures, the employment of social media to support learning and the use of IT application tools to enhance their teaching experience at UCC. A Likert scale of 1–5 was used for the structured questions. The scale items of these variables were developed based on previous studies of (Zhu & Mugenyi, 2015; Asomah *et al*., 2022). They were adapted to suit the context of the current study. With a reliability estimate of Cronbach alpha ranging from 0.81 to 0.88 for the items under the various subscales, the items were found to have relatively high internal consistency and, as such, were deemed reliable.

D. Data Collection and Analysis

Three research questions guided the conduct of this study. Each research question was analysed distinctly. Thus, in respect of research question one, the respondents were to indicate the extent to which they rate their skills and use of IT application tools types on a five-point scale Likert scale questionnaire from below "No or almost no skills," "Some skills," "average skills" "Above average skill" and "Expert skills." In research questions two and three, the respondents were asked to rate the frequency of their usage of social media to support their teaching as well as their knowledge and skill in the use of the social media, respectively, on a five-point scale Likert scale questionnaire from "Almost Never,"

"Occasionally," "Fairly regularly" "Mostly" and "Almost all the time". On the instrument of research questions one, two, and three, in particular, it is the code of the "Some skill" and "Fairly regularly" responses, respectively, since the response of "Some skill" and "Fairly regularly" does not indicate whether the respondents had a positive or negative perception of the phenomenon being investigated. Consequently, responses or averages of more than three would be taken as positive perceptions, while those less than three would be interpreted to correspond to negative perceptions. Thus, in the analysis of data from this study, the "Some skill" and "Fairly regularly" responses, which were coded 3, served as the average, and this was used to determine the direction of respondents' responses; with an average score below and above 3 in these analyses being interpreted as negative and positive perceptions respectively.

VII. Results

The results in relation to the research questions are presented in this section. Thus, do the teaching staff use IT application tools to enhance their teaching experience? do the teaching staff use social media, online and collaborative tools to support teaching and learning? and do the teaching staff possess the knowledge and skill in the use of social media, online and collaborative tools?

A. Perceived Usage of IT Application Tools to Enhance Pedagogy at UCC

Research question one was used to elicit the participant's responses regarding their perceived use of some selected application tools in their pedagogy. For the purposes of this study IT application tools were limited and themed under the subheadings of a) Word Processing which entails Microsoft Word or Libre Office Writer b) Databases such as Microsoft Access or Libre Office Base c) Presentation tools specifically, Microsoft PowerPoint or Libre Impress d) Cloud Services of which Dropbox, Google Drive and OneDrive were mentioned and finally e) Cloud-based Office Suites such as Office 365 or Google. Thus, "Which IT application tools do the Academic Staff employ to enhance their pedagogy?" The Academic Staff perceived use of the above-mentioned IT application tools in their pedagogy is presented in Table I.

The results indicate high patronage and effective use of word processing among the academic staff of UCC, with the highest mean of M=4.21, SD=0.73, which is indicative of the fact that almost all the respondents were proficient concerning their self-perceived skill in the usage of that particular IT application tools type. Thus, Word Processing (Microsoft word) was characteristic in facilitating teaching and learning in the classroom context.

TABLE I: Academic Staff's Ratings On It Application Tools

	M	SD
Word Processing (e.g., Microsoft Word, Libre Office Writer)	4.21	0.73
Databases (e.g., Microsoft Access, Libre Office Base)	2.36	1.31
Presentation tools (e.g., Microsoft PowerPoint, Libre Impress)	4.00	1.03
Cloud services (e.g., Dropbox, Google Drive, OneDrive)	2.86	1.42
Cloud-based Office suites (e.g., Office 365, Google Docs)	2.33	1.44

Since almost invariably, most of the Academic Staff, if not all rated high their skills and use of Word Processing (Microsoft word) in the teaching and learning processes. Thus, they indicated to have between "Above Average and Expert Skill" regarding their use of this tool in teaching and learning. The Presentation tools, in particular, Microsoft PowerPoint, were also realized as one of the main tools employed by the academic staff in the teaching and learning context. However, the means of the other IT application tools types, such as Cloud Services and Cloud-based office suites, were the least employed as a pedagogical tool in the classroom context at UCC as far as the Academic Staff is concerned (M=2.86, SD=1.42, and M=2.33, SD=1.44 respectively). This implies less use of such IT application tools types in the lecture room learning environment by the teaching staff and consequently can be posited to have equally less or no skill in the use of such resources at the personal level.

B. Perceived Usage of Social-media Outlets to Support Pedagogy at UCC

The second research question sought to elicit the perceived use of social media outlets to support pedagogy. This was purposed to find out whether the afore-mentioned media were used to enhance teaching at UCC. Specifics were made of social media outlets such as Facebook or Twitter, online collaborative tools, in particular, Google Hangouts and an instant messaging tool of which WhatsApp and BBM were added. Thus, "Which social media outlets do the Academic Staff employ to support their pedagogy?" The participant's mean rating of the above forms of the media to augment teaching and learning is presented in Table II.

These mean scores range from 3.98 to 1.08, indicating that, for all technologies used in social networking, the academic staff surveyed perceived that they hardly experienced the phenomenon asked about between "Occasionally" and "Almost all the time" in their teaching environment. The results show that Facebook was rated high with a mean value of (M=3.89, SD=1.48), which depicted a "fairly regularly" use by some academic staff in their teaching and learning. This implies that many participants use this particular social media to augment their teaching aside from the traditional face-to-face meetings in the lecture theatres. This was followed by WhatsApp with the mean (M=2.12, SD=1.42), followed by Twitter (M=1.75, SD=1.20), and lastly, online collaboratives such as Google Hangouts recording a mean (M=1.08, SD=1.12). This is indicative of the fact that. Twitter and Google Hangouts are hardly used to augment any form of teaching by the teaching staff of UCC.

TABLE II: Academic Staff's Ratings On Social-Media Outlets

	M	SD
Social media tools: Facebook	3.98	1.48
Social media tools: Twitter	1.75	1.20
Online collaborative tools (e.g., Google Hangouts)	1.08	1.12
Instant messaging tools (e.g., WhatsApp, BBM)	2.12	1.42

C. The Academic Staff's Skills in the Use of the Social media Outlets

The last research question sought from the participants their knowledge and skills in using social media, particularly Facebook and Twitter, and online and collaborative tools such as Google Hangouts, WhatsApp and BBM at their levels (without necessarily using them to teach). Thus, do the teaching staff possess the knowledge and skill in the use of social media, online and collaborative tools? The result of which is presented in Table III.

TABLE III: ACADEMIC STAFF'S RATINGS ON THEIR SKILL IN THE USE OF SOCIAL-MEDIA OULTLETS

	M	SD
Social media tool: Facebook	3. 65	1.35
Social media tool: Twitter	1.55	1.10
Online collaborative tools (e.g., Google Hangouts)	2.10	1.31
Instant messaging tools (e.g., WhatsApp, BBM)	3.63	1.41

The Academic staff exhibited some knowledge and skill with regard to their knowledge and use of social media without recourse to employing them as a pedagogical tool in the teaching context. Facebook and WhatsApp were rated as the most readily available tools they were familiar and conversant with in terms of personal knowledge and skill with means (M=3.65, SD=1.35, and M=3.63, SD=1.41 respectively). However, Twitter with the corresponding mean of M=1.55 and SD=1.10, and Online Collaborative tools such as Google Hangout recorded a mean of M=2.10 and SD=1.31, indicating that the Academic Staff of UCC does possess as measured on the perception scale "Almost no Skill" or "Some Skill" in relation to this very particular social media tool type. From the above dispositions from the perspective of the academic staff, it could be inferred that the low patronage of social media (Twitter) in teaching and learning at UCC. This is because the personal knowledge and skill of the academic cannot support the deployment of Twitter and Google Hangout as a pedagogical tool in the classroom context. Notwithstanding the incalculable advantages of the use of social media in educational pedagogy.

VIII. DISCUSSION

The study analysed the capabilities of the Academic staff of UCC in incorporating social media, online and collaborative tools, as well as other, identified IT application tools as part of their pedagogy. This study, however, deviates from the studies of (Kaplan & Haenlein, 2010; Ngai *et al*. 2015) who details innumerable advantages social media and IT application tools afford their users. The findings of the study revealed that the respondents perceived to have exhibited "Some Skill and Average Skill" in the use of social media which agrees with the favourable perceptions expressed in the studies (Jogezai *et al*., 2018; Asomah *et al*., 2018). Further, the findings of the study showed that the Academic Staff exhibited an Average skill in the usage of social media (in the classroom) to facilitate teaching and learning (means between 2.48 and 1.08 as measured on the 5-point Likert scale) which contrasts sharply with the studies of Beemt *et al.* (2019) who averred that, an effective skill in the use of social media could be critical in integrating it into the Academic Staff's pedagogy. Again, the Academic Staff of UCC exhibited some personal skills in the use of social media, online and collaborative tools. This is in line with similar studies conducted by (Holmes, & O'loughlin, 2014; Rennie, & Morrison, 2013). In particular, Facebook usage among the academic staff of UCC was rated high with the mean value of (M=3.98, SD=1.48), which depicted a "fairly regularly" use by some of the academic staff. The findings of the current study in which the use of Facebook was perceived as "high" among Twitter, Google Hangout, WhatsApp, and BBM resonate with results of similar studies, which established among the social media platform that, Facebook (66.4%) was the first, and YouTube (21.4%) was the second-highest used social media platform (Boulianne, 2015). Thus, it could be argued that the academic staff of UCC may be considering these platforms to facilitate teaching and learning and for communication (Symthe, 2009). Further, Manca and Ranieri (2013) also averred that such results from the current study might be construed as a possibility for implementing SM as a pedagogical tool in the classroom context (lecture rooms). Nonetheless, the preference for Facebook could be read as the preferred social media platform that provided remarkable support to the online delivery of education during the crises of the Covid-19 pandemic, where opportunities for face-to-face learning were limited (Saxena & Majumdar, 2015; Mullamaa, 2010; Henderson & Bowley 2010).

To this end, the corresponding rise from their students' perspective could be considered high. This notwithstanding, the inability on the part of some academic staff to use some IT application tools such as Cloud-based Office suites (e.g., Office 365, Google Docs), Cloud services (e.g., Dropbox, Google Drive, OneDrive), Databases (e.g., Microsoft Access, Libre Office Base) is in with the studies of Oakley and Jay (2008); Sweeny (2010) who assert that the knowledge of these tools has one's pedagogical skills in the classroom context. In addition, the findings of this study which elucidates the least use of social media specifically, Twitter and Google Hangout is worrying taking into consideration the incalculable advantages it brings to institutions using such tools to facilitate teaching and learning (Yunus *et al.*, 2009; 2010).

The use of social media as an educational tool in this globalized community is encouraging since many students are abreast of the use of technology (Roland, 2006). It makes life easy in relation to various fields of endeavor from which teaching is no exception (Anderson, 2009). It is in this line of thought that, the academic staff could leverage IT application tools to the advantage of students during instructions in the classroom context (Hajli *et al.,* 2013). In particular, the academic staff could employ Facebook and Twitter to communicate with their students, while the students, on the other hand, could provide feedback via a Facebook page or Twitter feed, post homework, and assignments, send messages and updates, schedule or announce upcoming events, quizzes, exams as well as share interesting Web sites and multimedia content (Jogezai *et al.*, 2018; Taylor, Bogdan, & DeVault, 2015). Hence, the use of social media, online and collaborative as well as IT application tools as a means of instruction in the classroom context at UCC cannot be said to be an alternative to the Academic staff. Notwithstanding, the incalculable advantages, such tools bring to bear in

educational pedagogy their adoption in UCC is in line with its ICT strategic plans (Asomah *et al.*, 2022).

A. Implications

Situated in the context of the study are the implications for institutions of higher learning whose policies favor the face-to-face mode of teaching. Also are institutions of higher learning that lack physical space yet are practicing social distancing caused by the COVID-19 pandemic. The implications are grave for countries like Ghana, already struggling with a high student population. Especially, in the tertiary institutions whose students were denied academic exercises as a result of the school closure by the Government of Ghana. However, as found in the study, the seemingly knowledgeable staff of UCC about some of the SM outlets if translated into pedagogy, could be pivotal in addressing these challenges in the educational sector. Thus, a deliberate effort to support the Academic staff in using the SM as part of their pedagogy in the classroom context should be prioritised. In this regard, school-level support for Academic staff could be of worth (Ismail *et al.*, 2020). Such support will be needed to provide access to necessary digital resources, creating opportunities for teacher's capacity building, continuous feedback, and mentoring (Jogezai *et al.*, 2018; Mulenga & Marbán, 2020). Further, the current COVID-19 pandemic has serious implications for institutions of higher learning who are unable to use online learning more than institutions with such pedagogical tools. In view of the social distancing and closure of the schools that characterised this crisis, the employment of SM as an alternative to traditional face-to-face meetings or the concurrent adoption of both online and face-to-face teaching modes in institutions of higher learning could be the solution in such crisis-like environments.

IX. Limitations and Future Research Recommendations

In the employment of SM and IT application tools, challenges may exist, such as cultural resistance, pedagogical issues, or institutional constraints (Manca & Ranieri, 2016), that may have an adverse effect on the Academic staff's social media and IT application tools use in facilitating online delivery of education. Thus, the current study is limited in this regard. In this way, future research that builds on the scholarships of (Manca & Ranieri, 2016; Asomah *et al*., 2022) and in particular, this study qualitatively, would help push the frontiers of the pedagogical application of SM, IT application tools as well as online delivery of education. Finally, quite a few numbers of the academic staff of UCC responded to the questionnaire. As such, their views cannot be generalized as reflective of the entire Academic staff of the university.

X. Conclusion

The findings of the study disclosed that the use of social media (i.e., Twitter), and online collaborative tool (i.e., Google Hangouts) as a means of pedagogy is conspicuously absent among the teaching staff of UCC, whiles some IT application tools (e.g., Dropbox, Google Drive, OneDrive) were hardly used in the classroom context. However, the participants revealed their knowledge and skills of the use of social media, online and collaborative tools as well as the identified IT application tools at their level. However, the study indicates that the use of Presentation tools (e.g., Microsoft PowerPoint), Spreadsheets (e.g., Microsoft Excel), and Word Processing (e.g., Microsoft Word) were mostly used to facilitate teaching and learning. Moreover, Facebook was also perceived as the most used among the academic staff. This finding was particularly critical to the advancement of SM as a pedagogical tool in the higher institutions of learning in Ghana since the use of social media could also be beneficial for countries that, according to Attwood *et al.* (2013), are resource-poor and deprived of adequate ICT-supported facilities. It is, therefore, incumbent on the policymakers to be informed of the need to equip academic staff of higher institutions of learning technologically. This is purposed to better prepare them against the ravages of the COVID-19 pandemic and similar future crises that will have the four-walled institutions of education closed as a result of face-to-face interactions or lack of physical space to facilitate teaching and learning.

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