

Facebook experiences of visually impaired students: A deconstruction of the challenges and benefits

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Abstract

This study explores the motivation for usage, benefits, and strategies to overcoming the challenges visually impaired people face in their Facebook interactions. Using in-depth interviews and a narrative analysis of five visually impaired students at the University of Cape Coast, we found that Facebook usage among visually impaired students, although unique in experiences and gratifications, has promoted the formation and strengthening of their social bonds in the community of visually impaired people and their significant other. However, the visually impaired students face significant challenges with interpreting the pictures and videos they encounter on Facebook because screen reader software currently in use cannot interpret graphical content forcing them to rely on their sighted friends which have created independence and privacy issues. Despite these challenges, Facebook remains a powerful communication tool for visually impaired students in interacting with both their disabled and non-disabled friends whom they would normally shy away from in person.

Keywords

Double bind, Facebook, narrative analysis, social capital, thematic analysis, uses and gratifications, visually impaired

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Introduction

Today, the internet is home to several platforms that allow users to interact with each other to form new relations or maintain old ones. These platforms commonly known as social networking sites (SNSs) are a group of internet-based applications founded on the technical and ideological foundations of web 2.0 that allow users to generate and share their content (Kaplan & Haenlein, 2010). Currently, people upload and share photos across popular SNSs such as Facebook, Twitter, Instagram, Messenger, and WhatsApp, and among these are visually impaired people. The World Health Organization's (2010) global data on visual impairments identified an estimated number of 285 million people living with vision impairment, 39 million blinds, and 246 million having low vision. Despite this huge number, only a relatively small amount of them uses SNSs in their daily interactions compared to sighted users.

In an attempt to understand the nature of blind people's interaction on Facebook, Wu and Adamic (2014) identified that more than 50,000 users of Facebook are visually impaired because these users usually access the site using screen readers and screen magnifiers on mobile and desktop platforms. Moreover, attempts to make the web more accessible to visually impaired people by enhancing design guidelines have proven difficult (Voykinska et al., 2016). Babu (2014) conducted an exploratory study with six blind Facebook users and found that they access SNS and other websites primarily by listening to content read aloud by screen reader (SR) software and that the design of these web 2.0 technologies are sight centred and they lack the needed accessibility and usability attributes, making it difficult for visually impaired people to enjoy the experiences. On this same note, Shpigelman and Gill (2014) found that people living with a disability visit Facebook at least daily. The majority of users are young adult women who have physical disabilities including vision impairment. They primarily use it for strengthening their bonding ties or one-on-one communication with family members and their non-disabled friends with whom they may experience social isolation in the real world.

Kaplan and Haenlein (2012) have reasoned that Second Life and Facebook platforms require further research. Lourens and Swartz (2016) also argue that universities need to understand the needs of disabled students to implement inclusive policies that would enable such students to feel welcomed as members of the institution they belong to. According to them, there is an international call for an increase in the enrolment of disabled people in institutes of higher learning. This, however, does not simply imply that universities increase their disability admission numbers but put in place measures to ensure that these people feel welcomed and accepted within these institutions of higher learning when admitted.

Several studies have been conducted into how visually impaired people use SNSs and the accessibility problems they face therein. Brinkley and Tabrizi (2017) conducted a quasi-ethnographic investigation of the Facebook mobile interface involving six blind frequent Facebook users to find out what challenges the individuals who are visually impaired face when interacting with Facebook's core features. Babu et al. (2010) identified that literature is scarce on blind people's internet interaction and sought to fill that gap by investigating the accessibility and usability problems blind people face in performing web-based tasks. Williamson et al. (2001), on the other hand, found that traditional forms of acquiring information are fraught with difficulties for people living with vision impairment as compared to their sighted counterparts and this constrains their everyday life.

Although there is extant literature on the subject, much of it focuses mainly on the accessibility and usability problems visually impaired people face in their internet usage (Babu et al., 2010; Brinkley & Tabrizi, 2017). But there is little emphasis on motivations and benefits they derive from their internet accessibility. A much more serious omission in the literature is the situation in

developing countries where internet access is growing but with a high cost for users. The visually impaired in developing countries are even more vulnerable because of the lack of social protection mechanisms. Given this, this study explores the motivation for usage, benefits, challenges, and strategies employed to overcome the challenges associated with the use of Facebook among five visually impaired students at the University of Cape Coast (UCC). The study, therefore, seeks to achieve the following objectives: To identify how visually impaired students in the UCC use Facebook, the motives that drive the use of Facebook among visually impaired students and to outline the challenges visually impaired people face in their Facebook interactions as well as the benefits they derive from such interactions.

This research will, therefore, help us to gain a better understanding of visually impaired people as a minority group on SNSs. It will also contribute to the extant literature on the uses and gratifications of the new media especially by visually impaired people in the Ghanaian society as well as help developers of SNS improve on interaction and accessibility capacities of blind users.

Review of related literature

Previous studies conducted in this field have focused on the accessibility and usability problems of web 2.0, web design for SNSs, to blind users and how to solve the accessibility and usability problems to make this software more accessible to blind users (Babu, 2014; Brinkley & Tabrizi, 2017; Voykinska et al., 2016). While some scholars have concluded that blind people use social media as much as sighted people do only with little accessibility problems, others have argued that visually impaired people using social networking services like Facebook are unable to perform simple tasks like finding and communicating with friends online (Babu, 2014; Shpigelman & Gill, 2014) a situation they attributed to the accessibility and usability of Web 2.0 technology.

Website usability

According to the International Organization for Standardization (ISO, 1998), usability refers to the degree to which a product, herein website, can be used by specified users to achieve certain goals with effectiveness, efficiency, and satisfaction in a specified context of use. One way of evaluating the effectiveness of an internet website is by conducting accessibility and usability studies. Website usability refers to the degree to which the site can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use (ISO, 1998 as cited in Mtebe & Kondoro, 2017). According to Flavián et al. (2006), usability encapsulates many factors such as the ease of understanding the website structure, interface, and content observed by the user. It also involves the speed at which users can find what they are looking for. Nielsen (1994) also posited that a usable website enables regular users to quickly navigate through it and irregular users to navigate again with ease after not using it for some time without having to learn it all over again. In other words, users do not make many errors when dealing with a usable website, and when they do, those errors are recoverable.

Usability testing. Niranjnamurthy et al. (2014, p. 78) posit that ‘usability testing is a method by which users of a product are asked to perform certain tasks to measure the product’s ease-of-use, work time, and the user’s perception of the experience’. Bastien (2010) also argues that one way of conducting a usability test on a website is through user-based evaluations. According to her, this involves users being directly involved to do typical tasks with a product or being asked to explore it freely, while their behaviours are observed and recorded to identify design flaws that cause user errors or difficulties. On this note, Babu (2014) found that basic SNS functions that sighted users

usually take for granted are difficult for visually impaired users. He, therefore, concludes that millions of blind people cannot utilise social media effectively due to significant usability challenges fraught with Web 2.0 technology. Brinkley and Tabrizi (2017) also developed a usability study around Facebook core features for six blind adults and found that participants face the most challenges with completing the scenario which focused on finding and submitting a friend request to three target users, followed by the profile creation task. However, participants were most successful in completing the task on privacy settings.

Website accessibility

Abuaddous et al. (2016, p. 172) define web accessibility 'as making a website navigable and tractable by various user categories especially those who have disabilities and normally face obstacles when interacting with the web via electronic devices e.g. blindness'. Web accessibility also involves overcoming most disabilities that limit internet access. It means that people with disabilities can use, perceive, understand, navigate, and interact with the web despite their disability (Martínez et al., 2014).

Accessibility testing. The issue of web accessibility has also received some attention in research. Accessibility property is evaluated based on the Web Content Accessibility Guidelines (WCAG) published by the Worldwide Web Consortium (Flavián et al., 2006). Abuaddous et al. (2016) noted that websites remain partially or completely inaccessible to certain sectors of the population like the visually impaired. This is due to several reasons, including web developers' little or no experience in accessibility issues and the lack of accurate information about the best ways to quickly and easily identify accessibility problems using different Accessibility Evaluation Methods (AEMs).

Voykinska et al. (2016) found that compared to sighted SNS users, blind users faced significant accessibility challenges which had to deal with the prevalence of photos without sufficient text descriptions. To overcome the challenges, they argued that blind users developed creative strategies, such as opening the mobile site on a desktop browser so that they can interpret photo content from textual cues and social interactions. When this failed, however, blind users reached out for help from trusted friends or avoided certain features. Scholz et al. (2017) also added that (disabled) people's level of education, employment status, and familiarity with technology can influence how accessible the internet is to them.

The works of Babu (2014), Brinkley and Tabrizi (2017), Voykinska et al. (2016), and Abuaddous et al. (2016) show that people living with visual impairments are actively engaged in online interactions on SNSs; however, the usability and accessibility problems they face in their online interactions limits their ability to benefit fully from using such platforms. As such much needs to be done to make social media usage by visually impaired people much easier.

Facebook experiences of university students and the disabled

There have been several studies on Facebook use among university students, while some scholars have focused on the benefits of Facebook among university students, others have focused on its disadvantages (Belal, 2017; Pornsakulvanich, 2017; Raza et al., 2017). Regarding the benefits of Facebook use among university students, Belal (2017) argued that the majority of students used Facebook for communication with friends and others: getting information, educational purposes, sending birthday greetings, job purposes, and entertainment. In line with this, Quan-Haase and Young (2010) conducted a comparative study that examines the gratifications obtained from Facebook by university students and found that the students joined Facebook primarily because a

friend suggested it. A second reason was to keep in touch with friends and family conveniently and served as a tool to learn more about social events and coordinate get-to-gathers. On the same note, Raza et al. (2017) argue that SNSs like Facebook are helpful to university students in building and maintaining social capital by creating the intention to continue using them.

Pornsakulvanich (2017) considered the disadvantages of Facebook to university students and found that people with high self-monitoring or self-esteem are more likely to be addicted to Facebook than those with low self-monitoring or self-esteem. The researcher also concluded that the number of Facebook friends and Facebook activities were the major predictors of the amount of time spent on Facebook. Shpigelman and Gill (2014) conducted an online survey about how persons with disabilities use Facebook and found that these people primarily use Facebook for strengthening their bonding ties or one-on-one communication with their non-disabled friends and family members. They are also empowered by the information and support they get from their bridging ties. Della Líbera and Jurberg (2017) also found that visually impaired students in Brazil, like those in other countries, use and enjoy SNSs as much as their sighted peers. However, they face some constraints with reading images, but they are not afraid of trying and, with the help of assistive technology, the visually impaired users can use social media to get connected to the world and to express themselves. They also argue that social networks might help remove some of the stigma usually associated with people living with vision impairments.

Digital inclusion of visually impaired people

The benefits of the inclusion of people living with a disability in online interactions have also received some attention from researchers. Most studies, though, have focused on persons living with vision impairment (Okonji et al., 2015; Williamson et al., 2001). Okonji et al. (2015) conducted an ethnographic study of 20 visually impaired older persons between the ages of 60 and 90 years who suffered from different forms of vision impairment ranging from low vision to total blindness due to aging. They found that the internet helped visually impaired older people to keep in touch with social networks which enhanced their sense of belonging. They argued that visually impaired older persons found emailing more as an easier way to contact people rather than telephone and that the internet helped them to cope with their disabilities by compensating for their vision impairments and lost hobbies. Williamson et al. (2001) also argued that traditional forms of acquiring information such as print are fraught with difficulties for the visually impaired compared to sighted people. They, however, reasoned that computers and the internet presented better alternatives.

People living with disabilities remain at risk of being excluded in the digital revolution due to significant usability and accessibility problems fraught with most internet websites (Abuaddous et al., 2016; Babu, 2014; Parsons & Hick, 2008). However, the works of Okonji et al. (2015) and Williamson et al. (2001) reveal that the internet has a lot of benefits for persons living with a disability such as the visually impaired. The question of whether blind people can access the internet effectively as a source of information to ensure that they do not feel left out in the current digital revolution has been answered extensively through empirical studies. However, the literature lacks a case in developing countries where the unique experience of visually impaired students is either exaggerated or trivialised.

Uses and gratification theory

This is a theory that helps to understand why and how people actively seek out specific media to satisfy specific needs. Uses and gratification theory (UGT) is an audience-centred approach to understanding mass communication. Diverging from other mass media theories that focus on what

media does to people, UGT focuses on what people do with media. The theory was originally developed by Katz et al. (1974) to examine traditional media such as TV, radio, and newspapers. However, recent studies have applied it to the new media, social media (Hossain, 2019; Whiting & Williams, 2013).

The theory assumes that audience members are not passive consumers of media; rather, they have power over their media consumption and play an active role in interpreting and integrating media content into their own lives. Unlike other theoretical perspectives, UGT posits that the audiences are responsible for choosing media to meet their desires and needs to achieve specific gratifications. This is underpinned by the fact that the media competes against other information sources for viewer's gratification.

In UGT, a key distinction is made between gratifications obtained and gratifications sought. Gratifications obtained refer to those benefits that audience members experience through the use of a particular medium. Whereas gratifications sought to refer to those benefits that audience members expect to obtain from a medium before they come into contact with it (Quan-Haase & Young, 2010). It also postulates that individuals use media to gratify needs like informing themselves of current events, entertaining themselves, passing time, enhancing social interactions, or escaping from the stresses of daily life.

Hossain (2019) also argued that UGT has a significant positive effect on user habit which in turn has a positive impact on usage intention. His study revealed that when SNS users derive positive gratifications from using social media, it leads to a habit of repeated usage and are more likely to use the service more frequently and with greater satisfaction. UGT gives a perspective through which the use of Facebook by people, including the visually impaired, can be analysed. UGT will be the best approach to help arrive at findings that correspond with already established knowledge about the phenomenon. Uses and gratifications theory is relevant to social media because of its origins in the communications literature (Whiting & Williams, 2013).

It has been seen from the literature that the study of the uses and gratifications of SNSs like Facebook to people living with the visually impaired needs more attention in research. It has also revealed that the question of whether blind people can access the internet effectively as a source of information to ensure that they do not feel left out in the current digital revolution has to be answered extensively through further empirical studies. Further studies must, however, be conducted in the area more so in developing countries where access to the internet is limited and usually comes at a high cost. To fill this gap, this study explored the nature of the Facebook experiences of some visually impaired students in the UCC and how these students benefit from using Facebook to keep up with trends and connections.

Methodology

This study adopted a qualitative paradigm using an exploratory case study. The exploratory research offers us new insights into the phenomenon that has been rarely explored in Ghana. Akhtar (2016) argues that the case study design is also appropriate where there are few studies to serve as a reference for the researcher. Through an in-depth analysis of the case of visually impaired students at the UCC, we gained familiarity with the subject area especially because the design supports questions that open up the area of research like 'why' and 'how' visually impaired students in the UCC use SNSs and mobile applications.

Research site

The Center for Special Needs and Assistive Technology at UCC was the site for the study. UCC is a public university in Ghana located in the Central regional capital, Cape Coast. UCC was

established in 1962 and has since enjoyed a good number of visually impaired students enrolling in some of its academic programmes and living within its halls of residence. The availability of visually impaired persons at the Centre and the researchers' ease of access to the Centre made it the ideal site for the study. However, it was only halfway through our interviews that we gathered that UCC has lost most of its visually impaired students to the University of Education Winneba (UEW). For the illumination of the experiences of the UCC students, we conducted four interviews in UEW for data triangulation and insight. However, these data were not part of our main data analysis but they remotely influenced our interpretation of the experiences of the UCC students.

Sample procedures and ethical considerations

All visually impaired students within UCC between the ages of 18 and 30 years were the target population for this study. Currently, there is an estimated number of about 20 visually impaired students reading different programmes at both undergraduate and postgraduate levels. The selection of visually impaired students within the age range of 18–30 as the target population was because students within such age groups are likely to be active on social media. Although all visually impaired students of UCC within the age ranges of 18–30 years formed the target population, only a relative few were sampled for the study. According to Taherdoost (2006, p. 22), non-probability sampling techniques 'is often associated with the case study research design and qualitative research'. Since the purpose of the study was to explore how visually impaired students in UCC use SNSs like Facebook, participants of this study were limited to only visually impaired students who are active users of Facebook. Given this, five visually impaired participants were eventually sampled for in-depth interview sessions.

To ensure that ethical principles were upheld in this research, the formal consent of participants, as well as officials responsible for the visually impaired at the Centre for Special Needs and Assistive Technology in UCC, was obtained before engaging participants in interview sessions. Participants who were interviewed were allowed to decide the amount of data they wish to be used for the research. Participants were also allowed to withdraw from the research if they felt inconvenience in any way. To ensure the anonymity and confidentiality of participants, all data collected from participants for the research were kept strictly confidential. The actual names of participants were substituted for pseudonyms to ensure anonymity.

Data collection and analysis

Data were collected through in-depth semi-structured interviews with visually impaired students at the UCC. The semi-structured interview part of the method allowed us to formalise topics and questions with which to seek consistency across the five in-depth interviews. A guide consisting of 10 open-ended questions/topics was developed to solicit a detailed response from participants. In-depth semi-structured interviews allowed us to gather detailed narrative responses that were meaningful to the purpose of the study. Each interview session lasted for approximately 30 min.

The recorded interviews were then played to participants to afford them the chance to listen to the conversation again and make any clarifications where necessary. The interview data were then transcribed verbatim without annotation. Like in many narrative interviews, we asked directly for stories, and perhaps together with the interviewee attempt to structure the different activities and anecdotes into coherent stories. Because we were using narrative analysis, we focused on the stories told during the interview so we could work out the structures and the plots involved in the stories. We employed two out of the three approaches devised by Riessman (2008). These were the thematic and structural narrative analysis. Contrary to what happens in most traditional thematic

Table 1. Participants’ demographic information.

Participants	Age	Gender	Programme	Level	Nationality	Years of Facebook use	Vision impairment
1. Joe	21	Male	B.Ed. (Arts)	100	Ghanaian	3	Blind
2. Kwame	25	Male	B.Ed. (Arts)	200	Ghanaian	8	Blind
3. Efe	25	Female	B.Ed. (Arts) Religion (major)	300	Ghanaian	3	Blind
4. Kojo	25	Male	B.Ed. (Arts) English (major)	400	Ghanaian	7	Blind
5. Kofi	30	Male	MPhil (English)	600	Ghanaian	7	Blind

Source: Field data, 2019.

analysis, the narrative analysis employs a thematic approach that is reluctant to break up the sequence of the narrative because of the interdependent nature of stories and their location in the whole picture. Here, we identified themes in the way the respondents tell their stories. In line with Riessman (2008, p. 53), the analysis concentrates on ‘the case rather than the component themes across the cases’. The narrative analysis goes far beyond self-evident themes in the data and for that reason, we applied the structural approach after the thematic exploration. We were interested more in how the narrative is organised than its form.

Findings and discussion

The study relied on five participants. Four of these were undergraduate students from all four levels and one postgraduate student. Below are the demographic details of the participants broken into subcategories such as age, gender, programme of study, duration of Facebook use, and level of vision impairment. To ensure that ethical procedures are upheld and to protect the identity of participants of the study, the actual names of the participants have been substituted with pseudonyms in Table 1.

Facebook usage among visually impaired students

From the in-depth interviews conducted, we realised that all the participants were regular, free-time users of the Facebook mobile app or website. We found that the participants were able to use Facebook through the help of assistive technologies and electronic gadgets such as smartphones and laptop computers. Participants indicated that most smartphones are designed to support the use of SR software which helps visually impaired people to navigate the Facebook web pages or mobile applications when they visit the platform. When asked how they were able to use the Facebook website or mobile application, the visually impaired students indicated that the kind of device and technology they used played a major role in their ability to use Facebook effectively or otherwise:

... it depends on the device you are using. The phone I’m using makes it very simple for me. (Kwame)

I’m using a screen reader. I’m using an iPhone so I have the voice over software which reads out the text. I listen to the voice and I use my finger to scroll. (Kofi)

With the web pages, there is a speech called screen reader which is on the phone as a visually impaired person. You touch the screen of the phone twice because of the screen reader then it would move. Then as

it is talking, it will tell you where you are and where you are going. For the web pages, it will tell you so if you know, let's say you have gotten three messages, the speech will tell you the number of messages and who sent you the messages. Then the one you want to open first you move to it, tab it twice then it opens for you to read. (Joe)

Here, we realised that the role of assistive technologies such as screen readers or talkbacks in addition to the use of advanced devices determine a visually impaired person's ability to use Facebook effectively or not.

Motivations for Facebook usage among visually impaired students

Like their sighted counterparts, visually impaired students use Facebook very frequently. When one visually impaired student was asked how many times, she visits the site, she replied: 'In a week, it's uncountable' (Efe). The four other participants said they are very regular users running to the site as soon as they were free.

The UGT normally makes a distinction between gratifications sought and obtained. In the case of visually impaired students, many of the gratifications remain a promise. We realised that many of the gratifications that motivated the visually impaired students to use Facebook in the first place are not necessarily going to be obtained but they remain major motivations for signing up for Facebook in the first place. Facebook remains notable for visually impaired students because even the few of the gratifications they have obtained through some of the functionalities of the site were not possible with other social media platforms. It is useful to clarify, though, that for gratification to either remain sought or obtained, it depends on other factors that cannot be generalised for the five participants. It means that individual visually impaired students on Facebook across the University have unique experiences because of the degree, origin, and consequences of their impairment. Even though all the five participants are blind, they all have a unique history of impairment and this affects their appreciation of gratification. For example, participants who were impaired from birth had nicer descriptions of their Facebook experiences and gratification while those who lost their sight gradually feel unfulfilled because they expect restoration to their previous luxuries of being a sighted person. The gadgets used in accessing Facebook plus their software and app offerings largely matter. Laptops and iPhones are considered by the students as better than desktops, but all these gadgets have their uniqueness in how they contribute to the visually impaired students' gratification.

The motivation for usage is mostly driven by the quest to keep in touch with their friends, to keep interactions among themselves active, and to trace each other even beyond Facebook through snowball linkages that mostly emanate first from Facebook. Given this, we argue that the quest of visually impaired students to remain in their community of friends from school and neighbourhood is one of the biggest motivations for their use of Facebook.

Benefits of Facebook usage among visually impaired students

We found that Facebook has many benefits for the visually impaired who frequent the platform. These benefits range from social capital, education, and getting updates on the activities of friends. Concerning social capital, Facebook enables the visually impaired to strengthen their social bonds with friends both disabled and non-disabled. Facebook also enables the visually impaired students to stay in touch with members of their community and those outside of their community helping them to feel belonged and loved. Our findings are in harmony with those of Shpigelman and Gill (2014) who found that Facebook enabled people living with a disability such as the visually

impaired to strengthen their bonds with their friends both disabled and non-disabled. Facebook has also enabled visually impaired students to sharpen their social skills such as communicative and interaction skills. Participants' benefits from using Facebook can be seen in the extracts below:

Through Facebook, I'm able to reach many people at a particular time. Secondly, I always get to know what is happening to my friends, how they have been and how far they have gone with their education and life. (Efe)

The benefits I have derived are getting in touch with long-distance friends, friends I have not met for years and get to know what is going on in their lives. As I said earlier, I sometimes get some news items but I don't consider Facebook as a reliable source of news so that's a minor benefit anyway. (Kofi)

Well it has created social bonds between me and a lot of people. Also, it has strengthened the bond between me and friends who are far away and I have gotten new friends . . . (Joe)

It has made broadcasting of your messages easy. It has also helped to interact with friends you haven't met in a long time. If you don't have their phone numbers you can still chat with them. (Kwame)

Well for Facebook, I have been reading a lot of messages. Some are educative, some are entertaining and some are informative and so forth, so I have benefited a lot. (Kojo)

Facebook also serves as a platform for information and entertainment as well as keeping updated on the activities of friends. One participant, Kojo, noted that he receives messages which are both informative and entertaining on Facebook. Another participant, Kofi, noted that besides interacting with friends to strengthen social bonds, Facebook also served as a platform to have access to news items. However, just like their sighted counterparts, the visually impaired students use Facebook to get current information about the activities of friends. According to Efe, one of the participants, Facebook allowed her to get to know what is happening to her friends, 'how they have been and how far they have gone in life'.

Challenges visually impaired people face when using Facebook

Our findings reveal that though visually impaired students can use Facebook to perform certain functions such as sending and receiving messages to and from friends, other features of Facebook remain inaccessible to them. These include features such as Your Story and the ability to read and interpret graphical contents such as pictures and videos they encounter on the platform as noted in the study by Voykinska et al. (2016). 'Your Story' is a new Facebook feature that allows users to share updates about their life with friends online in the form of videos or pictures. This feature is similar to the status update feature on WhatsApp. However, according to one participant that feature remains inaccessible to him:

Well for Facebook, they've introduced another feature called Your Story. With your story, I don't know if it is the talkback that is not able to recognize it or not. I can't access that feature . . . (Kojo)

According to Kojo, one of the participants, the talkback only notifies him that a friend has posted a new story; however, he is unable to access this story to know what it is about. Another major challenge the visually impaired students identified in their narratives was interpreting graphical contents encountered on Facebook. The visually impaired indicated that though Facebook had a feature that reads graphical contents such as pictures, the descriptions given are usually vague

leaving them with an unclear mental picture of the image encountered. According to Kwame, 'the challenges have to do with viewing the pictures'. Since he cannot see, he relies on his phone, though the phone gives him descriptions, such descriptions do not include colours. Joe, another participant, also indicated that 'the screen reader might tell you there is a picture there but you would not know what it is'.

The situation, however, is no different when it comes to interpreting videos. The visually impaired students mentioned that they were unable to interpret videos since there are no features on Facebook developed to read videos to the hearing of visually impaired users. This situation usually leads to despair when trying to interpret videos. The alternative for them then is to either give up on understanding the content of the video or turning to sighted friends for assistance, in effect losing their independence and privacy to their sighted friends. When asked how they overcame the challenge of interpreting graphical content such as videos, Joe noted, 'When this happens . . . friends who have sight are the ones you get close to . . . you ask the person what is going on and he tells you about it'. Kofi another participant said, 'Well sometimes I just ignore it and go my way . . .'.

The challenge associated with interpreting graphical content on Facebook creates a double bind for the visually impaired. To be able to understand the contents of a picture or a video, the visually impaired must choose between losing their independence and privacy to their sighted friends by seeking their assistance with the interpretation or giving up on the content altogether. These sighted friends are usually of immense help when it comes to interpreting graphical content to the visually impaired Facebook users; however, they are the very same people the visually impaired lose their independence and privacy to. Therefore, the visually impaired face this dilemma of dealing with a double bind when interpreting graphical contents.

The issue of internet connectivity also remains a major challenge for the visually impaired when using Facebook. Internet penetration in Africa including Ghana is still growing. To use Facebook effectively, visually impaired people need not only internet access but a stable and fast internet to be able to do so. However, most of the participants indicated having challenges with internet connectivity, making it difficult for them to use Facebook as much as they would want to. This puts a responsibility on the government and the management of public universities in Ghana where these visually impaired students are enrolled to strengthen internet access in the country and university campuses to enable the visually impaired as well as their sighted counterparts to have access to SNSs such as Facebook since it has the potential to bring them a lot of benefits. Strong internet connectivity is also needed to help visually impaired students enjoy their Facebook interactions more so when they encounter graphical content.

Conclusion and recommendations

Our findings revealed that just like sighted users, the visually impaired students are moved by the desire to interact with friends and the quest to remain in their community of friends from school and neighbourhood. However, their Facebook interactions seem to be fraught with difficulties as they are unable to interpret the graphical contents they encounter online. Despite these limitations to their Facebook usage, Facebook remains a powerful communication tool for visually impaired students in interacting with both their online and offline friends whom they would normally shy away from in person. While Facebook presents one of the friendliest interfaces for visually impaired users compared to other SNSs, interpretation of graphical content leaves visually impaired students in a serious dilemma about the need for seeking assistance from a sighted friend. Between seeking assistance from a sighted friend who will take away their privacy and independence and the despair of not understanding the graphical contents they encounter, the

visually impaired students have always preferred choosing the lesser evil of having a sighted friend assist them with interpretations.

Based on the findings of the present study, the following recommendations are offered for future studies on the subject as well as for SNSs and app developers. Future studies on a subject similar to this should use a quantitative approach to bring about generalisable findings that help understand the nature of visually impaired people's social media interactions within and across cultures. Also, future studies on this subject matter should take into consideration other social media websites and applications that are usually used by visually impaired people in order to gain insights into the comparative nature of their online interactions via various SNSs. Finally, the study also recommends that developers focus more on producing accessible websites and assistive technologies that will make it easier for visually impaired social networking users to interpret the graphical contents they may encounter online.

Authors' note

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