

Chapter #21

POSITIVE AND NEGATIVE FEELINGS OF LEARNING WITH DIGITAL TECHNOLOGIES AMONG HIGHER EDUCATION STUDENTS IN GHANA

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ABSTRACT

A scan of research literature that targets the experiences of students in Ghana when they use digital technologies for learning, shows that little is known about student experiences of learning with technologies, or how negative they feel when doing this. The Joint Information Systems Committee's (JISC) digital experience insight survey offers insight into how students are using technology in the higher education learning environment. The survey has four dimensions, "digital life of students", "digital at the university", "digital at course level" and "student attitudes to digital". Therefore, in this study, students in three dual-mode HEIs were targeted to complete the survey instrument. The responses of 1937 students were captured by means of an online questionnaire, and the data were disaggregated by mode of study. While these data confirmed that students have positive feeling towards the use of digital technologies in their subject discipline, they also suggested that fulltime (residential) students are more positive towards digital technologies for learning than distance learners. They also have less negative feelings toward digital learning than distance learners in managing online information. Therefore, it becomes clear that dual-mode institutions need to take additional measures to scaffold distance learners appropriation of digital technologies (tools and skills) for learning.

Keywords: digital technology, negative feelings, positive feelings, higher education, Ghana, online learning experiences.

1. INTRODUCTION

Statements about the increasing use of digital technology for teaching and learning in higher education institutions only state facts about use, not the negative feelings toward teaching and learning with digital technology. For instance, research supports that, in the academic context, digital technologies can be used to support interactivity, collaboration and sharing (Churchill, 2017; Ge, Yang, Liao, & Wolfe, 2015; Rich, Cowan, Herring, & Wilkes, 2009; Wegerif, 2015), problem-solving (Ge, Yang, Liao, & Wolfe; Ng, 2015), data collection, connectivity and individuality (Klopfer, Perry, Squire, & Jan, 2005). Other studies report of the use of digital technologies to engage students, sustain learning, to help participation (communication, collaboration and community) and deep learning (Crook, Harrison, Farrington-Flint, Tomás, & Underwood, 2010). They can also be used to motivate students (Crook et al., 2010). Similarly, Ng (2015) identified, reflection, brainstorming, and thinking skills among students as affordances of digital technology in the learning environment.

Further, literature supports that in the higher education learning environment, digital technologies are used to provide teaching and learning online or to augment face-to-face learning and teaching (McCutcheon, Lohan, Traynor, & Martin, 2015). According to Henderson, Selwyn, & Aston (2017), an effective and well-designed digital learning environment can “enhance the diversity of provision and equity of access to higher education” (p. 1), improve digital skills and also allow students to personalize their learning (Beetham & Sharpe, 2013). Therefore, the students’ expectation is for higher education institutions to incorporate digital devices and resources into their learning. Consequently, many undergraduate students own and use technologies such as smartphones and laptops to support their learning.

While the use of digital technology is creating opportunities for higher education institutions and teachers (Dahlstrom, Walker, & Dziuban 2013), it is important to recognize the positive attitude of students toward digital technology on their course and also how negative they feel about learning with the technologies (Henderson, Selwyn, & Aston, 2017). The success of digital integration is dependent on a number of things such as access to personal and institutional digital infrastructure, the teachers’ pedagogical beliefs, students’ attitude towards digital technology, the subject area, level of study, mode of study and delivery mode (Beetham, Newman, & Knight, 2018a; Henderson, Selwyn & Aston, 2017). In this study, more attention is paid to the difference in students’ attitude towards the use of digital technology on their course by mode of study.

With these issues in mind, the paper aims to determine the positive attitude students have toward digital on their course as well as how negative they feel about the same. To achieve this, we will briefly outline students’ positive attitude towards digital learning. We will also unpack the negative attitude towards digital learning. We then describe the research methods that were used to conduct the survey. The JISC¹ digital experience Insight Survey was used to collect data from students enrolled at three higher education institutions in Ghana. The results of that survey will be computed and analysed. Finally, we will use the results of the survey to make recommendations for student digital capability development.

2. LITERATURE REVIEW

Digital technology is impacting knowledge, teaching and learning in these modern times. Digital technologies such as smartphones, laptops, social networking used by teachers and students are developing and generating new education approaches to transferring and acquiring knowledge rapidly. In the years ahead, emerging technologies such as robotics and virtual reality, augmented reality and internet of things will likely have an even greater influence, not least on teaching and learning. Furthermore, learner success in the 21st century requires students to demonstrate competencies in collaborating and communicating ideas through an immersive digital environment. Higher education institutions need to look seriously at the positive and negative attitudes students attach to learning with digital technologies.

2.1. Students’ positive attitude towards digital technology on course

Research on students’ positive attitudes toward the use of digital technologies to support learning is found to be generally positive due to the huge impact of technology on their lives (Kapoor, Tamilmani, Rana, Patil, Dwivedi, & Nerur, 2018). Students are enthusiastic about having technology to support learning. They value the convenience and

¹ JISC is a membership organisation, which provides digital solutions for UK education and research.

flexibility that technology provides. In other words, technology makes learning more relevant, better and understandable to them (Henderson, Selwyn & Aston, 2017; Mueller & Strohmeier, 2010). Some opine that digital technology on their course allows them to personalize their learning experience and fit learning into their lives more easily (Beetham, Newman & Knight, 2018a). Among the students, some said they feel more connected with peers and lecturers in a digital learning environment, and that. Others mention that they feel cared for and supported in the digital learning environment (Duncan & Barczyk, 2013).

It is obvious that future jobs will be digitally supported. If students are well-versed in using technology to collaborate and communicate, create, think critically and solve problems, they will not have trouble fitting in or finding jobs in the future, competing in the global economy and becoming lifelong learners. Having the opportunity to access, use and update their digital skills is necessary to be successful in the future workplace. In this regard, modern-day students are required to seek educational experiences which are authentic and correspond to the real-world capabilities (Huang & Liaw, 2018). In this context using technology helps them to develop the skills they need for employment. Some students say that digital technologies allow them to experience the technologies as they use them in their everyday life/activities (Anagnostopoulou & Parmar, 2009). These encourage them to double the amount of time they spend in using their personal device for learning and to develop professional skills in their chosen career (Galanek, Gierdowski, & Brooks, 2018). They, therefore, need a substantial amount of digital skills on their subject discipline that will build their confidence in using digital technologies safely to learn and to solve problems in academic and professional settings (Ventimiglia & Pullman, 2016). Further studies show that students are positive about digital learning and expect higher education institutions and faculty—not others—to train them to effectively use the technology (software and hardware) in their chosen career (Dahlstrom, Walker, & Dziuban 2013).

2.2. Students' negative feelings toward digital technology on course

Apart from the positive feeling students have toward the use of digital technology for learning, one needs to observe the negative feeling students have toward digital teaching and learning. The negatives associated with students' use of digital technology for learning include distraction, classroom disconnectedness, information overload, isolation among others (Attia, Baig, Marzouk & Khan, 2017; Brooks & Pomerantz, 2017; Galanek, Gierdowski, & Brooks, 2018).

According to Attia, Baig, Marzouk and Khan (2017), students' use of digital technology in the classroom causes distraction. Consequently, there has been an increased attempt by some faculty to impose rigid policies on the use of technologies such as smartphone and tablets in classrooms (Brooks & Pomerantz, 2017). "In some cases, faculty ban or discourage devices in classrooms on the basis of research that simply confirms their biases against those digital devices. Among the concern raised by teachers are that digital technologies are distracting, student device usage implies disrespect or a lack of attention, or that students are not taking good notes. This approach can do real, if unintended, harm" (Galanek, Gierdowski, & Brooks, 2018, p.13). It is a real threat when, 87% of teachers opine that digital technologies are creating a distracting generation with short attention spans than helping them academically (McCoy, 2016). Of course, this difficulty is smaller in case of higher education students. In their study among higher education students in the UK Beetham, Newman and Knight (2018b) identified that only 23% agreed that they are distracted by digital technology.

Digital collaboration is an essential skill required by every student. However, it is argued that being behind a screen provides students with a layer of isolation that they don't experience with face-to-face interactions. In other words, digital collaboration cannot be like physical collaboration in terms of feelings and emotions that teachers bring to the learning environment. By connecting more with technologies such as learning management systems (LMS) chat rooms, texts, forums and social networking reduce students' physical contact and limit social interaction (Kaya & Bicen, 2016). With this high use of technology, the learning environment is becoming more individualized and even isolated from that face-to-face interaction. Beetham, Newman and Knight (2018b) conducted an Australia and New Zealand study based on students experiences with digital technologies in the learning environment. The students disagreed (52%) that they feel isolated when digital technology is used on their course. Only 17% agreed.

Having technology in many forms through social networking sites and email for teaching can be overwhelming. More accessibility to technology can be a dependency issue to students (Kadli & Hanchinal, 2015). Technology can take students away from direct student-teacher and students-students interaction (Duncan, & Barczyk, 2013). By relying more on digital technology than physical contact with fellow students and teachers, some students may find themselves withdrawing and becoming increasingly disconnected from the people in their learning ecosystem (Kaya & Bicen, 2016). According to Beetham, Newman and Knight (2018b) students (28%) of students in Australia and New Zealand agreed that they are less likely to attend class when digital technology is used more on their course. This view contradicts with an earlier study by Ofsted (2009) which suggests that digital integration on course will not stop students from receiving face-to-face instruction.

An essential ingredient to being successful in learning with technology is the ability of the learner to manage the information available to them. Some studies have established that students lack the ability to manage online information. According to (Synnot et al. 2016) students are sometimes wary and are sceptical about the quality of information they find online. Kadli and Hanchinal (2015) emphasise that students "face the problem of information overload on the internet and lack of skills to search for information." Digital technologies have facilitated the smooth and systematic transformation of learning resources including textbooks, handouts and lecture notes into digital format. This has changed the process of access, retrieve and use of information by students and researchers (Kadli & Hanchinal, 2015). In addition to this, students look online for information to support their learning or give answers in class. Access to reliable information according to Kadli and Hanchinal, (2015) can also create an information overload. The ability to manage digital information is a skill essential for the 21st century. Students, therefore, will need the information literacy skills to able to recall, manage the information by themselves without overlying on digital technology (ibid).

In Ghana digital technologies have invaluable advantages for students. A study by Armah and Westhuizen (2018) revealed that students in Ghana especially distance learners are more receptive to digital learning. Earlier studies, however, indicated that Ghanaian students do not respond favourably to digital learning for example online discussion and ill-based activities (Asunka, 2008). Kotoua, Ilkan & Kilic (2015) emphasised that most of the students have a negative perception about the digital learning environment. He continued that they prefer face-to-face classroom teaching.

Higher education institutions, therefore, need to understand the positive attitudes students attach to digital technology on the course learning and the negative attitude they have when learning the technologies.

3. METHODOLOGY

The aim of this study is to survey students at three dual-mode higher education institutions in Ghana of their feelings about digital learning. The aim is to understand:

1. How positive students in Ghana feel about teaching and learning with digital technology in the higher education learning environment?
2. How negative students in Ghana feel about teaching and learning with digital technology in the higher education learning environment?

3.1. Questionnaire

The questionnaire used for this study is an intact survey designed by JISC to collect quantitative data. "The survey is based around a concise core set of questions that have been intensively tested with students in further education and higher education institutions in the UK, Australia and New Zealand" for relevance, readability and ease of response." (Beetham, Newman & Knight, 2018b, p 2). The items on the instrument were clustered around four dimensions, viz 'digital lives of students', 'digital in the university', 'digital at course level' and 'student attitudes to digital. In this work, responses to the fourth dimension were targeted. The items cover issues that are important to learners about the positive feeling and the negative feelings they have when learning with technology. There are two core closed questions set in this dimension. The first set of questions consisted of six Likert items that respond to the first research question one. The second question set answers research question two and is made up of five Likert items. The questions were delivered online through the JISC online surveys system.

3.2. Sampling

Census sampling technique was used to draw and gather detailed information about all or most members and small groups of the population (Lavrakas, 2008). The survey was distributed among students in three leading dual-mode universities located in two regions (Central and Ashanti) in Ghana. These three universities are charged with the responsibility to spur Ghana's technological development and to produce educators for basic and higher education institutions in Ghana. The link to the questionnaire was distributed among 32,175 final year and postgraduate students via their email, social media groups and through SMS at the beginning of the second semester. Final year students were targeted because we believe that these group of students had experienced the university digital technologies for a long time and are in the position to give insight into how they feel about learning with technologies. The smallest participating university had a total of 7,706 fulltime and distance learners at the undergraduate final year and postgraduate level; the largest had 13,001. University students totalling 1,937 (6%) students from different disciplines answered the questionnaire regarding their opinions on the matter. The respondents were made of 57.3% Male and 42.7% female students. The response was from almost all subject disciplines. Majority of respondents offered education studies (30.8%), followed by students in the Business disciplines (21.5%). The rest were 9.9% Engineering students, 5.4% Psychology students, 5.1% Agricultural students, and 4.5% Liberal Arts and Humanities students. Biological and Medical science, as well as Physical science, represented 4.2% respectively, Computer Science 2.8%, Legal studies 2.7%, Architecture and Communications and Journalism. Other minority groups were Computer science (2.1%) and Visual and Performing Arts (1.3%). Fulltime students (residential students) were 54% while distance learners represented 46% of the respondents. Most of the respondents were Final year undergraduate students (86%), only 14% postgraduate students. The age of participants ranged from 17 to 62 years ($M = 27.17$ $SD = 6.02$). The age of the participants was skewed,

with skewness of 1.65 (SE = 0.56) and kurtosis of 3.55 (SE = 0.11). The high average age is a result of the response from distance learners². Table 1 disaggregate the age data further by mode of study.

*Table 1.
Age distribution by Mode of Study.*

| | N | Mean | Std. Deviation | Median | Mode | M in | Max |
|-------------------|------|-------|----------------|--------|------|------|-----|
| Distance learners | 886 | 30.79 | 6.64 | 29 | 30 | 19 | 62 |
| Fulltime students | 1051 | 24.07 | 2.853 | 24 | 24 | 17 | 41 |

As expected, the average age of distance learners was between 19 and 62 years (Median = 30) compared to that of full-time students whose average age was between 17 and 41 years (Median = 24). Given that digital technology in higher education has become a truly global phenomenon, it is valuable to take a broad view and consider the views of students from different learning modes, 54.3% of the respondents were full-time students and 45.7% were distance learners. Both the full-time and distance learning students use digital technology to support their learning providing a rich setting in which to explore the phenomena.

3.3. Data Analysis

The online survey system presents information in frequency tables, bar chart or pie chart. However, the data was exported into IBM SPSS version 25 for further analysis. Percentages and Pearson Chi-square independent test were used to calculate the students' response to the phenomenon.

4. RESULTS

Six positive statements were asked about the use of digital technology on course. This was to determine the degree to which students agree with the statements. Table 2 presents data regarding the positive feeling students have about learning with digital technologies.

*Table 2.
Students positive attitude to digital learning.*

| | Disagree | Neutral | Agree | Mdn |
|---|------------|------------|-------------|------|
| I understand things better | 183(9.5%) | 522(27.1%) | 1223(63.4%) | 3,00 |
| I enjoy learning more | 169(8.8%) | 551(28.6%) | 1205(62.6%) | 3,00 |
| I am more independent in my learning | 248(12.9%) | 642(33.4%) | 1031(53.7%) | 3,00 |
| I feel more connected with other learners | 279(14.5%) | 674(35.1%) | 966(50.3%) | 3,00 |
| I can fit learning into my life more easily | 255(13.3%) | 611(31.9%) | 1049(54.8%) | 3,00 |
| I feel more connected with my lecturers | 380(19.7%) | 766(39.8%) | 780(40.5%) | 2,00 |

² Distance learners in Ghana are mostly adults who combine work and family. They seek higher education in order to upgrade their skills, for promotion or to secure their positions at the work place

Table 2 shows results of the students' positive attitude towards digital learning. The perception statement "Increase academic performance" (Mdn = 2.0) had the lowest median score which corresponds with the rank neutral, which indicate that students' interviewed in the survey have no strong connection with lecturers when digital technology is used on their course. However, statements "I understand things better", "I enjoy learning more", "I am more independent in my learning" "I feel more connected with other learners" and "I can fit learning into my life more easily" have Mdn of 3.00 respectively. Meaning that the students agree to the statements (Mdn=2.83).

The results were further disaggregated to reveal the pattern of the students' response by mode of study. The results are shown in Table 3. A summary of their responses revealed that about 707(68.0%) of the fulltime students said they understand things better when digital technology is used on their course compared to about 512(58.1%) of distance learners. The result also shows that about 720(69.2%) of the fulltime students enjoy learning with technology, and about 484(55.1%) distance learners enjoyed learning with technology. Independent learning was one value students attached to digital learning by about 581(56.0%) of full-time students and about 445(50.7%) of distance learners. The students agreed that they feel more connected with their fellow students than lectures when digital technology is used on their course. Distance learners, 366(41.6%) are convinced that technology helps them to connect more with their teachers compared to full-time students 411(39.5%). Fulltime students 537(51.7%) on the other hand, said they feel connected with fellow students compared to distance learners (48.7%) when digital technology is used to enhance learning. Fulltime students 612(59.0%) and slightly less than half of the distance learners 433(49.7%) agreed that digital technology allows them to fit learning into their life more easily.

Further analysis using the Pearson-Chi-square of independent test revealed (see Table 3) a significant difference in the value students attach to digital on course by fulltime students compared to distance learners. Fulltime students were more likely to understand things better $X^2(2, 1921) = 50.449, p = 0,000$, enjoy learning with technology $X^2(2, N= 1918) = 59.043, p = 0,000$, more independent in their learning $X^2(2, N=1914) = 22.846, p = 0,000$, feel more connected with other learners $X^2(2, N=1912) = 16.938, p = 0,000$ and are able to fit learning into their life more easily $X^2(2, N=1909) = 41.173, p=0,000$ compared to their distance learning counterparts

No statistically significant difference was found in the mode of study and students-lecture connectedness when digital technology is used on course, $X^2(2, N= 1919) = 4.793, p = 0,091$.

*Table 3.
Percentage difference of Value of digital technology on students learning by mode of study (N=1937)*

| | Mode of study | Disagree | Neutral | Agree | Pearson Chi-Square | sig |
|----------------------------|--------------------------|----------------|----------------|----------------|---------------------|-------|
| I understand things better | I am a full-time student | 54 (5.2%) | 279 (26.8%) | 707 (68.0%) | 50.449 ^a | 0,000 |
| | I am a distance learner | 127 (14.4%) | 242 (27.5%) | 512 (58.1) | | |
| I enjoy learning more | I am a full-time student | 51 (4.9%) | 269 (25.9%) | 720 (69.2%) | 59.043 ^a | 0,000 |

Positive and Negative Feelings of Learning with Digital Technologies among Higher Education Students in Ghana

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|---|--------------------------|----------------|----------------|----------------|---------------------|-------|
| | I am a distance learner | 117 (13.3%) | 277 (31.5%) | 484 (55.1%) | | |
| I am more independent in my learning | I am a full-time student | 99 (9.5%) | 357 (34.4%) | 581 (56.0%) | 22.846 ^a | 0,000 |
| | I am a distance learner | 148 (16.9%) | 284 (32.4%) | 445 (50.7%) | | |
| I feel more connected with my lecturers | I am a full-time student | 192 (18.5%) | 437 (42.0%) | 411 (39.5%) | 4.793 ^a | 0,091 |
| | I am a distance learner | 185 (21.0%) | 328 (37.3%) | 366 (41.6%) | | |
| I feel more connected with other learners | I am a full-time student | 119 (11.5%) | 382 (36.8%) | 537 (51.7%) | 16.938 ^a | 0,000 |
| | I am a distance learner | 158 (18.1%) | 290 (33.2%) | 426 (48.7%) | | |
| I can fit learning into my life more easily | I am a full-time student | 92 (8.9%) | 334 (32.2%) | 612 (59.0%) | 41.173 ^a | 0,000 |
| | I am a distance learner | 162 (18.6%) | 276 (31.7%) | 433 (49.7%) | | |

Also, five items targeted the negative feelings students have toward the use of technology for teaching and learning. The overall result is shown in Table 4. The student reported a neutral score for the statement “I find it harder to manage all the information” (Mdn = 2). The average score for the statements “I am more easily distracted”, “I feel more isolated”, “I find it harder to motivate myself” and “I am less likely to attend class” was 1.0, which means that the students disagreed with the statements.

Table 4.
Students’ positive attitude to digital learning.

| | Disagree | Neutral | Agree | Mdn |
|--|-------------|------------|------------|------|
| I am more easily distracted | 1013(52.5%) | 551(28.6%) | 364(18.9%) | 1.00 |
| I find it harder to manage all the information | 917(47.6%) | 693(36%) | 317(16.5%) | 2.00 |
| I feel more isolated | 1062(55.3%) | 693(30%) | 282(14.7%) | 1.00 |
| I find it harder to motivate myself | 1031(53.7%) | 618(32.2%) | 270(14.1%) | 1.00 |
| I am less likely to attend class | 1084(56.4%) | 529(27.5%) | 364(16%) | 1.00 |

The data was further disaggregated to reveal the pattern of the students’ response by mode of study. Table 5 presents data regarding students’ difficulty of learning with technology. Approximately 545(52.2%) of full-time students and 466(52.7%) of distance learners disagreed that they are more easily distracted with digital on their course. About 517(49.7%) of the fulltime students disagreed that they find it harder to manage all the digital information available to them and about 398(45.2%) disagreed to the statement. Some 579(55.5%) of full-time students and 478(54.6%) of distance learners disagreed that digital on their course made them more isolated. More than half of the students disagreed that they find it harder to motivate themselves when digital technology is used on their course. Fulltime students 588(56.5%) and 439(50.3%) of distance learners disagreed to the

statement. Only 172(16.6%) of full-time students and 134(15.3%) of distance learners agreed that they are likely to skip classes when digital technology is used on their course.

The chi-square analysis (see Table 5) revealed that students equally did not have difficulty learning with technology. Only distance learners are more likely to face a slight problem with managing information when digital technology is used on their course compared to fulltime students, $X^2(2, N=1920) = 7.362, p = 0.025$. The Bonferroni adjustment test indicated that a greater percentage of distance learners (51.1%, this is above the average percentage of 45,8%) agreed that they find it harder to manage all the digital information presented to them in the classroom.

However the proportion was not significant (adjusted residual = 2.1, $p=0,040$).

Table 5.
Percentage difference of difficulty of learning with Technology by mode of study.

| | mode of study | Disagree | Neutral | Agree | Pearson Chi-Square | sig |
|--|--------------------------|------------|------------|------------|--------------------|-------|
| I am more easily distracted | I am a full-time student | 545(52.4%) | 289(27.8%) | 206(19.8%) | 1.762 ^a | 0,414 |
| | I am a distance learner | 466(52.9%) | 260(29.5%) | 155(17.6%) | | |
| I find it harder to manage all information | I am a full-time student | 517(49.7%) | 369(35.5%) | 154(14.8%) | 5.677 ^a | 0,059 |
| | I am a distance learner | 398(45.2%) | 321(36.5%) | 161(18.3%) | | |
| I feel more isolated | I am a full-time student | 579(55.8%) | 322(31.1%) | 136(13.1%) | 4.703 ^a | 0,095 |
| | I am a distance learner | 478(54.6%) | 253(28.9%) | 145(16.6%) | | |
| I find it harder to motivate myself | I am a full-time student | 588(56.5%) | 316(30.4%) | 136(13.1%) | 7.362 ^a | 0,025 |
| | I am a distance learner | 439(50.3%) | 300(34.4%) | 133(15.3%) | | |
| I am less likely to attend lectures | I am a full-time student | 588(56.6%) | 278(26.8%) | 172(16.6%) | 1.033 ^a | 0,597 |
| | I am a distance learner | 492(56.2%) | 250(28.5%) | 134(15.3%) | | |

5. DISCUSSION

With regard to the students' positive to digital on course, we established that full-time students have a more positive feeling towards digital learning than distance learners. For example, a significant proportion of fulltime students opined that digital on course makes them more independent learners. They also agreed more that they enjoy learning, understand things better and are able to fit learning into their life when digital technology is used on their course. This suggests that distance learners in Ghana do not respond favourably to digital learning. Wolcott (2003) blame distance learners' adverse feeling or attitude to digital learning on lecturers. Some lecturers in dual-mode institutions who may have the pedagogical and technological skill to integrate the technology view the distance learning department as part of assignments and ultimate whilst the majority sit on the wall to watch. In other words, the distance sector lacks the qualified staff to integrated

technology into the learning activities. Such situations put the effectiveness of distance learning in question for the promotion of equivalency (Wolcott & Betts, 1999).

It was also identified that slightly significant proportion of distance learners find it more difficult to manage all the information when digital technology is used on their course. These findings are similar to those indicated by Synnot et al. (2016) and Kadli and Hanchinal (2015) in the literature concerning students' scepticism of quality information and information overload. They, therefore, prefer the institutions to continue to support them with face-to-face lectures. The finding also confirms an earlier study by Ofsted (2009) and Beetham, Newman and Knight (2018b) which stated the use of digital on course will not stop students from attending classes. It also contradicts with earlier studies which suggest that over-reliance on digital technology (such as chat rooms, text, forums and social networking) for learning are a danger and as well discourages and ceases students from attending face-to-face lectures (Kaya & Bicen 2016). The results show that the students', generally, have a positive feeling to digital learning. They (students) value the convenience and flexibility that technology provides and therefore are enthusiastic about having digital technology to support their learning as suggested by Barker and Gossman 2013; Beetham, Newman & Knight, 2018a) and that accessibility to the personal and institutional digital technology will not take them away from face-to-face interactions with their teachers and other students.

6. CONCLUSION

The study explored Ghanaian students' positive and negative feelings towards the use of digital technologies in teaching and learning. We learned from the findings that generally, students in Ghana – irrespective of the mode of study in the institutions - are self-motivated and do not feel distracted or isolated when digital technology is integrated into their learning. However, full-time students are more likely to find digital technology useful in their learning as compared to distance learners. These findings indicate that although students in Ghana prefer to learn with technology, fulltime students are more likely to feel positive toward the use of technology to support learning compared to distance learners. They are also less likely to have a negative feeling towards learning with digital technology. The results also indicate that dual-mode institutions in Ghana should continue to support distance learners with the integration of technology. The lecturers' pedagogical approach should allow students particularly distance learners to use their devices to support their learning more. Students find it difficult to 'manage all the information they find online'. We there support research that recommends faculty to continue to support students on information literacy skills. This will help to improve students' skills in searching and managing digital information.

The study sample and questionnaire are the limitations of the study. First, the sample consisted of final-year undergraduate and all postgraduate students in three public universities in Ghana. The study did not consider students in private institutions, which could have yielded a valuable student perspective. Consequently, the result may not be generalised to students in private higher education institutions in Ghana. Also, final year and postgraduate students responded to the questionnaire, which also means that the result cannot be generalised to students in the first, second and third years of their study. The questionnaire used for the data collection is an intact survey developed in the UK, which is one of the most developed nations; therefore, its suitability in the context of a developing country like Ghana, it may be argued. Some respondents may not be familiar with the language (terminology) while completing the survey. A future study could explore students

in private universities in Ghana: including students in the first year and middle years undergraduate level of their study. The questionnaire adopted for future study should be adaptive to students in developing countries, specifically sub-Saharan Africa. The language of the questionnaire and terminology should be similar to the language of instruction in Ghana.

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