



Learning foreign languages online: A case of Chinese language learners in Ghana in the era of COVID-19

Bright Nkrumah¹✉
Raymond Asamoah²



(✉ Corresponding Author)

^{1,2}Modern Languages Department (Chinese Section) University of Ghana, Ghana.

¹Email: bnkrumah@ug.edu.gh

²Email: rayasamoah@ug.edu.gh

Abstract

E-learning has gained prominence in education institutions across the world. Teaching and learning of the Chinese language at the University of Ghana has been done online due to the university's announcement to use e-learning to curb the spread of the coronavirus. The aim of this paper is to investigate the online experiences of students learning Chinese language at the University of Ghana in the era of COVID -19. A structured questionnaire was employed using a simple descriptive case study to obtain the research information. The study selected two hundred and fifty (250) Chinese language learners who responded to the research questionnaires. Findings showed that the majority of the students desired to have training in e-learning because they considered it very useful since it enabled them to learn at their own pace and convenience. Most students shared that they have adequate skills in computing. The study also established that e-learning has become a new way of teaching and the study recommends adaptability in studying Chinese language through the internet.

Keywords: Chinese learners, COVID era, e-learning, University of Ghana.

Citation | Nkrumah, B., & Asamoah, R. (2023). Learning foreign languages online: A case of Chinese language learners in Ghana in the era of COVID-19. *Journal of Education and E-Learning Research*, 10(2), 285–293. 10.20448/jeelr.v10i2.4595

History:

Received: 12 November 2021

Revised: 2 January 2023

Accepted: 17 March 2023

Published: 14 April 2023

Licensed: This work is licensed under a [Creative Commons](https://creativecommons.org/licenses/by/4.0/)

Attribution 4.0 License

Publisher: Asian Online Journal Publishing Group

Funding: This study received no specific financial support.

Authors' Contributions: Both authors contributed equally to the conception and design of the study.

Competing Interests: The authors declare that they have no conflict of interest.

Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained.

Ethical: This study followed all ethical practices during writing.

Contents

1. Introduction	286
2. Literature Review	287
3. Research Methodology	287
4. Results	288
5. Discussion.....	291
6. Conclusion	292
References.....	292

Contribution of this paper to the literature

The sudden full migration to e-learning in an attempt by the university of Ghana to prevent the spread of COVID-19 came with a myriad of challenges. This study is needed as it builds on the knowledge of researchers to conduct research on problems students encounter in their usage of e-learning.

1. Introduction

According to Dorsah and Alhassan (2021), the outbreak of the COVID-19 has disrupted learning and teaching globally and effected the world's economy in the past few months. COVID-19 has altered how we learn, work and live all over the globe. As a means of tackling the spread of the virus, the Ghanaian government issued an order for the closure of all public schools and higher education. The universities in the country resorted to e-learning in order to continue teaching and learning. The government directive on the closure of schools made e-learning more popular. Shahzad, Chin, Altaf, and Bajwa (2020) attest to the fact that all higher education institutions worldwide have adopted e-learning. Di Vaio, Boccia, Landriani, and Palladino (2020) emphasized that Information Technologies (IT) have altered the old or traditional way of teaching and learning. Di Vaio et al. (2020) further explained that IT has brought into being a new modernized way of learning such as artificial intelligence. Shahzad, Hassan, Abdullah, Hussain, and Fareed (2020) suggested in their article "effects of COVID-19 on e-learning of higher education students: A group comparison between male and female" that there is a broader spectrum of e-learning platforms such as websites, learning portals, video conferencing, YouTube, mobile apps and thousands of free websites for blended learning tools. Both students and professors are experiencing some discomfort when the learning style shifts from face-to-face to online learning. These unexpected shifts in learning are inevitable.

Within a short period of time, e-learning has risen to prominence in educational institutions all around the world. According to Sangrà, Vlachopoulos, and Cabrera (2012), e-learning is a method of teaching and learning that incorporates all or a portion of the educational model in use and relies on the use of electronic media and gadgets as a medium for improving access to training, communication and cooperation. This has aided in the acceptance of new modes of comprehension and learning development. Learning management systems which are computer programs that are used to develop, manage, deliver and retrieve learning content are therefore considered to facilitate the process of e-learning. Teaching and learning of the Chinese language at the University of Ghana was fully and swiftly moved to online learning due to the announcements by the university authorities to use e-learning to help curb the spread of the coronavirus. Some of the general e-learning platforms used by the institution are Sakai LMS, Google classroom, Zoom meetings, Moodle, video conference calls and so forth.

Online learning has become more popular with the corona virus pandemic. E-learning has been in existence and actively being practiced by lots of students and teachers before the COVID-19 pandemic. Advancement in technology has been touted as a strong motivating factor that has led to soaring numbers in the offering and learning of courses online before the pandemic (An & Kim, 2006; Lee & Choi, 2011). However, unlike traditional learning settings where students have physical interaction with instructors, online learning takes away this physical human meeting. This makes e-learning an unsuitable choice for all students (2007). E-learning offers flexibility which explains why online course enrollment has become popular (Zimmerman, 2012). As indicated, for certain student groups, online learning may be friendlier and more adaptable (Driscoll, Jicha, Hunt, Tichavsky, & Thompson, 2012). For instance, timid and introverted students may feel more at ease speaking up in an online debate than in a face-to-face class. With the aid of e-learning, students may easily access the most recent and pertinent learning materials from anywhere at any time. As a way of strengthening the enormous benefits of e-learning, the Chinese language learners at the University of Ghana enumerated some advantages of e-learning including the fact that it is much more sophisticated, quick and dynamic. It enhances their skills and competencies, thereby enabling them to feel good in their comfort zones and learn efficiently, it increases their learning opportunities and flexibilities making information easy to grasp and understand. E-learning also allows the instructors to deliver contents such as videos, slideshows and audios regularly. It is also worthy of mentioning that e-learning offers different types of learning styles at any time with an unlimited frequency of use. E-learning, in the opinion of the students has helped them to learn more about the use of the learning management system tools such as announcements, calendars, meetings, assignments and so forth. According to Appana (2008), "the instructor may treat all students in the same manner because there are no visible indications" (p. 9). Enrolling in online classes is a compelling offer for students since they are not constrained by time or place (Lee & Choi, 2011). To sum it up, the system of e-learning is essentially a web-based system that makes information or knowledge available to students without regard to time constraints or physical proximity (Piccioli, Ahmad, & Ives, 2001; Yang & Cornelious, 2005). Despite the benefits mentioned, there are some drawbacks to online learning such as poor internet access, a high cost of internet services, a lack of awareness and the general problems associated with learning software such as Zoom. On the basis of the aforementioned justifications, it is necessary to increase learners' craving for online learning (Garratt-Reed, Robert, & Heritage, 2016; Lee & Choi, 2011; Moore & Greenland, 2017; Murphy & Stewart, 2017).

The adoption of the Sakai LMS at the University of Ghana has been without issues in terms of user satisfaction. However, little study has been done on how students perceive its utilization. Based on this context, this article sought to explore students studying Chinese at the University of Ghana to assess their online learning experiences. Again, the researcher's goal was to investigate the utility of employing e-learning as a method of instruction and to propose techniques to improve the usage of the electronic learning management system. The research aims to explore the perception and use of e-learning among University of Ghana Chinese language students. Second, to examine the difficulties students have while using e-learning to learn Chinese as a foreign language at the University of Ghana and lastly, to assess students' comfort with and understanding of e-learning. The research questions involve how University of Ghana Chinese students assess the use of e-learning. Also, what challenges do students face with the use of e-learning at the University of Ghana? Again, how do the students perceive the ease and knowledge of e-learning?

2. Literature Review

Online teaching and learning are supported by educational technology and are an integral part of training. Ball, Davies, David, and Reay (2002) elaborated on their perceptions and choices of tertiary education. These authors are of the view that student selection criteria at universities are based on an interplay of demographic characteristics such as income levels. The study found that learners use cognitive ability and social status to choose the type of higher educational institution to attend. The deciding variables for the social criterion are also the learners' judgments of their own social classification and the institutions. In an online context, the desire to adopt e-learning is frequently motivated by the perceived benefits of e-learning over traditional classroom instruction.

Theories relating to the motivational self-determination and efficacy of students in learning a foreign language with the attitude of accessing additional tools that aid in improved understanding and acquisition of a second language might also be captured as the motivation for studying online (Wehmyer, Abery, Mitaug, & Stancliff, 2003). The need for connection, sense of being in control as far as learning a foreign language is concerned as well as high proficiency levels account for the factors that are considered very necessary for the theory of self-motivation and determination in foreign language acquisition (Chen, 2011). There is therefore substantial study evidence supporting a positive relationship between teacher supervision, the need for an intellectually stimulating program and the continuous self-motivation of students in their bid to learn a foreign language (Al Infande, 2013; Deci & Ryan, 1985). Students are burnt out on the zeal to learn using e-learning based on how their need for control, a sense of connection and attaining higher proficiency are met (Gelb, 2012; Ruggs & Hebl, 2012). In relation to the three factors that qualify the need for adopting e-learning, a study by Shea and Bidjerano (2010) examined the model of community of inquiry propounded by Garrison, Anderson, and Archer (2000) in conjunction with physical human interaction in studying online. The findings of this study reported a sense of connection based on the paradigm of physical interaction to be extremely beneficial in the adoption of e-learning by students. The views of Chu and Tsai (2009) send a message of learner-centric and student-focused ideals to educators, e-learning designers and online course curators to engineer e-learning courses in a way and manner that meet at the intersection of the factors that are considered essential to e-learning. This will help students connect more with online learning and get the most from their online learning efforts (Joshua, Nehemiah, & Ernest, 2015).

2.1. Students' Perceptions of using e-learning

Perception is an individual's perspective based on their understanding, behavior and self-efficacy of how things appear to be. In the study of Joshua et al. (2015), the opinions of most students' on e-learning are shaped by their computing skills, studying techniques and knowledge. E-learning is defined as students' views and attitudes as well as behavioral patterns in participating in e-learning activities using electronic tools such as personal computers, smartphones among others (Lee, 2010). The researcher performed online video chats to get information from students studying Chinese at the University of Ghana on their perceptions of using e-learning. According to the study, students' opinions of e-learning are dependent on their grasp of the topic and how it has been perceived in comparison to face-to-face classroom teaching with practical demonstrations on the learning board. According to Popovici and Mironov (2015), a course that fails to satisfy the expectations of students and their critical academic needs may result in a small number of students participating. Students also stated that their opinion of e-learning is influenced by their learning methods and behavior while teaching and learning with the teacher. As a result, the e-learning style of learning is heavily reliant on the usage of electronic gadgets such as computers and cellphones which are classified as the driving forces behind the engine of e-learning (Kala, Isaramalai, & Pohthong, 2010). The study observed that students who are technologically proficient exhibit greater passion and interest in online learning than students who are not. The study found that the age of students and their gender also impacted their perception and attitude towards the technology used in Chinese learning at the University of Ghana. According to Al Infande (2013), the confidence of students and lecturers and their perception of e-learning impact their adoption rate and capacity. Students' attitudes about learning a foreign language are vital because their thoughts, behaviors and feelings about the language matter a great deal to the acceptance and usage of e-learning. According to Axelrod (2008), contemporary students' conceptions of what makes good education transcend time.

2.2. Learner Attitude towards e-learning

Learners' opinions about e-learning management systems as well as their capacity to learn using these technologies have been found to be important predictors of students' motivation and success when using e-learning tools (Coggin, 1988; Gee, 1990). Only a few empirical investigations have found relationships between the style of learning and one's attitude towards e-learning. In the study of Reiff and Powell (1992), a computer-oriented form of education would be convenient and be highly recommended to students whose styles of learning are abstract in nature such as those learning the physical sciences, however, the introduction of learners in the social sciences may be unpleasant and frustrating. Similarly, Enochs (1984) discovered that "students who were more interested in objects or things (concrete experience) and less interested in dealing with people learnt better using computer-assisted instruction." Other studies have also claimed that the effective deployment of any new technology, whatever its form is largely dependent on the attitudes and opinions of the users (Davis, Bagozzi, & Warshaw, 1989). Webster and Hackey (1997) investigated the efficacy of teaching in technologically pioneered distant learning and interestingly found a favorable association between students attitudes towards learning in relation to technology and their results in terms of academic performance. It could therefore be concluded that students awareness of technology and how to use it is a crucial factor in succeeding in e-learning.

3. Research Methodology

3.1. Research Design

The study is a quantitative research design. A descriptive research strategy was used by the researcher in this research. The researcher used the survey design (questionnaires) to effectively reply to the research questions since

a survey is a systematic study of the population by sampling which is taking a fraction of the complete population to represent the overall population. The research was carried out at the University of Ghana (UG) in Ghana's greater Accra region. The study identifies some of the problems and benefits of e-learning.

3.2. Population

The population of this study is made up of two hundred and fifty (250) students learning Chinese at the University of Ghana with their age groups ranging from 18-28 years respectively.

3.3. Methods for Data Collection and Analysis

A non-probability sampling method specifically, purposive sampling was used to sample two hundred and fifty (250) out of the total population of Chinese Language Learning students at the UG. Purposive sampling was also used where students who were directly enrolled learnt Chinese. It was aimed at getting as much relevant and valuable information for the research as possible. Data was collected and analyzed using a Microsoft Excel model and responses or findings were represented using tables and figures (pie and column charts).

4. Results

The study included two hundred and fifty (250) students. To collect research data, a structured questionnaire was used in conjunction with a basic descriptive case study. Tables were used to present the findings.

Table 1 contains information regarding students' e-learning usage, ease of use and knowledge. Table 2 displays data from University of Ghana students studying Chinese perception and the use of e-learning.

Table 3 below provides data on the challenges students face with the perusal of the e-learning at the University of Ghana when studying Chinese as a foreign language. In summary, the data was collected based on the challenges students face, their knowledge and perceptions of using e-learning to study Chinese. The study also collected data on what the students thought could be done to improve their online experience. The results from the questionnaires distributed to them are analyzed below in the descriptive statistics.

Table 1. Provides data about the student's usage of the internet and knowledge about the e-learning.

Items	No of male	Male %	No of female	Female%	Total %	Total no=250
1.Do you frequently use the internet? yes	55	22%	30	12%	34%	85
Some students disagree.	85	34%	80	32%	66%	165
2. Do you wish to have training in e-learning? yes	135	54%	100	40%	94%	235
3. Do you have any idea what e-learning is? yes	75	30%	46	18.4%	48.4%	131
Some of the students said no.	110	44%	64	25.6%	69.6%	174
4. Does the University of Ghana have e-learning facility?	120	48%	100	40%	88%	220
Yes, and how	The school has a computer lab, access to Sakai (LMS), projectors and educational sites					
5. Do you use e-learning to communicate with your faculties?	45	18%	32	12.8%	30.8%	77
Yes, and how	Through blogs, chat, Facebook, What's up, WeChat, Emails					
No	95	38%	78	31.2%	69.2%	173

Table 2. Gives data about students of University of Ghana learning Chinese perception on the usefulness of the e-learning.

Items	No of male	Male %	No of female	Female%	Total%	Total no=250
1.Do you find e-learning very useful and interesting?	125	50%	85	34%	84%	159
Some of the students disagree.	15	6%	25	10%	16%	35
2.Will you be motivated to learn and use e-learning?	135	54%	105	42%	96%	240
3.E-learning is helpful and interactive form of teaching and learning.	123	49.2%	94	37.6%	86.8%	217
No, some disagree	10	4%	12	4.8%	8.8%	22
Neutral	7	2.8%	4	1.6%	4.4%	11
4. E-learning is cost effective, reliable and accessible	125	50%	95%	38%	88%	220
Disagree	10	4%	9	3.6%	7.6%	19
Neutral	5	2%	6	2.4%	4.4%	11
5.Improving e-learning enhances students' performance	126	50%	85%	34%	84.4%	211
6.Teaching and learning e-learning online is better than traditional classroom teaching	52	20.85%	34	13.6%	34.4%	86
Disagree	80	32%	66	26.4%	58.4%	146
Neutral	8	3.2%	10	4%	7.2%	18
7.E-learning helps students to learn at their own pace	12	4.8%	7	2.8%	7.6%	19
Disagree	118	47.2%	77	30.5%	78%	195
Neutral	10	4%	26	10.4%	14.4%	36

From Table 1, it was observed that 22% of males and 12% of females agree with using the internet frequently but on the other hand, 66% of the students disagree with the frequent use of the internet. 54% of males and 40% of females wish to have guidance on e-learning. 48.4% (131) students were aware of e-learning but on the other hand, 69.6% (174) responded that they have no idea about e-learning. 12% (30) of students both male and female responded said that the school has an e-learning facility, 88% (220) of students claimed that there is an e-learning facility on campus, 18% of males and 12.8% of females communicate with the faculties through WhatsApp,

Facebook, emails, blogs and so forth but 69.2% (173) students both male and female attest to the fact that they don't communicate with their faculties.

From Table 2, it was indicated that 88% (220) of students perceived that e-learning is cost-effective and on the other hand, 34.4% objected to the fact that e-learning will not enhance better training and understanding than traditional classroom teaching. 78% (195) think that e-learning will not help them to study at their own convenience and in their comfort zone.

Figure 1 presents how the students find e-learning useful.

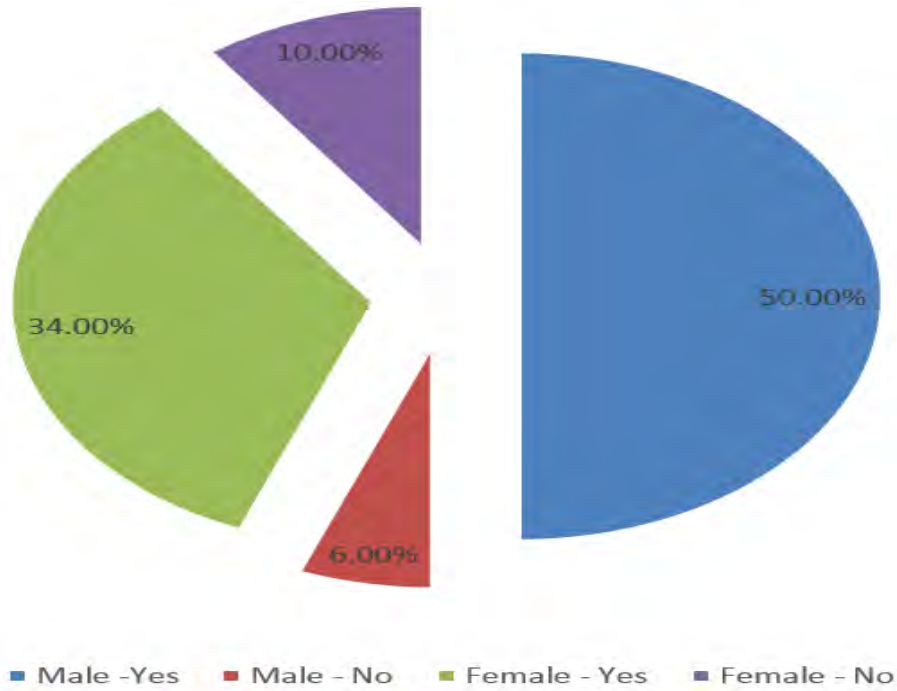


Figure 1. Presents how the students finds e-learning to be useful.

It was indicated that 84% (159) attest to the fact that e-learning is very useful of which males represent 50% and females 34%. The majority of the respondents are of the view that e-learning is of equal essence just as face-to-face learning. Few of the respondents have different views.

Figure 2 exhibits whether students are motivated using e-learning.

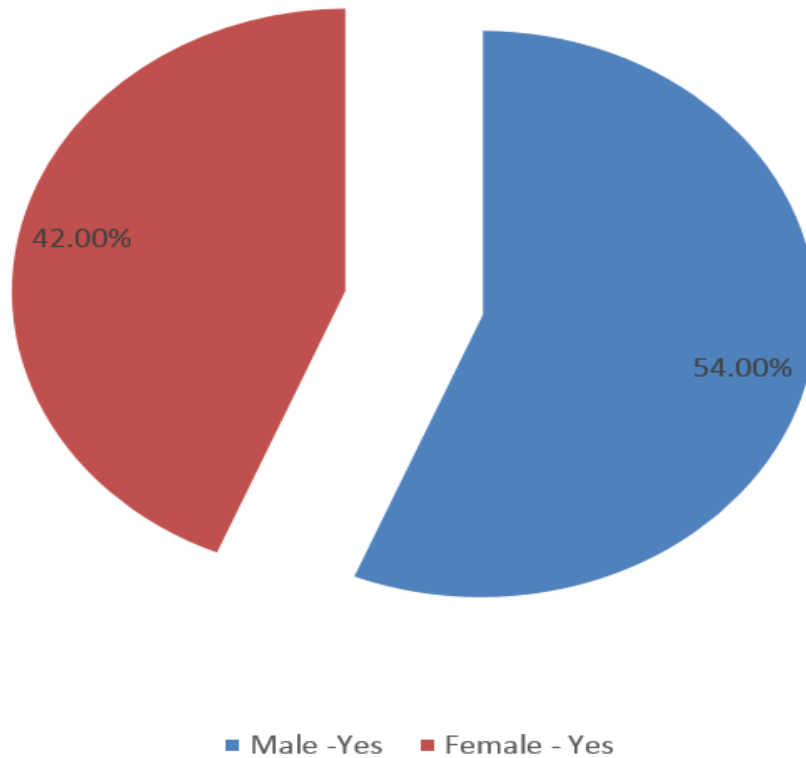


Figure 2. Exhibits whether students are motivated using e-learning.

96% (240) claim that if students are being encourage and motivated, they will perform well with the online learning. Majority of which are Male ~54%.

Figure 3 showing e-learning as a helpful and interactive form of teaching and learning.

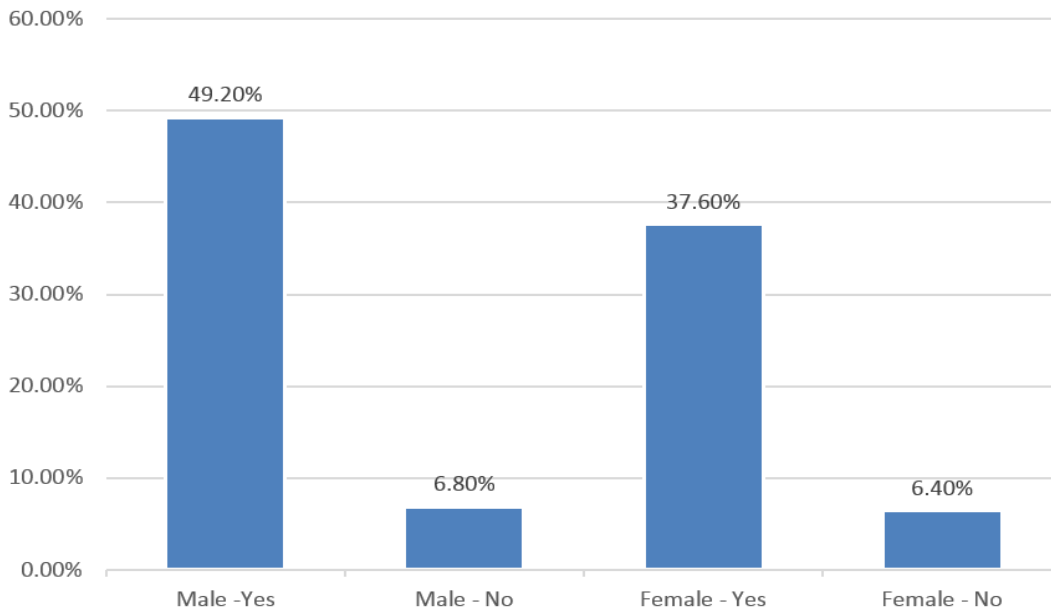


Figure 3. E-learning as a helpful and interactive form of teaching and learning.

It could be observed that 86.2% (217) comprising of males (49.2%) and females (37.60%) responded that e-learning is very useful and interactive which is readily obtainable online.

Table 3. Gives data about the challenges students face with the use of e-learning at the University of Ghana learning when Chinese as a foreign language.

Items	No of male	Male %	No of female	Female%	Total%	Total no=250
1.Availability of internet connection	32	12.8%	27	10.8%	23.6%	59
Some of the students disagree,	98	39.2%	77	30.8%	70%	175
	Because of inconsistent internet connection, which leads to charges for the services.					
Neutral	10	4%	6	2.4%	6.4%	16
2. Students skip classroom teaching	122	48.8%	80	32%	80.8%	202
Disagree	18	7.2%	30	12%	19.2%	48
3. Lack of computer skills and distraction when using e-learning	124	49.6%	84	33.6%	83%	208
Disagree	16	6.4%	26	10.4%	16.8%	42
4. Inadequate training and self-motivation	135	54%	92	36.8%	90.8%	227
Disagree	5	2%	18	7.2%	9.2%	20
5. Inappropriate e-learning teaching styles and feelings of isolation	110	44%	75	30%	74%	185
Disagree	30	12%	35	14%	26%	65

From Table 3, it was observed that 90.8% of students claim that inadequate and insufficient self -motivation poses a challenge to the e-learning. Lastly, 74% (185) students think an inappropriate teaching style can affect their e-learning.

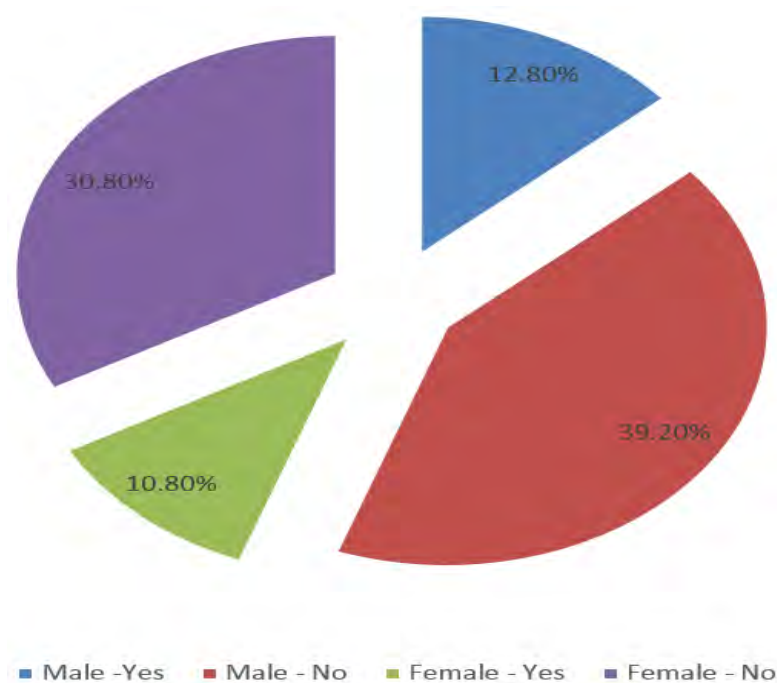


Figure 4. Exhibiting availability of internet connection.

Figure 4 shows 23.6% (59) students represents male 10.8% and female 12.8% said yes to the availability of internet access and on the other hand, 70% (175) disagreed with the availability of internet accessibility.

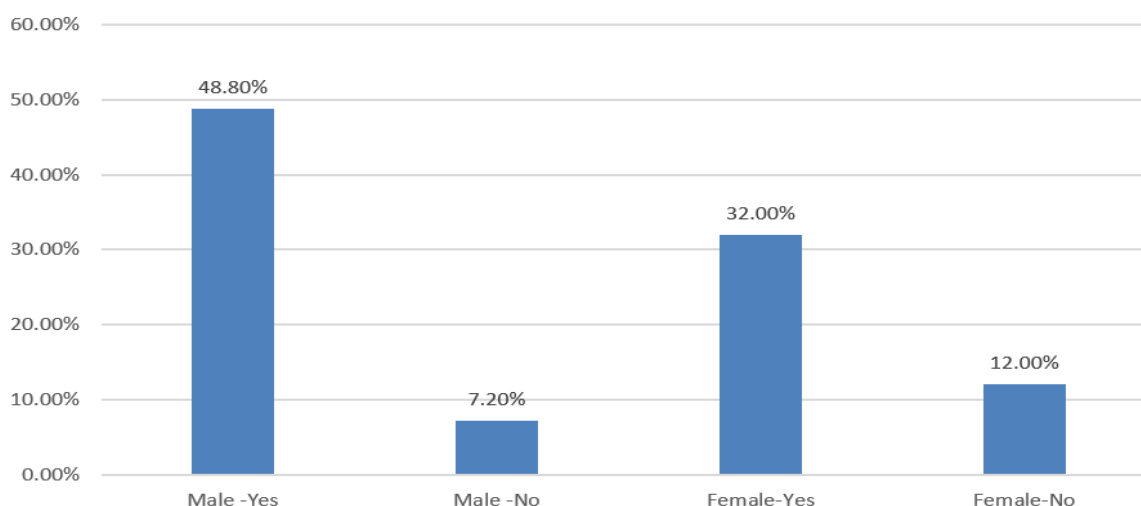


Figure 5. Showcasing students skipping classroom teaching.

Figure 5 shows that 80.8% (202) of the students think that some will skip classroom teaching because they feel comfortable in their comfort zone. Based on the findings, e-learning at the beginning would be difficult for some of the students as they are not used to traditional methods of teaching face-to-face learning is predominant.

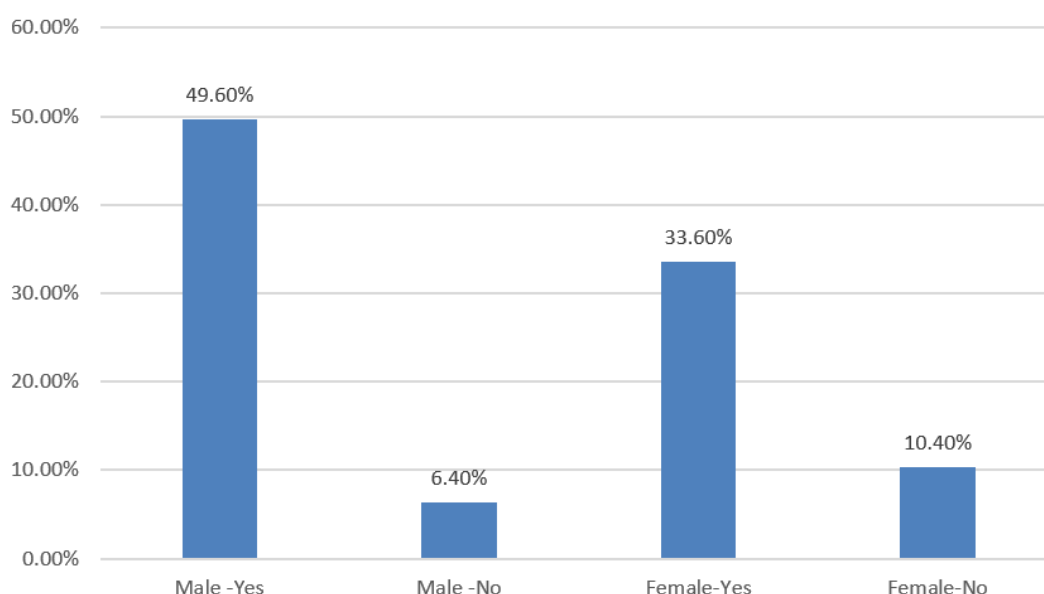


Figure 6. Showing lack of computer skills and e-learning.

Figure 6 shows that males representing 49.6% and females representing 33.6%, making a total of 83.3% (208) of students, think they lack computer skills and are distracted when using e-learning. There is clear evidence that a lack of computer skills would be a key hindrance to e-learning in this COVID -19 era.

5. Discussion

Due to the widespread nature of the coronavirus crisis worldwide, it became necessary for higher education institutions to adopt e-learning as the only means of teaching and learning across the world and Ghana is not exempted. The principal aim of this research was to examine students' experiences of using e-learning in studying Chinese at the peak of the COVID -19 pandemic. Using survey research, two hundred and fifty (250) students were used for the study which relied on online questionnaires for the data collection. The results show that 34% of students agree to use the internet regularly for learning Chinese but on the other hand, 66% of the students do not use the internet regularly for learning Chinese. However, 94% of the students wish to have training and guidance on e-learning to improve their performance. 48.4% of the students attest that they have an idea of e-learning but conversely 69.6% of students disagree with having an idea of e-learning (Gutwin & Greenberg, 2002).

Upon investigation, 88% of the students made it known that various forms of communication with their faculties are through blogs, chats, emails and WhatsApp but they indicated that these tools are difficult to integrate and embed into the grand scheme of teaching and studying at the university level. With regards to the usefulness of e-learning, it was observed from Table 2 that 84% of the students said e-learning is very useful because it is interactive to be used in the teaching environment and enables students to learn subjects at a time and pace of their convenience and information is easy to grasp and understand. According to Yang and Cornelious (2005), e-learning enables better access flexibility and in its simplest form, qualifies as a system of web-based information that is readily available to students. It transcends time constraints. As a result, 88% of students believed that e-learning is cost effective, dependable and easily accessible. On the other hand, 7.6% of students believed that e-learning was not cost effective. This might be due to the high cost of accessing the internet and the poor quality of internet services. 84.4% agree that upgrading and improving the LMS would enhance performance.

Furthermore, 34.4% of the students think that better training will improve e-learning but 58.4% are of the opposite opinion because they think having face-to-face interaction with the teacher in the classroom is preferred

more than online teaching and learning. 78% of the students disagree that e-learning would help them to learn at their own convenience because of how entrenched and comfortable they are with the conventional way of teaching and learning. With respect to the challenges, Table 3 revealed that 70% disagree with the availability of the internet accessibility and coverage because sometimes during class sessions, the internet goes out. 83% of the respondents said a lack of computer skill inhibits their willingness to learn online. The study shows that in the absence of sufficient computer skills by the students, e-learning becomes a very difficult because they do not have basic education and training in e-learning at secondary school levels. As a result of that they are even compelled to hire people outside the school to assist them in the use of the management system of Sakai in their various homes and locations. It has been revealed that the perception of the majority of students' regarding e-learning is influenced by the level of the students' proficiency in computer literacy, their preferred methods of learning styles and their understanding levels (Joshua et al., 2015).

The researcher realized that students' behavior influences their perception of e-learning. Language learning needs more demonstrations and practical work in the classroom than being isolated at home and learning online alone. 84.5% of the students attest to the fact that inappropriate e-learning and teaching styles coupled with feelings of isolation are a big challenge for them. De Smet, Bourgonjon, De Wever, Schellens, and Valcke (2012) recommended that "users need to acquire a basic knowledge of computer technology before they are able to move on with e-learning" (p. 690). Despite these challenges of e-learning as discussed, the study also identified some usefulness of e-learning among students as a system used to improve the students' quality of learning experiences and learning styles. Introverted and shy students feel more comfortable in their comfort zones. The researcher also found that e-learning has given students the opportunity to learn more about new digital tools and access learning materials anywhere and anytime. E-learning allows instructors to deliver learning materials regularly as and when expected. Nonetheless, all this usefulness of e-learning can be attained through the effective and efficient utilization of an e-learning management system.

6. Conclusion

The outbreak of coronavirus across the globe has projected e-learning as a promising solution to be used as a means of teaching and learning in higher educational institutions. The purpose of this study was to dive into the perceptions of students learning Chinese at the University of Ghana in terms of the use of electronic technology (e-learning) as a means of instruction. It was observed that students use different kinds of devices as a way to engage them in the use of e-learning such as tablets, desktop computers, iPads and cellphones. The study concluded that e-learning was underutilized due to its challenges such as a lack of computer skills, bad experiences with internet accessibility and coverage and insufficient training. The findings show that improvement in the learning management system (LMS) will encourage and motivate the students to improve upon their performance. It was noted in the study that the students benefited greatly from the use of e-learning because they could easily obtain and retrieve information anytime and anywhere at their own pace. Students learning Chinese language at the University of Ghana express confidence in online learning because it enhances their skills, competencies and opportunities.

References

- Al Infande, E. (2013). *Dozen strategies for improving online student retention online education strategies*. Retrieved from <https://www.facultyfocus.com/articles/online-education/online-student-engagement/a-dozen-strategies-for-improving-online-student-retention/>
- An, H., & Kim, S. (2006). *The benefits and limitations of online group work in a teacher education*. Paper presented at the Program in Proceedings of Society for Information Technology and Teacher Education International Conference 2006. Orlando.
- Appana, S. (2008). A review of benefits and limitations of online learning in the context of the student the instructor and the tenured faculty. *International Journal on E-Learning*, 7(1), 5-22.
- Axelrod, P. (2008). Student perspectives on good teaching: What history reveals. *Academic Matters*, 14(1), 61-74.
- Ball, S. J., Davies, J., David, M., & Reay, D. (2002). Classification and judgement: Social class and the cognitive structures of choice of higher education. *British Journal of Sociology of Education*, 23(1), 51-72. <https://doi.org/10.1080/01425690120102854>
- Chen, J.-L. (2011). The effects of education compatibility and technological expectancy on e-learning acceptance. *Computers & Education*, 57(2), 1501-1511. <https://doi.org/10.1016/j.compedu.2011.02.009>
- Chu, R., & Tsai, C. (2009). Self-directed learning readiness internet self-efficacy and preference towards constructivist internet-based learning environment among higher-aged adults. *Journal of Computer Assisted Learning*, 25(5), 489-501. <https://doi.org/10.1111/j.1365-2729.2009.00324.x>
- Coggins, C. C. (1988). Learner: Preferred learning styles and their impact on completion of external degree programs. *American Journal of Distance Education*, 2(1), 25-37. <https://doi.org/10.1080/08923648809526606>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003. <https://doi.org/10.1287/mnsc.35.8.982>
- De Smet, C., Bourgonjon, J., De Wever, B., Schellens, T., & Valcke, M. (2012). Researching instructional use and the technology acceptance of learning management systems by secondary school teachers. *Computers & Education*, 58(2), 688-696. <https://doi.org/10.1016/j.compedu.2011.09.013>
- Deci, E., & Ryan, R. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Publishing Co.
- Di Vaio, A., Boccia, F., Landriani, L., & Palladino, R. (2020). Artificial Intelligence in the agri-food system: Rethinking sustainable business models in the COVID-19 scenario. *Sustainability*, 12(12), 1-12. <https://doi.org/10.3390/su12124851>
- Dorsah, P., & Alhassan, A. G. (2021). Synchronous versus asynchronous: Pre-service teachers' performance in science formative assessment tests. *Open Access Library Journal*, 8(4), 1-15.
- Driscoll, A., Jicha, K., Hunt, A. N., Tichavsky, L., & Thompson, G. (2012). Can online courses deliver in-class results? A comparison of student performance and satisfaction in an online versus a face-to-face introductory sociology course. *Teaching Sociology*, 40(4), 312-331. <https://doi.org/10.1177/0092055x12446624>
- Enochs, J. R. (1984). *The relationship of learning style reading vocabulary reading comprehension and an aptitude for learning to achievement in the self-paced and computer-assisted instructional models of the yeoman "A" School at the navel technical training center*. Paper presented at the Paper Presented at Annual Meetings of Mid-South Educational Research Association.
- Garratt-Reed, D., Robert, & Heritage. (2016). Grades student satisfaction and retention in online and face-face introductory psychology units: A test of equivalency theory. *Frontiers in Psychology*, 7(673), 1-10. <https://doi.org/10.3389/fpsyg.2016.00673>
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment computer conferencing in higher education. *The Internet and Higher Education*, 2, 87-105. [http://dx.doi.org/10.1016/S1096-7516\(00\)00016-6](http://dx.doi.org/10.1016/S1096-7516(00)00016-6)
- Gee, D. B. (1990). The Impact of Students' Preferred Learning Style Variables in a Distance Education Course: A Case Study.
- Gelb, C. (2012). Cultural issues in the higher education classroom. *Inquiries Journal*, 4(07).

- Gutwin, C., & Greenberg, S. (2002). A descriptive framework of workspace awareness for real-time groupware. *Computer Supported Cooperative Work*, 11(3), 411-446. <https://doi.org/10.1023/a:1021271517844>
- Joshua, C. E., Nehemiah, M., & Ernest, M. (2015). A conceptual culture-oriented e-learning system development framework (e-LSDF): A case of higher education institutions in South Africa. *International Journal of Trade, Economics and Finance*, 6(5), 259. <https://doi.org/10.18178/ijtef.2015.6.5.479>
- Kala, S., Isaramalai, S. A., & Pohthong, A. (2010). Electronic learning and constructivism: Model for nursing education. *Nurse Education Today*, 30(1), 61-66. <https://doi.org/10.1016/j.nedt.2009.06.002>
- Lee, M.-C. (2010). Explaining and predicting users' continuance intention toward e-learning: An extension of the expectation–confirmation model. *Computers & Education*, 54(2), 506-516. <https://doi.org/10.1016/j.compedu.2009.09.002>
- Lee, Y., & Choi, J. (2011). A review of online course dropout research: Implications for practice and future research. *Educational Technology Research and Development*, 59(5), 593-618. <https://doi.org/10.1007/s11423-010-9177-y>
- Moore, C., & Greenland, S. (2017). Employment-driven online student attrition and the assessment policy divide: An Australian open-access higher education perspective. *Journal of Open Flexible and Distance Learning*, 21(1), 52-62.
- Murphy, C. A., & Stewart, J. C. (2017). On-campus students taking online courses: Factors associated with unsuccessful course completion. *The Internet and Higher Education*, 100(34), 1-9. <https://doi.org/10.1016/j.iheduc.2017.03.001>
- Piccioli, G., Ahmad, R., & Ives, B. (2001). Web-based virtual learning environment: Research framework and a preliminary assessment of effectiveness in basic. *IT Skills Training Management Information System Quarterly*, 25(4), 401-426. <https://doi.org/10.2307/3250989>
- Popovici, A., & Mironov, C. (2015). Students' perception on using eLearning technologies. *Procedia-Social and Behavioral Sciences*, 180, 1514-1519. <https://doi.org/10.1016/j.sbspro.2015.02.300>
- Reiff, J. C., & Powell. (1992). *Learning differences and interactive computer program presented at the*. Retrieved from Annual Meetings of the Association of Teachers Educators Orlando FLERIC Document Reproduction Service No. ED 346 087).
- Ruggs, E., & Hebl, M. (2012). Literature overview: Diversity, inclusion, and cultural awareness for classroom and outreach education. *Apply research to practice (ARP) resources*, 9781315437453-9781315437453.
- Sangrà, A., Vlachopoulos, D., & Cabrera, N. (2012). Building an inclusive definition of e-learning: An approach to the conceptual framework. *International Review of Research in Open and Distributed Learning*, 13(2), 145-159. <https://doi.org/10.19173/irrodl.v13i2.1161>
- Shahzad, A., Chin, H. K., Altaf, M., & Bajwa, F. A. (2020). Malaysian SME's performance and the use of e-commerce: A multi-group analysis of click-and-mortar and pure-play e-retailers. *Pakistan Journal of Commerce and Social Sciences*, 14(1), 1-33.
- Shahzad, A., Hassan, R., Abdullah, N. I., Hussain, A., & Fareed, M. (2020). COVID-19 impact on e-commerce usage: An empirical evidence from Malaysian healthcare industry. *Humanities & Social Sciences Reviews*, 8(3), 599-609. <https://doi.org/10.18510/hssr.2020.8364>
- Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy self-regulation and the development of a communities of inquiry in online and blended learning environments. *Computers & Education*, 55(4), 1721-1731.
- Webster, & Hackey, P. (1997). Teaching effectiveness in technology-mediated distance learning. *Academy of Management*, 40(6), 1282-1309. <https://doi.org/10.5465/257034>
- Wehmyer, M., Abery, B., Mitau, D., & Stancliff, R. (2003). *Theory in self-determination: Foundations for educational practice*. Springfield IL: Charles C. Thomas.
- Yang, Y., & Cornelious, L. F. (2005). Preparing instructors for quality online instruction. *Online Journal of Distance Learning Administration*, 8(1), 1-16.
- Zimmerman, T. D. (2012). Exploring learner to content interaction as a success factor in online courses. *International Review of Research in Open and Distributed Learning*, 13(4), 152-165. <https://doi.org/10.19173/irrodl.v13i4.1302>