



For What Purpose Do Undergraduates Utilize Google Classroom?

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ABSTRACTS

There are several reasons that users use different technologies, especially students in tertiary institutions. The google classroom is not left out as some lectures are been branded using this medium. This study thus investigates the purpose which undergraduate students use Google classroom for. This study employs the survey method and 250 undergraduates were purposively sampled. The findings established that the majority of undergraduates use Google Classroom for their learning activities. There was a significant difference among undergraduate students' purpose of utilizing google classroom based on their Academic level but not gender. The study concluded that if Google classroom is employed by lecturers for instructional activities, students are ready to utilize it. It was however recommended that curriculum developers must be well-informed and see the importance of the integration of Google classroom in the school curriculum because it may affect everyone beyond the classroom environment.

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1. INTRODUCTION

Learning online through ICT resources has helped in making the learning process more effective and efficient because it can expand the reach of the learning process by using the internet, not limited to space and time, students and teachers do not necessarily have to be in the same physical place or even geographical location before teaching and learning can take place. This concept is known as e-learning. e-learning is a manifestation of the application of technology in learning using the internet as access is a form of Web-based learning that can be accessed from the intranet or the internet, it is also called online learning (Negara, 2018). E-learning is a learning process effectively produced in a way that delivers material digitally and also consists of support and learning services. It has led to dramatic effects in the way schools execute their duties of teaching, learning, and research, particularly on the creation, dissemination, and application of knowledge (Amadin et al., 2018). The use of e-learning in the learning process has been found by scholars to improve results. Muharto et al., (2017) found out that there were significant differences in student learning outcomes when they use e-learning compared to when they didn't use it.

E-learning is commonly referred to as the intentional use of networked information and communication technology in teaching and learning. A number of other terms are also used to describe this mode of teaching and learning. They include; Online learning, Virtual learning, Distributed learning, Network, and web-based learning. However, the term e-learning comprises a lot more than online learning, virtual learning, distributed learning, networked, or web-based learning. As the letter "e" in e-learning stands for the word "electronic", it would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices. Many people do use mobile learning and e-learning interchangeably however, there is a slight difference between the two concepts. While e-learning takes place through desktop or laptop computers mobile learning takes place through lightweight, wireless devices that are small enough to fit into one's pocket, purse, or hand.

Google Classroom also minimizes the costs incurred due to the use of more affordable stationery and other materials and can minimize time-released energy. In short, the time and energy spent by Google Classroom users will be lesser compared to the traditional classroom, these features make the use of google classroom easily stand out as an instructional resource. From the submission stated above, it is obvious the benefits of utilizing google classroom can't be overemphasized, however, all things that have advantages must also have disadvantages, one of the significant barriers for realizing the effectiveness of learning online is that not all students have an online account. In addition, some students do not have smartphones or a data plan for attending google classroom classes (Alim et al., 2019). In addition, Google Classroom can only be used by schools that have Google Apps for Education (Liu & Chuang, 2016). As a result, the use of Google Classroom by the faculty of teacher training and education may not be optimally effective and efficient.

The reason for this problem is that since independence, the country has failed to link education with enterprise development with repeated emphasis on self-repeated emphasis on self-employment in all her planning effort, but with nothing to show for it. The country also failed to assign enterprise-based education as well as identifying entrepreneurial education at the higher institution as an engine of growth and pivotal agent against shades of unemployment and associated challenges. This section will therefore look into the concept of vocational and entrepreneurship training.

Vocational education or technical and vocational education is a term used comprehensively to refer to the educational process to which involves, in addition to general education, the study of technologies and related sciences skills and knowledge relating to occupations in various sectors of economic and social life. The concept of Vocational Education aims at equipping individuals to use their heads and hands to survive in an essentially work-oriented world. The philosophy of Technical and Vocational Education is basically to enhance human dignity and enthrone work and labor by making individuals acquire and/or develop enough saleable and employable skills, competencies, attitudes as well as knowledge to enable them to gain and maintain basic employment or self-reliance for a comfortable living (Olanipekun *et al.*, 2015).

Gender differences in computer literacy showed that there is a gender difference in computer study and experience. Out factors such as access to the use of the internet, community, parents' influence, peer influence, social media, gaming, responsible for the difference in gender in the use of technology for learning. No significant difference in the achievement of male and female students in using ICT in learning mathematics contrary to the opinion of that boys have a higher frequency of use of computers than girls. Relating the result to this study, there is a significant difference in the utilization of google classroom for learning in relation to their gender.

In the statement of the problem, Educators worldwide had no choice but to leverage online education technologies and applications to further teaching and learning. There are various mediums to be used including Microsoft Teams, Facebook Live, Google Classroom, Webex, Zoom, and other chat applications like Whatsapp and Telegram. One of the platforms used which is now very popular is the google classroom, it allows teachers and students to share, edit and comment on learning materials thereby leading to continuity in the passage of knowledge. It is however important to carry out a study as to how effective the use of google classroom was and the problem faced by students in using it, no previous studies known to the researcher have been conducted to examine this issue. Even though google classroom has been used by University of Ilorin students before the pandemic, it has never been used at this scale and magnitude, which is why this study will investigate the purpose by which undergraduates utilize google classroom for.

The purpose of the study was to

1. investigate what purpose do undergraduate utilize google classroom
2. investigate the influence of gender on the undergraduate purpose of utilizing google classroom.
3. examine the influence of academic level on the undergraduate purpose of utilizing google classroom

Research questions are

1. What purpose do undergraduates utilize google classroom for?
2. What is the influence of gender on undergraduates' purpose of utilizing google classroom?
3. What is the influence of academic level on undergraduates' purpose of utilizing google classroom?

The following null hypotheses were tested in the study:

1. Ho1: There is no significant difference between the male and female undergraduate purpose of utilizing google classroom for
2. Ho2: There is no significant difference among undergraduate students' purpose of utilizing google classroom.

2. LITERATURE REVIEW ON PURPOSES FOR WHICH UNDERGRADUATE UTILIZE GOOGLE CLASSROOM

Digital learning has been taking its place in the education field since technology is accessible and easy to reach. Students who use technological resources and have applied them in their learning process increased rapidly. The development of technology has given easiness and support in the education environment where there are many mobile-based applications designed that can be used as a tool in improving the instructional process (Sepyanda, 2018). One of the applications is Google Classroom which can be used to support the teaching and learning process. From the submissions made above, Google Classroom is an application that allows teachers to create a class and share the class code with the students to let them join with the class created. Google Classroom education is one of the features provided by Google Apps for Education (GAFE) which was released to the public on August 12, 2014. It is an application that allows the creation of classrooms in cyberspace.

Students make use of Google Classroom for their learning and the benefits gained from it cannot be overemphasized. It is initially meant for sharing files between teachers and students. Students use Google Classroom to submit their assignments, revise their assignments, and also check their scores given by the lecturer. Students also use it as a means of communication between students and lecturers, in organizing classes, especially when students and lecturers cannot do face-to-face learning (Izenstark & Leahy, 2015). There is an assignment platform on Google Classroom where students can easily view upcoming deadlines to stay on track. Likewise, online facilitators have the power to quickly and conveniently view who has completed each assignment and offer constructive feedback immediately. This allows students to get the support they need right away so that they can modify learning behaviors and receive the correct information they need to successfully move forward with the eLearning course.

Information and Communication Technology (ICT) have become and taken a key role in the field of education, it has led to the development and modification in educational methodology and curriculum delivery globally. Ever since its adoption, it has become an indispensable instrument for the development of quality teaching and learning and it has dramatically reshaped the teaching and learning process in the education system. ICT offers powerful learning environments that can transform the learning and teaching process so that students can deal with knowledge in an active, self-directed, and constructive way (Atsumbe et al., 2012). The application of ICT to education has given rise to a new set of vocabularies used to describe new approaches to learning and curriculum delivery. Such terms include e-teaching, e-learning, and so on which are facilitated via the internet.

The importance of entrepreneurship skills and vocational training to a nation's growth and development cannot be overemphasized because both are lifelong learning processes that start as early as elementary school and progressing through all levels of education, including adult education. They focus on developing understanding and capacity for the pursuit, of entrepreneurial behaviors, skills, and attributes in widely different contexts. It can be portrayed as open to all and not exclusively the domain of the high-flying growth-seeking business person. The propensity to apply vocationally and entrepreneurship skills are not exclusive to certain individuals. Different individuals will have a different mix of capabilities for demonstrating and acquiring entrepreneurial behaviors, skills, and attributes.

The 21st Century has witnessed the advancement of learning technologies especially in the area of electronic learning. In developed countries, learning has been made easier as a result of easy availability and accessibility to computers, internet service, and other electronic

devices (Omoni & Ifeanyichukwu, 2015). Students are, therefore, enthusiastic about the usage of these devices in the learning process as they make use of devices for their personal and day-to-day activities. The rising popularity of e-learning is attributed to its ability to enable students to study without the constraints of time and space and to reduce internal training costs for some organizations. The availability of the internet is what provided the channel for the use of an electronic approach to education. Simply put, e-learning is the process of teaching and learning using the computer via the internet. It involves passing structured instructional materials from a repository to a learner (Atsumbe *et al.*, 2012).

E-learning is commonly referred to as the intentional use of networked information and communication technology in teaching and learning. A number of other terms are also used to describe this mode of teaching and learning. They include; Online learning, Virtual learning, Distributed learning, Network, and web-based learning. However, the term e-learning comprises a lot more than online learning, virtual learning, distributed learning, networked, or web-based learning. As the letter “e” in e-learning stands for the word “electronic”, it would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices. Many people do use mobile learning and e-learning interchangeably however, there is a slight difference between the two concepts. While e-learning takes place through desktop or laptop computers mobile learning takes place through lightweight, wireless devices that are small enough to fit into one’s pocket, purse, or hand.

According to Nwana, (2012), e-learning in education is the wholesome integration of modern telecommunication equipment, particularly the internet into the education system. This further indicated the main purpose of e-learning is to transform the old methods and approaches of curriculum implementation to bring about certain changes in the behavior of the learners and the extent to which the changes take place. Ezeugbo & Asiegbu, (2011) enumerated e-learning facilities needed for effective teaching to include computer, internet, e-mail, satellite, multi-media, network, telephone, wireless technology, mobile phone, and CD-ROM. E-learning can be classified in diverse ways, There have been some classifications based on the extent of their engagement in education. Some classifications are also based on the timing of interaction.

E-learning is the electronic support of learning, whereby, in terms of implementation, its particular focus lies on the specific didactic preparation and production of learning content for delivery through electronic media, as well as the underlying (up-to-date) software and technical platforms. Belaya, (2018) stated that the definition of e-learning can be divided into two groups. The first group of definitions covers e-learning as a generic term for computer-aided learning in the broad sense. All possible forms of teaching and learning are implied: computer-aided, multimedia, Telemedia, net-based media. According to the literal meaning of the term “electronic media”, not only the computer but also the television, the radio, and the CD/DVD player could be included. The second group of definitions includes the concept of e-learning in a narrower sense. Similar to using the prefix “e” in other words, such as e-commerce or e-business, the term e-learning stands for Internet-based applications. Only the Internet-based transmission of learning programs or content is implied here. In her dissertation, points to a third possible definition of the term e-learning: learning just-in-time, that is, it is independent of time and place. It is not of importance whether the process is online or offline, the learner can always access the materials shared.

Since gender is a social construct determined by cultural, social, and economic factors and differences within and between cultures and countries, one cannot presume that it will be

expressed in the same way everywhere. The varying customs, beliefs, prejudices, norms, expectations, and stereotypes of society about what is appropriate for both genders is bound to have a varying effect on men and women of different societies. It is also plausible that people from different regions may have a different understanding about technology use as a result of uneven economic development levels.

3. METHODS

This study adopted the descriptive research designed to examine the purpose at which Undergraduate students utilize Google classroom in the University of Ilorin. The research modeled a questionnaire to elicit information from respondents. Survey research employs questionnaires in this regard to gather necessary and meaningful information from the respondents. The population for this study comprised all students of the University of Ilorin, Kwara state. The total number of students at the University of Ilorin is 45,885 and a simple random sampling technique will be used to select 250 respondents.

The questionnaire consisted of two sections that are, A and B. Section A consists of various questions on the respondents' demographic data that include gender and level. Section B is comprised of structured questions which are in scale response mode. Ten different relevant items were composed for this section and the questionnaire was based on using a four-point acting scale. The formats of response are: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD).

The research instrument was validated by four experts in educational technology and business education for face and content validity. Their comments, observation, corrections, and criticism were used to produce the final draft of the questionnaire. Letter of introduction was collected and taken to the Dean of each faculty to seek permission to conduct in their faculties as an approval for the study in their respective faculties. Ethical considerations were considered as a student was never forced to attest to the questionnaire. Also, their data were only used for the benefit of this research as their anonymity was kept confidential. The data collected for the study were analyzed using frequency counts, percentages, mean scores. Hypothesis one was tested with a t-test while Hypothesis two was tested with Analysis of Variance (ANOVA). All hypotheses were tested at a 0.05 level of significance.

4. RESULTS AND DISCUSSION

The respondents' demographic data are presented in **Tables 1-7**. The data are important to clarify what we get during this study. **Table 1** shows that male and female respondents formed the study of the total sampled respondents with 120 (48.0%) are male while 130 (52.0%) females formed different percentages of the total sampled respondents respectively. This is also shown graphically in **Figure 1**. The pie chart revealed that female undergraduate students were more than their male counterparts (See **Figure 1**).

Table 1. Respondents data based on their gender.

| Gender | Frequency | Percent | Cumulative Percent |
|--------|-----------|---------|--------------------|
| Male | 120 | 48.0 | 48.0 |
| Female | 130 | 52.0 | 100.0 |
| Total | 250 | 100.0 | |

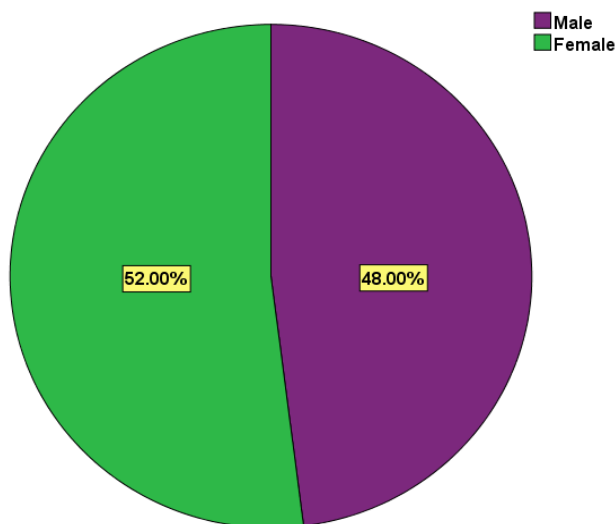


Figure 1. Graphical illustration of respondents' gender.

Table 2. Respondents data based on their academic level.

| Level | Frequency | Percent | Cumulative Percent |
|-------|-----------|---------|--------------------|
| 100 | 19 | 7.6 | 7.6 |
| 200 | 25 | 10.0 | 17.6 |
| 300 | 85 | 34.0 | 51.6 |
| 400 | 121 | 48.4 | 100.0 |
| Total | 250 | 100.0 | |

Table 2 shows that respondents from first to the fourth year in the university formed the study of the total sampled respondents with 19 (7.6%) are in 100 level, 25 (10.0%) are in 200 level, 85 (34.0%) are in 300 level while 121 in 400 level formed a percentage 48.4% of the total sampled respondents respectively. This is also shown graphically in **Figure 2**. **Figure 2** indicated that the majority of the respondents were in the fourth year of their academic level, others are in the first year, second year and third year respectively.

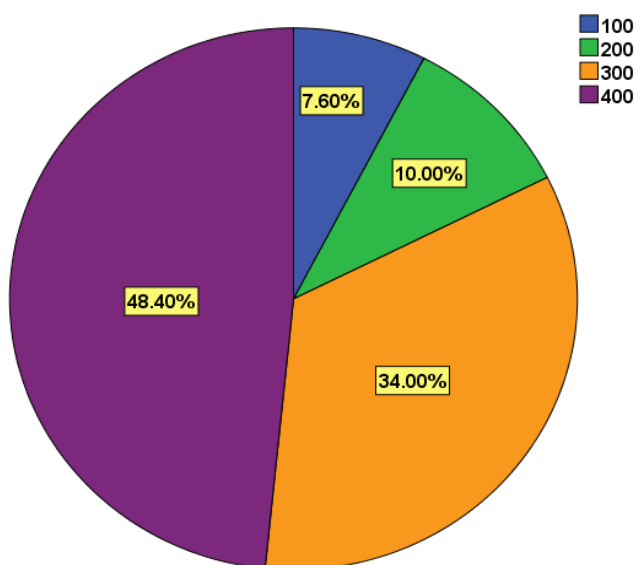


Figure 2. Graphical illustration of respondents' academic level.

4.1. Research Question One: What purpose do undergraduates utilize google classroom for?

In reaction to this research question one, mean and standard deviation were employed to govern the purpose do undergraduates utilize google classroom for. The result is shown in **Table 3**.

The result on the purpose which undergraduate utilize google classroom was presented in **Table 3**. It showed that a higher number of the respondents agreed that they use google classroom to interact and collaborate with their colleagues; to provide meaningful feedback to teachers on learning content; to source and gather learning materials and send and receive relevant information on course content with mean scores of 3.50, 3.48 and 3.46 respectively. The grand mean of 3.41 established that the majority of undergraduates use Google Classroom for their learning activities.

Table 3. Purpose which undergraduates use google classroom for.

| S/N | ITEMS | Mean | SD |
|--|--|-------------|------|
| 1. | Undergraduates use google classroom to keep tabs on their learning schedules | 3.43 | .605 |
| 2. | Undergraduates use google classroom to measure their level of achievement on a particular course | 3.18 | .824 |
| 3. | Undergraduates use google classroom to interact and collaborate with their colleagues | 3.50 | .554 |
| 4. | Undergraduates use google classroom to source and gather learning materials | 3.46 | .628 |
| 5. | Undergraduates use google classroom to send and receive relevant information on course content | 3.46 | .567 |
| 6. | Undergraduates uses google classroom for blended learning | 3.35 | .549 |
| 7. | Undergraduates use google classroom to provide meaningful feedback to teachers on learning content | 3.48 | .561 |
| Grand Mean on Purpose Undergraduates Utilize Google Classroom | | 3.41 | |

4.2. Research Question Two: What is the influence of gender on undergraduates’ purpose of utilizing google classroom?

The difference between the influence of gender on undergraduates’ purpose of utilization of google classroom was determined and mean difference was employed to establish this.

The differences that exist between the influence of gender on the purpose which undergraduates utilize google classroom for was as well determined as shown in **Table 4**. It indicated that the mean score on the male undergraduates’ purpose of utilizing GC was 3.4 while the female undergraduates’ purpose of utilization of GC was also 3.4. The mean gain of 0.00 deduced that gender did not influence the purpose for which undergraduates utilize google classroom?

Table 4. Difference in the influence of gc based on gender.

| Gender | N | Mean | Std. Deviation | Mean Gain |
|--------------|------------|------------|----------------|-------------|
| Male | 120 | 3.4 | .33 | |
| Female | 130 | 3.4 | .32 | |
| Total | 250 | 3.4 | .33 | 0.00 |

4.3. Hypothesis One: There is no significant difference between the male and female undergraduate purpose of utilizing google classroom.

The t-test was conducted to determine if there is any significant difference between the male and female undergraduate purpose of utilizing google classroom. The result is shown in **Table 5**.

Table 5 indicates that $t(248) = 0.32$, $p = 0.75$. This means that the stated null hypothesis was not rejected. This was as a result of the t-value of 0.32 resulting in a 0.75 significance value which was greater than the 0.05 alpha value. By implication, the stated null hypothesis was established thus: There was no significant difference in the mean achievement score of male and female undergraduates in their purpose of utilization of google classroom.

Table 5. Undergraduates' purpose of utilization of google classroom based on gender.

| Gender | N | Mean | Std. Deviation | Df | T | Sig. (2-tailed) |
|--------|-----|------|----------------|-----|-------|-----------------|
| Male | 120 | 3.41 | .33 | 248 | 0.319 | 0.75 |
| Female | 130 | 3.40 | .32 | | | |

4.4. Hypothesis Two: There is no significant difference among undergraduate students' purpose of utilizing google classroom.

The analysis for testing this hypothesis as shown in **Table 6** was the ANOVA statistical tool on students' utilization of GC based on their Level.

The analysis on the significant difference among undergraduate students' purpose of utilization of google classroom based on their Academic level is displayed in **Table 6**. The null hypothesis was rejected as $F(3, 249) = 4.91$ and $p = 0.00 < 0.05$. Since the p-value was less than the significance value of 0.05, the hypothesis was rejected. Thus, there was a significant difference among undergraduate students' purpose of utilizing google classroom based on their Academic level. However, turkey HSD posthoc was used to show the direction of the differences as shown in **Table 7**.

Table 6. ANOVA on undergraduate' purpose of utilizing google classroom by academic level.

| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. |
|-----------------|-------------------------|-----|-------------|-----------|------|
| Corrected Model | 1.513 ^a | 3 | .504 | 4.910 | .002 |
| Intercept | 1586.642 | 1 | 1586.642 | 15449.019 | .000 |
| Level | 1.513 | 3 | .504 | 4.910 | .002 |
| Error | 25.265 | 246 | .103 | | |
| Total | 2931.367 | 250 | | | |
| Corrected Total | 26.778 | 249 | | | |

a. R Squared = .056 (Adjusted R Squared = .045)

Table 7. Tukey HSD on direction of differences on undergraduates utilization of google classroom.

| (I) Level | (J) Level | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|-----------|-----------|-----------------------|------------|------|-------------------------|-------------|
| | | | | | Lower Bound | Upper Bound |
| 100 | 200 | -.1471 | .09754 | .434 | -.3994 | .1052 |
| | 300 | -.2506* | .08132 | .012 | -.4610 | -.0402 |
| | 400 | -.2804* | .07908 | .003 | -.4850 | -.0759 |
| 200 | 100 | .1471 | .09754 | .434 | -.1052 | .3994 |
| | 300 | -.1035 | .07291 | .488 | -.2921 | .0851 |
| | 400 | -.1334 | .07040 | .233 | -.3155 | .0487 |
| 300 | 100 | .2506* | .08132 | .012 | .0402 | .4610 |
| | 200 | .1035 | .07291 | .488 | -.0851 | .2921 |
| | 400 | -.0298 | .04535 | .913 | -.1472 | .0875 |
| 400 | 100 | .2804* | .07908 | .003 | .0759 | .4850 |
| | 200 | .1334 | .07040 | .233 | -.0487 | .3155 |
| | 300 | .0298 | .04535 | .913 | -.0875 | .1472 |

Based on observed means.

The error term is Mean Square (Error) = .103.

*. The mean difference is significant at the 0.05 level.

The post hoc test results in **Table 7** on the differences in undergraduate students’ purpose of utilization of GC by their level were well reported. It indicated that there was a significant difference between 100 level undergraduate students’ and 300 level undergraduate students’ purpose of utilization of google classroom. Also, there was a significant difference between 100 level undergraduate students’ and 400 level undergraduate students’ purpose of utilization of google classroom. This is further justified with the chart in **Figure 3**.

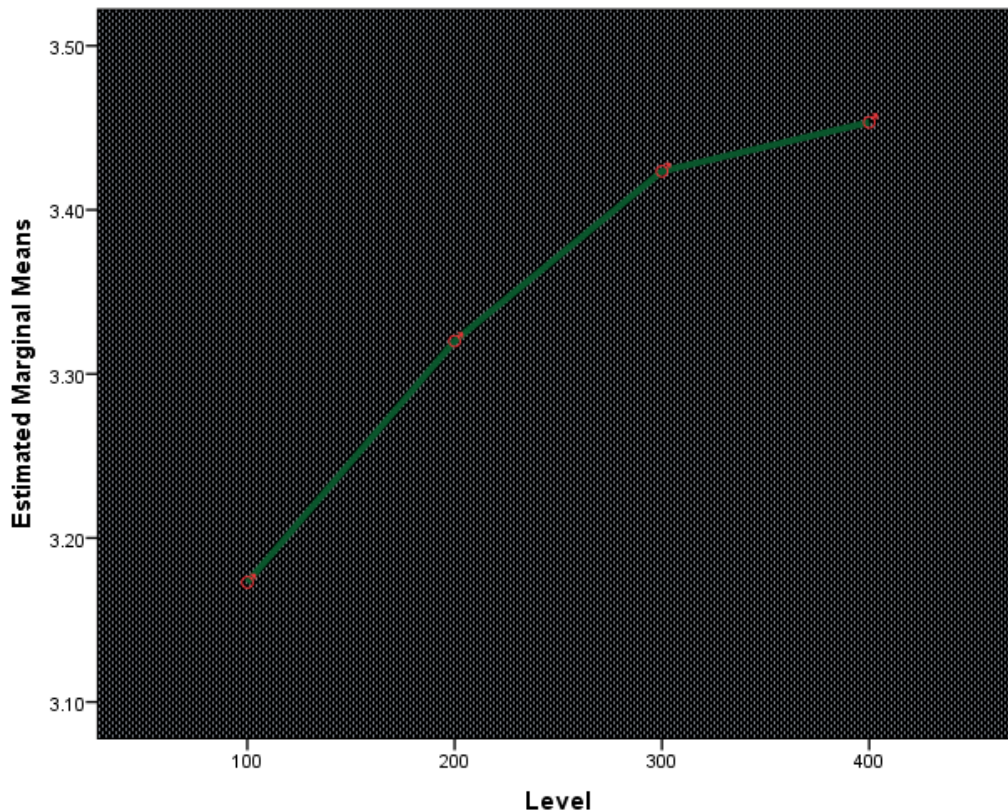


Figure 3. Estimated marginal mean on utilization of gc by level.

The chart indicated that undergraduate students' purpose of utilization of google classroom for learning is directly proportional to their level. Students in their final year utilize GC for learning vocational and entrepreneurship courses the most, others followed suit in that order.

4.5. Discussion

This study investigated the purposes for which undergraduates utilize google classroom. The result from the study stated that the majority of undergraduates use Google Classroom for their learning activities. This result conforms with Negara, (2018) who reported that google classroom assists students to connect, work together, organize, and also enables learning to be paperless thereby improving students' digital literacy. In addition, The development of technology has given easiness and support in the education environment where there are many mobile-based applications designed that can be used as a tool in improving the instructional process (Sepyanda, 2018).

The result from the study also shows that gender did not influence undergraduates' purpose of utilization of google classroom. This goes in contrast that there is a great difference between males and females in terms of the use of technology. No significant difference in the achievement of male and female students in using ICT in learning mathematics.

5. CONCLUSION

The results gathered at the end of this research work shows that when google classroom is effectively adopted and used for learning vocational and entrepreneurship courses, it can offer various benefits to both the lecturers and the students as teachers can easily upload lesson content and students can easily access them and give prompt and timely feedback. This will not only reduce the time used in learning lesson contents but will also foster collaboration and interactivity among lecturers-students and even between the students. It will also help in saving costs as digital learning contents are cheaper compared to hard copies. Based on the results drawn from this research, the recommendations below have been made;

1. The use of google classroom should be encouraged in schools, not only for learning vocational and entrepreneurship courses but for other courses.
2. Policymakers/ curriculum developers must be well-informed and see the importance of such integration in the school curriculum because it may affect everyone beyond the classroom environment.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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