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The Journal of Positive Psychology and Counselling

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WELCOME MESSAGE FROM THE EDITOR-IN-CHIEF

Dear authors, reviewers, and readers of Positive Psychology and counselling,

This is the Tenth Edition of the Journal of Positive Psychology and Counselling.

Aims and Scope

The *Journal of Positive Psychology and Counselling* publishes original research on all aspects of human psychology, including life and living, health and physical sciences, social sciences, and the humanities.

The Journal of Positive Psychology and Counselling is a peer-reviewed journal that attracts well-researched empirical and theoretical articles on areas of positive and counselling psychology such as psychotherapies, emotions, motivation, holistic wellness, marriage and life satisfaction, subjective well-being, leisure, interpersonal relationship, mindfulness and optimal performance, love and infatuation, excellence, aesthetics, creativity, and giftedness. The focus also includes optimism, resiliency, wellness across the life span, religions, spirituality and well-being, human strengths, virtues, metacognition, and happiness.

We attract a large number of international submissions each year which make major contributions across the range of psychology, particularly where the work has the following characteristics:

- The journal is conceptualised to attract more empirical and theoretical articles about psychological themes that positively impact individuals and communities worldwide.
- The centerpiece of such articles should be to provide information on ways to generate positive development and happiness in our world.
- articles or groups of articles dealing with topics that are of interest to researchers from more than one specialism;
- section of psychology or which addresses topics or issues at the interface between different specialisms or sections of psychology;
- articles or groups of articles that take different or contrasting methodological or theoretical approaches to a single topic;

- articles or groups of articles dealing with novel areas, theories or methodologies; integrative reviews, particularly where the review offers new analysis (e.g. meta-analysis), new theory or new implications for practice,
- articles or groups of articles dealing with the history of psychology;
- Interdisciplinary work is where the contribution from or to psychological theory or practice is clear.

The journal enjoys a wide international readership and features reports of empirical studies, critical literature reviews, and theoretical contributions that aim to further our understanding of positive psychology.

The journal additionally publishes a small number of invited articles by people who lead their field on a topic that provokes discussion. These articles include a short peer commentary.

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All manuscripts must include a brief but informative Abstract. It should not exceed 300 words and should describe the work's scope, hypothesis or rationale and the main findings. The abstract should allow the reader to quickly have a clear idea about the rationale for the work, the experiments conducted, and the results of those experiments before reading the rest of the manuscript. Both common and scientific names should be included; the authorities are not given if they appear in the title. References to the literature and mathematical symbols/equations should not be included.

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Introduction/Literature review

The introduction should articulate the problem being addressed. It should provide sufficient background information on the subject allowing the reader to have more insight into what will be presented in the rest of the paper. The aims of the manuscript should be clearly stated.

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This section should be concise but provide sufficient detail of the material used and equipment and the procedure followed to allow the work to be repeated by others.

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The sources of the laboratory procedures should be cited and any changes made must be noted. Information on the equipment model, manufacturer's name and address, including the city, province/state and country, should be provided. The procedures should be written in the past tense.

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Results should be presented logically in the text, tables and figures. Repetitive presentation of the same data in tables and figures should be avoided. The results should not contain material appropriate to the Discussion. All tables, graphs, statistical analyses and sample calculations should be presented in this section.

Discussion

The results should be discussed concerning any hypotheses advanced in the Introduction. Comment on results and indicate possible sources of error. Place the study in the context of other work reported in the literature. Only in exceptional cases should the "Results and Discussion" sections be combined. Refer to graphs, tables and figures by number (for example Figure 5 or Table 5). This helps tie the data into the text in a very effective manner.

Implications of findings and Conclusion

The main conclusions of the experimental work should be presented. The contribution of the work to the scientific community and its economic implications should be emphasized.

Acknowledgments

The source of financial support must be acknowledged. Authors must declare any financial support or relationships that may pose a conflict of interest in the covering letter submitted with the manuscript. Technical assistance may also be acknowledged.

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All publications cited in the text should be presented in a list of references following the manuscript's text.

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Integrating Information and Communication Technology in Open and Distance Learning Delivery at the Distance Learning Centre, University of Ibadan, Nigeria

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Abstract
The study investigated the integration of Information and Communication Technology Learning Applications (Learning Applications, Google Applications and Social Media Applications) on the learning effectiveness of learners at the Distance Learning Centre, University of Ibadan. The descriptive survey research design was adopted while the population comprised 100 - 500 level, - with a sample size of 150 students randomly selected from the faculties of Arts, Education and the Social Sciences. A 45 - items questionnaire on Perceived Information and Communication Technology Learning Applications on Learning Effectiveness in Distance Education Inventory with reliability coefficient of 0.78 was used. Data were analyzed using descriptive statistics of frequency counts, simple percentages, analysis of variance (ANOVA), mean and standard deviation analysis at 0.05 level of significance. The findings of the study revealed that the ICT Learning Applications (Learning Applications, Google Applications and Social Media Applications) significantly influenced students' Learning Effectiveness ($F_{(3, 145)} = 122.669$; $R^2 = 0.71$), and jointly accounted for 71.2% of its variance. Based on the findings, it was recommended that the management of the Distance Learning Centre, University of Ibadan should improve on using these Information Communication Technologies by maximizing them to facilitate effectual output on learners' academic achievement.

Keywords: Information and communication technology, Learning effectiveness, Open and distance learning delivery, Distance learning centre

Introduction
Distance Education has developed over innovations and at least three decades. These decades include; through postal communications the first wave of distance education technologies (Bertolin and De Marchi, 2014). A second generation was, characterized by the news, Internet, and film mainstream media. Multimedia technologies were implemented by the third-generation distance learning: first audio, then text, and afterward screen and then digital and video conferencing. Apparently, the distinct characteristics of so-called fourth and fifth-generation remote technologies are less obvious than intelligent data bases that permit 'intelligent mobile education' or the integration of Cloud 2.0 or seminal network infrastructure (Bertolin and De Marchi, 2014). No one generation received all the solutions, and each centered their predecessors' structures rather than updating the earlier version. Generations in combination with the technologies that make them have evolved to a large extent: When new opportunities are opened, different facets of the learning process must be discovered and developed. Various methods of education, preparation and experiences must be adapted for each style of involvement, and distance students and teachers must

be qualified and skilled in selecting the right pedagogical and technological combination.

In this digital age, the term "technology" has permeated all fields globally including distance education because it has transformed the advent of the way people carry out certain activities. In lieu of this, distance education has made tremendous and successful efforts to integrate the use of Information and Communication Technology in its field of study and practice. The effect of Information and Communication Technology in distance education has helped transform the teaching and learning process from being highly teacher centered to being learner centered, enhanced better student management and improved interactive and collaborative teaching and learning process. In other words, the emergence of distance learning as a branch of education has gained prominence due to the flexibility it affords its learners through the provision of various information and communication technology tools, that has made the flow of teaching and learning possible. However, the use of Information and Communication Technology learning applications has recently raised the education practice level. Today, it has become an integral aspect, and a popular tool, in the broader landscape of higher education. The flexibility and interactive nature of online learning makes it highly effective in career advancement by increasing the education accessibility of students and making faculty members better prepared to work in the digital age. However, despite the increasing benefits of Information and Communication Technology learning applications in classrooms and outside the classroom (online), many Nigerian institutions still lag behind in using the learning applications.

Based on this, this study is, therefore, being carried out to find out the effects of integration of Information and Communication Technology learning applications on learning effectiveness of learners and improve distance learning delivery in Distance Learning Centre, University of Ibadan, Nigeria.

Distance education is defined by Greenberg (1998) as "a planned teaching/learning experience that uses a wide spectrum of technologies to reach learners at a distance and is designed to encourage learners' interaction and certification of learning. Teaster and Blieszner (1999) declared that "distance learning has been applied to many instructional methods: however, its primary distinction is that the teacher and the learners are separated in space and possibly time". Keegan (1995) provided the most comprehensive definition of distance learning when he asserted that "this form of learning results from the technological separation of teacher and learners which frees the student from the necessity of traveling to a fixed place, at a fixed time, to meet a fixed person, in order to be trained". Implicit in these definitions are:

i. Distance learning is a planned teaching or learning activity.
ii. There is physical separation of the learners from the teachers
iii. Distance learning is carried out through a wide range of technology
iv. It promotes more of learners' interaction, that is, it is learner-centred

Besides, Teaster and Blieszner (1999) defined and analysed open and distance learning as a form of education with the following characteristics:

- ✓ Open and Distance learning is a planned teaching or learning activity.
- ✓ In Open and Distance learning, face-to-face group-based communication is absent either wholly or substantially; that is, there is physical separation of the learners from the teachers in time and space.
- ✓ In Open and Distance learning, there may be or there may not be enrolment criteria
- ✓ In Open and Distance learning, teaching and learning activities are carried-out

through a wide range of technology ranging from print, audio, video, and computer based technologies.

- ✓ Open and Distance Learning emphasises more of learning than teaching. That is, it is learner-centred since it promotes more of learners' interaction.
- ✓ Open and Distance Learning encourages the application of flexible learning principles and assessment patterns.

Based on the above submissions, there is, therefore, the need to find answers to the following questions in order to ensure quality delivery of distance education in the 21st century in Nigeria:

1. How far are we in planning distance learning/teaching in Nigeria?
2. How do we bridge learners' physical and psychological separation from tutors?
3. At what capacity do we provide a wide spectrum of technologies to reach learners at a distance?
4. At what level do we provide online course materials for learners against hard copy materials?
5. How do we make learning flexible and attractive for distance learners in Nigeria?

Attempting to find possible solutions to the above questions and find balance between how learners learn, when they want to learn, how they want to learn, and what they want to learn calls for full integration of various online learning applications. In recent times, most distance learning institutions in Nigeria have stepped-up in their operations, notably, among them are: Distance Learning Centre, University of Ibadan and National Open University of Nigeria (NOUN). The mode of delivery of instructions in Distance Learning Centre, University of Ibadan heavily relies on the following:

- Printed Material
- Audio-tapes, videotapes
- CD-ROMs
- Radio and Television broadcast
- Computer – mediated learning

The computer – mediated learning category in Distance Learning Centre, University of Ibadan comprises DLC online learning and DLC visual classroom (ICT unit, DLC, University of Ibadan, 2019). Apart from the above efforts by Distance Learning Centre, University of Ibadan, many more online learning applications are untapped. Against this background, this paper aimed to examine the extent of use and the influence of online learning applications in ensuring quality delivery and learners' retention in Distance Learning Centre, University of Ibadan, Nigeria.

The term "online learning" can refer to a wide range of programmes that use the Internet to provide instructional materials and facilitate interactions between teachers and students and in some cases among students. Online learning can be fully online, with all instructions taking place through the Internet, or online elements can be combined with face-to-face interactions in what is known as blended learning (Horn and Staker, 2011). Rosenberg (2001) defines learning as "the process by which people acquire new skills or knowledge to enhance their performance". He explains that organizational perceptions of learning are undergoing a distinct transformation. First, training should no longer only focus on the act of training but must demonstrate a positive impact on performance or outcomes. As the world is changing, the learning scenario is changing with the change in the introduction of information and communication technology,

which gives room to the new concept called e-learning. that allows instant revisions and feedbacRosenberg (2001) defines e-learning as a networked phenomenon that allows instant revisions and feedback. In addition, it is delivered using standard Internet technology. E-learning goes beyond training and instruction to delivering information and tools to improve performance. As online learning has become more pervasive, its learning theories have evolved. Most authors, not only (Benson, 2002; Carliner, 2004; Conrad, 2002, Ally, 2004) define online learning in terms of the access to learning experiences but also on the potential for flexibility and participants' interaction.

Online learning applications are tools for pedagogical and andragogical purposes that utilize social software and/or social media to facilitate learning through interactions between individuals and systems (Appana, 2008). The idea of setting up "online learning applications " is to make education more convenient and widespread. It also allows an interaction between users and/or the software, bringing a different aspect to learning. People can acquire knowledge by distance learning applications comprises Learning applications, Google applications, Social Media applications and Learning applications such as, Learning Management System (LMS), Moodle and Zoom, Google Meet and Google Classroom, Telegram and WhatsApp (Appana, 2008). Online learning applications may mediate in formal or informal learning environments to help create connections between learners, instructors and information. These connections form dynamic knowledge networks. Online learning applications are used in schools for teaching/learning. Within a school environment, the use of online learning applications can affect not only the user (learner) but his/her administrator as well as his/her instructor. It brings a different approach to the traditional way of learning, affecting the student and his/her support circle (Hewett, B. and Power, C. E. 2007). Online learning applications are used for people who are willing to share their good ideas/thoughts with someone else. The ideas can be related to academic studies or any other daily skills they want to share with others. Online learning applications connect learning to our daily lives. It creates a learning environment more conducive to today's society (Hewett, et al. 2007)

Information and Communication technologies (ICTs) are diverse set of tools and resources used to communicate, create, disseminate, store and manage information. K. Ratheeswari (2018) reported in his work that "ICT stands for "Information and communication technology". It refers to technologies that provide access to information through telecommunication". "He said it is similar to Information Technology (IT) but focuses primarily on communication technologies". He also observed that the rapid development in technology has made creatively changes in the way we live, as well as the demands of the society. Recognizing the impact of new technologies on the workplace and everyday life, today's teacher education institutions try to restructure their education programs and classroom facilities to minimize the teaching and learning technology gap between today and the future. ICTs are making dynamic changes in society. They are influencing all aspects of life. The influences are felt more and more at schools. Because ICTs provide both students and teachers with more opportunities to adapt learning and teaching to individual needs, society is forcing schools to respond to this technical innovation aptly. (K. Ratheeswari 2018).

The emergence of ICT has transformedcontemporary man's existence and activities, particularly in the setting of globalization (Evey, Emmanuael, Joseph, Denis and Asinde, 2010). In recent times, there has been an extraordinary advocacy both nationally and globally for using ICT in instructional and learning (Okoro and Ekpo, 2016). The educational field has been influenced by ICT, which has explicitly influenced instructional process and research. Davis and Tearle, 1999 (as cited in

Yusuf, 2005) believe that ICT has the strength to speed up, improve and extend aptitude reforms as it has the capacity to boost teaching by inspiring and engaging learners, and help schools reform by assisting schools in understanding financial and functional practices. Ashley (2016) reiterates that technology helps educators prepare students for the real world setting and stresses that as our countries become progressively more technology dependent, it becomes significantly more essential that to be good citizens, students must figure out how to be good citizens to be well informed about ICT. The utilization of ICT in teaching is a pertinent and practical method for providing education to learners that will enrich them with the required abilities with regard to the world of work.

It offers a totally new and advanced learning environment for learners; consequently, they acquire various aptitude sets in order to be fruitful and successful. Critical thinking, research and appraisal aptitudes are developing significantly as learners have expanding dimensions of information from several sources to deal with. The incorporation of ICT in the instructional process is believed to be a medium in which many methodologies and pedagogical theories might be implemented; however, ICT as a teaching aid is more difficult and multifaceted as it needs positive attitude from the educators (Salehi and Salehi, 2012).

Besides, the increased importance of ICTs in the developmental process has made it expedient for everybody in all sectors to have a firm knowledge of ICT. Consequently, in order to compete globally, everyone needs to enhance themselves in the skills of ICTs, knowing how to use it to work and communicate effectively and efficiently. Conclusively, ICT is the driving force for effective and efficient education delivery and operation of trade and commerce as well as human capital development. (Ospina, 2013).

The problem under the integration of Information and Communication Technology learning applications on learning effectiveness of learners was to determine the present scenario in Distance Learning Centre, University of Ibadan regarding the current trend in smooth running and improvement on the implementation of information and communication technology applications put in place for service delivery in the institution.

Objectives of the Study

The objectives of this study are to:

(i) determine the extent to which the ICT applications (Learning Applications: LMS, Moodle and Zoom; Google Applications: Google Meet and Google Classroom and Social Media
Applications: Telegram and WhatsApp) influence learners' academic achievement in Distance Learning Centre, University of Ibadan.

(ii) ascertain the perception of the distance learners on the implementation of the various ICT applications have impacted learners' academic achievement in the institution.

Research Questions:

(i). How did the ICT applications influence learners' academic achievement in Distance Learning?
Centre, University of Ibadan?

(ii) How did the distance learners perceive the implementation of the various ICT applications on
learners' academic achievement in the institution?

Methodology

The Ex-post-facto research design was adopted for this study. The population of this study consisted of 100 to 500 level students from Faculties Arts, Education and the Social Sciences. A simple random sampling technique was used to select sixty (50) students from each faculty selected for the study. Therefore, a total of 150 respondents were selected for the study. A 45 - items questionnaire titled: Perceived Information and Communication Technology Learning Applications on Learning Effectiveness in Distance Education Inventory was used as an instrument for data collection. The instrument is divided into two parts A & B. Part A deals with respondents' personal information while Part B collected data on the variables under study on a 5 Likert format with options ranging from Strongly Agree (SA)= 5, Agree (A)= 4, Neutral (N)= 3, Strongly Disagree (SD)= 2, Disagree (D)= 1. After face and content validation, the questionnaire reliability coefficient r was calculated at 0.78 using Cronbach alpha. Descriptive statistics of frequency counts, simple percentages, mean and standard deviation and multiple regressions at 0.05 level of significance were used to analyse the data collected.

Results

Table 1: Demographic Distribution of Participants

Variables		**N**	**%**
Gender of Participants	Male	49	27.3
	Female	. 109	73.7
	Total	150	150
Age of Participants	20-25 years	109	72.7
	26-30 years	31	20.7
	30-35 years 36-40 years	4 4	2.7 2.7
	40 and above	2	1.3
	Total	150	150
Course Level of Participants	100 level	21	14.0
	200 level	73	48.7
	300 level	33	22.0
	400 level	18	12.0
	500 level	5	3.0
	Total	150	150
Marital Status	Single	118	78.7
	Married	30	20.0
	Divorced	2	1,3
	Total	150	150

Answers to Research Questions

Research Question 1: How did the ICT Learning Applications (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) influence Learning Effectiveness in Distance Education?

Table 2: Multiple Regression Analysis of Interpersonal relationship

R = 0.847
R Square = 0.717
Adjusted R square = 0.712
Std Error = 3.7738

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5240.869	3	1746.956	122.669	.000[b]
	Residual	2064.970	145	14.241		
	Total	7305.839	148			

Table 2 presents results on the joint influence of ICT Learning Application components (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) on learning effectiveness. The table showed that the multiple regression correlation coefficient (R) showing the linear relationship between the independent and dependent variables is 0.847, the multiple R^2 is 0.717 and the adjusted R^2 is 0.712. This means that the independent variables (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) contributed to 71.7% of the dependent variables variable, this variation is statistically significant at $P < 0.01$. Further in the table, the analysis of variance of the multiple regression data produced an F-ratio of $F_{(3, 145)} = 122.669$ which was significant at $P<.01$. This multiple regression analysis of the data showed that the multiple regression correlation coefficients (R) show the linear relationship between the ICT Learning Application components (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) and the dependent variable (Learning Effectiveness). The joint contribution of the independent variables to the variation in the dependent variable (71.7%) was significant. Also, the result mean that other variables not included in this model may have accounted for the remaining variance.

Research Question Two: How has the perception of distance learners on the implementation of ICT Learning Applications impacted their Learning Effectiveness in the institution?

Table 3. Descriptive Analysis on the perception of distance learners on the implementation of ICT Learning Applications on Learning Effectiveness in the institution

N= 150

S/N	ITEMS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Variation
1	Use of Social Media and Learners' Academic Achievement	5 3.3%	9 6.0%	50 33.3%	55 36.7%	31 20.7%	3.65	0.983
2	Use of Learning Moodles and Learners' Academic Achievement	12 8.0%	20 13.3%	57 38.0%	31 20.7%	30 20%	3.31	1.171
3	Use of GoogleMeet, Google Classroom and Learners' Academic Achievement	2 1.2%	16 10.7%	46 30.7%	50 33.3%	36 24%	3.68	0.999
	Weighted Mean = 3.00							

The table above, shows the perception of learners on the use of ICT Learning Applications (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) has impacted the learning effectiveness of learners in the institution with Criterion Mean of 3.00. it shows that the respondents agreed that Use of Google Meet, Google Classroom influence positively learning effectiveness of learners with ($\bar{x}$ = 3.68), also the respondents agreed that the use of Social Media aids their learning effectiveness with ($\bar{x}$ = 3.65), lastly, the respondents also agreed that the use of Learning Apps (LMS, Moodle and Zoom) aids their Learning Effectiveness with ($\bar{x}$ = 3.31). In conclusion, it shows that respondents mostly agreed that the Use of Google Meet and Google Classroom positively influence learners' Learning Effectiveness with the highest Criterion mean ($\bar{x}$ = 3.68). All the respondents' perceptions about the forms of ICT learning applications, falls above the criterion mean which signified that they agreed that the ICT learning applications contribute significantly to their learning effectiveness at Distance Learning Centre, University of Ibadan.

Discussion of findings

The result of findings on first research question states; how did the ICT Learning Application components (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) influence learning effectiveness of distance learners in the institution. Finding shows that the three components jointly contributed to the prediction of students' learning effectiveness in the institution. That is, all the components combined together accounted for 71.2% variance in the prediction of students' learning effectiveness. This

implies that with all the three components considered in this study, students' learning effectiveness will increase by 71.2%, while the remaining 28.8% of the variation is beyond the scope of this study. Therefore, Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom of Learning Application components combined have 71.2% influence on distance learners' learning effectiveness in this study. This finding corroborates that of Ergulec (2019) and Pallof and Pratt (2013) who posits that well planned online learning is a complex process where careful instructional design can be used to create an effective learning environment. Also, in consonance with the present study's finding, Czerkawski and Lyma (2016) reiterated that emerging technologies (like Zoom, LMS and Google Meet) strongly influenced the educational learning environment.

The findings on research question 2 states; what is the perception of learners on the implementation of the ICT Learning Application components (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) concerning their learning effectiveness. The finding revealed that all the three components potently predicted students' learning effectiveness in the institution. This implies that students' learning effectiveness in the institution will be enhanced among the distance learners if the ICT Learning Application components are properly implemented and the management of the institution considers the integration of the three ICT Learning Application components highly essential, as revealed from the learners' response that the three ICT Learning Application components were perceived highly significant and should be integrated into teaching and learning process in the institution. This finding is line with the Universal Design for Learning principles focus on the design of learning environments that are flexible, inclusive, and student-cantered to ensure that all learners can access and learn from the course materials, activities, and assignments any time anywhere. Hence, Crick (2021) expounded that the COVID-19 pandemic was the catalyst for change in digital education. The digital learning resources that provides a platform to utilise and mobilise the knowledge acquired by students (McGrath et al. 2020). These suggestions align with the view that Covid-19 provides an opportunity for more opportunities for creation into a new realm of digital education.

Conclusion

The study investigated the level of effect of the Information and Communication Technology Learning Applications (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) on learning effectiveness of learners at Distance Learning Centre, University of Ibadan. In line with the findings stated above, the conclusion reached is that there are Information and Communication Technology Learning Applications (Google Apps: Google Meet and Google Classroom; Social Media platform; Telegram and Whatsapp; Learning Apps: LMS, Moodle and Zoom) used in the institution and have significance effect on learning effectiveness of learners. In a society defined by enhanced communication modes and channels that is regardless of place and time and also with the nature of the distance learning institution, the use of information communication technologies cannot be underemphasized as that they contribute and affect learning effectiveness of learners even at Distance Learning Centre, University of Ibadan. This will enable Distance Learning Centre, University of Ibadan compete globally with other distance learning institutions across the worldenable Distance

Learning Centre, University of Ibadan to compete globally with other distance learning institutions across the world.

Recommendations

Based on the findings of this study it was recommended that:

3. New forms of Information and Communication Technologies can and should be adopted into the teaching and learning process in the institution. New forms of information and communication technologies (such as the use of augmented reality among others) which can simplify learning, accurate, logical and coherently designed and evaluated should be adopted to enhance and improve learning effectiveness of learners in distance education.
4. There should be an improvement on the use of these Information and Communication Technologies by maximizing them to facilitate effective output on the academic achievement of learners in the institution.
5. The design and usage of interaction using these Information and Communication Technologies should be such that the learners can easily relate with and that can positively affect learners' learning effectiveness in distance education.

References

Ally, (2004). *Foundations of Educational theory for online learning (2nd ed). In Terry (Ed.),*

The theory and practice of online learning (pp. 3- 31). Athabasca, AB: Athabasca University.

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.

Ashley, W. (2016). *10 Reasons Today's Students Need Technology in the Classroom.* Retrieved from http//www.Seccuredgement works. Com/ /10 Reasons Today's –Students-Need-T

Benson, A. (2002). *Using online learning to meet workforce demand: A case study of stakeholder in uence.* [Quarterly Review of Distance Education]. *3*(4), 443–452.

Bertolin, J. C. G., & De Marchi, A. C. B. (2014). *Evaluation of Distance Education through Blended Learning: Comparisons and Important Factors for the Learning Process. Creative Education*. *5*(2), 70–74. http://www.scirp.org/journal/ce

Carliner, S. (2004). *An overview of online learning* (2nd ed.). Armherst, MA: Human Resource Development Press.

Conrad, D. (2002). Deep in the hearts of learners: Insights into the nature of online community. *Journal of Distance Education*, *17*(1), 1−19.

Davis, & Tearle,. (2014). Education in the information age: Promises and frustrations. Technologic. *International Journal of Technologies for Advancement of Knowledge and Learning*, *1*(2), 30–43.

Evey, E., Joseph, D., & Asinde, H. (2010). *Security technologies for secure Business Transactions on the Information Communication Technology (ICT).*

Greenberg, M. F., & Hayward, F. M. (1998). Forces for change. Transforming Higher Education: View from Leader around the World. In *MF Green. "Ed." Phoenix:* The American Council on Higher Education and the Oryx Press.

Hewett, B., & Power, C. E. (2007). Online teaching and learning: preparation, development, and organizational communication. *Technical Communication Quarterly*, *16*(1), 1–11.

Horn, M., & Staker, H. (2011). *The rise of K–12 blended learning. Innosight Institute.* http://www. innosight institute.org/ innosight/wp-content/uploads/2011/01/The-Rise- of-k-12-Blended –learning Pdf.

Keegan, D. (1995). *Foundations of Distance Education.* (3rd ed.). Routledge.

Okoro, C. O., & Ekpo, E. E. (2016). Effects of Information and Communication Technology (ICT) application on academic achievement of students in Christian religious studies in Cross River State. *International Journal of Interdisciplinary Research Method*, *3*(2), 14–24.

Ratheeswari, K. (2018). Information Communication Technology in Education. *Journal of Applied and Advanced Research, Department of Value Education*, *ISSN 2519-9412*. Tamilnadu Teachers Education University. Research Publishers, India.

Rosenberg, M. J. (2001). *E-Learning: strategies for delivering knowledge in the digital age.* (pp. 343 pages). E-Learning and Consulting Philips Medical Systems McGraw-Hill Companies, Inc. New York, NY. ISBN: 0-07-136268-1.

Salehi, H., & Salehi, Z. (2012). Integration of ICT in language teaching: Challenges and barriers. *3rd International Conference on E-Education, E-Business, E-Management and E-Learning IPEDR*, *27*. Retrieved from http://www. ipedr.com/vol27/40-IC4E%202012-F10037.pdf

Teaster, P., & Blieszner, R. (1999). Promises and pitfalls of the interactive television approach to teaching adult development and aging. *Educational Gerontology*, *25*(8), 741–754.

Yusuf, M.O. (2005). Information and communication education: Analyzing the Nigerian national policy for information technology. *International Education Journal*, *6*(3), 316–321