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CHALLENGES OF INTEGRATING ICT FOR TEACHING AND LEARNING OF PHYSICAL EDUCATION IN SECONDARY SCHOOLS IN ILORIN METROPOLIS

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Abstract

This study examined the challenges of integrating ICT for teaching and learning of physical education in secondary schools in Ilorin Metropolis. The Variables of study are availability, accessibility, cost, and training of physical education teachers. Descriptive research of survey type was used for this study. Population of the study comprised all secondary school teachers in Ilorin metropolis: Sample was sixty one (61) physical education teachers selected from junior secondary schools in Ilorin metropolis. Researcher structured questionnaire was used for the study. Data was analyzed using descriptive statistics. findings revealed that availability; accessibility, cost of ICT devices and training of physical education teachers were identified as challenges of integrating ICT for teaching and learning of physical education in the study area. This study therefore recommends that government and stakeholders should procure ICT gadgets for teaching and learning of physical education.

Introduction

Traditionally, the relationship between Information and Communication Technologies (ICTs) and teaching physical education (PE) has been very low, most of its application in sports were restricted to athletic performance. ICTs offer a variety of advances that are used and adapted in many subject areas to complement

the activities and knowledge that are taught to students. It is important for physical education teachers to adopt the potential and the benefits that ICT offers.

Yusuf, (2007) defined ICT as an electronic device used for accessing, processing, presenting and communicating information. Therefore, adopting ICTs in teaching can accelerate, enrich and deepen students basic skills in reading and writing, besides motivating and encouraging them to learn independently.

According to Obanya, (2002), ICT is a broad concept that has to do with harnessing the processes, methods and the product of electronic and communication -related technologies, for enhancing the spread and efficiency of a set of programmed activities geared towards the achievement of clearly defined goals. ICT comprises electronic devices which are utilized for the information and communication needs of institutions, organizations, students and individuals. Such devices include computers (software and hardware), networking, telephone, video, multimedia and internet to mention few.

Today, technology is not an option, but a must and a need for teachers for them to be abreast of innovations that occur in their specific fields or in general areas that have a relation to them (Rodriguez & Monroy-Anton, 2011). It has been argued that, within teacher education programmes, ICT must be integrated with curriculum, pedagogy and field experience to model what the teacher might use in their practice (Lockyer & Patterson, 2007).

Physical educators must endeavor to use technologies in teaching, such integration would promote learning within the activity context, allowing students to achieve more efficiently and effectively more than they could without ICT.

In a study reference on measuring attitudes, training, availability of equipment and approaches to using ICT in PE, it was reported that lack of inclusion of ICT in the lesson was regarded as the most common weakness of teachers. It was pointed out that teachers often perceive the use of ICT in PE as a distraction from what they regard as the more important practical aspect of the subject.

Despite the numerous benefits of integrating ICT into education, their application to PE continues to pose a great challenge for teachers due to the unique nature of the class, the importance of the motor component, limitations on space, time and training, among others (Villalba & González-Rivera, 2016). In spite of this, some teachers integrate ICT in their PE classes, for example through the use of computers, e-mail and internet, telephones, tablets, and mobile applications related to physical activity and sport.

Research such as has identified some of the difficulties and barriers teachers face when integrating technology to PE,as well as some approaches that can betaken to overcome them. These problems include but not limited to lack of teachers training, non-availability of ICT resources, lack of access to ICT materials in schools, restricted access to technology, high technology budget for PE (Thomas & Stratton 2006).

The use of technology in PE is generally at a slow pace. A study by Karsentiand Lira (2011) revealed that ICT are rarely used in educational context in many countries and therefore it becomes necessary to continue researching ICT in PE as a unique context due to its specific characteristics.

Murdock and Desberg (2004) affirmed that students could use computers to help them share and have access to all the wonderful information and experience that is now possible. Candau, Hannafin, Doherty, Judge, Kuni, and Yost, (2003) agreed that access to computers can ignite students thoughts and eventually move them towards a better learning experience.

Accessibility to computers could enhance the skills of computers use as students and teachers alike consequently employ them more often. Willoughby and Wood (2008) argued that the previous decades have produced rapid advances in computer technology and increased access in both developed and developing nations. They reported that global statistics showed that schools around the world are becoming increasingly well equipped with computer hardware.

Although computers and other ICT tools may have been made available in schools, only a few teachers use them (Kandiri (2006). Teachers can play a vital role in exposing students to computer technology by demonstrating how to use it effectively for teaching and learning. Teachers can only play this role if they are well equipped and confident that technology is beneficial.

As regards the cost of ICT, many though not all developed countries, these technological and cost advantages have accounted for mass access and use of computers in education. The same is not evident in developing countries, largely because the cost barriers to supplying ICT hardware, software and connectivity in these education environments are significant.

This was large because of consistent underestimation of the management, technical support, curriculum development and training expenditure that is essential to ensure sustainable ICT access and use in education. Given global enthusiasm for applying ICT in schools, it is essential to put in place appropriate costing, financing and planning processes to aid budget allocation decisions.

Physical education teachers' lack of mastery and experience using ICT in the educational context has also been a significant constraint given that teachers who cannot develop certain skills in the course by using available technology may face difficulties when transferring the content through traditional methods.(Bisgin, 2014; Shan Fu, 2013),

As technology is increasingly introduced into the realm of physical education, there is a troubling persistence of the attitude that the mere provision of technology will lead to its adoption and implementation into teachers pedagogy. Although this issue has been identified and acknowledged by researchers for decades (Fullan & Pomfret, 2007), it remains and is exacerbated by the intensifying pace of change and technological advancement. Gitlin and Margonis (2005) pointed out that teacher resistance can be for good cause, and that reasons given for it should be taken into consideration since teachers often understand their vocation far better than those designing policy programs intended to modernize or improve educational output.

A worrisome dimension is that many programs and projects aimed at introducing technology to improve or modernize the educational experience do not recognize teachers as the key agents of change responsible for disseminating the innovation. Thus, the incorporation of technology into an educational curriculum cannot be accomplished simply through initial training of teachers in computer use, nor even through higher-level instruction in the incorporation of computer-related technology into their teaching.(Loucks & Hall 2002).

The process of technology adoption must be accompanied by years-long support that reflects teachers concerns as they adjust to the new technology and make changes in their teaching styles and modes to adapt to it. The more complex an innovation is, the more change that is required of a teacher, the longer the change process will take, and the less likely an innovation is to be successfully adopted (Hall, 2005). Another important obstacle is the longer time spent doing physical activity with limited time allocation for PE. Majority of teachers recognize the positive aspects of technology in education, but they do not know how to put them into practice in their curriculum without taking hours away from time spent doing physical activity (Pyle and Esslinger, 2014).

Statement of the Problem

With the advent of a new philosophy towards ICT and its role in education, a wide body of research has developed investigating the role of ICT and its effect in developing an interactive educative environment. Many of these studies have

provided evidence of the significant contributions of ICT in improving methods of teaching and positively impacting the learner (Kenneewell, Tanner& Beauchamp, 2007).

Many physical education teachers are yet to appreciate the use of ICT in teaching and learning. Nowadays, it is uncommon to see computers being used in classroom and on playground. This could be as a result of lack of training on the part of physical education teachers. However, Sansanwal, (2009) observed that ICT devices are becoming more mobile and affordable and this could make the goal of using ICT in the teaching of PE more realizable. Other challenges include irregularity in power supply, teachers mastery and experience, students and school's lack of resources, class size and crashing of computers and corruption of files.

The adoption of ICT in the interactive learning environment can help to develop thinking and motor skills and also make classroom an environment that is conducive to learning. There is need to conduct a study on the integration of ICT in teaching and learning of PE with particular attention on secondary schools in Ilorin metropolis in to improve teaching and learning of physical education.

Objectives of the Study

The objectives of this study is to:

1. Examine if availability of ICT will be a challenge of integrating teaching and learning of PE in secondary schools in Ilorin metropolis.
2. Determine if accessibility of ICT will be a challenge of integrating teaching and learning of PE in secondary schools in Ilorin metropolis.
3. Investigate if cost of ICT will be a challenge of integrating teaching and learning of PE in secondary schools in Ilorin metropolis.

Research Questions

1. Is availability of ICT devicesa challenge of integrating ICT for teaching and learning of PE?
2. Is accessibility to ICT device a challenge of integrating ICT forteaching and learning of PE?
3. Is cost of technology a challenge of integrating ICT for teaching and learning of PE?
4. Is training of PE teachers a challenge to integrating ICT for teaching and learning of PE?

Methodology

The design adopted for this study was descriptive research of survey type. Purposive sampling technique was adopted to select 61 physical education teachers in junior secondary schools in Ilorin metropolis.

Researcher structured questionnaire was the instrument for the study. The Questionnaire was constructed on a four-point Likert type rating scale of strongly agree (SA), agree (A), strongly disagree (SD) and disagree (D). The content and construct validity of the instrument was established by giving the questionnaire to four (4) experts in the Department of Human Kinetics Education, University of Ilorin. Dada was collected by researcher and three (3) research assistants. Test re-test method was used to determine the reliability of the instrument using PPMC, a co-efficient of 0.76 was attached. The data gathered was subjected to descriptive statistics of frequency and percentage.

RESULTS

Table 1: Distribution of Respondents by Age, Gender, and Educational Qualification.

S/N	VARIABLES	FREQUENCY	PERCENTAGE %
1	**Age-range**		
	20-29 years	28	45.9
	30-39 years	22	36.1
	40 years & above	11	18.0
	Total	**61**	**100**
2	**Gender**		
	Male	35	57.4
	Female	26	42.6
	Total	**61**	**100**
3	**Educational qualification**		
	Bsc.(Ed)	39	63.9
	Msc.(Ed)	18	29.5
	Ph.D	4	6.6
	Total	**61**	**100**

Table one shows the distribution of the respondents that participated in the study. It was revealed that 28 respondents with (45.9%) were between 20-29 years,

22 respondents with (36.1%) were between 30-39 years while 11 respondents with (18.0%) were 40 years and above. This connotes that majority of the respondents were between 20-29 years. Also, it was revealed that 35 respondents with (57.4%) were male while 26 (42.6%) were female. This indicates that majority of the respondents were male. The educational qualification data revealed that 39 respondents with (63.9%) have Bsc. (Ed), 18 respondents with (29.8%) have MSC. (Ed), and 4 respondents with (6.6%) have a PhD. This shows that majority of the respondents have Bsc. (Ed).

RQ1: Is a challenge of integrating ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

Table 2: Descriptive analysis on availability of ICT as a challenge of integrating ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

S/N	Items	SA	A	SD	D	
1	Your school has broadband access to the Internet	6 (9.8%)	17 (27.9%)	7 (11.5%)	31 (50.8%)	
2	Your school provides Internet access to the P.E teachers	6 (9.8%)	14 (23.0%)	16 (26.2%)	25 (41.0%)	
3	Your school has adequate and current ICT materials that can facilitate learning	6 (9.8%)	29 (47.5%)	1 (1.6%)	25 (41.0%)	
4	You can rate the procurement of ICT materials in your school as being good	13 (21.3%)	34 (55.7%)	1 (1.6%)	13 (21.3%)	
	Column Total	31 (12.7%)	94 (38.5%)	25 (10.2%)	94 (38.5%)	244 (100%)

Table two revealed that 31(12.7%) of the respondents strongly agreed that availability of ICT resources is a challenged to integrating ICT for teaching and learning of Physical Education in secondary schools in Ilorin metropolis, 94(38.5%) agreed, 25(10.2%) strongly disagreed while 94(38.5%) disagreed. This implies that most of the respondents agreed that availability of ICT is a challenge of integrating ICT in secondary schools in Ilorin metropolis.

RQ 2: Is Accessibility to ICT a challenge integrating to ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

Table 3: Descriptive analysis on accessibility to ICT as a challenge of integrating ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

S/N	Items	SA	A	SD	D	
1	Students have full access to ICT rooms and gadgets at all time in your school	21 (34.4%)	20 (32.8%)	9 (14.8%)	11 (18.0%)	
2	You can rate the quality of technological accessibility in your school as being effective	11 (18.0%)	28 (45.9%)	6 (9.8%)	16 (26.2%)	
3	Your academic department have a stringent policies guiding the accessibility to ICT	7 (11.5%)	12 (19.7%)	17 (27.9%)	25 (41.0%)	
4	There are laws prohibiting the use of ICT in your school	9 (14.8%)	11 (18.0%)	20 (32.8%)	21 (34.4%)	
	Column Total	48	71	52	73	

Table three revealed that 48(19.6%) of the respondents strongly agreed that access to ICT is a challenge to integrating to ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis, 71(29.0%) agreed, 52 (21.3%) strongly disagreed while 73(29.9%) disagreed. It therefore means that majority of the respondents agreed that accessibility to ICT is a challenge to integrating ICT in the study area.

RQ3:Is Cost of ICT a challenge of integrating ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

Table 4: Descriptive analysis onthe cost of ICT as a challenge of integrating ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

S/N	Items	SA	A	SD	D	
1	Your school management limit the purchase of ICT materials due to cost factors	42 (68.9%)	14 (23.0%)	0 (0%)	5 (8.2%)	
2	Your school would rather go for high technological materials or local ones that cost less	5 (8.2%)	16 (26.2%)	25 (41.0%)	15 (24.6%)	
3	The cost of ICT materials is the major limitation to the purchase of some necessary ICT gadgets in your school	40 (65.6%)	16 (26.2%)	1 (1.6%)	4 (6.6%)	
	Column Total	87 (47.5%)	46 (25.1%)	26 (14.2%)	24 (13.1%)	183 (100%)

Table four revealed that 87(47.5%) of the respondents strongly agreed that cost of ICT is a challenge of integrating ICT for teaching and learning of Physical Education in secondary schools in Ilorin metropolis, 46(25.1%) agreed, 26(14.2%) strongly disagreed while 24(13.1%) disagreed. This implies that majority agreed that cost of ICT is a challenge to integrating ICT.

RQ4: Is training of physical education teachers a challenge of integrating for ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

Table 5: Descriptive analysis on the training of physical education teachers as a challenge of integrating ICT for teaching and learning of physical education in secondary schools in Ilorin metropolis.

S/N	Items	SA	A	SD	D	
1	The recruitment procedures for new teachers include an assessment of their pedagogical competencies related to ICT use	14 (23.0%)	9 (14.8%)	1 (1.6%)	37 (60.7%)	
2	Your school provides workshops or other learning activities about technological skills to teacher trainers	11 (18.0%)	22 (36.1%)	8 (13.1%)	20 (32.8%)	
3	Your school had a major training program in technology for teachers in the last five years	3 (4.9%)	13 (21.3%)	10 (16.4%)	35 (57.4%)	
4	Your school has a policy to promote or support ICT-based innovations for teaching	12 (19.7%)	30 (49.2%)	3 (4.9%)	16 (26.2%)	
5	Pedagogical support is provided for teachers in your school	12 (19.7%)	31 (50.8%)	5 (8.2%)	13 (21.3%)	
	Column Total	52 (17.0%)	105 (34.4%)	27 (8.8%)	121 (39.6%)	305 (100%)

Table five revealed that 52(17.0%) of the respondents strongly agreed that training of physical education teachers is a challenge of integrating ICT for teaching and learning of Physical Education in secondary schools in Ilorin metropolis, 105 (34.4%)agreed, 27(8.8%) strongly disagreed while 121(39.6%) disagreed. This shows that majority of the respondents agreed that training of physical education teachers is a challenge of integration in junior secondary schools in Ilorin metropolis.

Discussion of Findings

The finding from research question one revealed that availability of ICT is a challenge of integrating ICT for teaching and learning of PE in a secondary school in Ilorin metropolis. This is in accordance with Tearle and Golder (2008) who opined that limitations tothe availability of technology decrease opportunities for developing skills for using ICT in schools.

It was revealed from research two that access to ICT is a challenge of integrating ICT for teaching and learning of PE in a secondary school in Ilorin metropolis. Candau, Hannafin, Doherty, Judge, Kuni, and Yost, (2003) affirmed that access to computers for teaching delivery can ignite students" thoughts and eventually move them towards a better learning experience.

The findings in research question three revealed that the cost of ICT is a challenge of integrating ICT for teaching and learning of PE in a secondary school in Ilorin metropolis. study done Kretschmann (2015) indicates that if the school manager is not dispose to as an important device for teaching ICT in PE, he or she, cannot support the integration of technology into PE. Moreover, the principals influence on the budget and school-wide curricular integration in terms of PE should not be underestimated (Staples, Pugach, & Himes, 2005).

It was revealed in research question four that training of physical education teachers is a challenge to integrating ICT for teaching and learning of PE in a secondary school in Ilorin metropolis. Bisgin (2014), submitted that training, PE teachers' lack of mastery and experience using ICT in the educational context has been a significant obstacle, given that teachers who cannot develop certain skills in the course by using the technology available may face difficulties when transferring the content through traditional methods. Thus, the incorporation of technology into an educational curriculum cannot be accomplished simply through initial training of teachers in computer use, nor even through higher-level instruction in the incorporation of computer-related technology into their teaching (Loucks & Hall 2002).

Further, Pyle and Esslinger (2014) opined that majority of teachers recognizes the positive aspects of technology in education, but they do not know how to put them into practice intheir curriculum without taking hours away from time spent doing physical activity.

Conclusion

This study concludes that Availability of ICT; Accessibility to ICT; Cost of ICT devices; and Training of physical education teachers are- challenges of integrating ICT for teaching and learning of Physical Education.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. Government and stakeholders in education should provide funds for the procurement and distribution of ICT devices to schools for teaching and learning of physical education.
2. School principals should make ICT facilities accessible to teachers for effective teaching and learning of physical education.
3. The government should supply more ICT devices to schools for effective teaching and learning of physical education.
4. School administrators should provide technical support for physical education teachers to receive on-the-job training in the area of ICT to enhance teaching and learning.

References

Bisgin, H. (2014). Analyzing the Attitudes of Physical Education and Sports Teachers towards technology. *Anthropologist*.

Candau, D., Hannafin, R., Doherty, S., Judge, J., Kuni, P. & Yost, J. (2003) Intel teach to the future: With support from Microsoft. London: Institute of computer technology.

Fullan, M. & Pomfret, A., (2007). Research on Curriculum and Instruction Implementation Review of Educational Research.

Gitlin, A. & Margonis, F. (2005). The Political Aspect of Reform: Teacher Resistance as Good Sense American Journal of Education.

Kandiri, J. (2006). ICT policy in Kenya and ways of improving the existing ICT policy. Retrieved on 19/7/2006 from http:/www.strathmore.edu/research/

ict.policyinKenya.pdf.

Karsenti, T., & Lira, M. L. (2011). Are Quebec's Future Teachers Ready to Use ICT inClass? The Case of Prospective Teachers in Quebec, Canada. *Revista ElectrónicadeInvestigaciónEducativa,* 13 (1), 56-70.

Kenneewell, S.H., Tanner, S.J. and Beauchamp, G. (2007). *Analyzing the use of interactive technology to implement interactive teaching,* Swansea, UK: Swansea School of Education Swansea Institute of Higher Education.

Kretschmann, R. (2015). Physical Education Teachers' Subjective Theories about Integrating Information and Communication Technology (ICT) into Physical Education. *Turkish Online Journal of Educational Technology,* 14 (1), 68-96.

Lockyer, L., & Patterson, J. (2007). Technology Use, Technology Views: Anticipating ICT use for Beginning Physical and Health Education Teachers. Issues in Informing Science and Information Technology, 4. The University of Wollongong. Wollongong, Australia.

Loucks, S. F. & Hall, G.E. 2002. Implementing Innovations in Schools: A Concerns-Based Approach Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April 12.

Murdock, E. & Desberg, P. (2004). Computers in the curriculum: Exercises for integrating technology into instructions. California: WM. C. Brown Communications.

Obanya P. A. C., (2002). *Revitalization of Education in Africa*, Lagos: Stirling-Harden Publishers (Nig.) Ltd.

Pyle, B., & Esslinger, K. (2014). Utilizing Technology in Physical Education: Addressing the Obstacles of Integration. *Delta Kappa Gamma Bulletin,* 80 (2), 35 -39.

Rodriguez, G.S. & Monroy-Anton, A.J. (2011). The use of ICT in Physical Science Education. *International Journal of the Physical Sciences*. 6:4;944-947.

Sansanwal, D.N. (2009). *Use of ICT in Teaching-Learning and Evaluation*. Central Institute of Education Technology, New Delhi NCERT.

Shan Fu, J. (2013). ICT in Education: A Critical Literature Review and Its Implications. *International Journal of Education and Development using Information and communication Technology,* 9 (1), 112-125.

Staples, A., Pugach, M.C., & Himes, D. (2005). Rethinking the Technology Integration Challenge: Cases from Three Urban Elementary Schools. *Journal of Research on*

Technology in Education, 37 (3), 285-311.

Tearle, P., & Golder, G. (2008). The use of ICT in the teaching and learning of physical education in compulsory education: how do we prepare the workforce of the future. *European Journal of Teacher Education,* 31(1), 55-72.

Villalba, A. & González-Rivera, M.D. (2016). *Integration of ICT in Physical Education for the improvement of the educational intervention: perception and proposals*, 307-322. Florida (USA): JAPSS Press.

Willoughby, T. & Wood, E. (2008). Children's learning in a digital world. Sidney: Blackwell Publishing Limited.

Yusuf, M.O (2007). Trends and Barriers on the Integration and Communication Technology in the Nigerian Schools System, Accepted for Publication for students in Curriculum 2010.