

**PHYSICS EDUCATORS' PERCEPTION ON THE USE OF INTERNET IN  
TEACHING SECONDARY SCHOOL STUDENTS IN ILORIN METROPOLIS OF  
KWARA STATE**

**By**

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**Abstract**

*The study investigated Physics educators' perception on the use of Internet in teaching secondary school students in Ilorin metropolis. This study adopted descriptive research design, Random sampling technique was used to select eighty (80) Physics educators as respondents for this study. A researcher designed questionnaire titled Physics Educator Perceptions on the Use of Internet (PEPUI) was used as the instrument. The Pearson's Product Moment Correlation Coefficient was used to compute the reliability coefficient which yielded 0.87, Mean and t- test was used to analyze the data. Three research questions were formulated to guide the study. Findings of this study revealed that, the use of internet in teaching Physics helps to cover the syllabus in short time; helps in searching for materials for teaching; allows students to learn on their own, internet facilities not available in some schools among others. Based on this, it was recommended that, Seminars and Workshops should be organized for both public and private Physics educators on the use of internet in teaching Physics, Internet access should be made easy for students in both public and private schools by Government and individuals at all levels to encourage Physics educators to learn and teach some difficulty topics in Physics; regular monitoring and inspection of internet facilities in both public and private secondary schools should be carried out through the ministry of education.*

**Keywords:** Physics educator, perception, internet and teaching

**Introduction**

The internet is the key information and communication technology that led to a worldwide revolutionary change in the information scenario (Siraj, 2021). The internet is a pool of knowledge and any country that fails to provide her youth access to the internet is unseating the country from her throne of dignity among other dignitaries (Olatokun, 2018). It is developed to serve as a platform for various activities for all age groups in society (Akin-Adaramola, 2019). The internet is a technology that has become an enormous part of people's daily lives. Through its ability to act as a support medium in different functions for which people use it, the internet was introduced to academic institutions as a tool to enhance student's academic experience in the mid-1990s (Ngoumandjoka, 2020).

Over the last decades, internet connectivity has improved tremendously and is available everywhere such as homes, offices, travels and schools (Ellore, 2014). Empirical studies of Adedotun (2015) and Akande & Bamise (2017) reported that access to information can influence the academic performance of students. The use of credible internet resources is of greater importance for academic study, especially in high class courses which require an academic review of literature (Sahin, 2020). Internet use for educational purpose is found by Kumah (2015) to be the heart of adolescent academic achievement. The availability of internet is almost everywhere, most students have had access to internet on their cellphones (Ellore, 2014). This helps students to broaden their academic knowledge, research and assignments by accessing information worldwide and also enhances easy communication to the academic community (Siraj, 2021).

Yesilyurt (2014) argued that access to a home computer and internet connection contributes to students' academic performance as well as self-learning skills. Taking into account access and usage of internet by secondary school students in Nigeria, Olatokun (2018) indicated that most students believed the internet to be far better and convenient than their school libraries. They saw it as a source for general knowledge, and hence it has helped them improve the reading habits and their academic performance. The internet is sometimes used as a supplementary learning material and has led to an improvement in students' academic performance (Siraj, 2021). In Nigeria, graduate students see the library as a favorable environment for studies, and a source of relevant and realistic information for research. However, they prefer using the internet to the library because of the fact that the latter provides readily information at all times, faster access to information and large amount of information (Kumah, 2015).

By a way of definition, Olatokun (2018) defined Internet as a computer network consisting of a worldwide network of computer networks that use the TCP/IP network protocols to facilitate data transmission and exchange. Olatokun (2018) explained further that it is a network of networks that consist of privates, public, academic, business and government networks of local to global scope linked by a broad array of electronic, wireless and optical networking technology. This therefore it carries a vast range of information resources and service such as the inter-linked hypertext document and application of the worldwide web (www) electronic mail telephone and file shirring. According to Muhammed, (2021), internet is a large computer network linking together millions of smaller computers at numerous sites in various countries belonging to thousands of businesses, government, research, educational and other organizations. To the internet users, the internet is a global community-one with a very active life. In today world, the Internet plays a vital role in the teaching, research and learning process in academic institutions. Thus, the advent of the Internet has heralded the emergence of a new form of knowledge production and distribution – the soft form.

In the borderless globalization of information era, internet plays a vital vote as knowledge disseminator, nothing can stop us from getting what we want to know, we want to see and to listen because internet can be accessed by everybody. Whether it is harmful or useful, it depends on us how to decide. There are some websites used to enhance internet such as FACEBOOK, WHATSAPP, YOU-TUBE, IMO, SKYPE etc. One of the famous websites to use to enhance is YOU-TUBE websites. YOU-TUBE website is a popular video sharing website where users can upload, view and share video clips. YOU-TUBE has become an enormously popular form of web 2.0 new media, it could be noted that a recent articles in wired cities which is an average of 65,000 uploads and 100 million video viewed per-day on YOU-TUBE that is, this numbers shows how great the response that YOU-TUBE gets from the viewer's especially why in teaching Physics, researcher of teenagers (Siraj, 2021).

Physics educators are persons who were trained and professionally certified to teach Physics at all level of learning. Physics is one of science subject that deals with the study of matter in relation to energy, it can also be described as the backbone of technology because many technology gadgets were built based on its principles. It was established above the benefit of internet in this 21<sup>st</sup> century and that internet is one of technology development so, on this basis, the perception of Physics teachers on the use of internet in teaching physics in secondary schools need to be access

Physics educators' experience, gender and school type were moderating variables used for this study because there was saying that, experience is the bast teacher, Is it this statement True? If it is true, then we need to look at perceptions of experienced and less experienced Physics teachers. Lass experienced were categorized as a teacher below 5 years in teaching. Gender is also among the variable used in this study in order to create room to look at male and female Physics educator perceptions on the use of internet and school type that is public schools own by government while private schools own by an individual.

### **Purpose of the Study**

The main purpose of the study is to investigate Physics educators' perception on the use of Internet in teaching secondary school students in Ilorin metropolis. Specifically, this study seeks to find out:

- i. the perceptions of Physics educators on the use of internet in teaching Physics.
- ii. the perceptions of Physics educators on the use of internet in teaching Physics based on gender
- iii. the perceptions of Physics educators on the use of internet in teaching Physics based on the years of experience.
- iv. the perceptions of Physics educators on the use of internet in teaching Physics based on the school type.
- v. the problems associated with use of internet in teaching Physics.
- vi. ways the use of internet assist in teaching Physics.

### **Research Questions**

The following research questions were answered for the purpose of this study:

- i. What are the perceptions of Physics educators on the use of internet in teaching Physics?
- ii. What are the problems associated with the use of internet in teaching Physics?
- iii. What are the ways the use of internet assist teaching Physics?

### **Research Hypotheses**

**HO<sub>1</sub>:** there is no significant differences between the perception of Male and Female Physics educators on the use of internet in teaching Physics

**HO<sub>2</sub>:** there is no significant differences between the perceptions of Physics educator on the use of internet based on the years of experience.

**HO<sub>3</sub>:** there is no significant differences between the perceptions of Physics educator based on the school type.

### **Methodology**

The study employed a descriptive research of survey type. Random sampling technique was employed to select eighty (80) Physics educators as respondents from thirty-five (35) secondary schools in Ilorin metropolis but seven-eight (78) were retrieved. A researcher designed questionnaire title Physics Educators Perceptions on Use of Internet (PEPUI) was used as an instrument for the data collection. It was divided into two sections (section A and B). Section A were designed to collect data of the respondent while section B consist of statement designed using 5-point likert scale (namely, 1 as strongly disagree, 2 as Disagree, 3 as undecided, 4 as Agree and 5 as strongly Agree). Data collected were analyzed using descriptive statistics (mean and t-test). The face and content validity of the instrument were established by giving copies of the questionnaire to two Professors and a Senior Lecturer in field of Science Education, this was done purposely to determine whether the instrument measured what it was designed to measure. The reliability of the instrument was determined through the test-retest method at an interval of three weeks. The results of the first and second tests were correlated using the Pearson's Product Moment Correlation Coefficient which yielded 0.87, the result shows that internal consistency of the instrument is good.

### **Results**

**Research question one:** What are the perceptions of Physics educators on the use of internet in teaching Physics?

**Table 1**

*Physics educators' perceptions on the use of internet in teaching Physics.*

S/N	Item Statement	SA	A	UD	D	SD	X	STD
1.	The use of internet in teaching helps me to cover the syllabus in short time.	40	25	1	10	2	4.12	1.24
2	I like to use internet while teaching physics because of its abstract in nature	35	22	0	13	8	3.81	1.19
3.	The students respond well if I'm using internet to teach them	52	18	0	6	2	4.43	1.23
4.	Students is highly motivated if I show them real objects on internet	55	16	0	4	3	4.48	1.21
5.	Internet helps me in searching for materials for teaching	50	22	3	2	1	4.51	1.22

6.	The use of internet makes my class student-centered	48	21	2	4	3	4.37	1.18
7.	The use of internet makes me talk less and students understand	49	24	2	2	1	4.51	1.22
8.	The use of internet enriches the students understanding	45	23	3	4	3	4.32	1.19
9.	The use of internet allows students to learn on their own	55	20	1	2	0	4.64	1.25
10.	Internet exposes students to different terminology that enhance their understanding	53	21	1	2	1	4.57	1.24

*Aggregate Mean*

4.376

Decision Mean = 3.00

Table 1 shows Physics educators' perceptions on the use of internet in teaching Physics in secondary school in Ilorin metropolis, from their responses it was cleared that physics educators has positive perceptions on the use of internet in teaching physics because the overall aggregate mean responses on the ten items was 4.376 which is higher than the 3.00 decision mean, most of the respondents' opinion shows that the use of internet in teaching helps them to cover the syllabus in short time with mean of 4.12, students is highly motivated if they show them real objects on the internet with mean score of 4.48, the use of internet allows students to learn on their own with mean score of 4.64 among others.

**Research question two:** What are the problems associated with the use of internet in teaching Physics?

**Table 2**

*Opinion of Physics educators on the problems associated with the use of internet in teaching Physics.*

S/N	Item Statement	SA	A	UD	D	SD	X	STD
1.	Internet connectivity problem	60	15	0	2	1	4.68	1.24
2.	Internet facilities not available in schools	56	14	0	3	5	4.45	1.22

3.	Many students didn't have access to internet	64	10	1	2	1	4.59	1.23
4.	Male students have access to internet than female	45	20	0	9	4	4.20	1.21
5.	I didn't know how to use internet very well	35	30	0	8	5	4.05	1.20
6.	I didn't have access to internet	28	18	2	10	20	3.30	1.19
<i>Aggregate Mean</i>							4.212	

Decision Mean = 3.00

Table 2 indicates Physics educators' problem on the of internet in teaching Physics in secondary schools in Ilorin. From their responses it clearly shown that there are some problems associated with the use of internet in teaching Physics because the overall aggregate mean responses on the six (6) items was 4.212 which is greater than the 3.00 decision mean. Among their responses shows that internet facilities not available in schools with score of 4.45, internet connectivity problems with mean score of 4.68, some teachers didn't know how to use internet very well with mean score of 4.05 to mention but few.

**Research question three:** What are the ways the use of internet assist teaching Physics?

**Table 3**

*Opinion of Physics educators on the ways the use of internet assist in teaching Physics.*

S/N	Item Statement	SA	A	UD	D	SD	X	STD
1.	Internet helps in Searching for Definition of terms through Google	60	10	0	5	3	4.52	1.23
2.	Internet helps in learning a difficult topic via U – tube	55	25	1	5	1	4.67	1.24
3.	Internet helps in searching real image of an object	58	15	1	2	2	4.60	1.25
4.	Physics topics can be delivered through internet.	51	20	3	3	1	4.50	1.23
<i>Aggregate Mean</i>							4.572	

Decision Mean = 3.00

Table 3 shows Physics educators’ opinion on the ways internet assist in teaching Physics in secondary schools in Ilorin. From their responses aggregate mean score is 4.572 which is greater than decision mean of 3.00. It was clearly indicated that internet helps in searching for definition of terms with mean score of 4.52, internet helps in learning a difficult topic via U – tube with mean score of 4.67among others.

**Hypotheses One:** There is no significant differences between the perception of Male and Female Physics educators on the use of internet in teaching Physics.

**Table 4**

*Summary of t- value on perception of male and female Physics educators on the use of internet in teaching Physics.*

Gender	No	Mean	Standard Deviation	Df	Calcuted t-value	Critical t- value	P-value
Males	50	4.54	1.23	76	2.29	1.96	0.75
Females	28	4.22	1.19				

0.05 level of significant

Table 4 presents data on the means, standard deviations and t- value of respondents on the basis of gender. The table shows that the calculated t-value of 2.29 is greater than the critical t- value of 1.96 (p-value 0.75 > 0.05 level of significance). On this basis, the null hypothesis which states that there is no significant differences between the perception of Male and Female Physics educators on the use of internet in teaching Physics was accepted.

**Hypotheses Two:** There is no significant differences between the perceptions of Physics educator on the use of internet based on the years of experience.

**Table 5:**

*Summary of t- value on perception of Physics educator on the use of internet based on the year of experience.*

Years of Experience	No	Mean	Standard Deviation	Df	Calculated t-value	Critical t-value	p-value
Less than 5 years	32	4.37	1.21	76	2.39	1.96	.01
Above 5 years	46	4.21	1.12				

0.05 level of significant

Table 5 presents data on the means, standard deviations and t- value of respondents on the basis of years of experience. The table shows that the calculated t-value of 2.39 is greater than the critical t- value of 1.96 but p-value .01 < 0.05 level of significance. On this basis, the

null hypothesis which states that there is no significant differences between the perceptions of Physics educators on the use of internet based on the years of experience was not accepted.

**Hypotheses Three:** There is no significant differences between the perceptions of Physics educator based on the school type.

**Table 6**

*Summary of t- value on the perception of Physics educator based on the school type.*

School type	No	Mean	Standard Deviation	Df	Calculated t-value	Critical t-value	p-value
Public	50	4.23	1.21	76	1.97	1.96	.07
Private	28	4.13	1.19				

0.05 level of significant

Table 6 presents data on the means, standard deviations and t- value of respondents on the basis of school type. The table shows that the calculated t-value of 1.97 is greater than critical t- value of 1.96 but p-value  $.07 \geq 0.05$  level of significance. On this basis, there is no significant differences between the perceptions of Physics educator based on the school type was accepted.

## **Discussion**

Table 1 shows Physics educators' perceptions on the use of internet in teaching Physics in secondary school in Ilorin metropolis, from their responses it was cleared that physics educators has positive perceptions on the use of internet in teaching physics because the overall aggregate mean responses on the ten items was 4.376 which is higher than the 3.00 decision mean, most of the respondents' opinion shows that the use of internet in teaching helps them to cover the syllabus in short time with mean of 4.12, students is highly motivated if they show them real objects on the internet with mean score of 4.48, the use of internet allows students to learn on their own with mean score of 4.64 among others. This finding is in line with Olatokun (2018) who submitted that, internet exposes students to different terminology that enhanced their understanding, the use of internet enrich the students understanding and the use of internet makes the class student-centered.

Table 2 indicates Physics educators' problem on use of internet in teaching Physics in secondary schools in Ilorin. From their responses it clearly shown that there are some problems associated with the use of internet in teaching Physics because the overall aggregate mean responses on the six (6) items was 4.212 which is greater than the 3.00 decision mean. Among their responses shows that internet facilities not available in schools with score of 4.45, internet connectivity problems with mean score of 4.68, some teachers didn't know how to use internet very well with mean score of 4.05 to mention but few. This is in line with Muhammed (2021) who opened that, many students didn't have access to internet and male have access to internet than female.

Table 3 shows Physics educators' opinion on the ways internet assist in teaching Physics in secondary schools in Ilorin. From their responses aggregate mean score is 4.572



which is greater than decision mean of 3.00. It was clearly indicated that internet helps in searching for definition of terms with mean score of 4.52, internet helps in learning a difficult topic via U – tube with mean score of 4.67 among others.

### **Conclusion**

The study concluded from its findings that Physics educators have a positive perception on the use of internet in teaching Physics, internet benefited Physics educators in teaching physics but Physics educator has a little challenge in the use of internet in teaching Physics.

### **Recommendations**

In line with the conclusion on the findings of this study, the following recommendations are made:

1. Seminars and Workshops should be organized for both public and private Physics educators on the way to use internet in teaching Physics through National Teacher Institute (NTI)
2. Internet access should be made easy for students in both public and private schools by Government and individuals at all levels as to encourage Physics educators to learn and teach some difficulty topics in Physics
3. Regular monitoring and inspection of internet facilities in both public and private secondary schools should be carried out through the ministry of education.

### **References**

- Adedotun, S. P. (2015). Socio-economic background and access to internet as correlates of students' achievement in Agricultural Science. *International Journal of Evaluation and Research in Education (IJERE)*, 2(3), 12-128.
- Akande, S. O., & Bamise, O. F. (2017). The role of school library in academic motivation of secondary school students in Osun State, Nigeria. *International Journal of Library Science. Scientific and Academic Publishing*, 6(1), 18-27.
- Akin-Adaramola, O. S. (2019). The internet usage among secondary school students: A case study on Labone secondary school. Ashesi University College. *Journal of Economics and Economic Education Research*, 12(1), 41-54.
- Ellore, S. B. (2014). The influence of internet usage on academic performance and face-to-face communication. *Journal of Psychology and Behavioral Science*, 2(2) 5-15.
- Kumah, R. (2015). Study of medical students and internet usage. *International Journal of Scientific and Research Publications*, 3(5), 2250-3153.
- Ngoumandjoka, U. (2020). *Correlation between internet usage and academic performance among University students*. University of the Witwatersrand, Johannesburg.
- Muhammed, J. (2021). Worked on effects of internet on the academic performance of tertiary institutions' students in Niger state, Nigeria. *European Scientific Journal*. 12(1) 118 – 131.

Olatokun, W. M. (2018). Internet access and usage by secondary school students in a Nigerian Municipality. *SA Jnl Libs & Info Sci.* 7 (4), 138-148.

Sahin, Y. G., Balta, S., & Ercan, T. (2020). The use of internet resources by University students during their course projects elicitation: A Case Study. *TOJET: The Turkish Online Journal of Educational Technology*, 9(2), 234-244.

Siraj, H. H. (2021). *Internet usage and academic performance: A study in a Malaysian Public University*. Japan Health Sciences University and Japan International Cultural Exchange Foundation.

Yesilyurt, E. (2014). The effect of technological devices on student's academic success: Evidence from Denizli. *Journal of Internet and Application Management*, 5(1), 39-47.