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Relationship between Economics Teachers' Self-Efficacy and their Ability to Integrate Technology in Secondary Schools in Anambra State, Nigeria

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Abstract
The researchers observed that despite the budget that has been devoted to both technology and training, teachers are still concerned about their ability to use the technology that is being made available to them. This suggests that teachers' integration of technology in education is regressing. To better prepare teachers to successfully integrate technology within the classroom, there is need for a better understanding of the relationship between self-efficacy and Economics teachers' ability to integrate technology in classroom. Three research questions were used, while correlation research design was considered for adoption. The population of this study comprised 54 Economics teachers in the existing 18 public secondary schools in Awka South, Anambra State, Nigeria. No sampling was done as the population was of manageable size. Economics Teachers' Self-efficacy (ETSE) and "Economics Teachers' Ability to Integrate Technology (ETAI) were questionnaires used for data collection. The instruments were validated by three experts. The Cronbach alpha coefficient values of 0.76 and 0.73 were obtained for ETSEQ and ETAIQ. The findings of the study revealed that a low positive relationship existed between Economics teachers' self-efficacy and their ability to integrate laptop and social media in secondary schools. It was further revealed that a moderate relationship existed between Economics teachers' self-efficacy and their ability to integrate internet. Based on the findings of the study, it was recommended that Curriculum planners should review the curriculum content to accommodate the use of technology for instructional delivery in Economics.

Keywords: *Self-efficacy, Technology, Ability, Economics teachers, Integrate, Relationship*

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I. Introduction

Technologies for teaching and learning are used via laptops, tablets, smartphones, internet, and social media. These technologies are increasingly setting aside the traditional model of unidirectional instruction in preference to innovative approaches that utilize digital multimedia and technology integration (Clark & Mayer, 2016). The current study is focused on technologies that were used through laptops, internet, and social media.

The use of laptops has made teaching stimulating in the typical classrooms. Some schools have computer labs, as well as mobile laptop labs that the teacher can check out to use in the classroom. Students can be made to bring their laptops from home for the purposes of teaching and learning. Laptops have become so prevalent in today's society that students have integrated these technologies into their everyday lives (Hickson, 2016). This explains the need why individual teachers and students are supposed to have laptops. As people tend to use laptops to supplement and not replace smartphones, they are viewed as less disruptive tools (no phone ringing and no incoming text messages), suggesting they are better compatible with the learning environment (Johnson, Adams & Cummins, 2012). With this prevalence and integration of laptops into the daily lives of students, it would be wise for Economics teachers in particular, and other subject teachers in general, to be adequately trained for implementing these technologies within their classroom instruction. In the light of the global pandemic that has elicited protocols such as social distancing and isolation, laptops are expected to be a common sight in secondary schools for instructional delivery. In addition to laptops, the use of internet for teaching and learning is of utmost importance.

The internet bridged the communication gap that hitherto existed between persons in distant places of the world. Parents can be updated of their children's progress whether they are home or elsewhere via the internet. Having unfettered access to such a good number of people despite distance provides a distinct advantage for today's teachers and students over previous generations (Hickson, 2016). Hickson added that teachers and students are using the internet as a primary source for both research and lesson planning because it provides instant access to vast amounts of information. It is considered to be one of the most powerful digital tool that the world has ever known. Though what makes the internet powerful is not the machinery that incorporates this massive tool, but the "end-users who create, share, collaborate and act collectively" (Waks, 2014, p. 216). There is an urgent need for internet to be used for ease of instruction by both individual students and teachers given that the Covid-19 pandemic has imposed the twin protocols of social distancing and isolation. The current study will be focusing on teachers' ability to integrate internet for instructional delivery. In addition to internet, the use of social media for teaching and learning has become paramount in the light of the global pandemic and the fact that modern day students appear to be addicted to social media.

Social media are collections of online communications channels. According to Ladan, Haruna and Madu (2020), they are online platforms through which individuals, groups and organizations create presence and share information through texts, pictures, music, videos, among others. Going further, social media is a veritable platform for inter-personal interaction. Examples of popular social media sites include: Facebook, Whatsapp, Twitter, Instagram, Pinterest, Blackberry Messenger, Bebo, MySpace, YouTube, Live, Friendster, Skype, Flickr, Google+, Yahoo! Messenger, Beehive, Hi5, and many others. In recent times, there is an exponential growth of social media use which can be linked to the fact that it serves the tripartite purposes of teaching, learning and research. Effective teaching and learning can be enhanced when technology is integrated within the classroom.

Teachers' technology integration refers to their adoption of technologies for effective instructional delivery. Ikwuka cited in Ikwuka (2013) posited that educational technology encompasses the use of information to elicit responses in three domains of cognitive, affective and psychomotor. Therefore, a teacher's effective integration of technology for effective instructional delivery in the classroom has a substantial impact on the effectiveness of the curriculum. Much as technology usage is widespread, technology integration in education has not kept pace (Warham et al., 2017). This is evidenced by the increasing number of schools that are moving towards or adopting a face-to-face teaching environment which reinforces the fact that teachers are not capitalizing on the opportunity to improve and adequately blend technology into curriculum (Slutsky, 2016). Effective instructional technology integration is premised on teacher-efficacy (Gallagher, 2018). Technology integration is driven by technological abilities (skills) and teacher's self-efficacy (predicated upon a teacher's perception) in using technology in the teaching of various secondary school subjects; Economics inclusive.

Economics teachers' ability refers to capacity of the teacher. This capacity of the teacher is as a result of the skills acquired by the teacher. For instance the ability of a teacher to teach Economics is as a result of the teaching skills that the teacher has acquired in the subject. On the other hand, teachers' self-efficacy refers to the belief or perception of the teacher about their ability to undertake a given tasks. For example, an Economics teacher is said to exude self-efficacy when they believe in their ability to teach the subject. Interestingly, self-efficacy is needed for technology integration.

Technology Integration Self-efficacy is the capacity of a teacher to adopt relevant technological devices to drive home their lessons. It refers to the belief about one's ability to succeed at a specific task involving the relevant use and meaningful integration of technological tools to classroom settings (Gomez, 2020). A teacher will belief in their ability to use technology when they have acquired the requisite skills and knowledge that will aid their use of technology. Concisely put, a technologically savvy teacher will have the firm belief that they can effectively adopt technology for instructional purposes. In the context of the current study, teachers' technology integration self-efficacy is teachers' belief in their ability to use technology to drive home their lesson. Teachers' technology integration self-efficacy could be factored into the learning of Economics in secondary schools.

In Awka South Local Government Area of Anambra State, it was observed by the researchers during teaching practice that despite the budget devoted to both technology and training, teachers are still concerned about their ability to use the technology that is being made available to them. This suggests that teachers' integration of technology in education is actually regressing. In order to better prepare teachers to successfully integrate technology within the classroom, there is need for a better understanding of the relationship between self-efficacy and economics teachers' ability to integrate technology in secondary school classroom. This is the focus of the current investigation.

Gomez (2020) examined self-efficacy as a factor on teachers' technology use and integration efforts in urban K-12 classroom in Southern California using survey research design. The sample size for the study consisted of 327 Catholic school teachers obtained through simple random sampling technique. The findings of the study indicated that teachers' self-efficacy was a crucial factor in effectively using and integrating technology in their teaching practice based on the Standards for Educators. Birisci and Kul (2019) investigated

the prediction levels of techno-pedagogical education competency for technology integration self-efficacy beliefs of 174 pre-service teachers at the Faculty of Education of a university in the Eastern Black Sea region of Turkey using correlational research design. The findings of the study showed that pre-service teachers had high levels of technology integration self-efficacy beliefs, with a high-level positive correlation with techno-pedagogical education competency. In addition, the dimensions of techno-pedagogical education competency such as ethics, design, exertion and proficiency were revealed as the predictors of technology integration self-efficacy; moreover, predictive effects of exertion and proficiency dimensions are insignificant. Kent and Gills (2017) examined 62 pre-service teachers' technology self-efficacy in University of South, Alabama using survey research design for the study. The findings of the study revealed that 91%of participants incorporated technology into lessons with 95% of participants reporting some confidence in their ability to select and utilize technology in teaching. Hickson (2016) ascertained the relationship between 64 teachers' self-efficacy within the classroom and their ability to integrate the technology available in the classroom at the middle grade level of a South Georgia school district using correlational research design. The findings of the study indicated that a statistically insignificant relationship existed between teacher self-efficacy and the ability to integrate technology within the classroom. In addition, there was no significant relationship between teacher self-efficacy and smartphone usage, internet usage, social media usage, text messaging, and email.

The following research questions guided the current study:

1. What is the relationship between Economics teachers' self-efficacy and their ability to integrate laptops in secondary schools?
2. What is the relationship between Economics teachers' self-efficacy and their ability to integrate internet in secondary schools?
3. What is the relationship between Economics teachers' self-efficacy and their ability to integrate social media in secondary schools?

II. Method

The present study adopted correlation research design. This design is deemed appropriate for the study because, according to Nworgu (2015), it seeks to ascertain the existing relationship between two or more variables. The sample size comprised all the 54 Economics teachers. No sampling was done due to the fact that the population is not large enough but of manageable size. Economics Teachers' Self-efficacy Questionnaire (ETSEQ) and "Economics Teachers' Ability to Integrate Technology Questionnaire (ETAIQ) were developed by the researcher and used for data collection. The validity of the instruments were ascertained by giving their drafts to three experts along with the purpose of the study, scope, the research questions and hypotheses. The reliabilities of the ETSEQ and ETAIQ were established using Cronbach Alpha Method by administering the ETSEQ and ETAIQ to a similar group of 30 students in Awka-North LGA who did not participate in the study. The internal consistency of the items in the ETSEQ and ETAIQ was determined using Cronbach statistics. The alpha coefficients values of 0.76 and 0.73 were respectively obtained for ETSEQ and ETAIQ. Pearson product moment correlation coefficient was employed to answer the research questions with a view to finding the relationships between the variables. The interpretations of the correlation coefficient was guided by criteria stipulated by Nworgu (2015). These are as follows: 0.20 – 0.40 (low relationship), 0.40 – 0.60 (moderate relationship), 0.60 – 0.80 (high relationship) and 0.80 – 0.10 (very high relationship).

III. Results

Table 1: Pearson r on Relationship between Economics Teachers' Self-Efficacy and their Ability to Integrate Laptops in Secondary Schools.

Source of Variation	N	R	Remark
Economics teachers' self-efficacy Ability to integrate Laptops	54	0.356	Low Positive Relationship

As shown in Table 1, there is a low positive correlation between Economics teachers' self-efficacy and their ability to integrate laptops in secondary schools. This is shown by the size of the Pearson's Correlation Coefficient r which is 0.356.

Table 2: Pearson r on Relationship between Economics Teachers' Self-Efficacy and their Ability to Integrate Internet in Secondary Schools.

Source of Variation	N	R	Remark
Economics teachers' self-efficacy Ability to integrate Internet	54	0.42	moderate Positive Relationship

As shown in Table 2, there is a moderate positive correlation between Economics teachers' self-efficacy and their ability to integrate internet in secondary schools. This is shown by the size of the Pearson's Correlation Coefficient r which is 0.42.

Table 3: Pearson r on Relationship between Economics Teachers' Self-Efficacy and their Ability to Integrate social media in Secondary Schools

Source of Variation	N	R	Remark
Economics teachers' self-efficacy Ability to integrate Social media	54	0.381	Low Positive Relationship

As shown in Table 3, there is a low positive correlation between Economics teachers' self-efficacy and their ability to integrate social media in secondary schools. This is shown by the size of the Pearson's Correlation Coefficient r which is 0.381.

IV. Discussion

The findings of the study revealed that a low positive relationship existed between Economics teachers' self-efficacy and their ability to integrate laptop in secondary schools. This may not be separated from the fact that much as teachers have the belief in their ability to use laptops for instructional delivery, they end up not doing so. It could be traceable to the fact that they have become accustomed to the analogue method of instructional delivery. The finding of the present study is consistent with the position of Gomez (2020) that participating teachers had a fair level of confidence (i.e., they are fairly but not highly confident) in both using and integrating technology. However, the finding of the study contradicts the assertion of Birisci and Kul (2019) that pre-service teachers had high levels of technology integration self-efficacy beliefs, with a high-level positive correlation with techno-pedagogical education competency. This contradiction could be traceable to the disparity in sample characteristics.

The indication of the findings of the study is that a moderate positive relationship existed between Economics teachers' self-efficacy and their ability to integrate internet in secondary schools. The moderate relationship is understandable given that an average teacher makes use of the internet for purposes ranging from learning to research. The finding of the current study agrees with the stipulation of Kent and Gills (2017) who posited that most teachers have confidence in their ability to select and utilize technology for teaching. This confidence, in contemporary times is expedient given that there is an emphasis on virtual learning as a result of the Covid-19 pandemic that has made the traditional face-to-face method of teaching difficult. The finding of the study is however, inconsistent with the position of Hickson (2016) that no significant relationship existed between teacher self-efficacy and internet usage. This inconsistency may be a consequence of variations in the digital orientation of teachers in the areas of study.

Relationship between Economics teachers' self-efficacy and their ability to integrate social media in secondary schools

The revelation of the findings of the study is that a low positive relationship existed between Economics teachers' self-efficacy and their ability to integrate social media in secondary schools. This could be as a result of the fact that some teachers perceive the use of social media as a source of distraction to modern day students who are acclaimed digital natives. Be that as it may, the use of social media is desirable when it adds value to the lesson. For example, in Economics, the use of social media can help students gain a better conceptual understanding of Economics notions by enabling them to see concepts that would otherwise be quite abstract. The findings of the present study corroborates with the assertion of Hickson (2016) which stated that no significant relationship existed between teacher self-efficacy and social media usage.

V. Conclusion

In line with the findings of the study, it was concluded that a low positive relationship existed between Economics teachers' self-efficacy and their ability to integrate laptop and social media in secondary schools. It was further concluded that a moderate relationship existed between Economics teachers' self-efficacy and their ability to integrate internet in secondary schools.

VI. Recommendations

Based on the findings of the study, several recommendations were made. They are thus outlined:

1. Curriculum planners should review the curriculum content to accommodate the use of technology for instructional delivery in Economics. That way, Economics teachers will consider the acquisition of self-efficacy for technological integration a necessity.

2. Secondary school administrators should organize workshops and seminars to train Economics teachers on the need to be self-efficacious in the integration of technology for instructional delivery.
3. Government should, as matter of urgency, make adequate provision of requisite technological devices that will enhance instructional delivery in Economics. As a consequence, Economics teachers will see the need to be technologically self-efficacious.
4. Economics teachers, in view of the Covid-19 pandemic, should, as a matter of necessity, exude self-efficacy in the integration of technology for a stimulating teaching-learning process for digital natives.

References

[1]. Birisci, S., & Kul, U. (2019). Predictors of technology integration self-efficacy beliefs of pre-service teachers. *Contemporary Educational Technology*, 10(1), 75-93. https://doi.org/10.30935/cet.512537
[2]. Clark, R. C., & Mayer, R.E. (2016). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning* (4th ed). Hoboken, NJ: John Wiley & sons. https://doi.org/10.1002/9781119239086
[3]. Gallagher, K. (2018). Why effective digital learning shouldn't disrupt traditional teaching techniques (blog). EdSurge. https://www.edsurge.com/amp/news/2018-04-12-why-effective-digital-learningshouldn-t-disrupt-traditional-teaching
[4]. Gomez, F.C. (2020). *Technology integration self-efficacy reframed through the ISTE standards: An investigation among urban K-12 teachers.* Unpublished Doctoral Dissertation, Educational Technology, Boise state University. https://doi.or/10.18122/td/1692/boisestate
[5]. Hicson, R.S. (2016). *The relationship between self-efficacy and teachers' ability to integrate technology.* Unpublished Doctoral thesis, Liberty University. https://www.edsurge.com/amp/news/2018-04-12-why-effective-digital-learningshouldn-t-disrupt-traditional-teaching techniques?
[6]. Johnson, L., Adams, S., & Cummins, M. (2012). *The NMC horizon report: 2012 higher education edition*. Austin, Texas: The New Media Consortium https://wwwlearntechlib.org/p/48964/.
[7]. Kent, A.M., & Giles, R.M. (2017). Pre-service teachers' technology self-efficacy. https://creativecommons,org/licenses/by/3.0/
[8]. Ladan, A., Haruna, B., & Madu, A.U. (2020). Covid-19 pandemic and social media news in Nigeria: The role of libraries and library associations in information dissemination. *International Journal of Innovation and Research in Educational Sciences,* 7(2), 125-133.
[9]. Nworgu, B.G. (2015). *Educational research: Basic issues and methodology*. Ibadan, Nigeria: wisdom Publishers Ltd.
[10]. Slutsky, A. (2016). Factors influencing teachers' technology self-efficacy. Education Dissertations and projects, 174. https://digitalcommons.gardener-webb.edu/educationetd/174
[11]. Waks, L.J. (2014). Leaders in philosophy of education: intellectual self-portrait (second series). Springer. https://doi.org/10.1007/978-94-6209-758-2
[12]. Warham, L., Gurney, T., Wingfield, M., Ring, C., Lowe, G., & Hughes, G. (2017). Edtech: Keeping up with the pace of change. In S. Beyer (Chair). Education Technology, 28, 44-50. https://edtechnology.co.uk/article/edtech-keeping-up-with-the-pace-of-change/

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