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Age and Gender as Correlates of English Language Teachers' Disposition to Computers for Pedagogy in Southwestern Nigeria

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Abstract

The determined relationships of age and gender with English Language teachers' disposition to the use of computers in western Nigeria. A total of 240 teachers was sampled through stratified random sampling for the survey design of the ex-post facto type. A twenty-four-item self-constructed questionnaire titled Language Teachers' Computer Attitudes Questionnaire (LTCAQ) was used for data collection. Copies of the instrument that yielded 92.4 Cronbach alpha were administered to the teachers. Only 217 of the 240 copies were returned and the data obtained were subjected to frequency counts, percentages and chi-square statistical tools to answer one research question and test two null hypotheses. The findings showed that the teachers generally had positive disposition to computers, gender had significant relationship with the teachers' disposition to computers while age did not. It was concluded that with more advocacy, the teachers can be helped to translate their positive disposition to extensive actual use of the facility. It was then recommended that government should help teachers to easily acquire computers. English Language teacher education programmes should adequately prepare pre-service teachers for effective and efficient deployment of computers for language teaching.

Keywords: Age, computer, disposition, gender, language teachers, pedagogy

Introduction

Disposition is the tendency to act in a certain way consistently under certain circumstances as propelled by such personal traits as beliefs and attitudes (Kirwan, & Roumell, 2015; Sachdeva, 2016). Teachers' disposition to any type of technological equipment largely determines their decision to either use or forsake it (Shin, 2015; Lehtinen, Nieminen & Viiri, 2016). One of the findings by Coleman, Gibson, Cotten, Howell-Moroney and Stringer (2016) in a study on a sample of fourth- and fifth-grade teachers in an urban, low-income school district in the Southeastern United States confirms that teachers' disposition to computers significantly determines their levels of actual adoption of the equipment for teaching-learning.

According to Drosel, Eickelmann and Gerick (2017) as well as Lawrence and Tar (2018), achieving significant success in motivating teachers to use computer technology in teaching largely depends on identifying the factors that control the teachers' disposition to the technology. The importance of disposition is exemplified in a study conducted by Palaiologou (2016) on teachers in England, Luxemburg, Malta, Greece and Kuwait, in which one of the findings shows that despite the teachers' personal digital competence, their use of technology was unsatisfactory. This ascertains the superiority of disposition over knowledge possession. It also proves that unhelpful disposition is the gap between possession of the knowledge of computer and its actual use.

In recognition of the significance of disposition in any successful technology-rich educational endeavour, Mittal, Chaudhary and Alavi (2017) recommend serious attention to disposition as a major concern for educational administrators. This is because, among other reasons, teachers' disposition towards new technologies, computers inclusive, can be enhanced, if they are accorded appropriate support (Young, 2016). It is thus pertinent to consider the variables that initiate and sustain the teachers' disposition to computers.

Following the realisation that personal traits contribute largely to disposition, the current study identifies the personality traits of gender and age as variables that may have significant relationships with the disposition of English Language teachers to the adoption of computers in southwestern Nigeria. This is with a view to determining how the

contributions of the two variables can be exploited to facilitate positive disposition to computers as a part of the efforts at enhancing Nigerian students' mastery of the subject.

It is obvious that most Nigerian students are grossly deficient in the English language as shown consistently in their performance in the school subject through which the language is taught and examined (Ayodele, 2001; Kolawole & Olatunji, 2006; WAEC *Chief Examiner's Report* 2016). There have thus been frantic research efforts to discover the causes of the endemic failure as well as appropriate solutions to the problem (Kolawole, 1998; Aladeyomi and Adetunde, 2007; Oyinloye and Gbenedio, 2010). But the problem has persisted till date.

Among the solutions found in literature to have produced good results is the use of various delivery modes of computer-assisted instructional strategies (Biesembach-Lucas, 2007; Folajinmi, Ejiofor and Folajinmi, 2008; Fawwas and Mahmoud, 2010; Maedeh, Monsoor and Masood, 2013). Olatunji (2008) found from a survey that Nigerian students spend much more time on computer-mediated activities than formal learning. It is then suggested that incorporating the computer into English Language classroom activities will be helpful in arresting and sustaining students' attention. But the quality of its teachers determines the heights that a system of education can attain (Hooker, 2009; Pihie and Bagheri, 2011, NERDC, 2013). So, teacher variables outweigh such factors as availability of and accessibility to computers.

In addition to a sound and comprehensive teacher education programme, the teachers' attitude or disposition matters a lot in determining their quality, effectiveness and efficiency. No degree of equipping schools with computers can produce the desired results without competent teachers that have positive disposition to computer-assisted instruction (Albirini, 2006; Rahimi and Yadollahi, 2012). Wang and Dostál (2017) too emphasise the importance of teachers' disposition to ICT as the most prominent requirement for its successful deployment to teaching and learning. They (Wang & Dostál, 2017) further observe a paucity of studies investigating teachers' disposition to ICT in the midst of a plethora of studies on the impacts of technology on learning outcomes. Therefore, a study to determine English Language teachers'

disposition to the use of computer in lesson delivery in their field is very important.

Two of the variables that literature shows can impact on teachers' disposition to technology are of interest in the current study: Age and gender. The age of a teacher at the time of being introduced into teaching with technology determines the teachers' disposition to it. One of the conclusions by Aldunate and Nussbaum (2013) is that teachers who adopt technology early and invest much of their time to incorporate educational technology into their pedagogic enterprise are more likely to adopt new technology, irrespective of its intricacy.

It has been found that new technologies are an overwhelming challenge to the traditional and age-long process of teaching and learning which the older teachers have thought must be conserved by all means (Kwache, 2007; Ilomaki, 2007). Young teachers (age group 25-40 years) are more receptive to new ideas, technology inclusive (Pande, 2002; Ferrero, 2003). The mixed-method study carried out by Berkowsky, Sharit and Czadja (2018) indicates less readiness to adopt technology in the older participants than the younger ones. Wang and Dostál's (2017) submit that age intrinsically significantly determines a teacher's disposition to technology underscores the primacy of age as a factor for technology's adoption for pedagogy. But Williams' (2015) survey shows no significant relationship between age and teachers' disposition to computers.

However, Lau and Sim's (2008) findings from a survey reveal that sampled elderly teachers in Malaysia were eager to adopt ICT, of which computer is the greatest driver, in schools. The Anova result from John's (2015) study shows that a significant difference existed in various age groups' disposition as indicated by perceived ease of use. Contrarily, a finding by Tondeur, Aesaert, Prestidge and Consuegre (2018) shows no significant contribution of age to pre-service teachers' computer competency, indicating that disposition may not vary according to age. These thus make findings on the impact of age on teachers' disposition to the adoption of computers to pedagogy inconclusive, hence the need for this study to provide a statistically valid description of the role of age factor on English Language teachers' disposition to the use of computer for language instruction in Nigeria.

Gender influence on people's disposition to computer has also been widely investigated. The results of an Independent Samples T-test in a study carried out by John (2015) shows a significant difference in perception of ease of use of computers (an important component of disposition to computers) in favour of male teachers (t value = 2.46, p=0.01). This is corroborated by findings from other studies (Opoku & Kuranchie, 2014). The survey carried out by Marth and Bogner (2018) across different age categories shows males demonstrating better disposition through significantly higher interest and social adjustment to technology. The finding of a gender gap in disposition to aspects of computer science and engineering in favour of males by Brauner, Ziefle, Schroeder, Leonhardt, Bergner and Ziegler (2018) as well as Ehrlinger, Plant, Hartwig, Vossen, Columb and Brewer (2018) may be representative of the general disposition to the use of computer in all spheres of life, language teaching inclusive.

However, Elsaadani (2012) found no significant difference in male teaching staff's disposition to technology and their female counterparts. Other studies similarly found no significant difference in disposition to computers on the basis of gender (Wong and Hanafi, 2007; Suri and Sharma, 2013). Though Timothy (2010) found no statistical significance for gender in the four constructs of computer attitude in his study on 157 pre-service teachers, the mean scores for males were higher for three of the constructs. Williams' (2015) survey too shows no significant influence of gender on teachers' disposition to computers. Teo and Zhou (2017) too, found no moderating effect of gender on sampled teachers' disposition to the use of technology in teaching. Also the finding of no significant effect of gender on pre-service teachers' computer competencies by Tondeur, Aesaert, Prestidge and Consuegre (2018) could be interpreted as indicative of absence of differentials in disposition.

Statement of Problem

The afore-referenced findings too indicate the fact that more studies on the relationship between gender and attitude to computer need to be carried out, especially such that are specifically focused on Nigerian teachers. The current study is thus aimed at determining the relationship

between English language teachers' gender and their disposition to the deployment of computers in language teaching in western Nigeria. It is to also investigate the relationship between their age and their disposition to the use of computer for language pedagogy. This is to determine how each of the variables can be manipulated for better disposition of the teachers to computers. The advantages of the technology can then be adequately exploited. It is hoped that this would eventually contribute better performance of Nigerian students in English language.

Research Question

What is the range of the disposition of English language teachers to the use of computers for teaching and learning in southwestern Nigeria?

Hypotheses

1. There will be no significant relationship between English language teachers' gender and their disposition to the use of computers in language pedagogy.
2. There is no significant relationship between English language teachers' age and their disposition to the use of computers in language pedagogy

Methodology

The survey design of the ex-post facto type was employed. The study population comprised senior secondary English Language teachers in four states in the western part of Nigeria, namely, Oyo, Ogun, Osun and Ondo. Sixty teachers were got through stratified random sampling from each of the states to constitute a sample size of 240, of which 217 made their responses available for analysis.

A twenty-four-item self-constructed questionnaire titled "Language Teachers' Computer Attitudes Questionnaire (LTCAQ)" was used for data collection. The questionnaire is divided into three sections A, B and C. Section A introduces the study. Section B contains seven items that require information about each respondent's age, sex, qualification and teaching experience. Section C comprises seventeen items that probe the teachers' disposition to computer use in language teaching and

learning on a modified four-point likert scale of Strongly Disagree, Disagree, Agree, and Strongly Agree.

Copies of the questionnaire were administered to 30 English Language teachers that were not included in the study sample but with similar demographic features as in the sample. The computation of their responses through the Statistical Package for the Social Sciences yielded 92.4 Cronbach alpha. Copies of the instrument were administered to the teachers by the researcher and two research assistants. Efforts were made to retrieve the copies immediately but in most cases, this was not possible because of the teachers' busy schedules. At the end of the exercise 217 of the 240 copies served were retrieved and found usable. Frequency counts, percentages and chi-square statistical tools were used in analyzing the data obtained and in answering one research question and testing two null hypotheses.

Results

Research Question: What is the range of the disposition of English language teachers to the use of computers for teaching and learning in southwestern Nigeria?

Table 1: English Language Teachers' Disposition to the Use of Computers for Language Pedagogy in Southwestern Nigeria

Disposition Type	Frequency	Percentage
Negative	-	-
Weakly favourable	**80**	**36.9**
Averagely favourable	**89**	**41.0**
Strongly favourable	**48**	**22.1**
Total	**217**	**100**

None of the respondents has negative disposition to the deployment of computers for language pedagogy. This shows how widespread the realization that computers hold great prospects for all endeavours is among the teachers. The responses that showed favourable but weak disposition to the use of computers for language teaching were 80

(36.9%). Those denoting averagely favourable disposition are 89 (41.0%) while only 48 (22.1%) portray strongly favourable disposition. The answer to the research question is thus that the teachers' disposition is positive or favourable but in the range of the weak, the average and the strong. The responses that are weak are those that signify positive disposition but with no indication of readiness to adopt computers. Those that are average include a small degree of readiness to use computers while the strong ones are those including the willingness to adopt computers for pedagogy. While some respondents ticked "Strongly Agree" for some stimuli, others simply ticked "Agree".

The first obvious implication of this finding is that the knowledge of the usefulness of computers in language teaching and learning is adequately widespread among the English Language teachers. Secondly, the disposition to adopt the computer resources is also general to the teachers. But thirdly, more emphasis needs to be placed on getting most of the teachers really familiar to computers in order to remove age-long attitudinal inhibitions to the teachers' readiness to practically employ computers. This may, perhaps, include efforts at boosting the teachers' self-efficacy with computers.

H_{01}: There will be no significant relationship between English anguage teachers' gender and their disposition to the use of computers in language pedagogy.

Table 2 : Relationship between Teachers' Gender and Disposition to Computer for Teaching

Gender	Disposition			Total	X^2	df	p-value
	Weak	Average	Strong				
Male	25(24.5%)	45(44.1%)	32(31.4%)	102(100%)	15.87	2	0.0001
Female	55(41.8%)	44(38.3%)	16(13.9%)	115(100%)			
Total	80(36.9%)	89(41%)	48(22.1%)	217(100%)	Corr -0.27		0.0001

The result of the data collected was analyzed with the aid of chi-square statistics. The result indicates that the null hypothesis, tested at 5% level of significance stated that there is no significant relationship between English language teachers' gender and their disposition to the

use of computers in language pedagogy. The observed value is 15.873 and degree of freedom is 2. There is significance since probability value is 0.0001 ($P < 0.05$). Therefore, the null hypothesis is rejected and thus confirmed that there is significant relationship between English Language teachers' gender and their disposition to the use of computers in language pedagogy. This means being either a male or a female significantly contributes to the disposition of most Nigerian teachers of English Language to the use of computer. This, however, seems contrary to Agbatogun's (2010) finding of insignificant effect of gender on Nigerian teachers' use of computers. But it should be noted that people's disposition to a particular object may not always perfectly predict their rate of actual use of the object. The significant relationship found between gender and disposition to computers in the current study is corroborated by the finding from a study of 186 pre-service teachers at the University of Hong Kong by Yuen and Ma (2002) that there was gender significantly difference in acceptance of computers. The difference in perceived usefulness and perceived ease of use was in favour of the female sample. This is similar to Nickell and Pinto's (1986) finding of possible gender difference in attitude to computers.

Pope-Davis and Twing's (1991) study on 207 college students showed no significant influence of gender on attitude to computers. But Meelissen and Drent (2008) found higher between-school variance in girls' computer attitude than the boys'. Other research findings that reported gender difference in disposition to computers in favour of males are Shaashani (1993), Whitley (1997) and Durndell and Haag (2002).

The significance of the finding of a strong relationship between the Nigerian teachers of English and disposition to the use of computers for pedagogy is that efforts at promoting the adoption of computers for English language teaching and learning should address the need to give adequate attention to gender based inhibitions and utilise positive gender based traits for maximum results. A look at the frequency counts and percentages shows that the males are generally better disposed to the use of computers than the females. Therefore, more advocacy is required on the female teachers than their male counterparts while the males' higher level positive disposition should be adequately harnessed.

H_{02}: There is no significant relationship between English language teachers' age and their disposition to the use of computers in language pedagogy

Table 3 : Relationship between Teachers' Age and Disposition to Computer for Teaching

Age	Disposition			Total	X^2	df	p-value
	Weak	Average	Strong				
21 -30yrs	4(40%)	6(60%)	0(0%)	10(100%)			
31-40yrs	19(29.2%)	30(46.2%)	16(24.6%)	65(100%)	5.86	6	0.439
41-50yrs	43(41%)	38(36.2%)	24(22.9%)	105(100%)			
51-60yrs	14(37.8%)	15(40.5%)	8(21.6%)	37(100%)			
Total	80(36.9%)	89(41%)	48(22.1%)	217(100%)	Corr -	.036	0.599

The result shows that the null hypothesis, tested at 0.05 level of significance, stated that there is no significant difference between English Language teachers' age and their disposition to the use of computers in language pedagogy. The observed X^2 value is 5.86 and degree of freedom is 6. There is no significance since probability value is 0.439 ($P > 0.05$). Therefore, the null hypothesis is not rejected and thus confirmed that there is no significant difference between English language teachers' age and their disposition to the use of computers in language pedagogy. The provision of laptop computers for secondary school teachers on installment by the governments of the states in the sample must have made computers so familiar to have eroded the age differentials in disposition to the deployment of computers for pedagogy.

Similarly, neither ANOVA nor Duncan multiple comparison revealed that age affected the sample's disposition to computers in a study conducted on Mathematical Sciences faculty of King Fahd University of Petroleum and Minerals by Yushau (2006) but he observed that the raw data showed a degree of difference. Czaja, Hammond, Blascovich and Swede (1989) carried out an experiment on one hundred and thirty-five females ranging in age from 25 to 70 and found significant effect of age on the respondents' success in the use of computers. Pope-Davis and Twing (1991) found significant effect of age on some subscales of attitude to computers in a study carried out on 207 college students.

The finding of no significant relationship between age and disposition to computers in the current study proves that apathy to computers manifested by old teachers in some studies is neither natural nor irreversible. When even old people are exposed to computers with relative ease, their apprehension about the technology will be significantly reduced and they can also become people that Crystal (2001, p.3) and Prensky (2001, p.1) respectively refer to as "netizens" and "digital natives".

Conclusion

Findings from this survey have revealed that English language teachers in southwestern Nigeria have generally positive disposition to the use of computers for language teaching but more advocacy is still needed to be done in order to boost the disposition to precipitate actual habitual use. There is significant relationship between the teachers' genders and their disposition to computers while their age does not significantly affect their disposition to the use of computers for language teaching.

Recommendations

i. The government should intensify efforts at making computers common among the teachers so as to make the technology familiar.
ii. The government should organize frequent skill upgrade seminars and workshops that will expose the teachers to various ways computers are being used in other countries to facilitate language teaching and learning.
iii. The various language teacher education providers should encourage research into age-related factors and gender-based ones that facilitate either technology acceptance or rejection in order to be properly guided in developing the right curriculum contents that will make the language teachers positively disposed to the use of computers irrespective of age and gender factors.

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