academicresearchJournals

International Journal of Academic Research in Education and Review

Full Length Research

Gender-induced teacher stereotypes on the awareness and conscious use of pedagogical gestures as enhancement technique among English teachers in secondary schools in Enugu state, Nigeria.

Nkechiyere Iwe, PhD

General studies Unit, Micheal Okpara University of Agriculture, Umudike, Abia State, Nigeria
E-mail: iwenkechinyere32@gmail.com

The study seeks to ascertain the awareness and conscious use of language teachers on pedagogical gestures and whether gender-induced teacher stereotypes influence teachers' awareness and conscious use of pedagogical gestures. The study adopts the survey research design with a sample size of 262 drawn using multi-staged sampling techniques. The Z-test method was used in testing the hypothesis of the study. It was discovered that there was high mean response of teachers on the awareness of general purpose gestures and pedagogical gestures. There were significant differences in the mean response of male/female teacher's awareness of pedagogical gestures as enhancement technique, and no significant differences in the mean response of male/female teacher's conscious use of pedagogical gestures as enhancement technique. Our conclusion is that pedagogical gestures are indispensable in lesson delivery and that their pedagogic values are gained through awareness and conscious use of them as enhancement technique. The study recommends practical training of teachers on the use of pedagogical gestures as a regular exercise and teachers' assessment in the use of pedagogical gestures be made part of teacher promotion examinations in Nigeria to encourage conscious use of the gestures.

Cite This Article As: Iwe, N. (2021). Gender-induced teacher stereotypes on the awareness and conscious use of pedagogical gestures as enhancement technique among English teachers in secondary schools in Enugu state, Nigeria. Inter. J. Acad. Res. Educ. Rev. 9(3): 125-138

INTRODUCTION

Teachers can use gesture to become even more effective in several fundamental aspects of their profession, including communication, assessment of their students' knowledge and ability so as to instill a profound understanding of abstract concepts in traditionally difficult domains such as language and mathematics (Kelly, Manning, and Rodak, 2008). The authors further maintain that even a casual observation of teachers and students interacting in the classroom will reveal that gestures are as pervasive and indispensible as black boards, desks and lesson plans.

The general claim, therefore, is that adding gesture to spoken instruction makes the instruction more effective. It promotes learning when it is used in teaching contexts. In other words, children are more likely to benefit more from instruction when it is accompanied by gesture than when it is not. This means that the gestures that teachers produce during instructions, termed teaching gestures/pedagogical gestures could facilitate learning by helping children understand the concepts that accompany those gestures. This is because information is presented to them in more than one modality – speech and gesture. By general-purpose gestures, we refer to gestures that typify everyday-conversations. They are

unconsciously adopted and arbitrarily used in human regular conversations. Pedagogical gestures refer to gestures that specifically enhance teaching and learning. They are different from everyday/general-purpose gestures in that the teacher intentionally designs them and does not arbitrarily but significantly use them for lesson delivery. They are intentionally designed in that the teacher creates them based on issues or point he/she wants to explain to the students and are applied in a way that the students would understand that point or issue discussed. The ability of the teacher to context-design the gestures further differentiates them from general purpose gestures.

Teachers use teaching gestures/pedagogical gestures to capture the attention of the students and make their lessons more dynamic and more understandable. According to Tellier (2008), such gestures appear in various shapes: hand gestures, facial expressions, pantomime, body movements and so on. These gestures help learners to infer the meaning of spoken words or expressions.

Even in second language learning like Gulberg's (2008) study has shown, teachers use of gesture help to assist learners especially, struggling ones to grapple with aspects of the new language. Gulberg studied the role of gesture in second language learning and strongly recommended the use of visually rich gestures such as iconic gestures. This is to strengthen his claim that such gestures serve as ideal input to beginning learners of a second language. According to Gulberg, the best source of gestural information is the language teacher who is able to observe behavior in the two cultures (that of the native speakers and that of the second language learners) and use appropriate gestures to teach the language in his own classroom. (Gulberg, 2008). Such teachers are considered to be a lot more effective than those who do not take all the pains. The question is, "how aware are teachers of their use of these gestures, and how do they consciously use them as enhancement techniques in the classroom? It is against this background that the present study is designed to investigate Nigerian teachers' awareness and conscious use of pedagogical gestures as enhancement techniques in the English language classroom. The study is aimed at examining the influence of teachers' gender on awareness and conscious use of pedagogical gestures as enhancement technique.

Contextualizing the study

Gestures in teaching has attracted varied research attention such as Roth (2001), Valenzeno, Alibali and Klatzky (2003), Church, Ayman – Nolley and Mahootian (2004), Lazaraton (2004), Pozzer-Ardebghi and Roth (2007), Nikazm (2008), Tara and Megan (2009),

Macedonia and Knosche (2011), Macedonia and Kriegstein (2012), Oluikpe (2014). Gesture studies have contributed significantly to our understanding of child language acquisition. It has also contributed immensely in adult communication. A new research interest has been generated in the area of pedagogical gestures where experimental studies have shown that pedagogical gestures facilitate the teaching of English (Macedonia and Knosche (2011), Macedonia and Kriegstein (2012). From these studies, it is given that pedagogical gestures are effective enhancement tools in the English language classroom. However, it leaves to be seen how much teachers are aware and their conscious use of these gestures as enhancement technique in language class room particularly in developing and less innovation-driven societies like Nigeria.

Gestures and language class room

McNeil (1992) sees gesture as" an integral part of language as much as are words, phrases, and sentences –gesture and language are one system"(p.2). This implies that language is an embodiment of gesture and speech. There are no separate gesture languages from speech language. McNeill further claims that there are two elements of the speech-gesture relationship that are particularly interesting: Firstly, co-speech gestures do not make sense without the accompanying speech. Secondly and quite related to the first, is that gesture and speech combine to reveal meaning that goes beyond the sum of the two individual parts. For instance, according to McNeill (1992), a friend simply telling you how he got involved in an auto crash will not make clear the picture of the incident without gesturing how the cars collided. The addition of this iconic gesture would surely provide a much clearer and more elaborate representation of what happened (p.3). If we are inclined to accept McNeil's definition, then communication cannot be complete or understood without the use of gestures both in formal and informal setting

This position of McNeill is supported by Bates and Dick (2002) who, in their study of gesture and development, posit that if gesture and speech form an integrated system, gesture should play an important role in language and cognitive development.

Previous studies have shown the effect of gesture on second language memorization by young children. Tellier (2008) as well as Goldin – Meadow and Alibali (2013) independently show that gestures promote deeper learning which leads to new problem-solving types and retention of knowledge, much better than lessons without gestures. Teachers' gestures, therefore, can be said to have a substantial impact on students' learning, as a teacher's inclination to support difficult material with gesture may be precisely what their students need to

grasp a challenging material.

Given that teachers' gestures affect the information that students take up from a lesson, and given that teachers can alter their gestures if they wish to do so, Goldin – Meadow and Alibali (2013) think that it may be worthwhile for teachers to use gestures in a planned and purposeful fashion to reinforce the message they intend to convey. Furthermore, in the light of evidence that the use of gesture can itself promote learning, teachers may also wish to encourage children to produce gestures themselves, as such encouragement may serve to activate their implicit knowledge, making them particularly receptive to instruction (Broaders, Cook, Mitchell & Goldin – Meadow, 2007).

Similarly, Cook and Goldin – Meadow (2006) feel that gesturing can free-up mental capacity and can also influence the process of information exchange between teachers and students. They further observe another example of a potential advantage of gesturing in education during assessment. In that case, they suggest that teachers could be trained to incorporate gesture in making more appropriate student appraisal. In other words, gesturing can be very useful, and indeed indispensable in education both at the level of instruction and at the level of assessment of student so as to ascertain their level of progress in understanding the instruction or teaching that is given to them.

It is also important to reckon the work of Biau and Soto-Faraco (n.d, p.69) who record modulated auditory integration at two stages of learning, one at the early stage, and two, at the later time when beat gestures synchronized with speech. Beat gestures produced along with speech have also been found to modulate brain activity in listeners (Hubbard, Wilson, Callan & Dapretto, 2009). These works show that gestures constitute a very prominent part of paralinguistic context in which listeners perceive spoken messages.

OBJECTIVES OF THE STUDY

The aim of the study in broad terms, is to determine Nigerian English language teachers' awareness an conscious use of pedagogical gestures as enhancement technique in the English Language classroom, and whether gender-induced teacher stereotypes influence teachers' awareness and conscious use of pedagogical gestures. The specific objectives were:

- To determine teachers' ability to differentiate between general and pedagogical gestures.
- To determine teachers' conscious use of pedagogical gestures as enhancement technique in the language classroom.
- To determine how gender-induced stereotypes influence teachers' awareness and conscious use of pedagogical gestures

RESEARCH QUESTIONS

(1)   What is the mean response of teachers' differentiation of the meaning generated by the general purpose gestures and pedagogical gestures sampled in the study?
(2)   What is the mean response of teachers' conscious use of pedagogical gestures in lesson delivery?
(3)   To what extent does male teachers' awareness and conscious use of pedagogical gesture as enhancement technique in the language classroom differ from those of their female counterparts?

The following hypotheses were formulated:

Ho_1 There is no significant difference between the mean responses of male teachers on awareness of pedagogical gestures from those of their female counterparts.

Ho_2 There is no significant difference between the mean responses of male teachers on conscious use of pedagogical gestures from those of their female counterparts.

THEORETICAL FRAMEWORK

Researches in educational dimensions of gestures and signs have benefitted from the rich interpretative postulations of social *semiotics* theory. The strength lies in the fact that the theory assumes that gestures are educational aiding sickles, particularly for the purposes of teaching and monitoring the development stages of children and infants (Hodge and Kress 1988).

The main task of social *semiotics* is to develop analytical and theoretical frameworks which can explain meaning-making through signs/ gestures in a social context (Thibault, 1991).The theory has the following major tenets:

- Meanings can be modeled in signs or gestures
- Meaning-carrying gestures or signs reflect certain social issues
- The gesture or sign is often socially-shared (i.e.) social context
- Understanding gestures or signs is a fall out of shared or schemata knowledge.
- Shared or schemata knowledge is socially defined.

It is instructive to note that some studies have captured the strengths of the social *semiotics* theory which partly informed the choice of the theory in this study. According to Culler (1985)"social *semiotics* can help to denaturalize theoretical assumptions in general *semiotics* to specifics

of the uses of signs and gestures in social settings" (p.102). What this means is that many scholars who encounter *semiotics* find it unsettling, others find it exciting particularly when social dimension is applied. Social *semiotic* techniques in which the analogy of language as a system is extended to culture as a whole can be seen as representing "a substantial break from the positivist and empirical traditions which had limited much previous cultural theory"(Franklin*,* 1996, p.263). Hodge and Kress (1990) argue that unlike many theoretical postulations, social *semiotics* offers the promise of a systematic, comprehensive and coherent study of communications phenomena as a whole, not just instances of it. Hodge and Kress (1998) hold as follows:

Social *semiotics* provides us with a potentially unifying conceptual framework and a set of methods and terms for use across the full range of signifying practices, which include gesture, posture, dress, writing, speech, photography, film, television and radio. Social *Semiotics* may not itself be a discipline but it is at least a focus of enquiry, with a central concern for meaning-making practices which conventional academic disciplines treat as peripheral (p.1).

In other words, Hodge and Kress's (1998) position is that social *semiotics* has the main focus of making meaning not just by the use of gestures but through a host of other modes such as posture, dress, photography, film, television, radio, etc. The social *semiotic* theory is therefore relevant to this study in that it accounts for how meaning is modeled in gestures, how gestures are socially shared in a typical teaching classroom and how gestures facilitate or enhance teaching and learning.

METHODOLOGY

The study adopted the survey research design which entails selecting a sample from a population which is representative enough to make valid generalizations. Baran (1999, p.350) supports this as he observes thus: "Survey allows researchers to measure characteristics, opinions or behavior of a population by studying a small sample from that group generalizing back to the population, which is the group under scrutiny" The singular advantage of extensiveness in size and spread makes the choice of survey appropriate or apt for the study.

In terms of area of study**,** Enugu usually referred to as Enugu State to distinguish it from the city of Enugu, is a state in south-east Nigeria, created in 1991 from part of the old Anambra State. Its capital and largest city is Enugu, from which the state derives its name. Enugu State is one of the states in the eastern part of Nigeria. The state shares borders with Abia State and Imo State to the south, Ebonyi State to the east, Benue State to the northeast, Kogi State to the northwest and Anambra State to the west. The name of the state derives from its capital city, Enugu. The word "Enugu" (from *Enu Ugwu*) means "the top of the hill". Enugu state has seventeen Local Government Areas (wikipedia.org).

The population of a study describes the total number of elements within a given setting or group, which a researcher sets out to investigate (Asika, 1990). The population of this study is 1746 which is the population of English teachers in Public Secondary Schools in Enugu State of Nigeria. Enugu State has 291 public secondary schools and a total of 1746 English teachers in all the Public secondary schools (*Enugu State Secondary Education Board, 2017*).

On the Sample Size and Sampling Technique, **t**he 'Population-Percentage recommendation' method has been adopted in determining the sample size of this study. In line with this method, some scholars have recommended sample sizes for specific population sizes. We have adopted the recommendations of Berg and Gall (1973) which are as follows:

Above 5000 population= above 20 percent as sample, below 5000= around 10-15 percent…" Equally, a sample size between 10 percent and 25 percent is recommended as acceptable when determining sample size of studies with population of few thousands. In all, some factors like cost, project type, and time should be considered.

In line with the recommendations of above, the population is1746 hence, the sample size of the study is 15% of the population of the study. This is consistent with the views of Nwana (1981), Wimmer & Dominick (2000), Nwahunanya & Akanwa (2000) as well as Heeks (2002). This is calculated as follows:

$$\frac{1746}{100} \times \frac{15}{1} = 261.9 \, Approx. \, 262$$

A mixed and multi-staged sampling technique was adopted in selecting the sample namely: Balloting sampling, proportionate sampling and accidental sampling techniques. The balloting sampling yields three educational zones in Enugu state namely: *Enugu, Agbani*, and *Nsukka* educational zones. The balloting involved writing the names of all the six educational zones in Enugu state on paper, put them in bowl; shake properly at every pick without replacement until three educational zones were picked.

The second stage involved proportionate sampling where the sample (262) was proportionately distributed among the three educational zones based on location (urban and rural) with urban schools having higher percentage than rural because of population being higher in urban than rural schools.   The last stage is where the accidental/missionary/available sampling method was used to select English teachers from schools in the zones as shown in the table. The table is presented below:

S/N	Zone and Location	Proportion sample	Proportion percentage
1	Agbani, Urban	54	21%
2	Agbani, Rural	33	12%
3	Enugu, Urban	50	19%
4	Enugu, Rural	37	14%
5	Nsukka, Urban	59	23%
6	Nsukka, Rural	29	11%
	Total	**262**	**100%**

Data for the study were collected using a self-constructed 4 point likert-type questionnaire. The questionnaire was patterned into two (2) sections; section A would elicit the respondents' bio-data and sections B to D will generate data on different types of gestures especially pedagogical gestures and teachers' awareness and conscious use of them. Specifically, Section B contains 20 related questions that bother on teachers' awareness of typical everyday gestures. Section C contains 20 questions on teachers' awareness of pedagogical gestures.

To ensure reliability of the instrument, a pilot study was conducted using some teachers of other subjects in Abia State specifically Umuahia. The instrument was administered to the subjects on two separate occasions with a gap of two months. This approach in establishing reliability is called Test-retest method or measure of stability.

Nwahunanya & Akanwa (2008 p.63) observe that: In this method, "The same test is given to the same group of *testees* on more than one occasion. Then the scores obtained by the group on the first administration are correlated with the scores obtained from the same group of *testees* on the second administration of the same test. The reliability coefficient in this case will simply be the correlation between the two sets of scores by the same *testees* on two administrations of the same test" Thus, the Spearman's rank correlation coefficient was used for the test, which formula is given as:

$r_s \quad {}_{=1-6}\Sigma_{d2}/n(n^2-1)$

r_S = Spearman's rank correlation coefficient
Σ_{d2} = Sum of squared 'd'.
    n = Number of subjects (paired ranks)

A correlation figure of 0.81 was gotten which was considered high enough for the administration of the questionnaire to the actual sample.

Validity refers to the extent to which an instruction is capable of doing what it is expected to do (Nwahunanya & Akanwa, 2008). The study adopted the Face validity option. It pertains to whether the test looks valid to the examinees who take it, the administrative personnel who decide on its use and the other technically untrained observers (Anastasi & Urbiria, 1997). In adopting this method, three research scholars were consulted to assess the relative inclusiveness, adequacy as well as the grammatical coverage of the items in the measuring instruments. The amendments by the expert gave the instruments some validity.

The 262 copies of questionnaire were distributed to respondents on different days for the urban and rural secondary schools. The researcher also observed the teachers selected for the study during their lessons for one month and made use of research assistants in the course of the observation and administration of questionnaire. There was close monitoring of the respondents and the research assistants in the course of administration of the questionnaire to ensure a reduction or avoidance of mortality or invalid filling of the copies of the questionnaires. Brief orientation was also be organized for the respondents on the intents of the research to ensure that certain possible biases and prejudices were taken care of or avoided. Sixty-two copies of questionnaire were invalid hence 200 copies were returned valid and used for the study. Below is a breakdown of the percentage of returned and valid copies of the questionnaire:

Returned	200	76%
Invalid	62	24%
Total	262	100%

   Data for the study were presented and analyzed using the Likert scale of FOUR points to determine the significance of each of the instrument items.   Each of the items was analyzed using the Likert scale and decision value of 3.00 was adopted in determining the significance. In this method, strongly agree (SA) is allotted 4, Agree is allotted 3, strongly disagree is allotted 2, and disagree is 1. Also, the means and grand means were calculated for each of the categories of the questions.

   On the hypothesis testing, the Z-Test method was adopted in testing the hypotheses of this study. The method is considered apt because the hypotheses were to determine the significance between two means (A two-tailed test). Also, we considered the Z—test method because as alluded by Kothari (1997), Z-test is suitable for studies with high sample from 30-above. The Z-test method formula is:

$$Z = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where: $\overline{X}$ = the mean/grand mean as the case may be
        S= Standard deviation
        n= sample

Decision rule:

1)   Reject the null hypothesis if the calculated Z (*Zcal*) is greater than the (*Zcrit*) critical value.
2)   Accept if, the Z critical value is less than the Z calculated value.

Data presentation, analysis and Discussion

Data analysis and presentation is based on the returned/valid 200 (76%) copies of questionnaire.

Table 1. Teachers' Mean Response on Awareness of Everyday Gestures (Mouth, Face Eyes)

Statement	$\sum FX$	$\overline{X}$
1 Mouth, facial and eye gestures are used to convey specific meanings.	754	3.77
2 Mouth wide open expresses surprise.	693	3.46
3 A tight closing of the lips at a task shows deep commitment to the task.	625	3.12
4 A sigh is a sign of displeasure.	663	3.31
5 A sticking out of the tongue at someone means, "good for you" or "serves you right".	642	3.21
6 Frowning the face signals disapproval.	688	3.44
7 A brightened countenance shows approval.	677	3.38
8 A smile at the approach of someone is a sign of welcome.	712	3.56
9 A tearful face is a sign of deep sorrow.	663	3.31
10 Stillness on the face shows confusion.	616	3.08
11 A wink at someone is a signal of delight or admiration	667	3.33
12 Stern look expresses anger	635	3.17
13 Avoidance of eye contact with speaker shows shyness	615	3.07
14 Closing the eyes tightly indicates approach of danger.	622	3.11
15 Emboldening the eyes expresses surprise.	643	3.21
16 A sharp and tight close of the eyes indicates strong pain.	666	3.33
17 Sometimes tearful eyes is a sign of joy and laughter	675	3.37
18 Redness of the eyes shows that one has cried for a long time.	586	2.93
19 Swollen eyes is an indication of long term weeping and sorrowing	675	3.37
20 Rapidly closing and opening the eyes sometimes show ones effort to recall something.	614	3.07
Total		65.28

Grand mean=$\sum \overline{X}/n$=65.60/20=3.28

From the table above, the grand mean is above the decision value of 3.00 hence, we adduce that the mean response of teachers' awareness of typical everyday gestures is high. The figure is interpreted as a positive mean response of the teachers' awareness of general purpose gestures. The reason for this result may not be far-fetched. General purpose gestures are commonly used even in every day conversations and discussions and their meanings are discernible by interlocutors.

Table 2. Teachers' Mean response on Awareness of Pedagogical Gestures Sampled in the Study

Statement	∑FX	X̄
1 Pedagogical gestures are those used by teachers as enhancement technique to help the student learn.	674	3.39
2 They involve either the movement of a part or combination of parts of the body.	696	3.48
3 They are classified based on their pedagogical function.	658	3.29
4 Iconic gesture is a pedagogical gesture generally used to depict visually an action or an object.	689	3.44
5 Iconic gesture involves stretching a close fist through the window to demonstrate a throw.	632	3.16
6 It also involves demonstrating the need to warm up the body in cold weather by rubbing the palms together.	652	3.26
7 Iconic gesture includes holding tight the fist to demonstrate insistence.	645	3.22
8 It may be expressed by making a loud clap to demonstrate an auto crash	649	3.24
9 Iconic gesture also involves punching the fists in the air to demonstrate a fight.	631	3.15
10 It may be in the form of making some bodily action like walking fast to demonstrate a quick action.	667	3.33
11 Deictic gesture is a pedagogical gesture generally used to refer to abstract/concrete pointing.	633	3.16
12 It may be in the form of pointing to an object in the immediate environment.	653	3.26
13 It could be used to represent past action by pointing behind one.	637	3.18
14 It could also be in the form of flicking the finger up and down to describe a particular object.	665	3.32
15 It may involve flicking the finger back and forth to bacon on someone or draw students' attention in class.	654	3.27
16 Metaphoric gesture is a pedagogical gesture, which uses concrete demonstration to describe abstract ideas or concepts	659	3.29
17 Metaphoric gesture involves gesturing with the hand in an upward movement to indicate high intelligence.	641	3.20
18 It could also be in the form of a spherical pantomime to represent the idea of wholeness.	653	3.26
19 Metaphorical gesture may involve opening the two palms before students to demonstrate emptiness or nothingness.	663	3.31
20 It may be in the form of a sluggish movement to demonstrate dullness or slow learning.	674	3.37
Total		**65.58**

Grand mean (X̄) =∑X̄/n= 65.58/20=3.27

The grand mean is above the decision value of 3.00 hence it is interpreted that teachers are aware of the pedagogical gestures sampled in the study. The pedagogical gestures are those that aid teaching and learning in language classroom. In support of this observation, it is held that pedagogical gestures are indispensible for teacher effectiveness and it is widely canvassed that they should be employed by teachers for effective learning and teaching (*International Teachers Conference Report, 2012*). Further lending support of our observation, Castellon and Enyedy (2006) though of different social setting, observe that mass awareness has often been created to emphasize the need for use of pedagogical gestures. They further allude that awareness seems to be high among English as L_1 teaching climes but seemingly more has to be done though improving in other climes like in societies where English is the second language or L_2.

Table 3. Teachers' Mean Response on Conscious Use of Pedagogical Gestures in Lesson Activity

Statement	∑FX	X̄
1 I consciously use iconic gestures when I want to demonstrate a throw by stretching a close fist through the window.	676	3.38
2 I consciously use an iconic gesture to demonstrate a back reference.	499	2.49
3 I consciously use iconic gesture to demonstrate warming up the body in cold weather by rubbing the palms together	659	3.29
4 I consciously rub the palms together to demonstrate understanding.	476	2.38
5 I consciously use iconic gesture by holding tight the fist to demonstrate insistence.	645	3.22
6 I consciously demonstrate emphasis by holding tight the fist.	486	2.43
7 I consciously make a loud clap to demonstrate an auto crash	635	3.17
8 I consciously make a loud-less clap to demonstrate unity of ideas	474	2.37
9 I consciously use the iconic gesture of punching the fist in the air to demonstrate a fight.	645	3.22
10 I consciously demonstrate an issue by punching the two fists in the air.	500	2.50
11 I consciously use deictic gesture to point to an object in the immediate environment	685	3.42
12 I consciously use deictic gesture to emphasize an object in the immediate environment.	479	2.39
13 I consciously use deictic gesture to represent past action by pointing behind me.	638	3.19
14 I consciously use deictic gesture to represent Previous lesson by pointing behind me.	492	2.46
15 I consciously flick the finger in different directions to either describe a particular object or demonstrate and action to students or even draw their attention.	653	3.26
16 I consciously use different hand movements to describe an object, demonstrate an action or draw students' attention	508	2.54
17 I consciously use metaphoric gesture of upward movement of the hand to indicate high intelligence	657	3.28
18 I consciously move my hand upwards to my head to indicate high intelligence.	489	2.44
19 I consciously make a spherical pantomime with my hands to represent the idea of wholeness.	650	3.25
20 I consciously make a spherical pantomime with my legs to represent the idea of relatedness of concepts.	492	2.46
Total		**57.14**

Grand mean (X̄) = ∑X̄/n = 57.14/20 = 2.85

The grand mean is below the decision value of 3.00 hence, we interpret this result to mean that teacher' conscious use of pedagogical gestures in lesson activity is low. It also means that conscious use of pedagogical gestures among the respondents is not significant. It is pertinent to observe that awareness and use are two different things. Even though there is significant awareness among the respondents that does not translate to conscious use. It infers also that other factors other than awareness may be responsible for the low conscious use of pedagogical gestures among English language teachers in Enugu. While English language teachers in L1 countries, it is believed, are consciously aware of pedagogical gestures, their nature, and pedagogical functions, and purposely use them in their lesson delivery as enhancement tools (Castellon and Enyedy, 2006, Thompson, 2014), it is left to be seen the extent to which Nigerian teachers of English in secondary schools are aware of the pedagogical gestures, their nature, pedagogical function, and their conscious use of such gestures as enhancement technique in the English language classroom. The data presented reveals a low conscious use of pedagogical gestures among the respondents.

Table 4: Difference between Male and Female Teachers' Mean Response on Awareness of Pedagogical Gestures

Statement	Male (X₁)=41		Female (X₂)=159	
	$\sum F\overline{X}$	$\overline{X}_1$	$\sum F\overline{X}$	$\overline{X}_2$
1 Pedagogical gestures are those used by teachers as enhancement technique to help the student learn.	131	3.19	576	3.62
2 They involve either the movement of a part or combination of parts of the body.	124	3.02	551	3.46
3 They are classified based on their pedagogical function.	171	4.17	562	3.53
4 Iconic gesture is a pedagogical gesture generally used to depict visually an action or an object.	181	4.41	498	3.13
5 Iconic gesture involves stretching a close fist through the window to demonstrate a throw.	141	3.43	491	3.08
6 It also involves demonstrating the need to warm up the body in cold weather by rubbing the palms together.	91	2.21	582	3.66
7 Iconic gesture includes holding tight the fist to demonstrate insistence.	150	3.65	591	3.71
8 It may be expressed by making a loud clap to demonstrate an auto crash	110	2.68	551	3.46
9 Iconic gesture also involves punching the fists in the air to demonstrate a fight.	146	3.56	502	3.15
10 It may be in the form of making some bodily action like walking fast to demonstrate a quick action.	137	3.34	601	3.77
11 Deictic gesture is a pedagogical gesture generally used to refer to abstract/concrete pointing.	92	2.24	584	3.67
12 It may be in the form of pointing to an object in the immediate environment.	79	1.92	576	3.62
13 It could be used to represent past action by pointing behind one.	92	2.24	584	3.67
14 It could also be in the form of flicking the finger up and down to describe a particular object.	101	2.46	490	3.08
15 It may involve flicking the finger back and forth to bacon on someone or draw students' attention in class.	117	2.85	591	3.71
16 Metaphoric gesture is a pedagogical gesture, which uses concrete demonstration to describe abstract ideas or concepts	145	3.53	548	3.44
17 Metaphoric gesture involves gesturing with the hand in an upward movement to indicate high intelligence.	151	3.68	582	3.66
18 It could also be in the form of a spherical pantomime to represent the idea of wholeness.	159	3.87	612	3.84
19 Metaphorical gesture may involve opening the two palms before students to demonstrate emptiness or nothingness.	130	3.17	618	3.88
20 It may be in the form of a sluggish movement to demonstrate dullness or slow learning.	141	3.43	606	3.81
Total	**2740**	**66.73**	**11296**	**70.95**

Grand mean (X₁) = $\sum\overline{X}/n$ =66.73/20 =3.33   X₂ = $\sum\overline{X}/n$ =70.95/20 =3.84

The grand mean for male teachers on awareness of pedagogical gestures is 3.33 and that of their female counterpart is 3.84 and these values are above the decision point of 3.00. It could be safe to infer that the mean responses of male and female on awareness of pedagogical gestures are above the 3.00 decision point and the differential is 0.51. However, the significance or not of this differential and more interpretations shall be established or made after the hypothesis on this is tested subsequently.

Table 5. Difference between Male and Female Teachers' Conscious Use of Pedagogical Gestures as Enhancement Technique in the language Classroom

Statement	Male (X_1)=41		Female (X_2) =159	
	$\sum F\bar{X}$	$\bar{X}$	$\sum F\bar{X}$	$\bar{X}$
1 I consciously use iconic gestures when I want to demonstrate a throw by stretching a close fist through the window.	109	2.65	501	3.15
2 I consciously use an iconic gesture to demonstrate a back reference.	142	3.46	481	3.02
3 I consciously use iconic gesture to demonstrate warming up the body in cold weather by rubbing the palms together	139	3.39	456	2.86
4 I consciously rub the palms together to demonstrate understanding.	145	3.53	521	3.27
5 I consciously use iconic gesture by holding tight the fist to demonstrate insistence.	141	3.43	540	3.39
6 I consciously demonstrate emphasis by holding tight the fist.	124	3.02	526	3.30
7 I consciously make a loud clap to demonstrate an auto crash	131	3.19	494	3.10
8 I consciously make a loud-less clap to demonstrate unity of ideas	134	3.26	409	2.57
9 I consciously use the iconic gesture of punching the fist in the air to demonstrate a fight.	140	3.41	518	3.25
10 I consciously demonstrate an issue by punching the two fists in the air.	151	3.68	524	3.29
11 I consciously use deictic gesture to point to an object in the immediate environment	162	3.95	519	3.26
12 I consciously use deictic gesture to emphasize an object in the immediate environment.	158	3.85	502	3.15
13 I consciously use deictic gesture to represent past action by pointing behind me.	149	3.63	481	3.02
14 I consciously use deictic gesture to represent Previous lesson by pointing behind me.	121	2.95	472	2.90
15 I consciously flick the finger in different directions to either describe a particular object or demonstrate and action to students or even draw their attention.	138	3.36	494	3.10
16 I consciously use different hand movements to describe an object, demonstrate an action or draw students' attention	145	3.53	521	3.27
17 I consciously use metaphoric gesture of upward movement of the hand to indicate high intelligence	110	2.68	535	3.36
18 I consciously move my hand upwards to my head to indicate high intelligence.	119	2.90	541	3.40
19 I consciously make a spherical pantomime with my hands to represent the idea of wholeness.	128	3.12	505	3.17
20 I consciously make a spherical pantomime with my legs to represent the idea of relatedness of concepts.	116	2.82	534	3.35
Total	**2702**	**65.81**	**10074**	**63.18**

Grand mean (X_1) = $\sum\bar{X}$/n =65.81/20 =3.29   **Grand mean (X_1) = $\sum\bar{X}$/n =63.18/20 =3.15**

The grand mean response of male teachers on conscious use of pedagogical gestures is 3.29 as opposed to their female counterpart which is 3.15. This shows that there is a differential. While the significance of such differential is to be tested subsequently, it is important to observe that Mahdi & Al-Dera (2013) opine that depending on the issue, professionals show differences in the use of specific gadgets or technique for effective job performance or enhanced productivity even across gender divide. They specifically observe thus: "The results indicate that there is no significant difference in using ICT between the two groups of teachers according to their age and experience. However, the results indicate that there is a difference between male and female teachers in using ICT in language teaching. Female teachers reported less use of ICT in their instruction than male teachers" (p.1)

Hypotheses testing

H0$_1$) - There is no significant difference between the mean responses of male teachers on awareness of pedagogical gestures from those of their female counterparts.

Table 6. Z-Test of the Significant Difference between the Mean response of Male and Female Teachers on Awareness of Pedagogical Gestures

Variables	Mean (Grand mean $\bar{X}$)	Standard Deviation (SD)	Z-calculated (z_{cal})	Z-Critical (z_{crit})	Decision
Male ($\bar{X}_1$)	3.33	11.56 (S_1)	-1.34	-1.96	**Rejection**
Female ($\bar{X}_2$)	3.84	11.92 (S_2)			

-1.34 > -1.96 = Rejection

Applying the decision rule to the values in the table, the Zcal is greater than Zcrit hence the null hypothesis is rejected and the alternate upheld thus: There is significant difference between the mean response of male teachers on awareness of pedagogical gestures from those of their female counterparts. The result reveals that female teachers showed to be more aware of pedagogical gestures as enhancement techniques than their male counterpart. Akiri and Ugborugbo (2008) apparently has been corroborated by the observation above. They submit thus:

Teachers' productivity in secondary schools may be determined by several factors which influence the job performance of the teachers. Among these factors, gender is of interest to the general populace especially now that females are gradually taking over and dominating the teaching profession in primary and secondary levels of education amidst claims that they tend to have a more positive disposition to the teaching job and *knowledge of teaching issues.*(p.185) (emphasis is mine)

Pedagogical gestures no doubt constitute part of the teaching issues as opined by the observation above. The result above therefore substantiates our postulation in this study which was targeted at determining whether gender-induced stereotype influences the Nigerian English teacher awareness of pedagogical gestures as enhancement technique in lesson delivery.

Hypothesis two (HO$_2$) – There is no significant difference between the mean response of male teachers on Conscious use of pedagogical gestures from those of their female counterparts

Table 7. Z-Test of the Significant Difference between the Mean response of Male and Female Teachers on Conscious Use of Pedagogical Gestures

Variables	Mean (Grand mean $\bar{X}$)	Standard Deviation (SD)	Z-calculated (z_{cal})	Z-Critical (z_{crit})	Decision
Male ($\bar{X}_1$)	3.29	11.480 (S_1)	0.16	1.96	**Acceptance**
Female ($\bar{X}_2$)	3.15	12.256 (S_2)			

0.16<1.96 = Acceptance

Applying the decision rule, the *Tcal* is less than the *Tcrit* hence the null hypothesis is accepted thus; there is no significant difference between the mean responses of male teachers on the conscious use of pedagogical gestures from their female counterparts. The complementary role of gesture in instruction, following Nikasm (2008), may have informed why some teachers employ gestures in teaching complex ideas because it is believed that messages conveyed through gestures are easily internalized, supporting Dewatripont and Tirole (2004) earlier claim that when gesture conveys the same information as speech, it appears to help listeners pick up that information more easily.

The question is does gender induce variation in the use of pedagogical gestures? Supporting our finding here that there is no gender induced variation in the conscious use of pedagogical gestures as enhancement technique in language classroom among the respondents, Ajadu (2013) though not on gestures, holds thus: "Some variables such as experience may show difference in the adoption of study-question in lesson delivery but such difference may not be obvious in terms of gender…" (p.30). Further, AL-Dera (2012) observes that gender difference may not affect all issues regarding the teaching profession and teaching practice…while there may be clear cut differences or variation in one issue, it may not so for another.   The report of Akiri and Ugborugbo (2008, p1) is instructive. They report thus:

The results of the analyses revealed that although there was no significant difference in the productivity of male and female teachers, the male teachers were generally more productive than their female counterparts and that female teachers were more influenced by location than the male teachers. It was recommended that school administrators

should consider gender when posting teachers to various locations. Efforts should be made as much as possible to post female teachers to urban and semi-urban schools. More male teachers should be retained in rural schools and attractive incentives should be used to achieve this. Furthermore, in-service trainings aimed at enhancing job performance should be organized regularly, especially for female teachers in the first five years of employment. Efforts should also be made to retain experienced female teachers in secondary schools.

The implication of the above observation is that gender induced differences whether in relation to teachers or other vocations/ activities, varies depending on the issue under focus.   From our result, conscious use of pedagogical gestures as enhancement technique is one issue that shows no teacher-gender induced difference.

SUMMARY AND CONCLUSION

This study set out to examine awareness and conscious use of pedagogical gestures as enhancement technique in the language classroom among English teachers in Enugu State of Nigeria. With regard to awareness, the crux was to find out whether teachers are aware of general purpose gestures and pedagogical gestures and the extent to which gender -induced teacher stereotypes influence awareness of pedagogical gestures as enhancement technique. In terms of conscious use, the crux was to find out whether teachers consciously use pedagogical gestures as enhancement technique and the extent to which gender -induced teacher stereotypes influence teacher conscious use of pedagogical gestures as enhancement technique.

It was discovered that the respondents have mean response of 3. 28 which is above the decision value of 3.00 in terms of awareness of general purpose gestures and meaning generated by them. This value was interpreted to mean that teachers are aware of general purpose gestures and meaning they generate. On the awareness of pedagogical gestures, a high mean response of 3.27 was recorded which was inferred that teachers are aware of pedagogical gestures as enhancement technique and could differentiate pedagogical gestures from general purpose gestures. In terms of whether gender -induced stereotype influence teacher' awareness of pedagogical gestures as enhancement technique, some differentials were obtained in the mean responses of teachers across the variable of male vs female. The differentials were that female (F) were more aware than males (M) (F =3.84, M =3.33.

However, when subjected to statistical z-test, the results indicated that the differentials between male and female were found to be significant hence there is significant difference in the mean response of male and

female teacher's awareness of pedagogical gestures as enhancement technique in lesson delivery. It was on the bases of the hypothesis test results that we inferred that gender-induced teacher stereotypes influence teacher's awareness of pedagogical gestures as enhancement technique.

On the conscious use of pedagogical gestures, a low mean response of 2.85 was obtained which we inferred to mean that conscious use of pedagogical gestures among the respondents was low. In terms of the whether the variables of gender -induced stereotypes influence teacher's conscious use of pedagogical gestures, some differentials were obtained in the mean responses of teachers across the variable of male vs female. The differentials were that males (M) consciously use than females (F) (M =3.29, F =3.15).

However, when subjected to statistical z-test, the results indicated that the differentials were not significant for gender hence there were no significant difference in the mean response of male and female teachers' conscious use of pedagogical gestures as enhancement technique. In the case of gender that showed no significant differential, the $Zcal$ (0.16) is less than the $Zcrit$ (1.96) at 0.05 significance level. It was on the bases of the hypothesis test results that we inferred that gender-induced teacher stereotype does not influence teacher's conscious use of pedagogical gestures as enhancement technique.

RECOMMENDATIONS

We recommend, based on the findings and conclusion of this study, the following:

(i)   Pedagogical gesture education should be integrated into language teacher education and mainstreamed in the teacher training curricula to boost awareness on pedagogical gestures and assist in bridging the gap in terms of awareness across gender of teachers.
(ii)   Practical training of teachers on the use of pedagogical gestures should made be a regular exercise and their assessment in the use of pedagogical gestures be made part of teacher promotion examinations in Nigeria to encourage conscious use of the gestures.

REFERENCES

Adumudu, E. (2016). Expert and novice teachers talking technology: precepts, concepts, and misconcepts. *Language Learning & Technology, 6*(3), 46-57. Retrieved 20th April, 2016 from http://llt.msu.edu/vol6num3/pdf/meskill.pdf.

Ajadu, K. (2013). Appraisal of workers performance and

skills acquisition in south western Nigeria. *International journal of Labour matters, 2, pp7-15*

Akanu, G. (2001). Teacher variables and School effectiveness in Ekiti State, Nigeria. *International Journal of Humanities and Social Science,* 6 (7) Pp95-101

Akanu, G. (2001). Subject matter as a factor in educational computing by Teachers in International settings. *Journal of Educational Computing Research*, *24*(2), pp.139-154.

Akiri, A.A. and Ugborugbo, M.N. (2008). An examination of gender's influence on teachers' productivity in secondary Schools. *J. Soc. Sci., 17(3):* Pp185-191.

Alan, G. L. (2012). Class –make up, gestures and teacher effectiveness. *Development Studies Quarterly, 5,* pp87-124

Alibali, M.W. (2000). Effects of visibility between speaker and listener on gesture Production: Some gestures are meant to be seen. *Journal of Memory and Language,* 44, Pp.89-124

Anastali, et'al (1997). Language development in children. *Language issues,* 2, pp80-121

Asika, I .(1990). *Research in behavioural sciences*. Lagos: Idanben Press

Baran, S. J. (1999). *Introduction to mass communication, media literacy and culture*. USA:McGraw Hill.

Bates, L and Dick U. (2002). Gestures and speech development. *Cognitive sciences,* 2, pp90-123

Berg, K. and Gall, J. (1973). *Research methodologies*. New York: Apprentice.

Bierwisch, G. & Shrueder, K. (1992). An evaluation of early development in children with autism and pervasive developmental disorders from home movies: Preliminary findings. *Autism;* 2, Pp. 243–58.

Castellon,V.C and Enyedey, N. (2006). Teacher's speech and gesture as a communicative and strategic tool to convey and discuss mathematical concepts in a bilingual Algebra classroom. *Teacher's speech and gesture*, Pp1-45

Cooks, K. and Goldin-Meadow,S. (2006). Gestures, speech production and message retention. *Gestures, 2,*

Condillac, K. (2005). Taxonomies of gestures. In R. Gells (Ed). *Cognitive studies*. New Delhi:Prentice

Comley, K. (2013). Development studies in gestures. *Development studies Quarterly*, 2, pp78-81

David, H. (2001). Experience and the use of teaching aids among teachers in South Carolina. *Gestures Studies,* 2, Pp7-18

Goldin-Meadow, S. and Alibali, K. (2013). Co-speech gestures in language learning. *Cognitive sciences 2*, pp6-21

Gulberg, M. (2008). Gestures and second language acquisition. In C. Nick & P. Robinson (Eds). *Handbook of Cognitive Linguistics and Second Language Acquisition.* New Delhi: Prentice. Pp.276-305

Hagler, K. (2017). Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australian Journal of Educational Technology*, 24(4), 413-424.

Heeks, R.B. (2002). *Research design and approach*. California: Prentice

Hubbard, D., Wilson, M., Callan, J., and Dapretto, O. (2009). Beat gestures and brain activities. *Language cognition,* 3, pp5-17

Huggos, H. and Potts, U. (2015). Wastage rates and teacher quality in Guatemalan schools. *Comparative Education Review* 9, 46-52.

Kelly, S., Manning, S. & Rodak, S. (2008). Gesture gives a hand to Language and Learning: Perspectives from cognitive neuroscience development psychology and education. *Language and Linguistic Compass* 2, (10) 1-16

Krauss, R. M, Chen Y, Gottenmann, L. (2001). Nonverbal behavior and nonverbal communication: What do conversational hand gestures tell us? *Advances in Experimental Social Psychology.*19, 389–450

Lazaraton, A. (2004). Gesture and speech in the vocabulary explanations of one ESL teacher: A macroanalytic enquiry. Language Learning, 54 (1), 79-117

Macedonia, M. & Knosche, T. (2011). Body in mind: how gestures empower foreign language learning. *Mind, Brain, and Education 5,* 196-211.

Mahdi, H.S. and Al-Dera, A.S (2013). The Impact of teachers' age, gender and experience on the use of Information and Communication Technology in EFL teaching. English language teaching; 6(6), Pp57-67

McNeil, D. (1992) Triangulating the growth point -arriving at consciousness. In L. Messing & R, Campbell (Eds), *Gesture, speech and sign* (77-92). New York, NY: Oxford University Press.

Neil, S. and Caswell, K. (1995). Awareness gap in studies of gestures: analytical of modern studies, 1994-1995. *Journal of gestures, 2 , pp7-21*

Mol, D. & Kita, S. (2013). What does cross-linguistic variation in semantic coordination of speech and gesture reveal? Evidence for an interface representation of spatial thinking and speaking. *Journal of Memory and Language.*48, 16–32

Nikasm, C. (2008). Gestures in foreign language classrooms: An empirical analysis of their organization and function. In M. Bowles et al. (Eds), *Second language research reform*. Somerville, MA: Cascadilla Proceedings Project.

Nwahunnaya, C. & Akanwa, U. (2008). *A Practical guide to research and project Writing.* Owerri: Springfield

Nwanna, O.C. (1981). *Educational statistics and research.* Enugu: Layman

Olsher, D. (2008). Gesturally-enhanced repairs in the repair turn: Communication strategy or Cognitive Language Learning Tool? In S. G. McCafferty & G. Stam (Eds.), *Gesture: Second Language Acquisition*

and Classroom Research, (pp. 109-130). London: Routledge

Oluikpe, E. (2014). The Pattern and function of vocalization and gesture in Nigerian mother-infant interaction. *Greener Journal of Education Research, 4* (2), Pp.041-051

Owolabi, O.T. and Adebayo, J.O. (2012). Effect of Teacher's Qualification on the Performance of Senior Secondary School Physics Students: Implication on Technology in Nigeria. *English Language Teaching.* Vol. 5, No. 6, Pp 72-77

Pozzer-Ardenghi, L. & Roth, W. (2007). On performing concepts in Science Lectures. *Science Education, 91* (1), 96-114.

Roth, W. (2001). Gestures: Their role in teaching and learning. *Review of Educational Research, 71*(3), 365-392.

Tara, M. (2009). How do teachers' gestures help young children in second language   acquisition? *Proceedings of the meeting of International Society of Gesture Studies, ISGS*

2005: Interaction Bodies, June, 15th -18th ENS Lyon, France.   Retrieved   fromhttp://gesture-lyon2005.ens-ish.fr/IMG/pdf/TellierFINAL.pdf.

Tellier, M. (2008). The effect of gestures on second language memorization by young children. Retrieved on 17th June, 2016 from https://hal.archives-ouvertes.fr/hal-00375251.

Thompson, J.M. (2014). Teachers' perceptions of other teachers' spontaneous hand gesturing inthe EFL classroom. *Novitas-ROYAL (Research on Youth and Language), 8(2),* Pp119 135.

Valenzeno, L., Alibali, W. & Klantzky, R. (2003). Teachers' gestures facilitate students' learning: A lesson in symmetry. *Contemporary Educational Psychology 28,* 187-204

Wimmer, R. D., & Dominick, J. R. (2000). *Mass Media Research: an Introduction*. Boston, Mass: Wadsworth, Cengage Learning.

Yin, M, Condelli, L., Ogut, B. and Cronen, S. (2013). The Importance of Teacher Background qualification for Students' Learning. *American Institute for Research Report 2,* Pp12-21