

Gender and Language Acquisition

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Abstract

Opinions have been divergent concerning the rate of language acquisition between male and female learners. This paper examined the claims that male learners acquire language better and faster than their female counterparts using phonology of English as a unit of language study. The scores of forty students (twenty males and twenty females) of the Federal College of Education Yola in phonology-related courses were examined. One research question and a null hypothesis were posed. A t-test of the scores gave a verdict of no significant difference in the mean scores of the two groups. The study recommended that equal educational opportunities should be provided to all students irrespective of their gender differences

Introduction

In this paper, the very simplified definition of gender as ‘...the fact of being male or female’ (Longman’s Dictionary of Contemporary English, 1981) is adopted. The paper examines the role gender plays in the acquisition of language. In other words, such questions that have been begging for answer for quite some time are addressed. Some of these include: Do women learn languages (in this case the English language) better than men? Are there certain social dispositions/factors that make a particular gender learn language faster than the other? Since language itself is a set of very intricate activities, the paper focuses on one aspect of language—phonology of English. In this we define phonology simply as ‘...a general theory about speech sounds and how they are used in language’, (Roach, 1977). In this case the concern of this paper is with the phonology of English.

Again, this paper does not want to be drawn into the academic cross-fire between the proponents of language acquisition and those of language learning. Whereas the former believe that a language is acquired naturally without any formal teaching process, the latter advocate that language has to be taught in a formal teaching and learning environment (Stern, 1985). This paper believes that both sides are important but with great inclination towards the latter since it seeks to analyze what happens within a formal classroom setting though it uses the two terms interchangeably.

Problem of the Study

Opinions have differed concerning the rate of language learning or acquisition between male students and their female counterparts. Some are of the view that male students perform better than the females in core science subjects while the females are better than the males in the liberal arts especially the languages. A study to establish the comprehensive data of such claims is yet to be carried out especially in Nigeria. Hence this study is aimed at finding out through a review of related literature and a-teacher-made test scores if there is any statistically significant difference in the performance of male and female students in language acquisition.

Review of Related Literature

Sometimes, there are very clear differences between the forms of language typically used by women and those used by men. In a study, (Shibamoto, 2007), it is discovered that Japanese men and women traditionally use different lexical items to express the same meaning. The table below is a clear example of the above postulation.

Table 1: Choice of lexical items between Japanese men and women for the same referent

Men’s form	Women’s form	Gloss
Hara	Onaka	Stomach
Tukemono	Okookoo	Pickles
Mizu	Ohiya	Water
Bentoo	Obentoo	Box lunch
Kane	Okane	Money
Hasi	Ohasi	Chopsticks
Umai	oisii	Delicious
Kuu	Taberu	Eat
Kutabaru/sinu	Nakanaru	Die

It is not an accident that most of the traditionally ‘female’ nouns have the polite or honorific prefix ‘O’--; this is one of many ways in which Japanese female speech has been characterized as being more polite than the male

speech. These days, however, many younger Japanese women would no longer choose to use the specific female forms.

Terminology: Sex vs. Gender

The different words traditionally used by Japanese men and women are obviously not determined directly by their complement of chromosomes, or by the nature of their reproductive organs, any more than the fact that all of them speak Japanese and not English. Such linguistic differences are part of a cultural (re) construction of a biological difference—a marking of gender differences that appear to be dying out in Japanese culture, as the roles and attitudes of men and women change. The available terminology of ordinary English does not give us any way to make it clear—if we want to—whether we are talking about biological or cultural differences. In recent years, many people have imposed this distinction on the terms ‘sex’ and ‘gender’, although in ordinary usage these terms overlap. In the Longman’s Dictionary, the definition of gender starts with its grammatical senses, and then references the definition of sex. The definition of sex in the same dictionary starts from the biological question of reproductive function, but extends to all associated characteristics.

Nevertheless, as indicated earlier, in recent years many people have decided to use this pair of terms to express the newly-salient distinction between biological and cultural aspects of reproductive status. Roughly, in this way of talking, sex is genetics and physiology, while gender is culture and identity. Taken as a noun, sex is a biological determinant, while gender carries psychological and sociological implications. Hence in biological sciences, sex differences are innate, chromosomally determined characteristics that distinguish between males and females, while in psychological and sociological sciences gender differences refer to male or female traits that result from learning and social roles.

De Beauvoir (1996) in his work, **The Second Sex**, captures the essential characteristic of gender in the following words: ‘One is not born, but rather becomes, a woman.’ the implication of this, therefore, is that gender is a socially rather than a biologically constructed attribute—people are not born with but rather learn the behaviour and attitude appropriate to their sex. During the last decade of research, it has become clear that gender is a very complex category. Theories are still being developed which try to grapple with the complexity but they share the idea that gender, unlike sex, is a continuous variable. A person can be more or less ‘feminine’ and more or less ‘masculine’. Furthermore, a man can display ‘feminine’ characteristics just as a woman may demonstrate ‘masculine’ ones. Although the terminology of sex vs. gender is far from generally accepted or even understood, the distinction that it expresses is a useful one, and so we will adopt it here.

Biology/Sex/Language

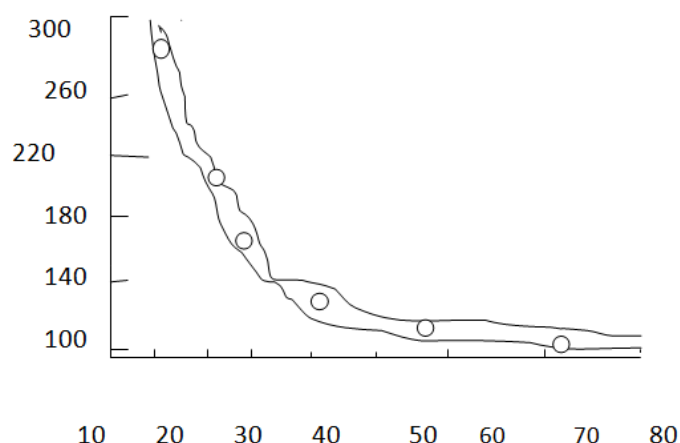
Men and women are differentiated biologically in two ways that seem directly relevant to language. One has to do with the larynx, and the other with the brain

The Larynx

Males and females differ a little in stature before puberty, but post-pubescent males are about 8-9% taller (NIST, 2007). According to a database maintained by NIST (2007), the male children in their sample averaged about 3% taller at age 2, and less than 1% taller at age 10, whereas males average about 9% taller at age 18. According to Kent (1994), at age 2, the 50th percentiles for males and females are identical; at age 10, girls are 60% taller (in the 50th percentile), and at age 18, males are about 8% taller.

With respect to the length of the vocal folds, (the tissue in the larynx that is responsible for producing voiced speech); this overall difference between sexes is magnified by approximately a factor of four; the vocal folds of post-pubescent males average about 30-40% longer than those of females of the same age.

As a result of these laryngeal changes, adult human males have significantly lower voices than females do, out of proportion to their rather small difference in average height. Though the pitch of anyone’s speech depends very much on circumstances, under comparable conditions, (adult) human females’ voices are likely to show pitches almost double those of male voices. This difference reflects not only the difference in vocal cord length, but also a difference in vocal cord mass—and perhaps some socially conditioned factors as well. A graph showing data from various studies is reproduced below as taken from Kent (1994).



Because the larynx also drops lower in the neck in post-pubescent males, the overall male vocal tract length is about 15% longer on average. This means that resonance frequencies (including the formant frequencies that determine vowel quality) are also about 15% lower in adult males as compared to females. This is about 175% of the difference expected on the basis of the average overall size differences (8-9%). This difference also means that adult males are even more subject to the risk of choking on aspirated food, which is a price the human species pays for adapting its vocal organs to speech. None of the other species of apes shows a similar sexual dimorphism of the vocal organs, although overall size differences between the sexes tend to be large in other apes than in homo-sapiens.

Brain anatomy and physiology

According to a series of studies (Holloway, 1993) there is only one well-documented difference in neuro-anatomy between human males and females, concerning the corpus callosum, an array of neural fibres that connect the two hemispheres of the cortex. The corpus callosum of females is on average large when adjusted for total brain size, especially in the posterior portion known as the splenium. Brain size tends to track body size, and so male brains are on average larger. The average size of the corpus callosum in adult females is apparently roughly the same as in males, but it is larger in proportion to total brain size. Some researchers (de Lacoste 1986 in Potts 2007) have argued that the differences are not so much so in size but in three-dimensional tissue distribution, with the female splenium more bulbous and thus more concentrated in the midline, where section areas may be easily compared. It is claimed (Potts, 2007) that human sex differences in the corpus callosum appear by 26 weeks prenatal. The sexual dimorphism of the corpus callosum is said to contrast with other aspects of brain anatomy, where average sizes, corrected for overall brain size, show no significant differences between males and females. The corpus callosum does not appear to be dimorphic in monkeys and prosimians, while evidence from apes is uncertain.

Such differences suggest that inter hemispheric communication may differ between the sexes. Speech and language tend to be localised on the left, or dominant, side of the brain ('lateralized'), while some other functions such as visuospatial integration and emotional appreciation of context are lateralized on the opposite side.

A functional study (Shucard, 1987) has found sex differences in cerebral lateralization for language-related activities. Perhaps the most striking conclusion is that in neurophysiology as well as neuroanatomy, there is a great deal of variation and the overall similarities between the sexes are much greater than the differences.

Methodological Framework

The study being reported here was carried out in the Federal College of Education Yola, Nigeria (A teacher-training institute). In the National Minimum Standard (1994) document for colleges of education in the country, some courses in the department of English are designed purposefully for the teaching of Phonology of English. At the level of Pre-Nce, there is Oral English while Speech Work is taught at the first year. Phonology of English is studied at the second year. Using the randomized numbering system, a random composition of samples for the study is made. Thus twenty (20) male and female students (20) were chosen from the Pre-NCE class. For the NCE one and two students, nine students each were chosen among the male and female members of each class. The two groups were pre-tested and their performances showed a high percentage of homogeneity. The scores of each group after six weeks of teaching in the language laboratory were computed and converted into standardised scores with a view to answering the research question and testing the null hypothesis.

Research Question/hypothesis

The following research question is posed for the purpose of this study:

What role does gender play in the language acquisition of students?

Similarly the following null hypothesis is stated and tested at 5% level of significance ($P < 0.05$):

There is no statistically significant difference between the mean scores of male and female students in Phonology of English examinations.

At the Pre-NCE level the following result was obtained for both male and female students as shown in the following table:

Table1: A T-test result of male and female Pre-Nce students in the subject ENG.011 (Oral English)

	N	MEAN SCORES	SD	T-VALUE
MALE STUDENTS	20	40	17.5	0.26
FEMALE STUDENTS	20	43	19.7	

Table Value for $P < 0.05$ level = 2.02

Decision: From the figures seen in the above table the critical value of 2.02 exceeds the calculated t-value of 0.26, the implication being that the difference in achievement between the two mean scores is not statistically significant. Thus the null hypothesis of no difference is accepted or upheld as stated.

Table2: T-test scores of female and male students in the course ENG111 (Speech Work)

	N	MEAN	SD	T-critical	T-calculated	Level of Significance
Females	9	39.1	21.9	1.74	0.71	$P < 0.05$
Males	9	25.9	13.07			

Decision: In the above table, the degree of freedom is $N_1 + N_2 - 2$ which is $9 + 9 - 2 = 16$. Looking up the t-table of critical values, at the 5% level of significance, for 16 degrees of freedom, it can be seen that a value of 1.74 or more is required for significance. Since the table critical t-value of 1.74 exceed the calculated t-value of 0.71, the difference in achievement between the two mean scores is not statistically significant. The null hypothesis is accepted.

Table3: T-test scores of male and female students in the course Phonology of English (ENG.214)

	MEAN	SD	T-Critical	T-calculated	D/F	Level of Significance
FEMALE	52.1	20.5	1.74	0.23	16	$P < 0.05$
MALE	43.3	22.5				

Decision: just like in the previous table, at a degree of freedom of 16, the critical value of 't' at 5% level of significance requires a value of 1.74 or more to be significant. Since this value is more than the calculated 't' from the scores of the two groups, we have no option but to accept the null hypothesis which states that there is no significant difference in the mean scores of the two groups in the given subject.

Discussion

From the computations in the three tables above, a verdict of 'no significant difference' is returned. This is the way with statistics. Careful examinations of the raw scores of the various students that constitute the sample of the study will surely reveal that there are differences in their performances. But whether these difference are statistically significant is another matter altogether. The statistical computations reveal that the differences are not significant. Thus the null hypothesis is upheld or accepted as stated in all the three cases.

Quite a good number of studies (Oduyoye, 1995 & Beiser and BHou, 2000) have attempted to adduce reasons why some students pay much attention to the study of English. Some of the reasons are purely economic instead of academic. For instance, in an article, 'Gender Differences in Language Acquisition', Beiser and BHou (2000) opines that the desire to stay in the labour market particularly where English is a second language (ESL) makes it imperative for women to go the 'extra mile' in studying English. Their belief which has not been supported statistically is that the opportunity to study and work is usually biased in favour of the men. They further argued that the very few women who are privileged to study and work put their whole lives therein. This position has equally found support in Oduyoye (1995) who asserts:

Something new had touched the women of Africa, and they began to voice their pressure... women were standing up, abandoning the crouched positions from which their lives breath stimulated the wood fires that burned under earthen-ware pots of vegetables they had grown and harvested.

Olutunde (2002) believes that what is taking place is a positive change on the side of the women which he ascribes to their doggedness and the will to survive in a hitherto male dominated society. But Weiner, Amot and Davis (1997:45) examine the whole change from another perspective. Their conclusion is that something

must have gone wrong with boys in terms of education generally. They pose these questions:

Are boys and young men falling behind in the stampede for qualifications and jobs? Are they suffering from new forms of educational disadvantage? If one is to believe the press and media of the mid-1990s, the answer to both questions is yes. What might be called a moral panic has broken out over the apparent under-achievement of boys.

What is happening in the education sector is not peculiar to Nigeria or to any particular gender. Available literature reveals that a similar moral panic about boys has surfaced in other countries. For instance, Foster (1995 in Hasley, Bron and Wells 1997) identifies what he terms 'a recent backlash period' in Australia against gains made by girls as a result of a decade of equal opportunities' policy-making, deliberately aimed at girls and young women.

The implication is quite obvious. The research question of our study finds its answer here. Gender plays no significant role in the rate of language learning or acquisition among male and female students. The position held by this paper is not with any prejudice whatsoever against the findings of larynx and brain studies earlier reported in this paper. Rather the position of this paper is informed purely on the findings made through the performance of the two groups in both their written and oral tests conducted in the course of the study. There is now a social disposition that women exploit to their own advantage not only in the area of language acquisition but in all spheres of life. This is the idea of equal opportunities. When the opportunities were not there for the women, men were basking on the glory of great achievers. Akosile (2000) reported Davies (2000) as claiming that women have certain skills and qualities which cannot be duplicated by men and that when these qualities are not applied, there would be a disparity. He posits that language acquisition is one of such skills. This paper, based on available statistics, does not subscribe to the above position. The position of the paper is that each group is good or bad as the other. Disparity in performance becomes discernible when an individual or a group puts in the extra effort which is always needed for academic excellence

Conclusion

This paper agrees with the position of Weiner (1997) that individual women should be as free as men to determine their social, political and educational roles, and that any laws, traditions and activities that inhibit equal rights and opportunities should be abolished. Access to education is fundamental to this perspective since it claims that by providing equal education for both sexes, an environment would be created in which individual women's (and men's) potentials can be encouraged and developed. This paper recommends herein that equality for women can be achieved through democratic reforms, without the need for revolutionary changes in economic, political or cultural life. What has been done in this paper is an eye-opener that education is truly a veritable instrument for women empowerment. This paper examined the results of particular courses that have to do with the study of sound systems in English. Based on the mean scores of the two groups in speech-related courses, it concludes that gender does not play any statistically significant role in language acquisition. What is of paramount importance in the present educational dispensation in the country today is that equal opportunities should be provided to all the children irrespective of their gender. This paper, therefore, recommends that every Nigerian child should be given equal educational opportunity especially in the new Basic Education Curriculum. When sex or gender does not play a significant role in the education of the child, (in terms of who should or who should not be educated) then the Millennium goals for education will become a reality in the country.

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