

# 1 The Interplay between Gender and Learning Styles: Implications 2 for Second Language Teaching

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## 7 **Abstract**

8 Learning styles refer to the variation that exists in the ability of people to accumulate  
9 interpret and assimilate information. A learning style is an individual's preferred way of  
10 learning and scholars (Reid (1995), Wagaman (2008), Montgomery and Groat (1998) to  
11 mention a few) have established that when a teacher's style matches the student's learning  
12 styles then learning will occur. Research evidences (Howe 1997), Burham (2008) and Sax  
13 Leonard (2008)) support that gender plays a unique role in the way we learn. This paper thus  
14 seeks to investigate the relationship (if any) between gender and learning styles with its?  
15 possible implications for language teaching. The paper draws conclusions that majority of  
16 females' preferred learning style is the diverging and assimilating (thinkers than doers) while  
17 a greater percentage of the males fall under converging and accommodating learning styles  
18 (doers than thinkers). Girls are motivated by the desire to impress adults while boys are  
19 motivated by the object or material to be learnt. This of course has serious implications for  
20 language teaching. Lastly, language teachers are encouraged to develop their instructional  
21 packages to cater for the differences in the students' gender and learning styles. Other  
22 stakeholders in the education industry are to accommodate the knowledge of different genders  
23 and learning styles in educational planning.

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25 **Index terms**— gender, learning styles, language teaching, implications for teaching and commensalism.

## 26 **1 Introduction**

27 several studies have been conducted in the field of education for the primary purpose of improving teaching and  
28 learning. It is also a known fact that so many other factors outside the teacher's competence or knowledge  
29 of the subject matter are responsible for effective teaching and learning to occur in a classroom. Some of the  
30 other factors include: the language of instruction employed, the gender of the learner, the learning styles of the  
31 different learners in class and so on. Gender as it is used here goes beyond differences in sex; it extends to other  
32 physiological differences between the male and the female gender.

33 Interestingly, apart from the differences in the genital configuration of both the male and female, the two sexes  
34 have differences in their strength and weaknesses are a result of the way their brain functions. Each student has a  
35 peculiar way of learning and interpreting whatever information is being presented to him or her, this peculiarity  
36 in learners is known as learning styles. Learning styles and gender have a commensalisms-like relationship because  
37 one seems to influence the other.

38 Some of the researchers in the field of learning styles (Kolb 1984, Montgomery and Groat (1998), ??oney  
39 and Mumford (1992), Cezair (2005), O' Neill ??2003)) have been able to link certain learning characteristics or  
40 styles to gender. A number of learning styles model, from Kolb's experiential learning to Gardner's VAK (Visual  
41 -Auditory -Kinesthetic) learning styles model confirms that gender has a major role to play in the way students

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42 learn. For example, majority of male learners tend towards having the kinesthetic style as their dominant learning  
43 style and that is why by implication, boys will learn better in a activity -based lesson.

44 On the contrary, a greater percentage of girls are dominant in the area of the auditory learning style. In  
45 essence, a teacher needs to plan his or her instruction with the aim of meeting the learning styles of individual  
46 students in the classroom. Also, language instructors need to consider the gender differences in the class as  
47 going beyond the genital differences. The gender of a leaner has serious implication on the way his or her brain  
48 works -either dependent on the left or the right hemisphere that of course has serious implications for learning  
49 in general and language teaching in particular. This study will delve into the numerous areas of relationship  
50 between learning styles and gender; implications will also be drawn for language teaching.

## 51 2 II.

### 52 3 Gender and Learning Styles: A Commensalisms -Relationship

53 Students have specific ways by which they learn best. These are technically referred to as learning styles or  
54 preferences. An understanding of a students learning style is very important when a teacher is planning his/ her  
55 lesson. ??later et.al (2007) opines, 'one of the many characteristics that make up a student's learning style is the  
56 sensory modality by which the student prefers to take in new information'. Other factors influence the choice of a  
57 student's learning style and these include: gender, age, culture, academic achievement, socioeconomic background  
58 and so on. The focus of this work will be on the relationship between gender and learning and the implication of  
59 same for language teaching. According to information posted on [www.en.wikipedia.org/plearningstyles](http://www.en.wikipedia.org/plearningstyles), "learning  
60 styles are simply put, various approaches or ways of learning. They involve educating methods, particularly to  
61 an individual, that are presumed to allow that individual to learn best". There are so many models of learning  
62 styles but notable amongst them include: David Kolb's Model, Anthony Gregorc Model and Sudbury Model of  
63 Democratic Education, Gardner's Multiple Intelligences and VAK learning styles Models. The focus of this paper  
64 will be on Kolb's Model.

65 Kolb's experiential learning theory (ELT) and learning styles inventory (LST) are strongly linked with the work  
66 of Dewey, Lewin and Piaget. Kolb's experiential learning theory emphasizes the point that experience plays an  
67 important role in the learning process. Kolb (1984) explains experiential learning theory as a holistic integrative  
68 perspective on learning that combines experience, perception, cognition and behaviour. Kolb presented a model,  
69 which works on a four-stage cycle namely:

70 (i) Concrete Experience (CE) abilities (ii) Reflective Observation (RO) abilities (iii) Abstract Conceptualization  
71 (AC) abilities (iv) Active Experimentation (AE) abilities Kolb (1984) states that the different abilities listed  
72 above must be in a student's learning style if such is to be effective and learners are capable of combining at least  
73 two abilities to form their learning styles. Kolb (1976) presented four types of learning styles' that are: Diverging  
74 learning Style-combines feeling and watching (CE/ RO), learners in this category are sensitive, and they prefer  
75 to watch rather than do, the gather information and use imagination to solve problems. Kolb (1984) refers  
76 to this style as diverging because these learners have their strength in situations that require ideas-generation,  
77 brainstorming imagination and so on. They tend to be strong in the arts and they are good listeners.

78 Assimilating learning style-(AC/ RO) combines the ability to watch and think. Learners in this category  
79 prefer concise and logical approach to instruction. Honey and Mumford (1992) as cited by O' Neill (2003)  
80 classify learners with this style as theorist because they require good and clear explanation rather than practical  
81 opportunity. They are more interested in ideas and abstract concepts. They excel at understanding wideranging  
82 information and organizing it in a clear and logical format.

83 Converging learning style (AC/ AE)-combines the abilities of doing and thinking. Learners in this category are  
84 capable of solving problems and transferring their knowledge to finding solutions to practical knowledge. They  
85 thrive on technical tasks and they like to experiment with new ideas, to stimulate and to work with practical  
86 applications.

87 Accommodating learning style (CE and AE)combines the abilities of doing and feeling. Learners in this  
88 category rely on intuition rather than logic. They use other people's analysis and prefer to take a practical,  
89 experiential approach. They are attracted to new challenges and experiences and to carry out plans. They prefer  
90 to rely on others for information than carry out their own analysis.

91 Cezair (2005) carries out a comparism of the different learning styles. Cezair opines that the knowledge  
92 of the learner who prefers the converging learning style (AC/ AE) is organized in such a way that, through  
93 hypothetical-deductive reasoning, he can focus it on specific problems. The learner who prefers the Diverging  
94 learning Style (CE/ RO) has learning strengths opposite to those of the converging style. This style performs  
95 better in situations that call for generation of ideas, such as "brainstorming".

96 On the other hand, learners with the Assimilating style (AC/RO) possess the ability to create theoretical  
97 models and such learners lay emphasis on logic and conciseness. The Assimilating learning style focuses on doing  
98 things, carrying out plans or experiments and involving him/ herself in new experiences.

99 Information posted on [www.brainbox.co.uk/a3\\_aspects/pages/LSgender.htm](http://www.brainbox.co.uk/a3_aspects/pages/LSgender.htm) states, 'Although there are  
100 differences in the way in which boys and girls generally prefer to process information, we should nevertheless  
101 remind ourselves that this is the minimalist approach, in that it identifies only two categories'. Howe (1997)  
102 reported his findings in a research carried out on "Gender and Classroom interaction". The study observed young

103 children working on a jigsaw puzzle; it was observed that girls were three times as likely as boys to ask for help  
104 from the supervising adult. In the absence of an adult, girls directed their pleas for assistance to boys. This  
105 strengthens the argument that majority of female learners possess diverging and assimilating learning styles while  
106 boys have convergent and accommodating learning styles. Barton (1996) after conducting a research in 3 schools  
107 experimenting with single-sex teaching of modern languages concludes, 'All three heads of languages are keenly  
108 aware that segregation alone is not an answer but have done much to identify the learning styles, interests and  
109 needs of the boys they teach. Perhaps it is this that has led the boys at Madaley to thrive in what they describe  
110 as a "happier environment".

111 Geoff Hannan (cited on [www.brainboxx.co.uk/a3\\_aspects/pages/LSgender.htm](http://www.brainboxx.co.uk/a3_aspects/pages/LSgender.htm)) points out the differences  
112 between the learning styles of both genders. Hannan states, "Girls tend to be brought up to have relationships  
113 with people, to be responsible for themselves and others, with a strong emphasis on communication. They are  
114 brought up as "the talkers". Boys on the other hand, are brought up to have relationships with objects. They are  
115 'the doers'. Below is a table showing the salient features and differences between the male and the female brains:  
116 Source: Learning Styles and Gender [www.brainbox.co.uk/a3\\_aspects/pages/LSgender.htm](http://www.brainbox.co.uk/a3_aspects/pages/LSgender.htm) While analyzing the  
117 table above, Hannan opines that the predominance of right-brain thinking in males could imply that a boy's oral  
118 skills are weaker as well as his literacy, organizational and analytical skills. Consequently, "his lack of competence  
119 (and interest) in analyzing, sequencing and prioritizing are central to his academic under-achievement". He thus  
120 concludes by stating that do first and then (hopefully) thinks while girls think first then (hopefully) does.

121 This of course has a dive implication for learning because the male has a trial and error, experiential learning  
122 style rooted in confidence, competence and interest in the manipulation of objects and systems while the female  
123 has a language-centred, sequential learning style with a strong based in association and relationship. The male  
124 is a speculative thinker while the female is a reflective thinker. Burman (2008) conducted a research to clarify  
125 gender differences in language processing. The children that participated in the study were between ages 9-15  
126 years and the findings are listed below: \* Girls had greater brain activity in three known language areas than  
127 boys of their brain when completing reading comprehension or word meaning tasks.

128 ? Inferior frontal gyrus-an area involved in word meaning and other language functions ? Superior temporal  
129 gyrus on both sides of the brain-involved in sounds of words ? Fusiform gyrus on the left side of the brain-area  
130 involve in the spelling of words and their visual identification. \* Girls used both the left and right sides of their  
131 brains for language-related activities whereas boys primarily used the left side. \* Girls' language ability was  
132 dominated by auditory/ listening areas of the brain for accessing and processing information related to spelling  
133 and rhyming. \* Boys' language ability was dominated by visual areas of the brain for accessing and processing  
134 information related to spelling and rhyming. The submission of ??alem (2006) that there is no significant gender  
135 differences in overall motivation and that the result did not show a significant role for gender in EFL proficiency  
136 seem to water down the role of gender in language learning. Interestingly, research by the NASSPE and posted on  
137 [www.singlesexschools.org/](http://www.singlesexschools.org/) e search states that the differences (in male and female) appear to be greatest among  
138 the YOUNGEST children.

139 Note: The above applies to the majority of right-handed people. In left-handed and ambidextrous people  
140 the functional specialisation is different: sometimes this is simply a swap-over -but may also be a more complex  
141 sharing of functions.

142 Males generally have more-developed right hemispheres -which disposes them towards spatial tasks such as  
143 map-reading or interpreting technical drawings. Females generally have more-developed left hemispheres -which  
144 is probably why they learn to speak earlier than males and are often more adept at languages. Females are also  
145 better at fine motor control, which probably accounts for their generally superior handwriting skills.

## 146 4 MALE AND FEMALE BRAINS

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148 From the foregoing, it is obvious that gender plays an important role in the learning needs of language learners.  
149 Therefore, language teachers must be conversant with a knowledge of these learning styles in order to meet the  
150 need (s) of their learners.

151 Commenting on gender, Davies (1989) states that masculinity and femininity are structural properties of our  
152 society, not necessarily of the individuals. Therefore, our social environments-particularly educational contexts-  
153 condition and reinforce genderspecific discursive patterns.

154 Most females tend to listen well in class while the males are hyperactive during lesson. By implication, girls  
155 will respond favourably to an auditory-centred teaching approach in a language class unlike males that would  
156 function effectively in a visual or tactile (Kinaesthetic) -centred teaching approach. Language teachers must be  
157 weary of planning a one-size-fits-all instruction in a mixed-sex class. Instructions in a language class must be  
158 planned in such a way that it will cater for all the learners.

159 The best way to get at a learner instructions to him or her in the style or manner that most suites him or  
160 her. Gardner (1993) suggested a learning style model effective for teaching young people. This he called the  
161 Visual-Auditory-Kinaesthetic learning style and it is very good for diverging and assimilating learners (that is,  
162 a person's whose dominant learning style is thinking and learning). V stands for seeing and reading, A-listening  
163 and speaking and K-touching and doing. Wagaman (2008) opined that there are all kinds of learners: those who

164 learn by seeing something that is being written, those who learn by listening to something being said and those  
165 who learn by actually doing something. Wagaman explains that these types of learners have technical names of  
166 visual learners, audio learners and Kinesthetic learners. He conducts by stating that the best learning situation  
167 includes a strong mixture of all three of these learning types. Reid (1995) was of the view that learning styles  
168 are internally based. Some learners rely on visual presentations; others are comfortable with spoken language  
169 while some may respond better to hands-on activities. People learn differently and these differences in learning  
170 are found in ESL/ EFL settings. When teaching styles are matched with the students learning styles then all the  
171 learners will have an equal chance in the classroom.

### 172 6 III.

## 173 7 Implication for Language Teaching

174 The National Association of Single-Sex Public Education (NASSPE) in an article on Single-sex Education  
175 published on [www.singlesexschools.org/home.php](http://www.singlesexschools.org/home.php) states, "The brains of girls and boys develop along different  
176 trajectories. Some differences are genetically programmed and are present at birth; other differences are  
177 manifested later in childhood. "Girls and boys learn in subtly different ways, in part because of those differences  
178 in the developmental trajectory of the brain". The statement goes further to say that all girls do not learn the  
179 same way and the same applies for boys.

180 In a situation when the teacher's instructional style and the learner's style do not match, learning will definitely  
181 not take place. However, teachers who include all the learning styles in their lessons will be more effective and  
182 have more engaged students. It is therefore important that language teachers (both inservice and pre-service  
183 teachers) should acquire the knowledge of learning styles and inculcate it into their lesson plan.

184 Language teachers also need to know that gender (sex differences) in learning may derive in part from basic  
185 physiological differences, such as differences in the ability to hear and also from differences in learner's ability to  
186 comport themselves in the classroom. Sax (2008) stated, 'Girls have a sense of hearing which is subtly better than  
187 boys (depending on the frequency tested). For example, Erik Berninger of the Karolinska Institute in Stockholm,  
188 Sweden, demonstrated in 2007, in a study of more than 30,000 newborn babies, that girl babies have an ability  
189 to hear which is slightly but significantly better than boys-and those were newborn babies. Differences in the  
190 ability to hear get bigger as kids get older.

191 The implication of the above gender difference is that language teachers should bear this in mind and so,  
192 endeavour to reach every learner in the class even if it means raising his or her voice in order to carry the  
193 boys along. Sax also states that educational psychologists have consistently found that girls tend to have higher  
194 standards in the classroom, and evaluate their own performance more critically. Girls also out perform boys in  
195 school (as measured by students' grades), in all subjects and in all age groups.

196 The implication of the above gender difference is that language teachers need to include kinesthetic approaches  
197 into their lesson plan and delivery so as to actively involve the male learners or hyperactive individuals in the  
198 classroom. Max (2008) observed that there are differences in the factors that motivate girls and boys. Researchers  
199 (Pomerantz, Altermatt, and Saxon (2002)) have consistently found that "girls are more concerned than boys are  
200 with pleasing adults, such as parents and teachers". Most boys, on the other hand, will be less motivated to  
201 study unless the material itself interests them. The implication of this is that language teachers should seek to  
202 motivate the learners by being models and developing materials that can stimulate learning in boys.

203 Montgomery and Groat (1998) explained some of the reasons why learning styles have serious implications of  
204 learning styles for teaching and they include:

205 (1) Making Teaching and Learning a Dialogue:

206 Montgomery and Groat admitted that the basic assumption of most of the teaching practices is that students  
207 are "empty vessels" that had to be filled with knowledge by the teachers. The incorporation or awareness of  
208 learning styles will give birth to a more robust approach to teaching. For example, the interactive, cooperative  
209 or collaborative teaching and learning strategies. (2) Responding a more Diverse Student Body-Learning styles  
210 will make the teacher aware of individual differences in learning and thus, plan his instruction in such a way  
211 that everyone in the class will benefit. (3) Communicating our message-learning styles offer a teacher the rare  
212 opportunity to package and deliver his or her instruction in a multi-faceted way across the range of students'  
213 learning style. It also offers the students options on a range of instructional modes that best meets their needs.  
214 (4) Making teaching more Rewarding: the knowledge and application of learning styles to teaching will boost or  
215 increase students' performance or achievement. (5) Ensuring the future of our discipline: They argued that by  
216 raising a generation or group of learners that are knowledgeable in the theory of learning styles, then continuity  
217 is sure and safe guarded.

218 Possessing the knowledge of learning style does not mean that the teacher should plan instruction for individual  
219 students separately rather; the teacher should strive to provide a variety of learning experiences in order to cater  
220 for the needs of the different learners in the classroom.

221 Inculcating all the different learning styles (at least the major ones: Visual-Audio-Kinesthetic (VAK)) in a  
222 lesson will serve a dual purpose of meeting the learning needs of the different students in the class as well as  
223 developing other areas of learning styles in the class. For example Language teachers can introduce a combination  
224 of individual assignment and group work.

225 Juris, Ramos and Castaneda (2009) suggested that teachers should identify their own teaching style as well  
226 as learning styles in order to obtain a better result in the Class. As the need arises, teachers must endeavour to  
227 balance their teaching styles in conformity with the students learning style. A variety of learning tasks should be  
assigned by the teacher in order to appeal to the different learning styles in the class and attain learning goals.<sup>1</sup>

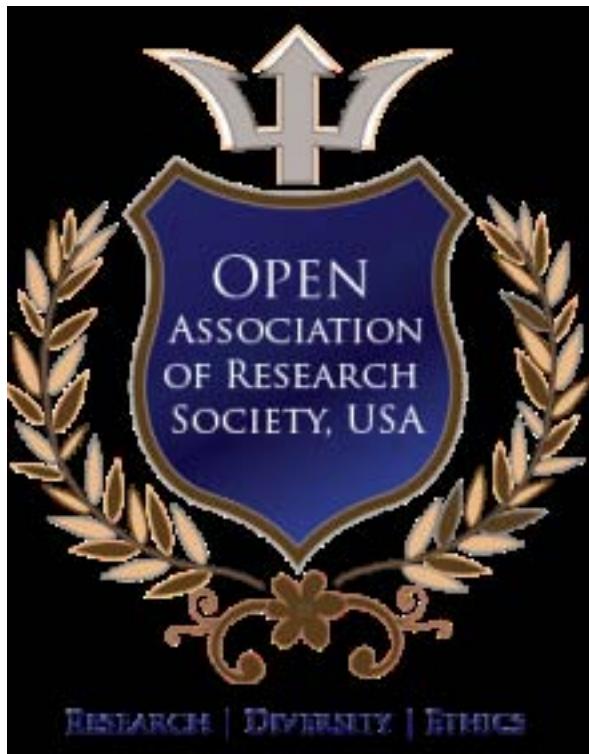


Figure 1:

LEFT BRAIN language logic  
mathematics analytical thinking  
shaping of ideas

sequencing  
fine motor skills  
timing

RIGHT BRAIN visual perspective spatial awareness creative & imaginative functions emotions

tone  
quality of sound  
facial recognition

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[Note: 17(]

Figure 2:

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<sup>1</sup>The Interplay between Gender and Learning Styles: Implications for Second Language Teaching



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