

RESEARCH ARTICLE

## Relationship between Cognitive Styles and Emotional Status of Primary four Pupils with Aphasia in Sokoto State, Nigeria

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### Abstract

This paper examined relationship between cognitive styles and emotional status of primary four pupils with aphasia in Sokoto State. The population targeted for this study consists of all primary four pupils in Sokoto state which is 9,369. Multi-stage sampling techniques was used to arrive at the sample. Four stages of sampling techniques were employed to arrive at the sample of 69 pupils using purposive sampling and screening using Language Screening Test. The instruments used for data collection were adopted version of Language Screening Test (LAST), adopted version of Group Embedded Figure Test and adopted version of Junior Eysenck Personality Questionnaire (short version). The reliabilities of the standardized were re-established using test re-test method of establishing reliabilities in two schools in Sokoto metropolis and the reliabilities index realized were Language Screening Test (0.71), Group Embedded Figure Test (0.80) and Junior Eysenck Personality Questionnaire (0.89). The data was analyzed using Pearson Product Moment Correlation. The result revealed that: there was weak, positive and no significant relationship between field dependent cognitive styles and emotional stability among others. Finally, it was recommended among others that; Pupils with aphasia should be encouraged to have holistic and global perception towards problems and develop their extrinsic motivation to enable them stabilized their emotion and catch up with their peers.

**Keywords:** Cognitive styles; Emotional status; Aphasia

### Introduction

Aphasia is a disorder that results from damage to portions of the brain that is responsible for language and it usually occurred suddenly following stroke, head injury, brain tumor or neurological disease (National Institute on Deafness and other Communication Disorder, 2015). Aphasia mostly affects people in relation to auditory perception, expression, comprehension, reading, speaking, and verbal expression. Aphasic children have problem with connecting sounds with words, recalling the right word, understanding and producing speech and language, using sign language, jokes and substituting wrong words with the right words Ahleen (2006) stated that, symptoms of aphasia could be deficit at all linguistic level; it includes deficits in phonological, morphological and syntactical, lexical, pragmatic, literal paraphasia, neologism, preservation, agrammatism, omission, or substitution of syntax and grammatical morphemes. Cognitive styles are the habitual individual defense in ways of experiencing situations, developing perceptions, organizing, retrieving and processing information

(Messick, in Farooq, 2014). Cognitive style of leaner influences and affects his ability to reason, memorize and analyze information and when it is matched with teaching approach and styles; it improves academic performance of the learner. Different cognitive styles have been identified by psychologist based on their own perception and understanding of the concept, for the purpose of this paper, field dependent and field independent cognitive styles were used to explain how learners perceive, process, analyze, and retrieve information effectively and efficiently.

Mehrabian (1980) defined emotional state as transition condition of the organism – condition that can vary substantially, and even rapidly, over the course of a day. Emotional state cover different kinds of emotions which can either be positive or negative, in includes; happiness, unhappiness, ecstasy, exaltation, gratification, satisfaction, felicitation, embarrassment etc. Positive mood facilitate complex cognitive materials such as memory, categorical, creative problem solving, decision making and learning (Febrilia, Warokka & Abdullahi, 2011). Keogh and Donlon in, Restagar (2016),

Investigated that, perceptual difficulties underlie the emotional instability, distractibility and impulsiveness of learning disabled child, since measure of field dependence, namely the RFT and EFT, involved visual perception. Chao (2000) conducted a study titled; field dependence versus field independence of students with learning disabilities. Group embedded figure test was administered on 60 school students (30 with learning disability and 30 without learning disability) to measure their cognitive styles. The analyses showed that students with learning disabilities score more field dependent than those without learning disabilities.

### **Statement of the problem**

Primary school pupils with aphasia have difficulty using language which leads to inability to understand expressive and comprehensive language, they were found to be using made up words, wrong insertion of words in sentence, changing of sounds of words as well as cannot adjust adequately to themselves. Aphasic learners suffered greatly in inclusive educational settings where the classes are congested, teachers use fast spoken languages and, were assessed and taught using method, techniques and approach of the normal individuals. The researcher surveyed some primary schools in Sokoto metropolis in an attempt to find out the possible causes and problems facing children with aphasia. Language screening test (LAST) was used to screen the pupils. It was found that, teachers always use teaching styles that did not address the disabilities of aphasic learners. Aphasic learners were found to have emotional outburst, emotional deregulation, depressive mood, poor cognitive functioning, and emotional instabilities. These called for conducting this study in order to find out how aphasic learners perceive and analyze information effectively and efficiently, identify their cognitive styles, and their emotional state. The pupils with aphasia mostly displayed symptoms which make them unable to compete with their peers academically if special consideration is not given to them. Aphasic learners were found to be unable to blend words, arrange and serialized information, remembers sequence, repeat words and phrase verbatim. They were found to use incomplete sentence and labored speech, have poor memory for letters and words, but have impulsive, iconic and use holistic / global approach when solving educational problems.

The researcher was motivated to choose this topic for this study base on the confusion and questions asked by parents and teachers as to whether, there is a peculiar cognitive style for aphasic children? Whether there are relationships between cognitive styles of aphasic learners and their emotional status as well as how the characteristic of aphasic learners interferes with their learning in an inclusive classroom setting. The objective of the study is to find out the relationship between cognitive styles and emotional status of primary four

pupils with aphasia in Sokoto state. However, the specific objectives of the study are to find out:

The relationship between field dependent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto State.

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The relationship between field independent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state.

### **Research questions**

The following research questions were stated to guide the study;

1.What is the relationship between field dependent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto State?

2.What is the relationship between field dependent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state?

3.Is there relationship between field independent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto state?

4.Is there relationship between field independent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state

### **Hypotheses**

The following null hypothesis was formulated to direct the study:

1.There is no significant relationship between field dependent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto state.

2.There is no significant relationship between field dependent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state

3.There is no significant relationship between field independent cognitive styles and emotional stability of primary four pupils with aphasia in Sokoto State.

4.There is no significant relationship between field independent cognitive styles and emotional instability of primary four pupils with aphasia in Sokoto state.

### **Theoretical framework**

The theoretical framework for this paper was anchored on three theories, one theory on aphasia (dual stream theoretical model of vision processing), one theory on cognitive styles (Witkins field dependent – independent theory of cognitive styles) and one theory on emotional status (Eysenk theory of personality).

1. Dual stream theoretical model of vision processing, (aphasia)

Dual stream theory was proposed by Hickok to explain cortical organization of language. This theory asserted that vision processing is divided into two streams; A ventral stream and dorsal stream (Hickok & Poeppel, 2007). Ventral stream is found in the inferior temporal lobes of the brain that controls object identity, speech signals for comprehension, understanding, parallel processing of information, and mapping of sound into meaning (Donna, John & Argye, 2014). Dorsal stream-controlled integration of visual input and motor response which facilitates reaching and grasping in visual space and it is found in the parietal area of the brain which helps in processing object location in the environment.

2. Witkin’s field dependence – independence theory of cognitive styles (cognitive styles)

Witkins (1974) proposed field dependence/ independence theory to explain cognitive styles . Persons whose mode of perception is strongly dominated by the surrounding field is said to be learning toward a field dependent cognitive styles, while those that go beyond the surrounding environment by looking at other sources of information are termed as field independent learners.

Field dependent learners are guided and directed by their teachers to solve problems, they are socially oriented, perceived information in holistic and global approach, relay on external cues or frame of reference, and they are extrinsically motivated and respond to clearly defined performance goals. Field independent learners have defined learning strategies, and self-directed goals and are intrinsically motivated. Field independence learners have sequential abilities, abilities to think critically, break up organized perceptual field and prefer individualistic method of teaching. They are better at leaning abstract concepts, can articulate their experiences and are independent as well as autonomous in restructuring of memory and understanding. Field independent learners are intrinsically motivated

3. Eysenk’s theory of personality (Emotional Status)

Eysenk is a German born, British psychologist who proposed a personality theory that tried to explain individual’s behavior in relation to human traits. He grouped personality traits into personality type and identified three cluster or group traits;

- Introversion – extroversion
- Neurotism/Emotional status (emotionally unstable – emotional stable)
- Psychotism

The second cluster of traits, which is neurotism explained human traits related to emotional status (stability/instability). Emotionally unstable individuals have the following signs and symptoms; they are touchy, restless, impulsive, moody, pessimistic, unsociable and aggressive and sober while emotionally stable individuals are optimistic, claim, quite, organize, sociable, active and well mannered.

**Methodology**

Correlation research design was used for the study. The Population targeted for this paper consists of all primary four pupils in Sokoto state whose number is 9,369 (Sokoto State Universal Basic Education Board, 2019).

Multi-stage sampling techniques were employed before arriving at the sample for the study. The state was divided in to three senatorial/educational zones using stratified sampling techniques, three local education authorities were selected from each zones, making a total of nine (9) local education authorities, then simple random sampling technique was used to select seven (7) schools from each local education authority, purposive sampling technique was used to select primary four pupils with symptoms of aphasia and finally, these pupils were subjected to screening using Language Screening Test (LAST).

**Table 1:** Selected Local Education Authorities for the Study and Primary School Pupils selected for the Study

S/N	ZONES	LGEA’S	PUPILS		TOTAL
			MALE	FEMALE	
1	Sokoto North	Wurno	5	1	6
	Senatorial	Gwadabawa	5	2	7
	District	Goronyo	5	3	8
2	Sokoto East	Sokoto North	5	3	8
	Senatorial	Sokoto South	7	1	8
	District	Kware	4	4	8
3	Sokoto South	Bodinga	7	2	9
	Senatorial	Tureta	4	4	8
	District	Dange Shuni	5	2	7
<b>Total</b>			47	22	69

Source: SUBEB , 2019

1. Language Screening Test (LAST) to screen and identify aphasic pupils (Adapted version of the instrument).

The following instruments were used for data collection in this study;

2. Group Embedded Figures Test to identify field dependence/independence cognitive styles (Adapted version of the instrument).

3. Junior Eysenck Personality Questionnaire to measure Emotional status -stability-Instability (Adapted version of the instrument).

The instruments used for the study were found to be reliable using Test-retest methods of testing reliability by the researcher. The original reliabilities of the standardized instruments were found by the developers of the instruments. The instruments were administered on pupils at Gagi Model primary school Sokoto and Tafida Aminu primary school Mabera. The instruments were re-administered after an interval of three weeks to re-establish their reliabilities. The sample for the pilot study was drawn from two primary schools in Sokoto Metropolis. The researcher use a sample of primary, 3 pupils from Gagi Primary school and 4 pupils from Tafida Aminu Primary School that have characteristics of aphasia. These pupils were handpicked by the teachers taking in to cognizance the characteristics of aphasia.

### **Language Screening Test (Aphasia)**

Language screening test was developed by Flamand - Roze., Falissard., Roze, Maintigneux, Beziz, Chacon, Join - Lambert, Adams, and Denier in the year 2011 to screened individuals with learning disabilities especially aphasic individuals. This is a bedside screening test used in emergency situations and it is fast and simple. The test is being adapted for this test to screened Aphasic children. The test consist of 15 items subtest for screening comprehension and expression, twenty seconds are given to patients to answer each question and the answer is scored as either 1 (correct answer) or 0 (imperfect answer), including errors and failures to answer. (Roze, Flissad, Roze, Maintigneux, Beziz, Join – Lambat, Adams, Denier, 2011). Any mark less than  $> 10$  indicate the presence of Aphasia Language Screening Test (LAST) was validated by comparing (LAST A and LAST B) equivalent versions of the instrument to measure Internal validity of the two versions of the tests, while external validity of the test was measured by comparing it with Boston Diagnostic Aphasia examination scale and inter – rater reliabilities were examined. Fifty-four (54) “chronic” aphasic patients showered that, the two versions were strictly equivalent with an ICC of 0.96, 300 “acute” patients showed no floor or ceiling effect. There was no restriction between item shown by Pearson correlation co-efficient  $< 0.8$ , parallel analysis revealed a 1– dimensional studies and internal consistency of the 15 items was good with a Cronbach of 0.88 (Flamand - Roze., Falissard., Roze, Maintigneux, Beziz, Chacon, Join - Lambert, Adams, and Denier, 2011).

Last in comparison to Boston diagnostic aphasic examination, taking (BDAE) only one patient identified as “aphasic” with BDAE obtained a score of 15 out of 15 in LAST, where all patients with a last score of  $< 15$  were diagnosed as “aphasic” with the BDAE. The validity was established using a cut off of  $< 15$  in the sample of 102” chronic patients. Language screening test was cross examined by experts was found to measure expression and reception index. Finally, it was adjudged that it has content validity.

The reliability of Language Screening Test (LAST) was found by comparing Last A and B on a sample of 54 “chronic aphasia patient” and it showed that, the two versions of the test were pooled for analysis and similar result was obtained and it showed no floor or ceiling effect. There was no reduction between items shown by Pearson correlation coefficient  $< 0.8$ , parallel analysis revealed a 1.0 decimal structure and the internal consistency of the 15 items was cronbach alpha of 0.88 (Salehi, Jahan, Mousari, Hashemilar, Razaghi, et al, 2016).

The researcher re-established the reliabilities of Language Screening Test. Language screening test (LAST) was administered on the pupils and re-administered after an interval of two weeks to ascertain the level of its reliability. The two administrations yielded spearman correlation coefficient index of 0.71 was realized which is high enough for the instrument to be reliable.

### **Group Embedded Figures Test of Cognitive styles**

Group embedded figures test is a perceptual test that measures field dependence/independence of the test takers. It is developed by Witkins, Raskin, Oltman and Karp in the year 1971 (Rostampour & Niroomand, 2014). This test is being adapted for this study. The test consists of three section, section one contains two complex figures for practice, while section two and three contain nine (9) complex figures each, making a total of eighteen complex (18) figures. Students are given GEFT booklet requiring on the front page, information such as name, age and sex of the respondents, response in the test are graded right (1 mark) or wrong (0 mark).

Classification of students depends on their scores. The scores on GEFT may range from 0 (the most Field dependent) to 18 (the most Field Independent), therefore, those who score above 12 out of 18 are labeled as F1 and those with a score of 11 and less are branded as FD cognitive styles (Khatib, 2011). According to Onyekuru (2015), the validity of group embedded figure test was found in River’s state, Nigeria, its correlation co-efficient measured over a three year period using Pearson product moment correlation techniques was 0.89.

The reliability of the Group Embedded Figure Test is 0.82, when parallel form of the test was administered within the same time limit (Varun, Shobana & Thamil,

2016). The instrument was pilot tested using test-retest method of establishing reliability in two schools of the study area, a correlation coefficient of 0.77 was realized which is high enough for the instrument to be reliable.

**Junior Eysenck Personality Questionnaire Short Version (JEPQR-S) (measure of emotional status)**

Junior Eysenck personality questionnaire was developed by Corolla in the year 1990 to measure extroversion, neurotism/emotional status (emotional stability-instability), psychoticism and lie scale (Corolla, 1990). This instrument is being adapted for the study, some modifications were made to the instrument to make it agree with the age, culture and religion of the pupils. Junior Eysenck personality questionnaire measure personality in children aged 7-17 years in the three areas of neutralism (high “N” score indicates emotional instability and stability), psychoticism (high “P” score indicates psychotic disorder, cruelty, aggression, and intolerance), while extroversion (high “E” scores indicates extroversion, being sociable, talkative, outgoing, impulsive, and uninhibited). The highest score is 12 points for each scale, while the lowest score is 0. The questionnaire consists of 48 items.

The items of the instrument are arranged in this order, Neurotism/Emotional status- (Emotional stability/instability) (4,8,11,12,16,21,22,29,32,

34,47,48). The instrument is scored in the following order, Neurotism /Emotional status (Emotional instability 6 marks > - Emotional stability < 5 marks). The Italian version of the instrument was administered on 541 students aged between 13 and 17 (310 females; means age 15-56), after four week interval a subsample of 270 subjects completed the questionnaire a second time. Explanatory factor analyses using Mplus 7 and WLSMV as estimator (Muthen & Muthem, 2012). A four factor model was used to correlate the items. It showed that  $\chi^2(164) = 3015.51, p \leq 0.01; CFI = 0.96; TLI = 0.95; RMSE = 0.38 (0.031, 0.044), CFI = 0.9991; SRMR = 0.047$ . The higher correlation was between P and L factors. This showed its factorial validity.

**Data presentation and Analyses**

The data for this study was analyzed using inferential statistics, the following hypotheses were analyzed using Pearson Product Moment Correlation taken into consideration the research questions and hypotheses

**H0<sub>1</sub>:** There is no significant relationship between Field Dependent cognitive styles (FD) and emotionally stable primary school children with Aphasia in Sokoto State . This hypothesis was tested by subjecting the scores for FD and emotionally stable scores to Pearson’s correlation analysis as shown in table 2.

**Table 2.** Relationship between FD and Emotional Stability

Variables	N	Mean	Std. Deviation	r-Correlation	P-Value	Decision
Field Dependent	64	4.95	1.713	.04	.891	Accepted
Emotionally Stable	14	4.64	1.336	0		

From the result of table 2, Field Dependent and emotional stability have weak and positive relationship but it was not significant, Pearson’s  $r = .040$  at 0.05 level of significant with a,  $p$  value of 0.891 indicates no significant relationship between Field Dependent and emotional stability because the  $p$ -value is more than the .05 level of significance. Therefore,  $H_{02:1}$  which states that there is no significant relationship between Field Dependent and emotionally stable was accepted.

**H0<sub>2</sub>:** There is no significant relationship between Field Dependent cognitive styles and emotionally unstable primary school children with Aphasia in Sokoto state. The above hypothesis was tested by subjecting the scores for Field Dependent cognitive styles and emotionally unstable children’s scores to Pearson’s correlation analysis as shown in table 3.

**Table 3:** Relationship between FD and Emotional instability

Variables	N	Mean	Std. Deviation	r-Cal	P-Value	Decision
Field Dependent	64	4.95	1.713	.08	.518	Accepted
Emotionally Unstable	55	7.98	.952	9		

Data on table 3 showed that, FD and emotional Instability were positively related but the relationship was not significant, Pearson’s  $r = .089$  at 0.05 level of significance with a  $p$  value of .518 indicates positive and weak relationship which is not significant between FD and emotional instability, because the  $p$ -value is more than the .05 level of significance. Therefore,  $H_{02}$ : which states that there is no significant relationship between Field Dependent cognitive styles and emotionally

unstable primary school children with Aphasia in Sokoto state was accepted.

**H0:3:** There is no significant relationship between Field Independent cognitive styles and emotionally stable primary school children with Aphasia in Sokoto state.

This hypothesis was tested by subjecting the scores for FID and emotionally stable scores to Pearson correlation analysis as shown in table 4.

**Table 4.** Relationship between FID and Emotional stability

Variables	N	Mean	Std. Deviation	r-cal	p-Value	Decision
Field Independent (FID)	5	12.40	0.548	0.39	.008	Rejected
Emotionally Stable	14	4.64	1.336			

The result of table 4 indicated that, FID and emotional stability were positively related. There is moderate, positive and significant relationship, Pearson  $r = .54$  at 0.05 level of significant with a  $p$  value of .008 indicates moderate, positive and significant relationship between FID and emotional stability because the  $p$ -value is less than the .05 level of significance. Therefore,  $H_{02.3}$  which states that there is no significant relationship between Field dependent cognitive styles and emotionally stable

primary school children with Aphasia in Sokoto state was rejected.

**H0:4:** There is no significant relationship between Field Independent cognitive styles and emotionally unstable primary school children with Aphasia in Sokoto state.

This hypothesis was tested by subjecting the scores for Field Independent cognitive styles and emotionally unstable scores to Pearson’s correlation analysis as shown in table 5.

**Table 5.** Relationship between FID and Emotional Instability

Variables	N	Mean	Std. Deviation	r-Cal	p-Value	Decision
FID	5	12.40	.548	.218	.047	Rejected
Emotionally Unstable	55	7.98	.952			

The result of table 5 showed that, Field Independent cognitive styles and emotional instability have weak, positive and significant relationship, Pearson’s  $r (.218)$  at 0.05 level of significant with a  $p$  value of .047 indicates positive, weak and significant relationship between FID and emotionally unstable because the  $p$ -value is less than the .05 level of significance. Therefore,  $H_{0:4}$  which states that there is no significant relationship between FID and emotionally unstable was rejected.

4.Weak, Positive and no significant relationship between field independent cognitive styles and emotional instability.

**Discussion on Findings**

Aphasia is an impairment of comprehension or production of language in written or spoken forms due to acquired lesion of the dominant cerebral hemisphere (Kavangh, Lynam, Duerk, Casey & Eustace, 2010). The preferred mode of perceiving, analyzing and processing information of aphasic learners is directly related to the emotional state. Depression, anxiety, unfriendliness, feeling of emptiness, inability to verbalize feeling, suspicious nature, laziness, dodging and mental instability are some of signs displayed by emotionally unstable aphasic learners. Aphasic individual many at times show sign of inferiority complex, fear, low tolerance and understanding of people’s point of view which lead them to have poor self-image, poor self-

**Summary of Findings**

The findings of the study indicated that, there was:

- 1.Weak, Positive and no significant relationship between field dependent cognitive styles and emotional stability.
- 2.Weak, Positive and no significant relationship between field independent cognitive styles and emotional stability.
- 3.Moderate, Positive and significant relationship between field dependent cognitive styles and emotional instability.

evaluation, poor self-concept and poor academic performance in school

Cognition and achievement are influenced by positive or negative emotion, regulated or unregulated emotion, stabilized and unstable emotion. Problem solving abilities, reflective thinking, memory and critical thinking are cognitive processes that are influenced and guided by emotion whenever calmness of mind, freedom from stress, anxiety and depression, self-confidence and emotional maturity is missing, an individual person is found to be emotional unstable and his ability to perceive, process and analyze information will be greatly affected. Aphasic individual are symptomized with emotional lability which is caused by either stroke or trauma that caused brain damage and consequently affect cognitive processes and styles.

Cognitive styles is the habitual individual difference in ways of experiencing situation, developing perception, organizing, retrieving and processing information (Farouq, 2014), while emotion is the acutely disturbed affective process or state which originate in the psychological situation and is noticed through bodily changes in, smooth muscle, gland and gross behavior (Ahlen, 2006). Individual person's abilities to perceive, store, analyze and retrieve information are directly related to one's emotion which could be positive or negative, regulated or unregulated, stable or unstable. Aphasic children mostly have holistic, intuitive, visual, impulsive, iconic, divergent thinking and field dependent cognitive styles.

Hypothesis one which indicated that there is no significant relationship between field dependent cognitive styles and emotional stability is supported by the work of Keogh and Donlon, in Rastegar (2016) Investigated that, perceptual difficulties underlie the emotional instability, distractibility and impulsiveness of learning-disabled child, since measure of field dependence, namely the RFT and EFT, involved visual perception. Research has shown that many learning-disabled children tend to be inattentive, impulsive and hyperactive to the extent that they can be considered ADHD, as well 20% to 37% of children with learning disabilities also have ADHD and that 10% to 29% of ADHD children may require LD service. The result also indicated that, male with learning disorder were field independent and impulsive.

This is due to the fact that, there is wide gap between the numbers of those with field dependent cognitive styles (64) and emotional stability (14) as well as pupils with aphasia were found to have field dependent cognitive styles and emotionally unstable than stable. Karale and Forness, in Kholound and Alzhoon (2018), found that children with specific learning disability interact with more distractibility, hyperactivity and lack of self-control. Some children with SLD may manifest inattention, hyperactivity and /or impulsivity.

Many studies were conducted by scholars that supported the findings of the present study. Berent and Silverman (1973) also pointed out that, field dependent subjects show a significant deficit on a verbal-paired associates test but not on a visual-perceptive paired associates' test. Learners with field dependent cognitive styles solve problems using holistic and global approach, depend on external cues to solve problem as well as are externally motivated. Aphasic children with field dependent cognitive styles mostly portray antisocial behavior and withdrawal behaviors which interfere with their emotions. They include among others; hallucination, day dreaming, illusion, excessive anxiety, distorted thinking, bizarre motor act, trouble concentrating, lack of focus and attention, etc.

Brown in, Rostampour and Niroomand (2014), conducted a study titled; Field dependence/independence cognitive styles: Are they significant at different level of vocabulary knowledge? The researchers revealed significant correlation between field independence and personality characteristics. The result revealed that, F1 individuals can be considered as analytical, reflective, highly detailed, ambiguity tolerant and left cerebrally dominant Field Dependent people, on contrary, are described as more globally oriented, impulsive, holistic and right cerebrally dominant.

Studies conducted which contrary to the findings of the present study is the work of Guisande, Paramor, Tinajaro and Almeidi (2017) which investigated whether children with different cognitive styles show difference in the performance of task measuring aspects of intentional functioning. One hundred and fifty students were used for the study and the result revealed that, field independent children performed better than field dependent in verbal working memory, complex attention and sustained attention/vigilance tasks.

The result of sub hypothesis H0<sub>2</sub> revealed that, there is no significant relationship between field dependent cognitive styles and emotional instability. Field dependent learners prefer late morning for learning, they like to be alone and learn kinesthetically by using, format structure and active cognitive strategies. Some field dependent learners that have learning disability are found to have borderline personality disorder, anxiety, attention deficit/hyperactive disorder. Three students with aphasia were found to have epilepsy as a result of concoction and accident.

The findings of this study corroborate the prior finding of Kagan and Block in, Fan (2006) found results which are contrary to the finding of the present study. It revealed that, field dependent learners seek others to affirm their self-worth, manipulate individuals by ingratiating themselves; they are suspicious of others, jealous and they cope with their social world with a sense of anxious vulnerability. Guyer and Friedman, in Hameed (2011) noted that, learning disabled boys are more field dependent than normal boys' Aphasic individuals have

cognitive styles which directly relate to the brain dominance and damage to the left part of the brain. They are found to have holistic, intuitive, non-linear information processing, visual and tactile learning styles, iconic, impulsive, divergent thinking and lateral thinking; they have visual-spatial, fluid cognitive learning styles.

Contrary to the present finding is the work of Wolf (1969) titled, *Field independent Girls and their ability to solve problems while distracted?* The study tested 7<sup>th</sup> and 8<sup>th</sup> grade students on perceptual discrimination (Hidden figure test) and a measure of drive (The children's manifest anxiety scale). Otis IQ scores were also available. The hidden figure test was found to be significantly positively correlated with the IQ for boys and girls, while the children's manifest anxiety scale was found to be negatively correlated with the Otis (IQ) for girls. Boys were found to be significantly better on the (HFT) than girls. The result indicated that field independent students perform better in problem solving than field dependent, intelligence may have more to do with problem solving than field dependency. Field independent girls would be better than field dependent girls in problem solving and low anxious girls would be better problem solvers than high anxious girls

The findings generated from sub hypothesis two (H0.3), revealed that, there is significant relationship between field independent cognitive styles and emotional stability of primary school children with aphasia. The finding of the study is supported by the work of Wyss (2002), which demonstrated that, the field independent learners excel in classroom learning which involves analysis, attention to details and mastery of exercise to drill and other focused activities. Blackman & Goldstein (1982) supported the present study in their study titled; *cognitive styles and learning disabilities*. The result showed that, the cognitive style dimension of field dependence and reflection – impulsivity to underachievement, process deficit and hyperactivity. Field independence and reflective cognitive styles are associated with better performance among learning disabled.

Field independent learners think analytically by relying on internal reference, use passive cognitive strategies, prefer structured learning environment and have skills in interpersonal and social relationship (Chen & McCredie, in Idika, 2017). Some children despite being aphasic are able to be calm, quiet and have ability to organize and interpret information, moderate memory and pay attention to learning experience.

The analyses sub hypotheses (H0.4) showed that, there is significant relationship between field independent cognitive styles and emotional instability. Some studies were conducted which supported the present study. The work of Zoccolotti and Oltman (1977) supported the findings of the study and the result showed that, field independent subjects display a faster reaction time to faces in the left visual field and to letter in the left visual field and to letter in the right visual field.

When investigating the relationship of reading attitudes (reading difficulty inclusive) to academic aptitude, locus of control, and field independence, Blaha and Chomin (1982) selected a sample of 322 inner city Detroit public school fifth grade students. They found that verbal academic aptitude as measured by the cognitive Abilities Test correlated significantly with Expressed Reading Difficulty, Reading Anxiety, Silent vs. Oral Reading, and Reading as Enjoyment dimensions and nonverbal academic aptitude correlated with Expressed Reading Difficulty and Reading Anxiety of field independent sample. They also found that Expressed Reading Difficulty, Reading Anxiety, Reading Group, Reading as Direct Reinforcement and Reading as Enjoyment dimensions were significantly related to the locus of control I+ score and no reading attitude dimensions were related to the score. Kay in, Hameed (2011) conducted a study on the effect of developmental motor therapy programme in children with learning disabilities or minimal brain destruction. The result is contrary to the findings of the present study. It revealed that, perceptive motor therapy (emotion) leads to higher levels of cognitive functioning; experimental group showed significant gain in field independent but not in self-image.

## **Conclusion**

The study showed that field dependent aphasic learners are neither affected by emotional stability nor instability due to their inherent disability which make them to be unsociable, disorganized, unable to express and comprehend language. Field independent cognitive styles aphasic learners were found to be more emotionally regulated, organized, optimistic and active than emotionally unstable ones. The researcher recommended that: Pupils with aphasia should be encouraged to have holistic and global perception towards problems and develop their extrinsic motivation to enable them stabilized their emotion and catch up with their peers. Pupils with aphasia should be reinforced to have self-directed goals and objectives, study habits and strategies as well as stable emotion to have improved academic performance. Teachers should use analytic pattern and inductive teaching methods to teach field dependent learners using special strategies to control distractions and emotional instability. Pupils with aphasia should be encouraged to be reflective and optimistic so as to enable them have organized and active learning environment under control emotion.

## **Reference**

- Ahleen,S.(2005).Emotional Stability among college youth. *Journal of Indian Academy of Applied*
- Berent, S. & Silverman, A. J. (1973). Field dependence and differences between visual and verbal learning task. *Perceptual and motor skills*, 36, 1327-1330



- Blackman, S. & Goldstein, K.M. (1982). Cognitive Styles and Learning disabilities. *Journal of Learning Disabilities*, retrieved from <http://doi.org/10.1177/002221948201500211> on 15th Oct, 2019
- Blaha, J., & Chomin, L. (1982). The relationship of reading attitudes to academic aptitude, locus of control, and field independence. *Psychology in the Schools*, 19, 28-32.
- Chao, H. J. (2000). Field dependence versus field independence of students with and without learning disabilities. *Perceptual motor skills*, 90(1), 343-6.
- Corrula, W.J. (1990). A revised version of the psychotism scale for children. *Persons individual difference*, 11, 65-76.
- Donna, C. T., John, K. N. & Argye, E. H. (2014). Aphasia: Current concepts in theory and practice. *Journal of neurology and translational neuroscience*, 2(1), 1042-1048
- Fan, W.Q. (2006). *Thinking styles among University students in Shanghai: Comparing traditional and hypermedia instructional environment*. Doctor of philosophy theses, University of Hongkong.
- Farooq, M.S. (2014). Cognitive styles and Quality of learning. A case study of language learners. *Journal of Elementary Education*, 25(1), 19-37.
- Febrilia, I. Warokka, A & Abdullahi, H. H (2011). University student's Emotion and Academic Performance New Insights of Managing Complex Cognitive. *Journal of E-Learning and Higher Education*. Retrieved from <https://www.ibimapublishing.com/journals/JELHE/Jelhe/html.pp1-15.on> 1st Jan, 2020.
- Flamand - Roze, C., Falissard, B., Roze, E., Maintigneux, L., Beziz, J., Chacon, A., Join - Lambert, C., Adams, D. and Denier, C. (2011). Validation of a new Language Screening Test for patients with Acute Stroke. The language screening test (LAST). *Stroke*, 42, 1224 - 1229. Retrieved from <http://stroke.ahajournals.org>
- Guisande, M. A., Paramo, M. F., Tinajaro, C. & Almeidi, L. S. (2017). Field Dependent – Independence (FDI) Cognitive Styles: An Analysis. *Psicothesis* 19(14), 572-577
- Hameed, S. (2011). *Interrelation between Brain hemispheres and learning styles of secondary school students in Jos metropolis*. Masters of Educational psychology submitted to Post graduate school, University of Jos, Nigeria
- Hickok, G. & Poeppel, D. (2007). The cortical organization of speech processing *Nat Rev Neurosci*, 8, 393-402.
- Idika, M. I. (2017). Influence of Cognitive Style and Gender in Secondary School Students Achievement in and Attitude to Chemistry. *Advances in Social Sciences. Research Journal*, 4(1), 129-139
- Kavanagh, D.O., Lynan, C., Duerk, T., Cassey, M. & Eustace, P.W. (2010). Variation in the presentation of aphasia in patients with closed head injuries. Retrieved on 15<sup>th</sup> October 2016, from <http://dx.doi.org/10.1155/2010/678060>
- Khatib, M. (2011). On the validity of the group embedded figure test (GEFT). *Journal of Language Teaching and Research*, 2(3), 640-648. Retrieved from <http://www.researchgate.net/publication/12727977/-on-the-group-embedded-figure-test> GE. Accessed on 15<sup>th</sup> October, 2019.
- Kholoud, A.A. and Alzhoon, E.K. (2018). Understanding impulsivity among children with specific learning disabilities in inclusion. *Learning Disabilities Quarterly* 41(2), 100-112
- Mehrabian, A. (1980) *Basic Dimension for a General Psychological Theory*; Cambridge: OG & H Publishers.
- Muthen, B.O. & Muthen, L.K. (2012). *Mplus Version & User guide*. Los Angeles, CA Muthen & Muthen..
- National Institute on Deafness and other Communication Disorders, (2015). Fact sheet and language aphasia. U.S Department of health and Human service: National institution of Health.
- Onyekuru, B.U. (2015). Field dependence - field independence cognitive style, Gender, Career choice and Academic achievement of secondary school students in Emolura local government area of Rivers state. *Journal of Education and practice*, 6(10), 2222 – 1735.
- Psychology, 35(1-2), 100-102
- Reastegar, M. (2016). Field dependence/independence, impulsivity, reflectivity, gender and cloze test performance of Iranian EFL learners : A study of relations. *European Scientific Journal*, 12 (8), 1857-7881. Doi :10.19044/esj.2016v12n8p408.
- Rostampour, M. & Niroomand, S. M. (2014). Field dependence/independence cognitive styles: Are they significant at different levels of vocabulary knowledge? *International Journal of Education and Literacy Studies*, 2(1), 52-57. Retrieved from <http://dx.doi.org/10.7575/aiae.ijels.v.2n.lp.52>. 20<sup>th</sup> March, 2019.
- Salehi, S., Jahan, A., Mousari, N., Hashemilar, M., Razaghi, Z., Moghadam-Salimi, M. (2016). Developing Azeri Aphasia Screening test and Preliminary Validity and reliability. *Iranian Journal of Neurology*, 15(4), 183-188.
- Varum, M., Shobana, P.S. & Thamil, S.P. (2016). A study on the relationship between field dependent – independent (FD-1) Cognitive style and Brain Dominance among college students. *International Journal of education and psychological research* 5(2), 19-22
- Witkins, H. A. (1974). *Cognitive style perspective on evaluation and guidance*. Proceeding of the 1973

invitational conference on testing problems. Measurement for self-understanding and personal development. Princeton, NJ. Educational Testing Service.

Wolf, P.J. (1969). *Field independent Girls and their Ability to solve problems while distracted*. Phd theses submitted to the Graduate school, Loyola University, Chicago.

Wyss, R. (2002) Field Independent/Dependent Learning Styles and L2 Acquisition. *Journal of ELT*, (49), 125-128

Zoccalatti, P. & Oltman, P. (1977). Field dependence and Lateralization of Verbal and Configurationally Processing Cortex, Cited by Otman, P. K. Ehrhnman, & Cos. P. W., Field Independence and Laterality in the Perception of Faces. *Perception and Motor Skills*, 45, 259