

Comparing the Linguistic Characteristics in Primary Normal Students and Students with Learning Disorders

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ABSTRACT

This study aims to compare the linguistic characteristics in primary normal students and students with learning disorders. The research method was reasoning- comparing. The statistical community includes all normal students and the ones with learning disorders in primary schools of Tonekabon City during 2011-12; through referring to rehabilitation center of learning disorder, 50 samples have been chosen by simple random sampling among 70 girl and boy students with learning disorder in grades one and two; and it has been cleared that there were 40 boys and 10 girls. A boy school and a girl school have been chosen randomly to choose normal students among Tonekabon schools, referring them, 50 grade one and two primary students (40 boys and 10 girls) have been chosen randomly among 240 ones.

Also, smith check list (1984) with 0/87 validity has been used to identify the students with learning disorder and evaluating children language evolution (Test of Language Development-Primary (TOLD-P:3)) (Newcomer & Hamill, 1997) by sub-tests (picture vocabulary, relational vocabulary, oral vocabulary, Sentence comprehension, Sentence imitation, Sentence completion) with 0/77, 0/84, 0/78, 0/88 and 0/83 validity. The findings were analyzed through MANOVA method by SPSS software. The results indicate that linguistics characteristics (spoken language, semantics, speech, organization, listening, syntax) in students with learning disorder are in lower level than normal students ($P<0/01$).

KEYWORDS: learning disorder, dyslexia, dysgraphia, dyscalculia , linguistic characteristics.

INTRODUCTION

Human is separated from other beings by a most complicated system of communication. This system enables him to gain and transfer the environmental information. Language is one of the main and basic skills. Learning language is a key duty in evolution of early and next stages. Language includes two basic and life application for human. Firstly, it enables us to communicate with others. Secondly, it enables us to think. Language is one of the necessities in creative thinking. Language existence in all trainings and educations is urgent. Certainly, child needs a special level if cognition and intelligent (is changed enough) for learning to talk (Ahadi, 2007).

Expressive language is the basis of various cognitions by human. Internal and intellectual thoughts and ideas are emerged by expressive language and human talents are completed. Due to that, language distinguishes human actions from animals. The clearest intellectual activity of human is language (Glazer, 2009).

Language actions in children are divided into receptive and expressive language in ability to understanding and communicating. The children with complete receptive language can understand vocabulary meaning and grammar. The expressive language is the child's ability in making or producing speech meaningfully. Production is a form of expressive language pointing to sounds pronunciation in speech. The child should understand speech before producing (meaningfully) it. This situation indicates speech understanding superior than producing it. Thus, speech production depends on understanding it and its progress needs understanding (Karweit, 2011).

The abilities of expressive and receptive language in adults are used automatically. There are few information about cognitive processes in using language. The problem in language is choosing suitable linguistic form for message transferring to others; and then expressing it in speech and writing form. Also, the issue in language comprehension is as follows: determining the linguistics form and extracting the message with related information in that language (khodayari, 2008).

Language production, speech or writing is parallel to understanding, in various aspects. The final procedure in understanding, that is extraction, corresponds to the first process that is meaning transfer to others. The clearest difference of production and understanding is that there is a plan in producing language. Each sentence structure and the way of relating it to the mentioned done should be determined, as language production uses information source in long time memory (Babapour, 2007).

The ability of understanding spoken and written contents is an important cognitive skill in which various evolutionary and individual differences have been observed. Various findings indicated that the

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evolution patterns of expressive and receptive language and their backgrounds are different in each child, as describing the relationship between receptive and expressive language is difficult. Many differences have been observed among people in language evolution ; some part of it relates to learning abilities in reading and writing , in a way that most debates emphasizes on cognitive features in the deference among children with learning disorder and normal children (Nores, 2010).

The characteristics of people with learning disorder in various aspects , during last years, have been investigated classified by psychologists. Classifying the characteristics indicated that the people are different in various features. Language is one of the features and among the criteria is used for determining and selecting the children with learning disorder. The children with learning disorder have negative self- esteem, and pay attention to gain ideas about works to do instead of learning what they can't do. The lack of positive self- esteem leads to weak self- esteem in them (Cryan, 2005).

Recognizing the characteristics of the children is the main purpose of authors, since starting the studies about learning disorder. Weller (2006) stated the emphasize of this point as: when the basis of learning disorder is determined, it is imaginable to discover methods and tools to improve it. After determining the physical, mental and behavioral characteristics of the children with learning disorder, it is more probable to train them more successfully (Casalis,2011).

People with learning disorder are behind of one lesson than others in developing and learning achievement; without being mental retardant. These areas include basic reading skills, reading comprehension, writing, mathematical accounting, mathematical logic that are removed by special teaching methods to adulthood. There is no delay in motor- development areas during life background. the children intelligence quotient is normal and arrangement with environment is heavy in children with disorders (Rahimi, 2010). Keshmiri (2009) investigated the organizing and semantic differences in children with learning disorder and other ones. The results indicated that students with learning disorder are weaker than normal students in semantics and organizing.

Weller (2008) compared the abilities of oral language among 30 students with learning disorder and normal students. The results indicated that the students with learning disorder had lower grades than normal students in syntax, semantics and organizing. Perckel (2009) investigated the relationship between learning disorder and creativity in students with learning disorder and normal students in three language, picture and numerical contents. The samples include 1328 students, studied for memory, speed, information processing and creativity in three language, picture and numerical contents.

The results of correlation analysis in three areas indicated that normal children have more creativity than the children with learning disorder. Nemati (2007) compared the characteristics of 7-8 old children language with dyslexia and normal children. The results indicated that the children with dyslexia act weaker than normal children in language abilities including semantics, syntax and phonology. So that, exact evaluating of language features should be fit into clinical action and other normal treatments for children with dsysexia; and speech- language pathology should be used in treating the children by emphasizing on language skills.

According to above mentioned and the role of language learning features, this study aims to investigate the linguistic characteristics in normal students and students with learning disorders in Tonekabon city. So the question is;

- Is there a difference among linguistic characteristics (expressive and receptive) in students with learning disorder and normal students?

RESEARCH METHOD

According to the topic and main purpose, the research has been in practical type and reasoning-comparing or Ex-Post Facto form.

Statistical community

The statistical community includes all normal students and the ones with learning disorders in primary schools of Tonekabon City during 2011-12.

Sampling method

The samples includes 50 students with learning disorder and 50 normal students in 2011-12; who have been chosen by simple random sampling (drawing through the list of students). Firstly , for chosen the sample, a list of children with learning disorder being trained in a center (learning disorder) has been provided who were 70 ones. Among them, 50 children with learning disorder have been chosen by drawing (simple random) . after choosing, the boy samples were 40 and the girl samples were 10, between 7 to 8 years old. to control the sex and age in normal students, a public boy school and a public girl school have been selected and a list of students in grades one and two has been provided and finally 40 boy students and 10 girl students between 7 to 8 years old age, have been chosen by drawing method, to compare with the learning disorder group.

Measuring tool

To be certain about children learning disorder, their teachers conducted smith’s checklist and the results indicated that all of them were above the cut point (5) in smith’s checklist. Then TOLD-p :3 test has been used for gathering linguistic related data.

TOLD-p:3 has been provided by Camer and Hamill in 1998, which is one of the reliable , normal and general tools in measuring children language evolution. Language growth relies on two models, expressive language and receptive language. The receptive language includes meaningfulness, syntax and phonology and expressive language includes listening, organizing and speech.

Smith’s checklist has been given by Arthur smith (1984) in Minnesota University, that is one of the reliable tools in identifying the students with learning disorder and includes three sub-scales, dyslexia, dysgraphia, dyscalculia, which can be used separately. Dyslexia checklist includes 14 questions, dysgraphia checklist includes 19 questions and dyscalculia checklist includes 15 questions. This checklist is filled by the teacher and if each student has been marked in the checklist, s/he is suspected to the disorder. The validity of this checklist is calculated 0.87.

Meaningfulness: the sub-test, syntax, includes 28 options and measures children ability in determining, understanding and using vocabulary forming (that is articles, adjectives, prefixes, suffixes and ...) and sentence making.

Phonology: this specifies to phonetic system of language and is related to phones classifying and is measured by three sub- test.

Syntax: this sub- test includes 14 options and is an organizing task to investigate the child’s ability in phonology system of Persian language (ability of sharing the vocabularies)

Speech: this semantic sub-test includes 28 options and measures the child’s ability in giving oral expressions about normal Persian language vocabularies.

Organizing: this phonological sub- test includes 20 options to measure the children ability in identifying the differences among sounds.

Listening: this phonological sub- test includes 20 options and measures children ability in producing important sounds of Persian language. the scoring method is done is a way that if the child get 10 or more than it in all sub- tests, his performance is average or more than it. The validity of this test for the sub- tests of picture vocabulary, relational vocabulary, oral vocabulary, Sentence comprehension, Sentence imitation, Sentence completion is 0/77, 0/84, 0/78, 0/88 and 0/83 respectively (Amirbani, 2010).

Analysis method: MANOVA has been applied in analyzing data statistically.

Conducting method: In this study, after justifying and referring it to education office and welfare organization of Tonekabon city to gather the data, the students with learning disorder in grades one and two have been chosen through referring to rehabilitation center of learning disorder and the normal students have been chosen through referring to a boy school and a girl school , chosen among all schools in Tonekabon city. To be more certain, smith’s checklist has been conducted among the children with learning disorder , being trained in the center of learning disorder by the teachers and it has been confirmed.

Language development questionnaire and smith’s checklist have been conducted on them. The checklist was given to the teachers to identify the students with the mentioned characteristics according the checklist. They teacher points the problems seen in students’ performance and referred the students suspected to the learning disorder or only with Dyslexia, dysgraphia, dyscalculia, to the next exact steps. Conducting the Test of Language Development has been done individually on normal students and the ones with disorder. As no time has been determined to conduct the sub-tests, every testee tried to respond by his own speed. Each sub-test was started by giving the examples to the testee. If the testee responds the example [positively, the sub test will be conducted.

FINDINGS

Question: is there a difference among linguistic characteristics (expressive and receptive) in students with learning disorder and normal students?

MANOVA has been used for investigating the above question.

The results of investigating the mean and balanced mean and standard deviation of linguistic characteristics for two normal group and the one with learning disorder are given in table 1.

Table 1: statistical features of linguistic characteristics in two groups (children with learning disorder and normal children)

variables	children with learning disorder		normal children	
	Mean (1)	Standard deviation	Mean (2)	Standard deviation
Spoken language	49.36	6.552	65.86	6.731
Listening	19.30	2.525	23.22	2.888
Organizing	15.38	2.440	21.76	2.654
Speech	14.67	2.035	20.90	2.323
semantics	27.14	3.870	34.863	3.551
Syntax	22.24	2.890	30.82	3.805

The above statistics states that there is a difference the group with learning disorder and normal group in dependant variables. The differences in each 6 variable are interested by normal group. The summary of MANOVA results for the compound variable (language evolution) are given in table 2.

Table 2: MANOVA of F ratio for measuring compound variable

Source	Value	F(93.6)	meaningfulness	Eta
compound variable (language evolution)	0.213	57.417 ^a	0.000	0.787

Note: multi variable F ratio is obtained by Wilk's Lambda.

The Eta in above table, is a ratio of variance related to new compound variable. The general basis states that if this number is more than 0.14, the effectiveness will be more. The amount of this compound variable by the name of language evolution is 0.787 and this indicates the more effectiveness. Also the results of Wilk's Lambda are meaningful for compound variable and that indicates the difference between two groups and the group means are affected by meaningful independent variable. The variance analysis for the dependant variable is given in table 3.

Table3: ANOVA of F ratio on dependent variables

Variable	F(1.98)	P	Eta
Spoken language	154.275	0.000	612.
Listening	52.210	0.000	348.
Organizing	156.580	0.000	.615
Speech	202.804	0.000	674.
semantics	107.997	0.000	524.
Syntax	161.252	0.000	.622

In the table of ANOVA there are 6 dependent variables. And 0.05 was divided to 6 Bonferroni corrections; then the meaningfulness is less than 0.008 and is meaningful for all variables. Eta amount indicates that 61 percent of spoken language variable variance, 35 percent of listening variable variance, 62 percent of organizing variable variance, 67 percent of speech variable variance, 53 percent of semantics variable variance and 62 percent of syntax variable variance are scored for group variable.

DISCUSSION AND CONCLUSION

As observed, the results indicated that there is meaningful difference among linguistic characteristics in students with learning disorder and normal students?(ETA= 0.787 , P=0.000, F(6,93)= 57.417. and this difference is interested by normal group. The findings are along with Nemati (2007), due to comparing the characteristics of 7-8 old children language with Dyslexia with normal children and the study by Weller (2008) due to investigating oral language abilities of 30 students with learning disorders and normal students and the study by Keshmiri (2009) due to investigating the semantic and organizing differences among normal children and the children with learning disorder; and they have been confirmed.

According to semantic features, The students with learning disorder are not progressed phonologically independently from phonological and reading skills ; and as their vocabulary source has not been proceeded enough while reading, they face more problems than normal students. Normal students are fluent expressively, wistful in syntax and in spoken lague; and responses more completely in answering the questions and are more able in organizing , which is a useful procedure in saving information in informational memory, than students with learning disorder .normal students can relate the symbols like vocabularies and pictures to information collections.teh excellence of normal students in speech indicates that they are able in express their thoughts ; on the other words, they are skillful in arranging opinions, choosing exact vocabularies and organizing them as an oral message.

Listening skill enables normal students to understand adults' dialogues earlier than students with learning disorder and this leads to increase their information about their environment. The abilities, measured by syntax, enable normal students to understand and produce the accepted sentences, and these abilities are related to grammar, Sentence structure, arranging the vocabularies and organizing the clauses to make suitable sentences. So it can be said that in writing and speech features like syntax, semantics, organizing, listening, speech, spoken language, the students with learning disorder act weaker than normal student.

It should be mentioned that, evaluating of oral language especially semantics , syntax and phonology features should be fit into clinical action and other normal treatments for children with learning disorder ; and rehabilitation should be used in treating the children by emphasizing on language skills to achieve more suitable results.

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