

Universal Design for Learning as a Drive for Inclusive Language Development

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ABSTRACT

The present study Universal Design for Learning as a drive for Inclusive Language Development was carried out with 30 samples of Primary school students from Haryana, India. These 30 are chosen by Stratified random sampling method from the data record of Society for Advance Study in Rehabilitation (SASR) Haryana. Nineteen of them are from CBSE (Central) schools and the remaining eleven are from state board schools. The same students are further divided into two based on the gender; 20 boys and 10 girls. Among the 30 students 18 are having siblings and other 12 are single don't have siblings. The investigators employed a quasi-experimental method for the conduct of the study. Independent variables are gender, type of school, and siblings' status. Detail of the primary school students are collected by administrating the checklists developed by the investigator. The study reveals, large size of effect in the Cohen-d calculation. Introducing Universal Design for Learning (UDL) in the primary school stage helps in language development skills. The recorded significant difference is the evidence of the findings. Universal Design for Learning (UDL) provides a platform for the language development process in all stages, higher in the primary school stage. Admitting UDL principles in the primary school stage prevents the students from becoming learning disabled (LD). Universal Design for Learning will decrease the count of learning-disabled population. Thus, the Universal Design for Learning strengthens the inclusion process at an early stage of education.

Keywords: Universal Design for Learning, language development, language skills, primary schooling, large size effect and inclusion.

Introduction

Language development is a process of competence and connection of world building. Language development is an important milestone in early childhood phase. This, language development is the foundation for cognitive development, socialization and academics. Language development includes sounds mostly meaningless sounds, gesticulations, single words then single sentences with two or more words. Example: Come here, I am good, Today is Monday. Where are you? As a parents, teachers and elders we can sustenance language

development through play. Interacting with children and encourage them to communicate with or without meaningful words helps language development. Story-telling and book reading has a momentous impact in early language development. Through stories and book reading children can be prepared for academically. Language learning helps them to get involve in the curricular and co-curricular activities. Language learning improves cognitive function, also enhanced problem solving abilities, increased verbal, spatial skills of children. This language learning helps long term and short duration memory functions, creative, flexible and critical

thinking, memory power and building positive attitude on the road to other language and cultures.

Universal Design for Learning (UDL) is a framework that delivers options to ensure diverse learners to have the chance to practice progress and victory. Universal Design for Learning focussing on neurodevelopmental structures which are responsible for cognitive functions. Universal Design for Learning has three major principles; i) multiple means of expression and action, ii) multiple means of engagement and iii) multiple means of representation. These three principles address the diverse learners with their unique requirements. Because of the unique nature Universal Design for Learning (UDL) principles are accepted globally. Many educational, technological and research institutes are focussing on Universal Design for Learning for creating equilibrium among the learners. The vast trust has incorporated in language development and language learning especially in early stage. Listening, speaking, reading and writing are the four major components of language learning. The investigators have attempted to study how the Universal Design for Learning (UDL) helps primary schooling students' language learning skills.

Objectives

The major objectives of the present study are;

- Measure the effect of Universal Design for Learning (UDL) in language development of primary school students.
- Develop an appropriate tool to measure the effect of Universal Design for Learning (UDL) in language development of primary school students.
- Upgrade the traditional methods of language

teaching in the light of technology.

- Study the difference among students in language development through Universal Design for Learning (UDL) corresponding to gender.
- Analyse the difference among students in language development through Universal Design for Learning (UDL) corresponding to schools.
- Quantify the effect of siblings in the language development through Universal Design for Learning (UDL).

Hypothesis

1. There is no significant difference among the students in language development by UDL with respect to gender.
2. There is no significant difference among the students in language development by UDL with respect to schools.
3. There is no significant difference among the students in language development by UDL with respect to sibling status.
4. There is no significant difference among the students in language development by UDL with respect to various language learning components.

Need of the Study

Learning development is an important milestone in every child's development. Language development is a fundamental process for language learning. Language development occurs before the academic skills in children. Language development starts with meaningless sounds. Universal Design for Learning (UDL) addresses the learning networks with the concept of curriculum that includes goals, materials,

methods and assessment according to *Hitchcock* and team (2005). Siblings are playing remarkable role in language development. Thus, the investigators took siblings as one of the major variables for the study. Universal Design for Learning (UDL) provides a platform for the language development process in all stages higher in the primary school stage. Admitting UDL principles in the primary school stage prevents the students from becoming learning disabled (LD). Universal Design for Learning will decrease the count of disabled. Thus, the Universal Design for Learning strengthens the inclusion process at an early stage of education.

Review of Literature

Universal Design for Learning and the genre-based approach represents an opportunity to create a shift in language writing instruction that aligns with the principles of inclusive education by reducing barriers in the classroom and providing students with multiple pathways to participate, which could do much to advance knowledge about more inclusive, equitable and effective writing instruction for all learners *Rosa Dene David* and *Carl Edlund Anderson* (2022). *Caroline Torres* and *Kavita Rao* (2019) work on Universal Design for Learning (UDL) for Language Learners gives an insight for the language development in early-hood education. *Kavita Rao* and *Caroline Torres* (2019) *Alyra Galkiene* and *Ona Monkeviciene* (2021) mentioned, Universal Design for Learning model is the best practices in inclusive schools, it gives direction for the curricular activities. *Ning Yang* and co-authors (2021) revealed higher the teacher children communication higher the language and cognitive skills. Universal Design for Learning (UDL) has become a key pedagogical approach used in education systems which seek to promote inclusive and equitable education in response to student diversity. This helps the children in early

language leaning, which results in receptive vocabulary competencies. The above studies gave an insight for the researchers to carry out the present study entitled “Universal Design for Learning as a Drive for Inclusive Language Development”.

Methodology

This methodology part explains the method, sample size and the research tool of the study.

Method : Stratified random sampling methods used for sample selection, quasi-experimental design is adopted for the study.

Sample : 30 Primary school students from Haryana are the samples of the present study. These 30 are chosen by Stratified random sampling methods from the data record of Society for Advance Study in Rehabilitation (SASR) Haryana. Nineteen of them are from CBSE (Central) schools and the remaining 11 are from state board schools. The same students are further divided into two based on the gender; 20 boys and 10 girls. Among the 30 students 18 have siblings and 12 are single child, don't have siblings. Siblings play an important role in language development; thus, siblings have been taken as one of the variables for the study.

Research Tool: Research tool was constructed with the four language development components. They are i) learning, ii) speaking, iii) reading and iv) writing.

The calculated data were tabulated with the help of statistical technique. The effect size is also measured by Cohen-d method.

Results and Discussion

Null-Hypothesis :1 there is no significant difference among the students in language development by UDL with respect to gender is

rejected. Null-Hypothesis 2: there is no significant difference among the students in language development by UDL with respect to schools is rejected. Null-Hypothesis: 3 there is no significant difference among the students in language development by UDL with respect to sibling status is rejected. Null-Hypothesis :4 there is no significant difference among the students in language development by UDL with respect to various language learning components is rejected.

Table no:1 gives the mean score, SD, and t-test results of the 20 boys and 10 girls with their pre and post test scores. From this table large size of effect is marked given in Table no: 5. From the table no: 1, boys post-test mean score is 42.85 with the SD of 8.05 for 20 students at the same time for 10 girls the post test score is 45.2 with 4.89 SD. The p-value is .000042 for boys and girls .000087. Table no ;1 express the high significance difference. Table no:2 states the language development of school going students in Faridabad, Haryana. The pre-test score of CBSE school students of the study is 32.43 and the post test score is 42.95 with -4 t-value for the 19 heads. 11 students from state board shows -4.89 significance with 7.29 and 6.75 SD. The p-value of CBSE students is .000153 and for state board .000045, the results are significant.

Table no :3 narrates the siblings' effect on language development by UDL with evidence. The measured effect size is marked as large in table no :5 It is an innovative attempt which highlights the importance of siblings in language development. One of the research studies in Japan expressed the grant parents' role in child's early language development. The p-value of

students with sibling is .000047 and .000238 for students without sibling. The table no: 4 displays that the p -value is $< .00001$ for listening and the result is significant at $p < .05$. For speaking p -value is $< .00001$ and the result is significant at $p < .05$. Then comes to reading the p -value is .000012 and the result is significant at $p < .05$. This table no: 4 also states the p -value of writing as $< .00001$ and the result is significant at $p < .05$. The overall measured effect size is mentioned as large in table no: 5 by calculating Cohen d score.

Suggestions and Conclusion

Early language development is the basic skill for language learning. Many research supports that the fun activities enhance the language learning skills among children. Like. Word games, jokes, age-appropriate puns. This will also help foster humour and imagination in children. Riddles, Rhymes. Homonyms, Storytelling, Songs, Tongue twisters etc., are some of the other activities for early language development. Siblings play an important role in language development; thus, this has been taken as one of the variables for the study. Students with siblings scored higher than the students who don't have siblings. Universal Design for Learning (UDL) provides a platform for the language development process in all stages higher in the primary school stage. Admitting UDL principles in the primary school stage prevents the students from becoming learning disabled (LD). Universal Design for Learning will decrease the count of learning-disabled population. Thus, the Universal Design for Learning strengthens the inclusion process at an early stage of education.

Table No: 1: Inclusive Language development by Universal Design for Learning (UDL) with respect to student gender.

Gender	N	Test	Mean	SD	t-test Significance
Boys	20	Pre-test	31.05	8.89	-4.4*
		Post-test	42.85	8.05	
Girls	10	Pre-test	32.7	6.82	-4.71*
		Post-test	45.2	4.89	

*Significance @ 0.05 level

Table No :2 Inclusive Language Development by UDL with respect to schools.

Schools	N	Test	Mean	SD	t-test Significant*
CBSE	19	Pre-test	32.42	8.73	-4
		Post-test	42.95	7.46	
State Board	11	Pre-test	30.18	7.29	-4.89
		Post-test	44.82	6.75	

*Significance @ 0.05 level

Table no: 3 Inclusive Language development by UDL with respect to sibling status.

Siblings	N	Test	Mean	SD	t-test Significance
With Sibling	18	Pre-test	32.22	8.61	-4.47*
		Post-test	44.17	7.53	
Without-Sibling	12	Pre-test	30.67	7.74	-4.1*
		Post-test	42.83	6.78	

*Significance @ 0.05 level

Table: 4 Inclusive Language development by UDL with respect to research components.

Component	N	Test	Mean	SD	t-test Significance
Listening	30	Pre-test	7.63	2.48	-4.98*
		Post-test	10.7	2.28	
Speaking	30	Pre-test	7.5	1.94	-6.04*
		Post-test	10.4	1.77	
Reading	30	Pre-test	8.23	2.72	-4.6*
		Post-test	11.1	2.06	
Writing	30	Pre-test	8.23	2.72	-5.11*
		Post-test	11.43	2.08	

*Significance @ 0.05 level

Table no: 5 Effect size of Inclusive language development by UDL using Cohen-d method

S,No	Variables	Calculated Cohen's d	Effect Size
1	Listening	(10.7 - 7.63) D 2.3821 = 1.288779	Large size effect
2	Speaking	(10.4 - 7.5) D 1.856946 = 1.561704	Large size effect
3	Reading	(11.1 - 8.23) D 2.412675 = 1.189551	Large size effect
4	Writing	(11.43 - 8.23) D 2.421239 = 1.321637	Large size effect

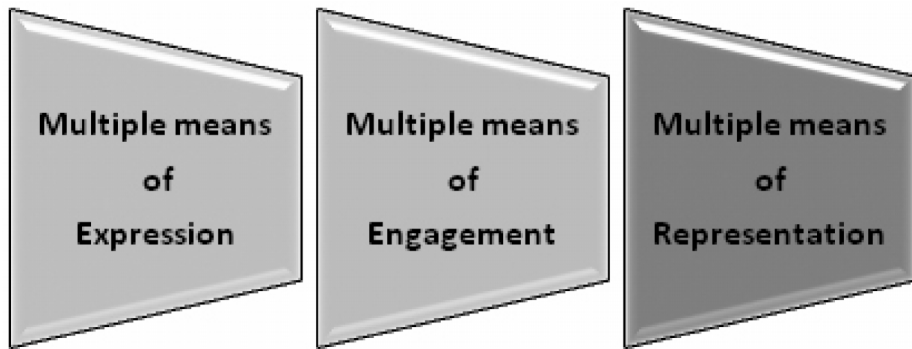


Figure :1 Principles of Universal Design for Learning

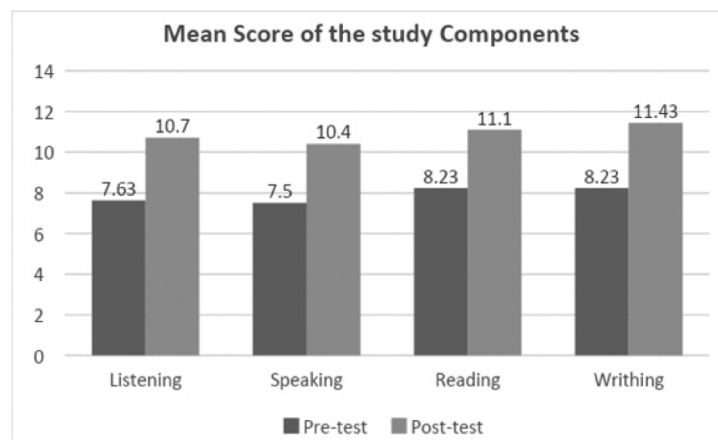


Figure : 2 Pretest and Post-test mean scores of language development components

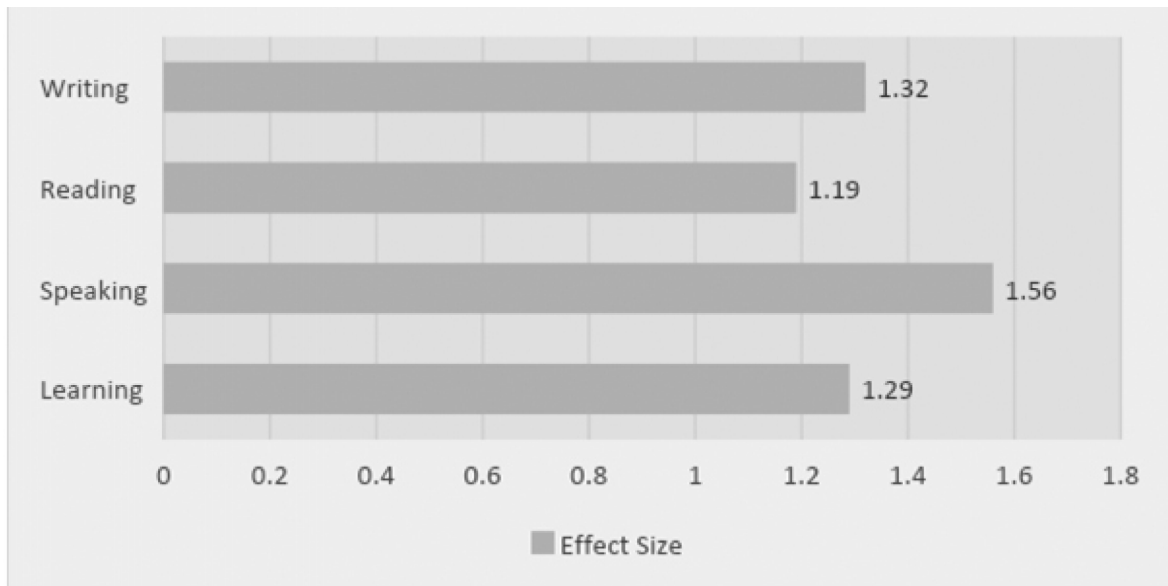


Figure : 3 Cohens -d value on effect size in language development components

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