Example of article review on statistical learning in children with specific langu...

Health & Medicine, Disability

Evans, J. L., Saffran, J. R., & Robe-Torres, K. (2009)

A Review

Abstract

This is a review of the study " Statistical Learning in Children with Specific Language Impairment" by Julia L. Evans, Jenny R. Saffran, and Kathryn Robe-Torres. The study examines children with Specific Language Impairment (SLI) upon following key factors; understanding of speech and sound; amount of exposure to sound; whether it is specific to a particular topic or general; and effects of vocabulary. The study employed practical observation using different sound records to determine the above mentioned factors in children with SLI of different age groups, and children without SLI as control. The study found significant difference in understanding vocabulary and intonation, and that its cause is poor understanding skills. This study can be used further to understand and develop remedies and prevention of SLI.

Learning and Language Impairment in Children

Introduction

Specific Language Impairment (SLI) is a condition where in a child is unable to process simple linguistic operations on spoken or written languages. In other words children with SLI have difficulty in learning, understanding or using language for communication. This condition can occur due to several forms of impairments which may be physical or mental in nature. The article " Statistical Learning in Children with Specific Language Impairment" by Julia L. Evans, Jenny R. Saffran, and Kathryn Robe-Torres, is a research on children with SLI due to mental condition. The article describes experimental

research and its findings on the basis of experiments done on children using data and conclusions from previous researches on the subject of process of learning and learning impairment.

Purpose

The article is a recording of the findings of experiments done on subjects with SLI. These experiments were specifically directed towards recording the effects of auditory stimuli in the learning process. The objective of this research was to determine the contribution of following factors in causing SLI in children. Following are the four factors discussed in this article

Whether children with SLI can implicitly understand and process speech and sound

Whether the duration of exposure to the stimuli, in this case the recorded sounds, affected the learning capacity

Whether SLI is specific in only a particular domain of learning language or is affected in general

Whether previously learnt vocabulary affected learning. (Evans et al, 320)

Hypothesis

The research is based upon the fact that no research based upon auditory stimuli as experimentation means, has previously been done on the subject of SLI in children (Evans et al, 324). Therefore, it is imperative to understand the impact of real speech on children while learning a new language through the way it is spoken. The experiment is based upon the hypothesis that implicit learning is a key to understand the problem that children with SLI face while trying to understand and learn instructions and grammar.

Description in Brief

The researchers synthesized words using phonetic syllables and vowels to produce words that do not belong to any vocabulary. A total of one hundred and thirteen children were selected for the test on the basis of the following criteria (Evans et al, 322)

Children who scored 85 or greater in non-verbal Intelligence, measured by the Leiter International Performance Scale (LIPS);

Children with normal hearing based on ASHA 1997 guidelines for hearing screening.

Children with normal corrected vision

Children with normal oral and speech motor abilities

Monolingual English speakers.

The experiment was divided into two phases. The first phase was administered on children with SLI condition and children without it as control to compare the results of tests done upon them. Seventy eight of the selected children with normal growth condition and thirty fie of them had SLI. The children were made to listen to the newly synthesized words for a period of twenty one minutes and then tests were taken based upon standard procedures.

The second phase was conducted six months later with thirty children from the first phase of the experiment and were made to listen to forty two minutes of recordings of the new words along with intonation recordings similar to the words.

The different tests and phases covered all the four criteria that were pin pointed by the researchers.

Results

The first test included recordings for a period of twenty one minutes and the chance of success was set at fifty percent. The results from the first phase of experiments showed that the control group performed better than the group with SLI condition with most of the control group performing higher than the chance score while the SLI group had a significantly lower score with most participants scoring near to or below chance score.

The second test included two recordings for a period of forty two minutes and the chance of success was set at fifty percent again. The second test showed that the SLI group performed better at word recognition but the control group scored even higher than chance. However, the SLI group could not perform equally well at both the recordings showing that they were not able to grasp the words or their intonation properly.

Conclusions

The conclusion of the first test showed that children with SLI were not able to use their statistical learning ability to grasp the new words, while normal children were able to perform much better on the same exercise. The second experiment with increased duration gave similar results which showed that there is a certain difference in the grasping ability of normal children and children with SLI. Normal children can grasp by using statistical information conveyed to them through spoken language as they get exposed to them that is children grasp from what they hear, processing and identifying new words as they are being spoken both with phonetic sounds and intonation of

speech. However, it was concluded that this process does not work in a similar manner in children with SLI.

Strengths of Research

The research was done with ample subjects to reach to the statistical results reached by the researchers. The research article was also written in a manner to help co-relate and understand all the aspects of the tests.

Limitations of Research

The research could not cover the visual aspect of nonverbal communication that is necessary for complete learning, and therefore tests need to be designed where in all the aspects of learning can be incorporated to get a better result.

Opinion

The research is highly informative and describes the process of learning in developing children in a very descriptive and methodical manner. The research also makes the reader aware of the problems of children with learning. More research needs to be done on this phenomenon and parents and educational institutions must be equipped with means to help children with Specific Language Impairment to learn and grow.

Works cited

Julia L. Evans, Saffran, J. R., & Robe-Torres, K. Statistical Learning in Children with Specific Language Impairment. Journal of Speech, Language, and Hearing Research, 52, 321-335. 2009. Print.