VISUAL SUPPORT FOR VOCABULARY ACQUISITION IN AUTISM

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ABSTRACT

This article reviews the results of a research study on the efficacy of visual aids for learning vocabulary in autism. Additionally, to ensure the purposes of this evaluation are met, commentary on the studies under consideration should be included so gaps are exposed and can be rectified. In this review, we seek to pinpoint the areas where the current initiatives have fallen short for children with ASD. With the phrases (“vocabulary” and “visual support”) as well as (“Autism spectrum disorder (ASD) children,” various online databases, including ERIC, ProQuest Education Journals, and Scopus, were searched. To analyse the articles, the method of content analysis was employed. Having seen the outcome of the review, it is recommended that it be used in the classroom to teach vocabulary, particularly to students with autism. Vocabulary mastery can be improved by this strategy. Very few studies on the effectiveness of visual supports for children with autism have been published despite their wide-scale use. This analysis adds new data to that database. In the future, ASD-specific research will be considered, and thus future research should be done to find concrete evidence that the use of visual supports will improve the abilities and strengths of children. Available research indicates that visual supports, which includes tools such as visual schedules, storey books, and picture cards, help children with ASD to expand their vocabulary. This paper addresses future research issues. Based on these data and on other literature, educators and caregivers can make confident decisions about visual supports, based on the data and on the evidence presented here. There are many environments where implementing visual supports is simple and inexpensive. They're a very simple item that could potentially have a positive impact on many children on the autism spectrum. Nevertheless, additional research is required to analyse the performance of visual aids for various individuals under various circumstances and care providers.

Keywords: autism spectrum disorder (ASD), children, learning, visual support, vocabulary

I. INTRODUCTION

The use of vocabulary is one of the most important aspects of learning a language. Nobody can talk or understand a language without vocabulary. In other words, when people do not have a large vocabulary or do not master it well, they are unable to express themselves verbally or write effectively. People require a large amount of vocabulary in order to effectively communicate ideas, thoughts, and feelings so that the listener can comprehend them. When Hornby (1995: 1331) says vocabulary is the total number of words in a language, she is referring to all the words that exist in the language or that are used in a particular book, subject, or course textbook. The definitions highlighted above demonstrate that vocabulary is the first of the English components that learners should learn to master the language. Vocabulary is significant in communication, as demonstrated by Badianto (2003: 1). It is clear enough that nothing could be conveyed unless grammar was applied, but without a vocabulary, it is impossible to express anything. Students are unable to communicate their ideas in written or oral forms or through other skills such as reading, speaking, and listening, and they are unable to pick up on another person's ideas due to their limited vocabulary.

First, vocabulary knowledge is important for comprehending the world and for written and spoken language skills in both forms (Gupta & MacWhinney, 1997). The probability of children forming conceptual categories increases when category labels are available (Waxman, 2002). A great opportunity exists to enhance widespread and effective vocabulary learning for all students, regardless of sensory or learning disabilities, or socioeconomic
status, to support students in developing conceptual knowledge and language proficiency. When it comes to academic achievement, vocabulary knowledge appears to be positively linked to both listening and reading comprehension, and it is a strong predictor of overall academic success (Anderson & Freebody, 1981). Vocabulary acquisition is an important effect of reading, as new words are encountered in an appropriate context, but context is rarely enough to sufficiently disambiguate the meaning of a word (Vermeer, 2001). While knowing a word does not ensure mastery of other words, it does show that a person understands the basics of a language. Semantic representations seem to be a time-consuming and methodical process, requiring years to complete (McGregor et al, 2002). Over training students’ vocabularies and exposing them to items in different contexts is vital when creating rich representations.

Every student has the right to an education, but all these other factors come into play when learning has issues. As with any other child, children with autism have the same legal right to an education. Because of their autism, children with autism struggle to communicate and are physically and mentally challenged, making it more difficult for them to succeed in school and socially. The necessity of targeted assistance for students results in them needing specialised education and services to help them achieve their educational goals. The study of Timmons et al. (2000: 3) describes autism as a developmental disability that interferes with normal brain functioning.

Autism is diagnosed prior to birth, and this influences the learning process. These symptoms typically show up around age three and remain with you throughout adulthood. While each individual has unique talents and flaws, individuals on the autism spectrum tend to experience social communication issues as well (American Psychiatric Association [APA], 2000). Many kids with ASD experience difficulties in their ability to articulate their thoughts verbally (Hus et al., 2007). These individuals talk frequently, but their vocabulary, sentence structure, and response abilities all tend to be weak (Matson & Neal, 2010). Children with autism are delayed in expressive and receptive language, but receptive language delays are longer than expressive language delays (Hudry et al., 2010).

People with autism often have difficulty communicating, socialising, and comprehending information. Thus, a person with autism will have difficulties communicating and interacting socially. Autism spectrum disorder (ASD) affects an overwhelming majority of children who also suffer motor delay, seizure disorders, attention deficit hyperactivity disorder, and learning disabilities (Timmons, 2000: 4). As a result, special language-teaching programmes for autistic students must be tailored to their unique needs. These various aspects must be developed alongside students who have ASD. Specific teaching materials may be required for children with autism to learn the language.

Students with ASD may benefit from interventions that provide concrete, visual symbols that assist in teaching students how spoken language has a purpose and meaning. This helps their expressive vocabulary development. It is better to use visual aids, such as pictures, in an effort to help autistic children learn their language. Yunus (1981: 29) claims that using visual aids to help students remember information is beneficial because they can keep using them as long as necessary. Oral communication is fleeting: the message is only present during that moment. Poor language processing skills can make it difficult for students to process oral information. Visual aids are particularly helpful to students on the autism spectrum because they assist them in recognising and learning the words. Because for the students on the autism spectrum, the oral communication given to them is sometimes not adequately understood.

**Visual Support for Autistic Children**

As many individuals on the autism spectrum suffer from memory and learning issues, many of them are unable to verbally communicate (Hodgdon, 1995). For some individuals with ASD, a visual aid helps them better express themselves (Quill, 1995). Ensure that interventions are individualised for each student to achieve maximum effectiveness. Temple Grandin is an adult with autism who is well known. She suggested thinking of photographs to preserve important information for people with ASD (Grandin, 1995). In order to meet the needs of students who have increased capabilities, teachers and parents should also adjust their communication styles, as well as their learning environments and teaching strategies, to better accommodate this new way of communicating. Visual support is helpful for students with autism who struggle with social interactions, behavioural challenges, organisation management, transitions, and communication (Arthur-Kelly et al., 2009; Cohen & Sloan, 2007; Dettmer et al., 2000; Dooley et al., 2001; Ganz & Flores, 2008; Ganz & Flores, 2010; Quill, 1995).
More specifically, teachers use visual support to help students understand new concepts, adapt to changes in the environment, and complete specific assignments (Hodgdon, 1995). The use of visual support in natural environments includes utilising the assistance of pre-school environments, homes, and communities where there are a large number of children, a small number, or one child. Teachers can utilise a variety of supports when constructing visual representations, such as using photographs, line drawings, or words (Sussman, 1999). Visual support, such as visual programmes, can also be used by teachers to help children with ASD. Although they stress the importance of providing visual assistance for each child's individual needs, abilities, age, and interests, Cohen and Sloan (2007) advise the development of this kind of support.

Lately, there have been quite a few studies with language and comprehension skills, such as vocabulary training, reading comprehension, and expository reading. Articles that discuss how to improve one's understanding have been discovered. Rather than use only one approach, each of the above items used text structure and two papers on vocabulary (Kim & Kim, 2012; Lin & Tsai, 2013) explained effective reading comprehension strategies. In discussing visual support and question-answer strategies for asking questions, it emphasised the need to use visual support and to combine question-answer strategies while reading. A visual strategy is useful for students with autism because they can take in visual information as well as the increasingly complex task of simulating their attention. Students on the autism spectrum do not have the capacity to answer and ask questions, so using the direct questions strategy benefits them.

Visual support is strongly recommended in order for the children to communicate and understand. Teachers believe that parents' encouragement has a huge impact on their success. Some of the teachers used visual supports such as photos or illustrations in addition to words of encouragement for their parents. Many things influence a student's communication skills, including the role of parents, such as providing visual support for stories (Urwin, 2010).

Autistic children, who are visual learners, have a limited ability to hear, these children are very good at visualising. For some, they are seen as being both shy and difficult to comprehend (Alvarez, 2004). Obviously, pictures are far more effective than words in terms of eliciting a response (West, 2008). As a result, they require communication devices that can adapt and reflect the playfulness of their receivers. One of these is visual support in different contexts. The language disorder in autistic children is not linked to dysphasia, which causes visual language impairment (Boucher, 2009).

The incorporation of visual aids will assist students overall in coping with language issues as there is no definitive language barrier to overcome, as was previously believed in some studies (Gernsbacher & Pripas-Kapit, 2012). The utilisation of visual support can serve a lot of purposes, especially if it is used to enrich the Islamic vocabulary. Visual tools are useful not only for language support, but in the form of social history, for example, to help children who have been diagnosed with autism stop their tantrums (Lorimer et al., 2002). The more one is able to manage one's behaviour, the better equipped one is to learn how to interact socially and in practical ways. Many stories and songs were popular and effective in the school with special needs. When children hear stories, songs, and the various combinations of these, they foster the growth of their vocabulary. The team described in this study (Albaladejo et al., 2018). The early stages of developing literacy skills for children with special needs focuses on building up their receptive vocabulary (Beechre & Childre, 2012). Verbal commands should not be your only focus when reading instructions. Many approaches that have been suggested include the use of sign language, modelling, visual support, and prompt techniques. By visually participating in the communication transition, creative support helps to bridge the gap between words and practical thinking (Hubson, 2012). They must comprehend an instruction if they have autism. For example, it could be used as a transition between verbal commands and a physical transition prompt (Dettmer et al., 2000). With autistic children between the ages of 8 and 14, handheld electronics, such as a phone or tablet, may also help with their visual support (Ganz et al., 2014).

II. LANGUAGE OF AUTISTIC CHILDREN

Teachers said that their students mainly focus on nonverbal rather than on verbal communication. It shows that autistic children play a special linguistic role in their particular commitment to communication. This would make a big difference among people with autism between "literal language" and "concrete thought" (Hubson, 2012). The communication is also based on predictable conversation or the flow of interactions. The majority of teachers
agreed, they tend to repeat similar answers. This makes it apparent that these special needs are formulaic or formal language for children (Dobbinson et al., 2009).

Teachers believe that enhanced vocabulary can be both a shortcoming and a highlight. The shortcoming is that conversation is limited, but the highlight of the discussion is that they use consistent vocabulary. For instance, when the wudhu sequence is introduced, the learners will remember consistent words as described in the exercise. However, the acquisition of languages including improved vocabulary is understandable among students. It is understandable. Accordingly, it is not only their autistic spectrum quotient (AQ), but also their domination of lateralization which underlies language difficulties for children with autism. The understanding of their language ability therefore supports the concept that autism is a continuum and not a categorical diagnosis (Lindell et al., 2009).

Challenges Autistics Face in Vocabulary Learning

Enriching vocabulary is a great task for children, because they need meaningful connections between words. They need help in understanding words in relation to concepts and in developing them through self-learning (Westby, 2014). There's no question of caring for words in their minds because the enrichment of vocabulary also concerns how children add, organise, use and reuse their everyday vocabulary. Auditing the various daily vocabulary that develops always in numbers and use are difficult to autistic children. You have problems connecting the vocabulary with your knowledge, as you can syntactically and pragmatically acquire a different language (Indah, 2017). This does not mean, however, that they are restricted to learning (Indah, 2015). Vocabulary acquisition for autistic children is one of the biggest challenges for second language learning. Significant and contextualised vocabulary will guide you to improve your vocabulary. They can connect vocabulary and its use in everyday life with contextualised vocabulary.

According to the data based on the studies, most people with ASD have language deficits. ASD kids speak their first words between ages 38 months and 8 and 14 months, whereas typical kids speak theirs by ages 8 and 14 months (Howlin, 2003). A child with autism does not follow the typical pattern of developmental milestones (Schreibman & Ingersoll, 2005). While they are both concerned with learning, they have varying levels of learning (Volkmar et al., 2004). There is no single standardised solution for children with ASD. To identify the strengths and weaknesses of each child with ASD and to develop an appropriate solution for that child, their particular characteristics must be taken into consideration. In addition, it is necessary to provide students with individualised support to meet the unique needs of a student (Iovannone et al., 2003).

To identify the specific children with ASD for whom they would be most useful (Simpson, 2005). While most of the strategies used in research for children with ASD have both positive and negative impacts, every strategy used is better than doing nothing (Harris et al., 2015). It is shown in the literature on kids with ASD and their language learning that there are kids who can understand text but have difficulty interpreting the text's meaning (Khowaja & Salim, 2013). Studying a large vocabulary directly improves their ability to understand and express language (Biemiller, 2003).

The essential and fundamental building block of any language is a group of words. New words are constantly being added to a person's vocabulary as they read and communicate with new materials. Vocabulary learning affects how well you understand what you read (Biemiller, 2003). 95% of the words in the same text are required for an accurate comprehension of the text being read (Fukkink et al., 2005). These results show that the role of word processing is essential to comprehension.

Some students, particularly those who deal with autistic children, still lack vocabulary. It can be a component of grade for students' English-learning abilities. Although some teachers have difficulty teaching their students in vocabulary, this is not unique to them. It was found that two studies pertaining to vocabulary intervention in children with ASD were successful (Khowaja & Salim, 2013; Ramdoss et al., 2011). Four similar studies related to vocabulary intervention were found in the two review documents (Bosseler & Massaro, 2003; Massaro & Bosseler, 2006; Moore & Calvert, 2000; Whalen et al., 2010). This indicates that speech intervention among children with ASD has not received much attention from research.
III. THE IMPACT OF VISUAL SUPPORTS IN VOCABULARY LEARNING WITH AUTISTIC LEARNERS

Autistic children’s abstract words and ideas can be translated visually, like in images and objects (Darula, 2000:1). In speaking of autism, she mentioned that individuals with the condition process visual information through the operation of a section of the brain linked to visual tasks. Teachers are expected to be able to catch their students’ attention, and to motivate them to learn, so that all students, including those on the autism spectrum, can learn as well. They can also do well on tasks that require visual-spatial acuity, such as assembling puzzles and solving problems that require spatial, perceptual, and matching ability. While some people may be able to remember simple facts, they find it difficult to remember more complex information.

Individuals on the autism spectrum have credited their creative talents to their spatial visualisation skills. Since Temple Grandin asserts that some individuals on the autism spectrum struggle with learning and remembering information that is presented visually, she suggests that people on the spectrum may find it difficult to learn about topics that cannot be represented using images (Burkhart, 2005: 56). Students on the autism spectrum struggle to understand oral and written information, follow directions, and understand what they read (Handojo, 2003: 45). In order to be able to recognise the object and remember the words, teachers should use various teaching strategies, such as techniques, strategies, and media. For example, the teacher could encourage students with autism to become interested in learning new words by utilising large and visually stunning images to pique their interest.

Vocabulary definitions are available. The words that form the building blocks of language are referred to as vocabulary. It does not show an in-depth understanding of vocabulary, however, in order to help autistic students better understand that English words have specific names, the most important purpose of teaching vocabulary to autistic students is to help them recognise this. The reason for this is that the majority of autistic students have difficulty with object recognition and naming. Among individuals with severe delayed language development, labelling objects is frequently delayed, as is the use of verbs and adjectives in an inappropriate manner.

Autism children performed worse than controls at identifying concrete nouns, non-emotional adjectives, and emotional adjectives, according to the results of Van Lancker et al. (1991). Students with autism can more effectively identify and name objects by using pictures. This article supports the theory that a person with autism is likely to have trouble with communication, social, and cognitive skills (Warber, 2010:1).

These problems lead to benefits, such as using visual aids, imitating, and environments that are designed to accommodate a child’s sensory sensitivities and routines. Using demonstrations of various activities and visual aids can help a child build vocabulary. In this way, vocabulary items that are associated with students with autism should be able to visually mimic a real object. The ability to name an object early in life is vital for autistic students. When learning vocabulary, the learning objective is to use what the student sees and touches on a daily basis. Students with autism hope to be able to recognise the meaning of each word when they learn vocabulary. Because the majority of the students are unable to name the object, they instead point at it without saying a word. This is why it is important for autistic students to be able to utilise visual teaching media in order to acquire the vocabulary they need to comprehend their words (Matton, 2010:1).

Many autistics, instead of using words, see the world through images. When Dr. Grandin speaks of a 1:1 ratio of images to concepts, he is not making an absolute declaration. Rather, he is speaking of a mental picture that, when called by a certain word, brings an entire slide show of extremely detailed images. Assume that these pictures are the only language an autistic person knows (Grandin, 2006:1).

Darula (2010:1) wrote that people with autism possess unique brain function, which allows them to comprehend both spoken and written language. Pictures and notes are much better understood when they are made visual. To form a complete picture, sensory concepts are broken down into smaller pieces. To teach abstract concepts and words to children on the autism spectrum, teach through visual concepts such as pictures and objects. For example, if a stuffed animal makes a child happy, that stuffed animal then represents the word “happy” for that child. When using bright colours in photographs, autistic students' thinking processes are activated. When teaching vocabulary to students with autism, using an image as a stand-in for the word is effective. The images can help to retain information because they can illustrate the object. It is crucial that the teacher provides an eye-catching, colourful, and understandable picture for the autistic students to enjoy.
Even if the teacher also groups the lists of vocabulary that the autistic students can use to communicate, that still wouldn't account for all of the vocabulary a student with autism would need. It was referred to as functional vocabulary by Timmons et. al. To summarise, if they have vocabulary that enables them to pursue their goals, then they can have those things. The need for a young child to interact with their family, friends, and the world around them necessitates the use of vocabulary. Another important point is that in teaching vocabulary to autistic students, the teacher must have an autistic student-centered classroom.

IV. PREVIOUS STUDIES ON USING VISUAL SUPPORT IN LEARNING VOCABULARY

In order to help students with autism learn about different aspects of language, researchers Neviyanti, Arifin, and Novita used images for teaching vocabulary. To determine whether visual aids can assist in vocabulary instruction, the study's objective is to discover whether students with autism in the control group differ significantly from those in the experimental group. The researchers' goal with this study is to find out whether picture use helps with vocabulary instruction, and whether differences in performance between students with autism in the experimental group and those in the control group represent meaningful differences or not. This class has 25 students. Based on the results, the conclusion is that teaching English vocabulary with images is effective for students with autism. Photos can help expand the students' vocabularies (The participants were Neviyanti, Arifin and Novita).

Handheld electronic visual support is effective in helping children with ASD to learn new words because Ganz et al. (2014) demonstrated that it improved their vocabulary. The researchers employed an alternate study design to test the impact of tablets equipped with computer-oriented visual scripts on vocabulary use in three 8- to 14-year-old children with autism. While the results revealed that participants used more verbs and nouns while using treatment materials, participants using simpler methods such as audio prompts required fewer complex prompts, while one participant required multiple prompt formats.

In teaching vocabulary of students at Sekolah Luar Biasa Negeri Pembina Provinsi Sulawesi Selatan, the words and phrases known were looked into to discover if the word wall picture had any effect on their learning. The researchers implemented a pre-experimental design in their study. Three autistic students took part in this study. The independent variable of this study was the inclusion of a wall image (vocabulary). Prior to the test, students took part in a multiple-choice exam for pre-test and post-test. The findings suggest that the students’ test scores and assessments varied significantly. The study concludes that the Word Wall Picture significantly increases the students’ vocabulary (Asik & Humaerah, 2016).

The use of computer-based intervention for teaching orthographic symbols to children with autism was investigated by Hetzroni and Shalem (2016). In a study done on autistic kids, researchers found that children were taught to use the logos of certain food products to identify words associated with food. The study explores the effects of exposing six children with autism to eight food items selected individually for their significance to each child. In order to retain knowledge over time, all spelling symbols could be identifiable. The findings show that every participant's mastery of spelling symbols has improved steadily. Students have learned to adjust to the standard font orthographic symbols on photographs of food packaging, so as to better recognise and distinguish the various ingredients in the products Every participant was given an eight-word list of his or her own. Everyone has the potential to achieve greatness.

Indah and Rohmah (2020) has been researching the visual aids used by elementary school teachers in Malang, Indonesia, which help autistic students. According to the findings, teachers employed various types of visual support for the purpose of vocabulary enrichment while one-to-one learning and class interaction were in progress. Religious terms used in this article, of which some are Arabic loanwords, are important vocabulary for students. Because of this, Islamic vocabulary can be difficult to acquire, especially if it is for people with disabilities or if their language is impaired. Additional strategies for teaching Islamic vocabulary to students with special needs are also included for visual support implementation.

V. CONCLUSION

Teaching vocabulary to autistic students is best done through pictures. Using visual learning aids is one method for teaching vocabulary to autistic students (Warber, 2010, p. 3). "It is believed that because many students with autism have difficulty comprehending verbal instruction, they benefit from visual learning aids,” says Professor Warber. Visual aids help teachers explain concepts and objects by illustrating them. Nonverbal children with
autism can benefit from using picture cards to learn to comprehend words and interact with others. Another strategy that Grandin (2002:1) suggested is using images as an aid in teaching basic words, such as nouns, to autistic students. The majority of autistic students will be able to learn and memorise an object’s name if they can visualise the object.

As a result, images play a crucial role in helping students with autism learn vocabulary. Thus, in order to conduct research on how pictures are used in teaching vocabulary to students with autism, it is first necessary to perform research on those with autism. Special education teachers who work with students on the autism spectrum should keep in mind that students who think in pictures are, by definition, learning a foreign language. As a result, because a picture is a visual medium that can represent an object in a printed image, its use as a medium for teaching vocabulary is appropriate for autistic students. The use of images enables autistic students to quickly recognise the object’s name. Simple vocabulary can be taught using images of various animals, body parts, or fruits. This is because those words are ingrained in the students’ psyche. Thus, the objects are not novel to students with autism. Autism children acquire verbal language through the conversion of text to images. While most people think sequentially, those with autism think visually. As a result, the shapes and colours of pictures have a significant effect on how they think. They assist autistic children in developing a more expressive vocabulary.

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REFERENCES


www.turkjphysiotherrehab.org


