Enhancing Reading Comprehension of Autistic Students through Visual Conceptual Method

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ABSTRACT

This paper describes a case study conducted at a kindergarten in Malaysia. This study was conducted to examine the effectiveness of a visual conceptual method in enhancing reading comprehension of learning disability students, specifically Autism. Another aim of the study is to investigate does multisensory instruction helps students engage in learning by observing students' reactions to the designed visual conceptual method. It was found that visual conceptual method is beneficial to assist students with learning disabilities to read and multisensory instruction offered a great help in reading. The teachers also agreed that based on the visual method, it would be beneficial to add more pictures to the words in order to attract their attention. This paper also highlighted the challenges faced by autistic students, the concept of inclusive education and how the methods help the teacher in enhancing the reading comprehension of learning disabilities students.

Keywords: Autism Spectrum Disorder, Learning Disabilities, Inclusive Classroom, Visual Conceptual Method

1.0 INTRODUCTION

The Inclusive Education is meant for students with special needs who are educated in a regular class at government schools or non-government schools for nearly all of the day, or at least for more than half of the day. The implementation of inclusive education in Malaysia is in line with the mission of the Ministry of Education (MOE) to bridge the gap among schools and to stop any discrimination towards students with learning disabilities and low achievement students. Students with learning disabilities have different techniques of learning and this paper investigates the impact of visual conceptual design on the students with learning disabilities in learning English to ensure high participation in the learning process.

Every student has self-needs in the matter of attention, acceptance, acknowledgement, and love especially students with learning disabilities. The role of the teacher to cater to the needs of the students without being bias in teaching and learning. However, there are no one-size-fits-

all programs in teaching students with learning disabilities. Studies were done on second language mainly learning agreed that reading is the most crucial part of the early stage of learning. According to Theios & Amrhein, (1989), it is easier to read the name of an object, rather than naming the object. It consumes longer time to do so. Reading through Visual Conceptual Method promotes students' easier way of learning a language since it could activate both sides of the brain while learning a language It is important to acknowledge that visual methods can take place in the forms of pictures, graphics, icons, photographs, etc.

In addition, many researchers recommend the usage of visual method to help students with any learning disabilities (Arthur Kelly, 2009; Quill, 1995). A study by Omar (2015) found that colorful visual will enable autistic students to focus for a longer time. Their learning and focusing span would be increasing in terms of reading comprehension skill due to the colors effect. According to Carnahan (2013), students with autism have a higher ability to process visual information, thus the potential for them to understand and complete a task is faster by implementing visual strategy.

One of the most outstanding aspects of visual method is that it can be used in out-of-school environment, such as at home and within community, regardless of the group size (Hedda Meadan, 2011). Based on scoping literature review by Rutherford and his colleagues (2019) they highly recommended visual supports to help autistic students to reduce anxiety, increase predictability, support communication and improve participation in school. It was supported by a research conducted by Sarah and Bidin (2015) where they found that children with autism can benefit from the strategies of reading comprehension when they used graphic and text together.

2.0   LITERATURE REVIEW

2.1   Helping students with learning disabilities improve their English proficiency through the visual conceptual method

Reading comprehension can be understood as a cognitive and linguistics process built to identify the meaning of words, phrases, and sentences (Diane W Jacobs et al., 2013). A study conducted by DiGiulio (2012) on eight autistic students by using pictures for intervention found that it will increase students' chances to read by using the picture as a medium of delivery. Meanwhile, Bethun & Wood (2013) and Dzulkifli & Mustafar (2013) visual and colors are considered one of the most effective learning methods since it can increase chances of environmental stimuli. Dzulkifli & Mustafar (2013) also pointed out the effect of colors in catching students' attention and improving their memories. It was found to be helpful in assisting students in reading because colors can easily be found in daily life and most of autistic students are visual learners, thus it will enable them to decode colors before the language. Grandin (1995), an autistic author, explains how he feels about using visual methods.

3.0   METHODOLOGY

The study focused on testing the effectiveness of the conceptual method in enhancing reading comprehension of learning disabilities students. Qualitative research methodology seemed to be the most suitable for answering the research questions. Two learning disabilities students were selected to test the designed visual conceptual method, specifically focusing on reading skills. The design of this study comprises four steps:

- Students listen and repeat the words assist by image
- Students listen and repeat the words by the sketched symbols
- Teachers read the sentences to the students
- Teachers ask the students to describe the word in their own ways

All the vocabulary range used in this study is based on the A1 level of The Common European Framework of Reference for Languages (CEFR), which is the basic user of English, which is aligned with the school

syllabus. Other than that, the word 'cat', 'rat' and 'bat' are used in this study as it has the same phonetics features. All the words listed are categorized in animal scope since we believe it would be easier for the learners to connect the vocabulary to the real world.

Pictures are a great way of describing words. The instructor relates the word with the picture and discusses the picture with the learners. Then, short sentences were constructed to show the use of the noun in a sentence. The sentences that were used are:
• This is a cat
• That is a bat
• This is a rat

This method is called a visual conceptual method because the instructor will sketch unique symbols to the word. This is to help the learners to focus and activate their multi-sensory organs. The alphabets were written in different colors according to the different sounds of the words. In this study, the developmental research approach for the instructional strategy was used. The study was divided into several phases which may be iterative: analysis, design, development, implementation, and evaluation (Wang & Hanafin, 2005).

FIGURE 1
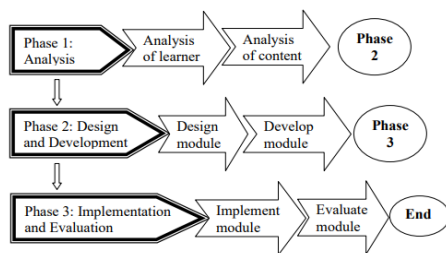
Summary of phases in the development research

3.1 The participants

The respondents for the study are two students who were diagnosed with autism by the professional. Asrul (not real name) has been diagnosed with severe autism and received the Orang Kurang Upaya (OKU) card in 2018. He is five years old and currently studying in IIUM Educare, Lembah Keramat. He previously studied in kindergarten and moved to IIUM Educare since February 2019. His parents are using professional therapy services to support his learning as an addition to the therapy program provided by Educare.

Badrul (not real name) has been diagnosed with mild autism and has been studying in Educare for nine months. He is five years old and has no experience in learning at any kindergarten previously. His parents did not send him to any therapist except for the one that is provided by the Educare. According to his teachers, he loves to play with his fingers and sometimes it could be painful. Moreover, he loves to jump without any specific reasons, and he could be out of control and these can be categorized as repetitive behavior.

4.0 RESULTS

4.1 The students' initial response

During the meeting, we played the role of a teacher for the student. Since the students came at different times, we focus on one student at a time. Our observations of the students towards the VCM were recorded and analyzed.

The meeting with Asrul was not easy at first because he was not in a good mood. During the beginning of our meeting, he mumbly sang The Family Finger Song in a very high pitch to express his uneasy feeling due to our presence. He has a habit of covering his eyes to tell that he is very annoyed and disturbed to know that we as the new teachers were going to teach him for the day. The teachers needed to calm him down for about 30 minutes by letting him play in a multisensory room. After playing with the musical instruments provided by the Educare which he is always interested in, the teaching session using the visual conceptual method began.

In the evening, we met Badrul and he welcomed us in a very heart-warming way. He sat in front of us calmly and waited for further instructions to be given. He has a habit of randomly producing sounds such as "auu", "hmm", "aaa" and "uyuw".

4.2 Implementation of the Design

The steps that were planned earlier cannot be done easily because it was hard to catch his attention. After a while, Asrul started to respond to the cat image shown by the teacher by imitating the sound of a cat; "meow". After three times of repeating the word 'cat', Asrul was able to pronounce the word 'cat'. After repeating the word three times, the teacher moved to the next image which is 'bat'. This time, Asrul could pronounce it quite easily. However, he could not pronounce the word 'rat' even after trying a few times. Based on our observation, he has a problem with the phonic /r/. He loved to zoom in the ears, wings, and tails of the animals. Next, the teacher showed the flashcard with the words: 'cat', 'bat' and 'rat' without accompanied by any images this time. Instead, the teacher sketched simple images on the first and the last letter. The sketch symbolized the animals intended. The teacher repeated the word a few times before followed by the participant. Asrul was able to pronounce them with the absence of images.

At this point, Asrul did show different responses to the lesson; stable emotions, interest in the flashcard, and could not take his eyes off the flashcard even though he did not want to sit still while learning. He started to compare the images that he saw on the phone and with the sketched images on the paper. He put the phone beside the sketched image and pointed out to certain body parts of the animals. It shows that the visual methods contributed and helped a lot in catching students' attention to learning.

Lastly, the teacher asked Asrul "what is this?" by pointing at a random flashcard and Asrul able to pronounce the word without any guidance from the teacher. However, he can only respond immediately to the word "cat", probably because he used to see it around, instead of rat and bat. Based on our observations throughout the learning session, Asrul has a problem in focusing because he was dealing with the abrupt and unaccountable change of mood.

The different reaction was given by Badrul as he was very excited when the pictures of those animals were shown. He showed interest in the pictures and slid them excitedly. When the first flashcard is shown, he struggled to pronounce the word "cat" in the first place, but when the teacher pointed out to the picture, he immediately can pronounce it, and amazingly, he initiated the "meow" sound. During the first round of pronouncing the words, he immediately followed the teacher in pronouncing the word "cat", "bat" and "rat". During the second round, he hesitated to pronounce "rat" as he kept on staring at the teacher's lips and even shook his head as a sign of confusion. Based on our assumption, he has the same problem pronouncing /r/ same as Asrul. After five times of repeating the word, he managed to do so. Same went to the word "bat", after three times of doing so, then he started to follow. However, when looking at the picture of a bat, he said "bird", it was probably he is used to seeing bird instead of a bat. When the picture of "rat" came out, he asked us "apa tu?" (What is that?) and the kindergarten teachers were extremely amazed because he never asks them in that way.

After that, we tried to ask him to spell the word "cat". The teacher started by saying "C" and he continued with "D" instead of "A". The teacher then resumed the learning by saying "A" and he immediately replied "B". The same thing happened when we asked him to spell the word "bat". We started with "B", he continued with "C" even though we were pointing out to the letter "A" at the flashcard. Thus, we supposed that he thought we were trying to test his ability in reading ABC.

We came out with an impromptu idea to spell the words in capital letters because based on our observation, he seemed to know all the alphabets. Our assumption turned out to be correct because when the words are spelled in capital letters, he managed to spell them out correctly. He responded well to the word "CAT" instead of "cat" and refused to spell the words in small letters. Since he managed to spell all the easy words successfully, we tried to proceed to the next words, which are "light", "right" and "night". As expected, he managed to spell all the words excellently when they were written in capital letters but refused to do so in small letters.

4.3 How the teachers felt about the designed visual conceptual method

At the end of this session, both of the kindergarten teachers agreed that based on our teaching session by implementing the visual conceptual method, they can proceed to the next level of teaching spelling with Badrul. They have been teaching him ABC for the past few months without trying to make him spell and pronounce the words. They also discovered that based on the visual method, it would be beneficial to add more pictures to the words in order to attract their attention. As for the Asrul, nothing much they can comment since the design seemed not to work well with him. His tantrums have an enormous impact on the teaching and learning process.

Conclusion

In short, this design can be categorized as a pilot study since the design was created currently and not well-established yet. However, it was done with the supervision of an expert in this area. To answer the first research question regarding the effectiveness of this design, we found that the most comprehensive aspect of this design is the usage of pictures and sketches. It is proved to be effective in catching students' attention, especially autistic students where most of them are dealing with the avoidance of eye contact or poor eye contact. Based on this study, it can be concluded that each autistic student needs a personally customized technique and method to enable them to read, as, for this case, we are focusing on the English language. For instance, Badrul prefers to read in capital letters instead of lower-case while Asrul has no problem with the type of letter case. We believed that the customization of technique and method according to the students' preferences will increase the effectiveness of the learning process.

As for the second research question related to multisensory instruction, this study cannot provide solid proof since the whole steps of implementing the visual conceptual method planned for this study cannot be done to the kindergarten students since they have a speech delay. Step three and four are teachers reading the sentences to the students, and teachers asked the students to describe the word in their own ways seem to be impossible to implement. Thus, it is suggested that the future researcher replicate the same study by using this design towards autistic students in primary and secondary schools to observe the effectiveness.

Another conclusion drawn from the third research question regarding students' reactions found that autistic students reacted positively to the design. Despite the challenges that affect their teaching and learning process such as behavioral disturbances, inappropriate social interaction, and deficits in language comprehension, in fact, we believe that they have a high chance to be able to read and master the English language with proper guidance, designs, and methods.

5.0 ACKNOWLEDGEMENT

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