AN EFFECTIVE TEACHING AIDS USING VISUAL, AUDITORY AND KINESTHETIC LEARNING STYLES FOR STUDENTS WITH SPECIAL NEEDS

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ABSTRACT

The use of teaching aids is seen as an important component in the teaching and learning process to improve students' understanding of learning, especially students with special educational needs (SEN). The purpose of this writing is to identify the appropriate VAK teaching aids according to the category and level of SEN disability, identify issues in providing VAK teaching aids and find out the importance and implications of the appropriate teaching aids for students with SEN. The issue that arises in relation to VAK teaching aids is the use of teaching aids that does not suit the student's disability and the teacher's lack of knowledge regarding the use of teaching aids based on the student's learning style. The appropriate use of teaching aids can help students with SEN to understand the learning process delivered in class, can detect the potential and talent of students with SEN in the academic or co-curricular field and be able to apply the student-centered learning concept. The challenge of using the appropriate teaching aids according to the category and level of disability of students with SEN in the classroom can be divided into three factors, which are the student, teacher and school factors. One of the ways to overcome this issue is that teachers need to study the level of student ability based on each category before creating teaching aids and divide students based on three main groups, namely visual, auditory and kinesthetic. The implication of using VAK teaching aids that suits the level of student disability is that it can increase the understanding of students with SEN in learning, improve the teacher's skills in using diverse teaching methods based on the student's learning style and provide a learning-friendly school.

Keywords: teaching aids, visual, auditory and kinesthetic learning style, students with special educational needs, teaching and learning, the importance of teaching aids

1. INTRODUCTION

The use of Teaching Aids (TA) during teaching and learning sessions in the classroom is not something new. According to Siti Sapizah and Wan Muna (2018), teaching aids are tools or materials for teachers to help their students understanding more easily. TA is all the equipment used by teachers and students to help them in delivering lessons in the classroom or outside the classroom. TA is not limited to books, blackboards and pictures but includes everything used in teaching that involves the five senses of seeing, hearing, feeling, smelling and so on. In accordance with the flow of the times, the way of teaching and the use of TA needs to be changed in order to be in line with the current development of educational technology. There are a variety of materials

that can be used as a resource by teachers when presenting a learning session in class, but not all types of resources can be used and suitable for teaching students with special educational needs (SEN). TA needs to match the type of disability, their skills and abilities of SEN's students. Therefore, it's important for teachers to know each of their SEN's students in order to help them choose the best TA to suit their abilities. TA based on visual, auditory and kinesthetic is highly encouraged and possibly used to help SEN's students understand and master the learning topic delivered by their teacher. For example, TA with visuals and images will make it easier for students with visual learning style to remember and the best method for them to memorize (Murihah *et al.*, 2015). The use of teaching aids is seen as an important component in the process of teaching and learning. TA are needed to improve student understanding of learning. Previous studies have found the use of TA has a positive effect on the academic excellence of students and methods of teaching (Charles, 2020).

1.1. Concept and Definition of Visual, Auditory, Kinesthetic Teaching Aids (VAK) and Students with Special Educational Needs (SEN)

Dare (2011) has listed TA as all the materials that are available in the environment could help students to understand such as newspapers, magazines, audio visuals, textbooks, boards writing, laboratory equipment and posters. According to Suppiah et al. (2012) there are three styles of learning that are visual, auditory and kinesthetic learning. Therefore, TA is determined and built based on three learning styles namely visual, auditory and kinesthetic. Style learning is the way an individual reacts to the surrounding world and adapt his learning style by interacting with his environment (Faridah et al., 2022). Teaching aids based on the characteristics and learning style of SEN's students are important to guarantee the effectiveness of the teaching delivered by the teacher. According to Suppiah et al. (2012) the use of visual TA requires the sense of sight to see and understand something. Visual's TA are suitable for SEN's students who tend to use their eye sense to understand information. Examples of SEN's students that rely on visuals to learn and understand the learning content are SEN's students with hearing disability category because they depend on their teacher or sign language interpreter to understand the lessons delivered. Visual's TA also requires the ability to give an impression of something such as objects, diagrams, maps and graphics. Psychological studies also prove that verbal information will be easier remembered if accompanied by a visual image (Subahan and Syed Ismail, 2017). An interesting and unique appearance of TA visuals will provide clear information to those who saw it (Sharul et al., 2020).

Next, auditory's TA is material used for students who tend or are comfortable learning through lectures, discussions and are given the opportunity to speak in class, in front of teachers and friends. According to Nor Musliza and Mokmin (2016), auditory BBM is more often used than visual and kinesthetic. The listening advantage of students will be expressed through narration, explanations, explanations, teaching, remembering information, listening to oral lectures, explanations, discussions and so on (S Apipah et al., 2018). This auditory's TA is frequently used for typical students and SEN's students of learning disabilities compared to SEN's students of hearing disabilities which relies more on visual and kinesthetic TA with the help of sign language translation from teachers or individuals with sign language skills. However, SEN's students of hearing disabilities have five levels of hearing and those who have residual hearing still can listen to audio and can use auditory's TA to train their listening skills. Next, kinesthetic's TA used for

students who have the tendency of learning activities in the form of practical or using the body to understand lessons learned theoretically. According to Sprenger (2002) in Suppiah *et al.*, (2012) kinesthetic teaching aids are used with movement and they need to be repeated so that it remains in the student's memory.

The use of this kinesthetic fuel requires SEN's students to use it directly (hands-on), usually a special education teacher using kinesthetic's TA in subjects involving motor skills such as cooking, sewing and agriculture. This statement is supported by Nor Musliza and Mokmin (2016) which states that kinesthetic is a learning done through practical activities such as movement, emotional responses, physical and emotional actions. According to Mohd Najib (2006) children with special needs are children who are different from typical children or normal in terms of mental characteristics, sensory ability, physical behavior, social or emotions and various other deficiencies that require practices schools that are modified or require special education services in order can improve their capabilities optimally.

1.2. Policy Related to Teaching Aids

The Education Act (1996) relating to the Education Regulations (Special Education) states that Special Education teachers may modify teaching and learning methods or techniques, time and atmosphere for activities, subjects and teaching aids in implementing the Special Education Curriculum in accordance with which is proposed in Universal Design for Learning (UDL). According to Nor 'Azah and Mustaffar (2017), the Higher Education Opportunity Act of 2008, defines Universal Design for Learning (UDL) as a conceptual framework that guides educational practices according to environmental conditions and changes that occur in the curriculum itself. Through flexible design and implementation and a responsive curriculum, UDL offers a choice of how information is presented, how students respond or demonstrate their knowledge and skills and how students engage in learning. The implementation of UDL provides an opportunity for all students to access aids/resources, participate in the educational curriculum and further reduce barriers in teaching.

2. LITERATURE REVIEW

2.1. The Importance of Using Teaching Aids for Teachers

According to Mohd Suhaimi *et al.* (2017) teaching aids will act as a media that will stimulate and develop the knowledge and intelligence of their students. In order to attract students' interest, the TA must be suitable for the level and ability of each student in the class because when the teacher uses the appropriate TA, students will be able to understand the content of the lesson delivered more easily (Alizah and Zamri, 2019). Therefore, in order to produce the appropriate TA, the teacher should know the visual, auditory and kinesthetic learning styles of the students so that the TA produced can have an impact on the students in lessons. Next, using TA in the form of visual, auditory and kinesthetic will be able to attract students to continue learning and be active in the classroom. Therefore, teachers should be sensitive and innovative in planning their teaching activities to suit the material and level of their students because the integration between techniques, materials and activities will be able to have a better impact on students' understanding and

perception (Mohd Suhaimi *et al.*, 2017). In addition, the construction of TA does not need to be too big and too small, teachers need to know the appropriate type of TA according to the topic they want to convey in class.

According to Haslinah (2016) TA should be practical in terms of cost, easy to build, materials that are easy to obtain and can be used repeatedly and comply with intervention procedures to develop skills effectively. According to Adamu and Bashir (2019) teaching materials are referred to as resources used by teachers and students for effective teaching and learning. List teaching tools or TA are unlimited and the limit of TA is only the level of thinking, creativity and imagination of the teacher on how to use it to the maximum extent. Mohammad and Mohamad (2021) stated that the best learning process is through sensory experience so that students can interact directly. Scholars also agree that the more senses are involved in education, the faster and more effective the learning process will be. Therefore, TA based on VAK learning styles are very important in improving students' ability to learn and indirectly being able to help teachers to organize effective teaching and learning processes. One of the ways to build a TA that involves more senses and sensors is to know the student's learning style first. This statement is supported by Reginald and Cynthia (2020) state that understanding the unique learning style of students with learning disabilities plays a large role in determining their needs and further helps the development and consolidation of academic facilities for students with learning disabilities. Pupils with special needs are also among individuals who are limited from the aspect of mastery of learning skills due to short attention spans and difficulty in ensuring that the learning delivered is obtained at the appropriate rate (Manisah and Norizza, 2016).

Therefore, planning in teaching is very important to be able to meet all aspects that must be mastered by students. This statement is supported by Syar Meeze (2017) who states that teaching and learning materials must meet the needs of students such as cognitive aspects, sensory, interest, tendency, security and also their functional suitability. According to Kolb (1984) who introduced the Kolb Learning Model, students prefer to learn using their own learning style. Learning styles are cognitive, affective and physiological factors as an indicator of how individuals perceive, interact and respond to the environment. Kolb's Learning Model has four levels of assessment to determine a person's learning style, namely the level of concrete experience, abstract conceptualization, active exploration and reflective observation. This level of evaluation also takes the form of four cycles which are combinations of experience, cognitive traits, behavior and perception.

2.2. The Importance of Appropriate Visual, Auditory And Kinesthetic Teaching Aids For Students With Special Educational Needs

The construction and use of TA based on students' ability and learning style is very important to help SEN's students to understand lessons delivered by the teacher in the classroom. According to Chetty *et al.* (2019) students who apply learning styles according to their inclinations, learn more happily and are able to get higher marks in each test compared to those who do not practice learning styles. The use of TA has shown effectiveness on behavior, concentration, improving understanding and so on. Through the findings obtained from the use of VAK TA, students have shown effectiveness in behavior and interest in learning and indirectly help students to be more

focused (Nor Aqilah and Aliza, 2022). In order to support the use of VAK TA, teachers also need to diversify activities in the classroom according to the students' abilities. According to Asmawati *et al.* (2018) diversity in the use of strategies, approaches, methods and techniques by teachers is due to individual differences. Various approaches can be implemented according to the suitability of students and Sharul *et al.* (2020) stated that the use of visual materials in education will provide better understanding and can help students understand a concept better. This statement is supported by Charles and Ying (2020) who state that TA is an effective and very important approach to attract students' interest and focus in class, while the use of BBM has also increased students' understanding of a lesson. As a result, students have shown progress in various activities and worksheets given by the teacher.

According to Shawn (2019) TA can help teachers to provide a better understanding of a subject and can reduce confusion in the aspect of understanding and indirectly help SEN's students to master the subject. Mohd Suhaimi *et al.* (2017) states teachers should strive to meet the needs and abilities of their students by choosing teaching materials from various sources. Therefore, special education teachers need to be proficient in the subjects and have expertise in managing lessons well. According to Siti Rubiyani *et al.* (2020) teachers should have high efficiency either in terms of skills, knowledge and attitude. This clearly shows that the competence and creativity of teachers in teaching is the main factor to fulfill SEN's students potential. In addition, when teachers use TA that suits the student's learning style, SEN's students' potential and their talent will be detected and further developed in a better and more effective way. This statement is supported by Abdullah *et al.* (2015) stated TA that using pictures and visuals in learning will make it easier for students to remember and understand things.

Each individual learns in a different way and approach, if the use of TA that suits SEN's students skills, their potential can be optimized such as drawing and coloring skills. Not every individual has drawing and creative talent, if the VAK TA used matches the potential and talent of the SEN's students, they can further expand those skills and can help them to make it as a career and a source of income after finishing school. Next, the appropriate use of VAK TA also can be applied to the student-centered lessons concept and encourage SEN's students to interact in two-way communication. According to Alizah and Zamri (2019), a student-centered learning approach can encourage student's active involvement in their learning. When students are active in class and can interact in two-way communication more often, it will indirectly give them a better understanding. Lessons activities that are student-centered such as interactive techniques in active learning are used as the main focus in the latest education process (Asmawati *et al*, 2018). According to Mok Soon Sang (2008) the characteristics of student-centered lessons are: (1) Students play the main role and the teacher as a guide; (2) Interaction in class is a two-way interaction; (3) Teachers are democratic, students are encouraged to give opinions; (4) Group activities are strongly encouraged; (5) Pupils are encouraged to be more creative and take initiative.

3. ISSUES AND CHALLENGES USING VISUAL, AUDITORY AND KINESTHETIC TEACHING AIDS

Based on previous studies, many researchers have conducted studies related to TA and its importance to student learning. Studies related to TA should always be carried out so that it can

be improved from time to time because the flow of education is constantly changing in line with the development of educational technology. The field of education cannot escape from using TA in the teaching and learning process because its role is very important in stimulating students' interest to continue learning and not easily get bored. However, there are several issues and challenges faced from various aspects related to the use of VAK TA. The challenges and issues of VAK TA against SEN's students can be divided into three main factors, namely students, teachers and the school.

3.1. Issues and Challenges Against SEN's Students

An issue that often occurs in relation to TA is the use of VAK TA that is not compatible with the inability of SEN's students. When SEN's students use VAK TA that does not fit the category and disability, they will find it difficult to understand the lessons delivered by the teacher. According to Kirankumar (2016), students with special needs need teaching and learning strategies in order to support and increase the learning potential, especially for students with autism. This problem will cause curriculum achievement and their level of mastery is not growing and unfortunately it will only get worse. In addition, the use of the same TA for all students in a special education class may also cause just a few of SEN's students to understand the lessons delivered because SEN's students have different levels of understanding and mastery of the language. In addition, autistic students are also associated with reading problems such as experiencing difficulties in recognizing syllables and stringing them into words, thus affecting the fluency of reading (Sandi & Wahyu, 2019). When this problem occurs, it is not impossible that the SEN's students will feel bored and show negative behavior such as disturbing other friends.

In addition, the TA used in the classroom is high and difficult to master and apply by SEN's students, which also caused a problem during lessons. TA used in special education classes should be according to their level and functionality of SEN's students so that it is easier for them to use it in the activities they want to carry out in class. This statement is supported by Ahn *et al.* (2018) who stated that students with learning disabilities are unable to achieve the maximum level in learning if the teaching and learning strategies used do not meet their needs and strengths. According to Fariza *et al.* (2017) students with learning disabilities have concentration problems such as reluctance to make eye contact, language disabilities and limited communication. Gemma *et al.*, 2020 stated that autistic students have problems such as easily forgetting what is said (short-term verbal memory) which affects the student's response to the teacher during teaching and learning sessions. Accordingly, the VAKT (visual, auditory, kinesthetic and tactile) approach is intended to help an individual read and also spell (Ajat & Susan, 2020).

3.2. Issues and Challenges Against Teachers

The construction of VAK TA depends on the special education teacher and most issues related to TA for SEN's students can be said to be caused by the special education teacher. Among the issues that arise is the special education teachers lack knowledge about VAK TA, causing teachers to rarely apply it in teaching. In addition, the lack of information sources also causes the TA used in the class to be unsuitable, especially for SEN's students. This factor is in line with Zamri (2014) which states that the lack of knowledge in the use of teaching aids causes teachers to be unable to

apply them in teaching and that teachers consider TA to be not an important matter, in fact there are a few teachers who still use the old method which is teacher-centered such as discussion, questions and answers, lectures and memorization.

SEN's students in special education classes also have many different categories and levels of disabilities, making it difficult for teachers to provide VAK TA for each student. Beside that, all the teachers also have a busy schedule and have to manage other school affairs. Because of this, teachers use any TA which is easy for everyone to use and some teachers do not use TA in their lessons. This statement is supported by Norhiza et al., (2016) who stated that teachers use less teaching aids during teaching sessions. According to Charles (2020), one of the characteristics that lead to teaching aids that are effective in teaching is the teacher's initiative to use all available materials and resources, but resource constraints to diversify teaching aids in educational institutions can affect the learning process. In addition, Othman (2017) in Charles (2020) also found that instructors failed to use teaching aids due to a lack of resources in obtaining materials. The lack of resources in diversifying teaching aids makes it difficult for teachers to be effective facilitators during the teaching and learning process. According to Haslinah (2016) the increasing statistics of children with Autism Spectrum Disorders (ASD) can have implications for education in mainstream schools. This is because there has been an increase in the admission of ASD children who follow education in mainstream schools. With that being the case, this matter becomes a challenge for teachers who do not have a special education option in mainstream schools to teach ASD students. This is because ASD students need a lesson with specific and clear instructions, as well as the support of visual teaching aids to promote their learning.

3.3. Issues and Challenges Related to School Management

The school should know and care about the problems faced by special education teachers in providing VAK TA to SEN's students. At the school level, too many programs and celebrations have to be carried out and celebrated throughout the year and requiring teachers to manage the planned programs. Indirectly, it will cause the teacher's preparation time to go to class to be interrupted, so the teacher will not be able to build a VAK TA that is suitable for SEN's students. Hence, school administrators need to be aware of the importance of teachers in their responsibility to students, especially SEN's students compared to external assignments.

4. HOW TO OVERCOME THE ISSUES OF VAK TEACHING AIDS FOR STUDENTS WITH SPECIAL EDUCATION NEEDS

Solutions of the VAK TA issue against SEN's students can be divided into four main roles, namely the teacher, the school, the State Department of Education and the Malaysian Ministry of Education (MOE). These four components must play a role in tandem and continuously so that this issue related to VAK TA can be overcome and reduce the negative implications for SEN's students during lessons in the classroom.

4.1. The Teacher's Role

According to Norfishah (2016), teachers need to have knowledge about teaching aids that are suitable for SEN's students with various disabilities and use appropriate teaching methods and techniques according to the student's ability. The most effective way for teachers to gain knowledge about VAK TA is to increase scientific reading in various mediums and mass media. According to Natasha *et al.* (2020) mass media is a tool or intermediary in delivering certain information and messages. This is because the mass media is the fastest medium to get knowledge because the majority of adults today are always tied to electronic media and social media. In addition, teachers can also use a variety of behaviors to manage learning, for example arranging physical face-to-face, dialogue at the same 'eye-level' between teacher and student, student and student as well as reducing the social distance between student and teacher (Withall 1991; Alizah 2019).

According to Faridah et al. (2022) it is impossible for the teachers to provide activities that meet the interests of each student in one activity. An easy way is to divide students according to their inclinations. Teachers can divide them according to three main groups which are visual, auditory and kinesthetic. Each of these main groups can be assigned discussion tasks or group activities in order to encourage active interaction between students and students. In general, VAK TA can help teachers to understand SEN's students much better and prevent them from getting confused when only listening to verbal instructions from the teacher. Teachers can also involve students in the learning process by doing simple activities such as using appropriate body language, eye contact with students, good facial expressions, giving students opportunities to speak, calling their names and so on. In this way, teachers can encourage students to actively engage in class and learn more effectively (Alshatri et al., 2019). Beside that, teachers also need to implement lessons centered on students and teachers as guides. Students should also be given greater autonomy and responsibility to manage their learning by exploring, choosing, and identifying learning resources through their own strategies based on the lessons conducted and the TA provided. According to Lee and Hannafin (2016) student-centered lessons are focused on ways to support the uniqueness of background and individual needs as well as student autonomy in learning to involve TA or technological instruments to the maximum.

4.2. The Role of The School

School administrators can implement VAK TA construction workshops at the school level, TA construction can be built in collaboration between teachers and teachers or teachers and students. This idea is supported by Sugiman *et al.*, (2020) who stated that teachers and students can work together to build VAK TA for students with disabilities through various activities. The joint construction of VAK TA provides many indirect benefits such as helping teachers to germinate ideas and share views on the components that must be present to build a good and effective VAK TA. Beside that, the school also can provide the school environment with a Universal Design for Learning (UDL). UDL schools are schools that allow children to get an education regardless of their physical, intellectual, social, emotional, linguistic and other conditions.

According to Courey *et al.* (2013) the UDL environment includes designing teaching materials that allow students to use learning facilities as much as possible. UDL can generally improve the learning process for all SEN's students and the effect can affect all students and school members. The school also can collaborate with parents to deliver information related to a simple VAK TA that can be implemented at home to help SEN's students learn at home. This is because not all parents understand the educational needs of their children, such as parents of SEN's students who are not good at using sign language.

4.3. Role of The State Education Department (SED)

State Education Department (SED) needs to hold various joint activities or workshops related to VAK TA in stages in schools according to certain zones or sections. In this way, special education teachers and schools can get accurate information related to the construction of VAK TA from more knowledgeable parties so that it can be shared in their respective schools. Beside that, the SED can also appoint a Primary Trainer (PT) related to VAK TA among teachers in each district so that they can become mentors to teachers who need guidance and information about the construction of VAK TA that is suitable for SEN's students.

4.4. Role of The Malaysian Ministry ff Education (MOE)

The Ministry of Education's role in overcoming this issue is that the ministry needs to create a special section responsible for supplying a variety of VAK TA that fits the learning style to all schools that have SEN's students. In this way, it can diversify the TA that can be used for a long time to different SEN's students. In addition, MOE also needs to reduce the workload of teachers to do clerical work such as entering student data in various websites that often cause coverage and network interruptions, indirectly this problem wastes teachers' time to focus on teaching tasks and give more focus to students.

From the aspect of preparatory training at the Teacher Education Institute (TEI) level, the Ministry of Education also can introduce VAK TA construction courses related to students' learning styles as opposed to TA that focuses solely on teaching objectives. In this way, prospective teachers will get early exposure on how to recognize the SEN's students learning style as well as the effective construction of VAK TA. When prospective teachers have learned how to know SEN's students' learning styles, indirectly they will continue to be able to practice and build effective VAK TA while at school after graduating from TEI. These prospective teachers can also help teachers who do not have the knowledge or experience to build VAK TA in schools and then save the MOE's cost and energy to hold VAK TA construction workshops in schools and states.

5. IMPLICATIONS OF THE USE OF VAK TEACHING AIDS FOR STUDENTS WITH SPECIAL EDUCATION NEEDS

The implications of visual, auditory and kinesthetic teaching aids can be divided into two parts, namely negative implications and positive implications.

5.1. Negative implications

The construction of VAK TA requires more time compared to the construction of common TA. This negative implication occurs because teachers need to know SEN's students in their class more deeply and conduct an assessment to determine the appropriate learning style and the level of mastery that MBPK is capable of mastering. However, when the teacher has used VAK TA based on the student category but the students cannot understand the instructions and concepts of the teaching content that has been delivered, the teacher will feel disappointed and likely not to use the teaching technique using VAK TA in the future. Therefore, teachers need to be smart to evaluate and modify the TA that is built according to the situation and suitability of the students.

5.2. Positive implications

5.2.1. Students

The selection of lesson content, activities and learning materials are contextual which means that they can give positive implications to students (Alizah and Zamri, 2019). The main positive implication is that the use of VAK TA can improve students' understanding and knowledge. This statement is supported by Khadijah and Shahrin (2006) said that students' understanding and knowledge of learning content increases when teachers use the appropriate TA. Sugiman *et al.* (2020) said the use of VAK TA for students with disabilities has been proven and should be implemented in every special school. In addition, SEN's students' interest in learning can also be increased and can manage student behavior in the classroom. This statement is supported by Nor Aqilah and Aliza (2022) said that the use of visual, auditory and kinesthetic TA has shown effectiveness on behavior and interest in learning.

5.2.2. Teacher

The aspect of special education teachers, teachers' skills in using diverse teaching methods based on students' learning styles can be improved. The teaching process is no longer focused on one teaching platform but is diversified using approaches that are able to further improve the quality of teaching management inside and outside the classroom (Norshila and Norshidah, 2021). In addition, teachers' knowledge is also increasing because teachers need to conduct research on learning styles that are suitable for SEN's students in their classes. Special education teachers can also collaborate with other teachers or Student's Assistants (SA) of SEN's students to build VAK TA that can be used with other students in the future.

5.2.3. School

The school also gets benefits if VAK TA is successfully implemented and practiced in the classroom because when the ability or potential of students increases, it is certain that the performance of the school can be raised higher and make the school a model school in producing high quality SEN's students. Beside that, more effective and conducive learning can also be applied to become a better and more competitive school culture.

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6. FURTHER STUDIES

The proposed follow-up study involves at least two study groups to better see the difference in the achievement of using VAK TA. The schools involved should also involve several schools to get more comprehensive data. Other researchers are suggested to study more specifically on each selected subject so that they can see more comprehensively about the effectiveness of the intervention implemented in the study. In addition, further research on the relationship between learning style and SEN's student's disability on the use of VAK TA can also be carried out so that the relationship between learning style and VAK TA can be linked more clearly.

7. CONCLUSIONS

In conclusion, SEN's students have different abilities and disabilities from each other from the aspects of concentration, understanding, information memorization, different levels of understanding and reading. Therefore, to ensure SEN's students do not fall behind in the current of education, teachers must play an important role in ensuring that SEN's students can understand and master the basic skills of writing, reading and counting. One of the ways to ensure that SEN's students master these basic skills is to use TA that suits their level and ability. This is because teaching and learning are based on their level and ability to meet the needs and strengths of the SEN's students while also supporting their learning style in a more specific and effective way.

REFERENCE

- Abdullah, M., Abdullah, A. H., Rosman, A. S., & Ilias, M. F. (2015). Garis panduan hafiz alquran menurut pandang al-nawawi. *International Conference On Islamic Education and Social Entrepreneurship* 2015.
- Adamu, M. & Bashir, A. (2019). Assessing the impact of teaching aids for effective teaching and learning of economics for senior secondary school in Adamawa state, Nigeria. *Science Arena Publications Specialty Journal of Knowledge Management*, 2019, Vol.4 (3): 10-18.
- Ahn, R., Yeong I, J., White, J., Monroy, Liane., Tronske, N. (2018). Student-centered pedagogy: using moses' five-step approach as a scaffolding framework to teach diverse learners. *Transformative Dialogues: Teaching & Learning Journal* 11 (2), 1-18.
- Ajat, T., & Susan, M. (2020). Upaya guru dalam membudayakan minat baca pada anak usia dini melalui media visual. *Hawari: Jurnal Pendidikan Agama Dan Keagamaan Islam, 1(1). https://journal.unsika.ac.id/index.php/hawari/article/view/3932*
- Akta Pendidikan (1996). Undang-Undang Malaysia (Akta 550).
- Alshatri, S. H. H., Wakil, K., Jamal, K. & Bakhtyar, R. (2019). Teaching aids effectiveness in learning mathematics. *International Journal of Educational Research Review*, 4(3),448-453.
- Alizah, L., & Zamri, M. (2019). Penggunaan alat bantu mengajar dalam pengajaran bahasa melayu menggunakan pendekatan pembelajaran berpusatkan pelajar. *International Journal of Education, Psychology and Counseling*, 4(33), 78-94.

- Asmawati, M. A., Norizal, A. K., Anita, M., Noraihan, I. (2018). Aplikasi gaya pengajaran dan pembelajaran aktif dalam subjek kemahiran dinamika bagi merealisasikan pendidikan abad ke-21. *Jurnal Sains Humanika*. 10:3-2 (2018):47-55.
- Charles, M. L. & Ying-Leh, L. (2020). Peranan bahan bantu mengajar dan persekitaran maklum balas dalam meningkatkan kualiti pembelajaran pelajar. *Conference: National Research Innovation Conference (NRICon 2020)*, Kuching, Sarawak.
- Chetty, N. D. S., Lina, H., Noor Azida, S., Zuraina, A., Norhasyimah, H., Nur Shamsiah, A. R., & Shahreen, K. (2019). Learning styles and teaching styles determine student's academic performances. *International Journal of Evaluation and Research in Education (IJERE)*, Vol. 8, No. 3, Sept 2019, pp. 610-615.
- Courey, S.J.; Tappe, P.; Siker, J.; LePage, P. (2013). Improved lesson planning with universal design for learning (UDL). *Teach. Educ. Spec. Educ.* 2013, 36, 7–27.
- Dare, M.O. (2011). School Plant Planning. M.Ed. lecture notes for students of educational administration and planning. A.B.U, Zaria.
- Dunn, R. & Dunn, K. (1992). *Teaching elementary students through their individual learning styles: practical approaches for grades 3-6.* United States of America: Allyn and Bacon.
- Faridah, M., Mohd Razimi, H., & Nurulhuda, M. H. (2022). Gaya pembelajaran: visual, auditori dan kinestetik. *Journal of Humanities and Social Sciences.vol. 4, no. 1, pp. 29-36, April 2022.*
- Fariza, M. S., Salmihah, C. M., Manisah, M. A., Zuliza, M. K., Rosmawati, M. R. & Siti Norlina, M. (2017). Panduan syariah untuk ibu bapa menangani perilaku seksual remaja autisme. *Jurnal Hadhari: An International Journal, 169-182*.
- Gemma, M. G., Pablo, M. C., & Cabedo-Mas, A. (2020). The role of music in the development of children with Down syndrome: a systematic review. *Interdisciplinary Science Reviews*, 1–16. DOI:10.1080/03080188.2020.1755556
- Haslinah, A. (2016). Strategi pengajaran dan penggunaan bahan bantu mengajar dalam pengajaran kemahiran komunikasi kanak-kanak autism spectrum disorder (ASD). *Teknokrat II Jilid XVIII 2016*.
- Khadijah, A. R., & Shahrin, A. (2006). Amalan pengajaran guru pendidikan islam: penilaian kendiri guru pendidikan islam. *Seminar Amalan Pengajaran Guru Pendidikan Islam*. Universiti Kebangsaan Malaysia, Bangi.
- Kirankumar, V. B. (2016). Teaching strategies for children with special needs. *One Day National Seminar on Teaching and Training to PWDs: Issues and Challenges* 1(1), 68-71.
- Kolb, D. A. 1984. Experiential learning as a source of development. New Jersey: Prentice Hall.
- Manisah, M. A., & Norizza, S. (2016). Intervensi meningkatkan tumpuan dalam pembelajaran murid bermasalah pembelajaran. *Jurnal Pendidikan Malaysia* 41(1), 1-6.
- Mohammad, A. A., & Mohamad, A. S. K. (2021). The availability of teaching aids in resource rooms and their use by teachers in Irbid Governorate. *Science and Education Scientific Journal*, Volume 2 Issue 8.
- Mohammad, K. A. (2020). The effectiveness of educational games strategy for developing geographical concepts and issues and critical thinking among Al-Azhar primary school students. *Journal of the Faculty of Education*, 36(12), 278-314.
- Mohd Najib, G., & Sanisah. J. (2006). Bias pengajaran guru dalam pelajaran khas dan pelajaran normal. *Paper work Annual Conference on teacher education*. Kota Kinabalu, 6-8 September.

- Mohd Suhaimi, O., Noor, S. S., Mohd. Uzi, D. (2017). Penggunaan bahan bantu mengajar guru matematik sekolah rendah. *Jurnal Pendidikan Sains & Matematik Malaysia*, Vol. 7, No 1, Jun 2017.
- Murihah, A., Abdul Hafiz, A. & Arief, S. R. (2015). Identifikasi peranan ibu bapa dalam kelangsungan pendidikan tahfiz anak. *Seminar Antarabangsa Isu-Isu Pendidikan 2015* (*IsPEN2015*). Auditorium Dr. Zainuddin Jaafar, KUIS. 151-162.
- Natasha, E. M. N., Zuliskandar, R., Nur Farriehah, A. & Angela, I. (2020). Kesedaran pemeliharaan dan pemuliharaan warisan negara dalam media massa dan media sosial di Malaysia. *Prosiding Seminar Antarabangsa ke-8 Arkeologi, Sejarah dan Budaya di Alam Melayu*. 307-316.
- Nor Aqilah, M. S., & Aliza, A. (2022). Pengetahuan guru pendidikan khas terhadap bahan bantu mengajar visual, auditori dan kinestetik yang sesuai terhadap murid berkeperluan khas. *Malaysian Journal of Social Sciences and Humanities, Volume 7, Issue 5, e001526.*
- Norfishah, M. R. 2016. *Transformasi pendidikan murid kurang upaya*. Tanjung Malim: Penerbitan Universiti Pendidikan Sultan Idris.
- Nor Musliza, M., & Mokmin, B. (2016). Pembelajaran al-quran berasaskan teknik dan gaya pembelajaran vak (visual, auditori dan kinestetik). https://www.researchgate.net/publication/305492841. [Dilayari pada 30 April 2023].
- Norshila, R., & Norshidah, M. S. (2021). Penggunaan M-Learning sebagai bahan bantu pengajaran dalam kelas pendidikan khas. *Malaysian Journal of Social Sciences and Humanities* (MJSSH), Volume 6, Issue 5, (page 53 63), 2021.
- Reginald, O. S. & Cynthia, G. A. (2020). Examining the preferred learning styles of U.S. dental students with learning disabilities. *Journal of Dental Education*, April 2020, DOI:10.21815/JDE.019.183
- Saleh, A. S. (2015). The effect of a suggested computer program based on guidance and direction on the speed and reading proficiency of students with learning difficulties. *Journal of Specific Education Research*, (37), 631-655.
- Sandi, M., & Wahyu, K. (2019). Pengaruh penerapan metode vakt (visual, auditory, kinesthetic, tactile) terhadap peningkatan kemampuan membaca permulaan pada siswa kelas i sekolah dasar. *Anfusina: Journal of Psychology* 2 (1), 61-78.
- Saiful, A. (2017). Program pendidikan inklusif bagi murid-murid berkeperluan khas di Malaysia. https://www.researchgate.net/publication/332521325. [Dilayari pada 30 April 2023].
- Sharul, A. S., Normah, M., & Shahrul, N. S. (2020). Peranan visual instagram dalam meningkatkan kesedaran kesihatan masyarakat. *Journal of Sciences and Humanities*, 17(2). 91-103.
- S Apipah, Kartono & Isnarto. 2018. An analysis of mathematical connection ability based on student learning style on visualization auditory kinesthetic (VAK) learning model with self-assessment. *Journal of Physics: Conference Series*, 983, 012138.
- Siti Rubiyani, O., Noradilah, A. W., Mohd Shahril, O., Abdullah, Y., & Raihan, A. (2020). Kompetensi guru pendidikan khas terhadap murid bermasalah pembelajaran: kajian literatur. https://www.researchgate.net/publication/340861408. [Dilayari pada 30 April 2023].
- Siti Sapizah, A. L., & Wan Muna, R. W. M. (2018). *Peningkatan Pencapaian Penulisan Bahasa Melayu Menggunakan Bahan Rangsangan*. Transformasi dan Pembangunan Pendidikan di Malaysia.
- Subahan, M. M., & Syed Ismail, S. M. (2017). *Pedagogi abad ke-21*. Sasbadi Sdn Bhd: Selangor.

- Sugiman, Hardi, S., Iwan, J., & Diyanto. (2020). The creation of teaching aids for disabled students as mathematical-thinking-imaginative products. *International Journal of Instruction*, July 2020, Vol.13, No.3, pp. 777-788.
- Suppiah, N., Kamarulzaman, K., Abd. Aziz, A. S., Ramlah, J., Roslinda, M., & Hazalizah, H. (2012). *Pembelajaran dan Pengajaran Pelajaran. Edisi ke-2*. Oxford Fajar Sdn. Bhd. Shah Alam: Selangor.
- Syar Meeze, M. R. (2017). Kemahiran asas serta pengajaran dan pembelajaran al-quran kepada golongan istimewa. *Journal of Quran Sunnah Education and Special Needs*, 1-12.
- Zamri, M. (2014). *Inovasi P&P dalam pendidikan Bahasa Melayu*. Cetakan Ketiga. Tanjung Malim: Penerbitan Universiti Pendidikan Sultan Idris.