Augmentative and Alternative Communication (AAC): The Need for Teacher Guidelines

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Abstract: **The implementation of augmentative and alternative communication (AAC) is increasingly gaining the attention of individuals who are identified with verbal communication problems. Interventions based on AAC have been targeted as early as possible toward school readiness for the children. In Malaysia, previous studies have shown that AAC is clinically intervened in speech therapy units both in government and private practices, less of which liaises with special education teachers. This study aims to identify teachers' awareness and knowledge of AAC, thus analysing the need to develop an AAC module for teachers' guidance. Six preschool special education teachers from four districts of Perak were involved in responding to semi-structured interviews via Focus Group Discussion (FGD). The study indicates that most teachers have applied AAC to their students but are not aware of the correct procedure and approach to the implementation. In addition, teachers showed limited knowledge of AAC because less attention was given to students' communication problems compared to other areas of development, such as behavioural and motor skills. The finding shows the need for teachers' training on the operation of AAC provided with guidelines module and appropriate assistive aid. Therefore, future research is highly necessary pertaining to the demands of the findings to ensure teachers' preparedness skills as communication partners.**

Keyword: *intervention, Augmentative and Alternative Communication (AAC), communication difficulties, communication partner, speech therapy*

INTRODUCTION

The use of augmentative and alternative communication (AAC) was introduced in the 1950s to help individuals with limitations of verbal communication (Mirenda, 2017). Augmentative and alternative communication (AAC) complement the users to communicate through various mediums such as sign language, gestures, and pictures as well as the usage of electronic devices. When communication does not naturally occur, AAC is an eye-opener to enable non-verbal individuals the ways to request, greet, comment, receive information, and ask questions. It will allow them to engage in social interaction such as sharing ideas, discussing experiences, throwing stories and jokes, and expressing the feeling of empathy or sympathy (Barker et al., 2013; Logan et al., 2016). The availability of AAC devices is believed to assist students with special needs such as ASD (Autism Spectrum Disorder) to learn literacy skills more easily (Machalicek, et al., 2010). The learning process becomes faster and more convenient as it allows two-way interactions between teachers and students (Drager et al., 2017).

Along with the current transition, AAC has undergone many changes as a reflection of the needs and the readiness of its users ranging from unaided AAC to aided AAC (Haurcade et al. 2004). Began with the introduction of symbols (eg. Bliss symbols, Siggs symbols) and sign language (ASL, SEE), the progress is clearly shown with the transformation of traditional laminated picture cards such as PECS (Picture Exchange Communication System) into digitalised and interactive features of AAC displayed by Speech-Generating Device (SGD) and Voice Output Communication Aid (VOCA). The effectiveness of AAC encourages experts and manufacturer representatives to develop high-tech AAC aids that are believed to be cheaper, safer, flexible, advanced and fit to the natural environment of students (Ganz et al., 2017). The AAC which was developed in the form of mobile applications through high technology devices had increasingly gained market demand (Meder & Wegner, 2015). At a reasonable cost, users can benefit from a variety of AAC applications which simply can be downloaded through AppleStore or GooglePlay. The price ranges from zero to nearly a thousand, and can be seen in apps

such as ProLoque2Go (iOS) (talktometechnologies.com) and TalkingTab (android) (aactalkingtabs.com). According to Walker (2011), he was convinced that the emergence of this assistive technology is affordable and yields better results than conventional methods for the purpose of a communication intervention. This advanced invention has been found to bring a positive impact to meet the requirements of language interventions and communication due to their combination of therapeutic elements of visual, audio and text continuously (Snell et al., 2010).

Regardless of the demands from the local or international market, studies showed that the effectiveness of AAC is not dependent on the price or the sophistication of the tools. Light and McNaughton (2012) had emphasised that one particular AAC is not fit for all students with speech impairment. The users from different background profiles and diagnoses will be fitted into the specification of AAC based on their eligibility and ability. Individuals with speech and communication problems are significantly related to autism spectrum disorder (ASD), Down Syndrome, cerebral palsy, deafness and other disabilities. Each of them will be individually evaluated to find their best AAC intervention methods and strategies. Unaware of this requisite, most of the users who randomly get any available devices in the market to fit their communication problem will finally find no improvement. In the end, they keep changing from one device to another searching for the best to meet their needs. This is attributed to several key factors such as a lower level of awareness and knowledge of the user and their helper (teachers, parents, guardians, assistants) (Light and McNaughton, 2012). This helper is known as a communication partner in AAC intervention.

In many developing countries, AAC intervention services are almost sound as under progress. Based on the report by Constantino and Bonati (2014), there were 22 - 60% of children with a severe communication disorder have yet to receive any AAC intervention. In Malaysia, the implementation of AAC is conducted by certified speech-language therapists in the government hospital or private practices. Even though the development of this profession is growing, the number of speech-language therapists in Malaysia is still less compared to the existing population ratio (Mohammad Ibrahim, 2016). Only a few of them have the expertise to conduct the therapy procedures using AAC. The intervention of AAC was implemented directly to children through the involvement of their parents (Joginder Singh et al., 2020) and with very little collaboration with the teachers. Limited access to expert services means that parents and teachers are highly responsible for conducting the intervention themselves. In this challenging circumstance, most teachers depended on a 'trial and error' strategy to resolve the children's communication problems (Joginder Singh et al., 2017). To date, the effectiveness of AAC interventions is still debated and keeps the practitioner searching for the causes.

Despite identifying the potential outcomes, teachers and parents across the world are facing barriers to successfully implementing AAC for their children. There are some issues related to the difficulty of managing the complexity of the AAC system and insufficient guidance to launch the procedure (Tonsing & Dada, 2016). Furthermore, Chu et al., (2016) reported that the low awareness of the communication partner results in the act of inappropriate role for the intervention (Chu et al.,2019). Till now there is a lack of any documented standardised protocols in the implementation of AAC in the Malaysian context. Most therapist referrals are based on adapted overseas-developed AAC programs to suit the local context (Chu et al., 2019). Besides, a study in Perak just focused on the unaided AAC method involving the medium of sign language and gestures (Norfishah & Nurul Syuhada, 2021) rather than AAC with supplementary tools. For teachers in rural areas and small districts in Perak, access to such resources becomes immensely difficult with the limitation of internet access and mobility. This results in teachers being unaware of the AAC technology and getting less information to support their children with communication problems.

This study aimed to obtain data and information from teachers in Perak who are eager to learn and to be involved in the AAC intervention programme for children with communication difficulties. The specific objectives were (i) to identify teachers' perceptions and knowledge of AAC and (ii) to analyse the need of developing an AAC fundamental protocol for teacher guidance.

METHODS

Research design

This was a qualitative research design with focus group discussion (FGD) using semi-structured interview protocols. It involves a systematic analysis procedure with the reference of Interpretative Phenomenological Analysis, (IPA) (Smith & Osborn, 2008). The IPA method consists of steps of analysis starting with (i) reading and reviewing the transcriptional text repeatedly, (ii) identifying superordinate themes, (iii) grouping the textual information according to the subordinate theme and (iv) presenting the distribution of themes in the table. Each superordinate theme is developed from the distribution's subordinate theme.

According to Kruger and Casey (2000), focus group sessions allow the participants to express opinions within the same equivalent atmosphere where it exists as participants who influence or are influenced by the topic discussed (Plummer-D'Amato, 2008). It was aligned with this research design where the equivalence factors of participant background and experiences i.e. special education teachers are counted. They are working together towards the ideal results of the AAC programme for the benefit of their students.

Participants

The participants were six teachers who worked with children with severe communication difficulties and met the following selection criteria: (a) academic qualification in Special Education and related fields, and (b) had three and more years' experience working with preschool children with communication difficulties in school. All teachers were selected from the four main districts of Perak.

Table 1

Demographic information

Participant	Academic qualification	Experience working with pre-school children with communication difficulties	District
Teacher A	Early Childhood Education	18	Kinta
Teacher B	Early Childhood Education	10	Kinta
Teacher C	Engineering + KPLI in Special Education	8	Batang Padang
Teacher D	Art & Literature	12	Hilir Perak
Teacher E	Special Education	8	Batang padang
Teacher F	Art	4	Perak Tengah

Materials and Procedure

A semi-structured interview protocol was developed and obtained expert's evaluation and validation. The final set of the protocol was updated based on the comments and feedback from experts. As in most ethnographic studies, this method is often used in conjunction with an interactive aspect of the research consolidation procedure (Chowdry, 2015). Findings through such discussions can be turned into specific themes to analyse the data appropriately. Several points are highlighted in the group discussion protocol; (a) teacher's knowledge of AAC (b) understanding of communication partner and its role, (c) challenge facing to implement AAC and (d) the need for documented guidance towards implementation of AAC intervention.

FINDINGS

Analysis from the verbatim transcriptional text were grouped into several subordinate themes accordingly. Table 2 presents the mapping of superordinate themes to meet the category of subordinate themes obtained.

(a)   Knowledge about AAC

From the findings, three out of six teachers was not familiar with AAC once being asked for the definition. None of them was able to explain the various types of AAC. AAC is categorised into unaided and aided which is further grouped into low technology and high technology-aided AAC. The discussion brought the view of AAC in a different way using simple examples, then gaining teachers' ideas about the system. This led to positive feedback on their experience of using any materials considered as AAC. Almost all realised of using picture cards as a medium of alternative communication.

Teacher A said,

"...to explain the object, we provided the kids with a picture card made by us"

Another response was received, that Teacher B also used a similar technique to communicate with her student.

"... I prepared picture cards to represent classroom routines, then the student will point the target picture to convey the message"

While this technique is also applied by Teacher C and Teacher D, different AAC tools are used by Teacher F. She said,

"… I support my student with iPhone apps, which I believe the audio output will help them to respond to my question"

Table 2

Mapping with the theme

Superordinate theme	Subordinate theme	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E	Teacher F
Knowledge about AAC	What is AAC?	/	/	/	X	X	X
	Type of AAC	X	X	X	X	X	X

	Experience using AAC	/	/	/	/	X	/
Understanding of communication partner roles	Who is communication partner?	X	X	X	X	X	X
	The role	X	X	X	X	X	X
	Strategies by communication partner	X	X	/	/	X	X
Potential challenge	Insufficient reference	X	/	X	/	/	/
	Children with other health issue	/	/	/	/	/	/
	Behaviour problem	X	/	/	X	/	/
	Language use	X	/	/	/	/	/
	Classroom environment	/	X	/	/	X	/
	Finance	/	/	/	/	/	/
Guidelines for teacher	Documented guidelines	/	/	/	/	/	/
	Workshop and tutorial from the experts	/	/	/	/	/	/

(b) Understanding the communication partner roles

Teachers had displayed negative reactions about their understanding of the communication partner and its role in AAC intervention. They wrongly assumed this is referring to the student itself (AAC users), where the role indeed belongs to the helper/assistant (eg. teacher, parents, siblings, peers). According to Bruder (2000), the best person to become the communication partner is the teacher with whom children are familiar and most comfortable. Besides, the communication partner is responsible for setting up AAC intervention tools and materials and administering children's progress (Midtlin et

al., 2014). They are highly suggested to apply specific strategies where the session is being conducted. At home, a communication partner is best represents the role of their parent or guardian.

(c)   Potential challenges faced while implementing AAC

It has been explained from five subordinate themes which were; (i) insufficient reference, (ii) children facing other related health issues, (iii) children's behaviour problems, (iv) language use and, (v) classroom setting and environment. This is in line with Gosnell et al. (2012) study which shows approximately 4% of AAC users reported receiving expert advice. For instance, Teacher E raises the issue of getting sufficient resources and expert references to conduct AAC intervention. She said that,

> *"... normally for the purpose of lesson activity, we have a resource teacher to guide, but AAC seems to be very new to us, so how?"*

Another response sounds like this,

> *"... what if we stuck in the middle of the intervention, not easy to reach the expert to clarify the things"*

On the other hand, Teacher A raises the issue of her student who was eventually distracted by other health problems. She brought an example of a student with poor attendance due to fever and other health problems such as seizures and digestive problems. Similarly, Andzik et al. (2017) reported that AAC intervention becomes a challenge for the teacher to maintain consistently. It will be even worse dealing with children with neurodevelopmental problems (Anaby et al., 2014). In addition, a number of teachers also reacted to similar situations when it comes to the behaviour problem. This is mainly referring to the act of throwing tantrums and attention deficit. According to Teacher C,

> *"... most of our students diagnosed with learning disabilities specifically autism, tendency to see them with behaviour problem is high, I'm not sure if the AAC things work in this situation"*

Besides, some teachers pointed out their concern to monitor classroom activity while they were localising their attention for AAC intervention with the targeted student. As Teacher D and Teacher F said,

> *"...our children come from a different category of disabilities; we can't imagine what will be happened if focusing on one child AAC intervention meant to ignore the others"*

> *"...yes, we have the teacher assistant to take charge for certain needs, but still 10-15 children not easy to monitor them"*

The language used is another barrier in implementing the AAC procedure where most of the AAC technology-based system is designed with English medium. Mostly in Malaysian public schools, teachers and students will communicate using Bahasa Melayu. It alerts the researcher and manufacturers to insert in the list of language options on the device. Therefore, the voice output can be precisely heard by a native speaker. This is crucial to learn that students with ASD who always struggle with imitating prosody will face difficulties to practise the language accent accurately (Pepe et

al., 2011). Another concern towards the challenge of sourcing funding and allocating the budget. The fact is most AAC devices available in the market require the users to prepare with installation and maintenance costs.

(d) The need for teacher guidance

Despite the potential challenge, the study shows all the teachers were aware of the advantages of implementing AAC for children with complex communication needs. It was being said that,

"...we teachers are grateful if getting sort of module or training manual for our reference"

"... we are too old to follow the tutorial from YouTube channel as youngsters did, printed copy of instruction is close to us"

The result indicates that teachers were not hesitant to get involved in the AAC intervention programme when guided by appropriate training and provided with sufficient information. Instead of learning from unreliable resources such as YouTube and personal blogs, teachers need the true expert to be with them.

CONCLUSION

Implementation of AAC intervention for students with complex communication needs is no longer an option. Instead, the effectiveness was proven by many users to make their life more meaningful. In many ways, this study is revealing similar outcomes to those conducted abroad. Besides their parents, teachers become the second most important people who are responsible for this intervention. As communication partners, teachers show their willingness and support for AAC despite their limited knowledge and awareness. Collaboration is the key to bridging the expert into this loop. In Malaysia, especially in Perak, teachers welcome all initiatives of training and resource guidance. Research and practice should bring in all parties to make it work.

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