

CRAFT: An Integrated Intervention Program to Enhance the Communication Skills of Minimally Verbal Students with Autism Spectrum Disorder

Background

Research on children with Autism Spectrum Disorder (ASD) estimated about 30% of them remain minimally verbal, even after receiving years of interventions and a range of educational opportunities (Tager-Flusberg & Kasari, 2013). The intellectual abilities and potentials of these children might be underestimated when being assessed with conventional IQ tests (Bertrand et al., 2001). As a result, the support and education provided based on scores on standardized tests may not be truly addressing their needs and more understanding on their actual ability was warranted.

The development of augmentative and alternative communication systems (AAC) and speech-generating devices in recent years have brought new opportunities to minimally verbal individuals with ASD. Significant gains in communication outcomes were reported when adaptive social communication interventions included a speech-generating device (Almirall et al., 2016 ; Tager-Flusberg & Kasari, 2013). In fact, several cases of minimally verbal individuals with ASD that were able to type and communicate with others have been reported worldwide. Such individuals included Yau Gao Ngan from Taiwan, Carly Fleischmann from Canada, Ido Keda from USA, Tito Mukhopadhyay from India, and Naoki Higashida from Japan. With the help of technology, they were able to publish books, set up social media accounts, and become guests on talk shows. They showed others how it was like to be on the spectrum and let their true potentials be discovered.

What is CRAFT?

With reference to the intervention model developed in Taiwan, Hong Chi Association has developed an integrated CRAFT approach to support minimally verbal students with ASD.

CRAFT means:

$$\underline{\text{Communication}} \times \underline{\text{Relationship}} \times \underline{\text{Adaptation}} = \underline{\text{Flourishing}} \underline{\text{Transformation}}$$

Most students responded well to this structured and specialized intervention. After training, some of them learned to type and communicate using Jyutping, a Cantonese input method. This enabled teachers and caregivers to learn more about their feelings, and provide them with the support they needed. As their needs were better understood, their behaviour problems and anxiety also appeared to have decreased.

Core Vocabulary

Core Vocabulary is an intervention in which high frequency, reusable and generic words were taught to individuals with speech disorder. These words range from those that address basic needs to those that enable reciprocal communication. Our school utilized the Aided Language Input to teach Core Vocabulary, in which the words on the AAC were linked to their verbal counterparts.

The current study

The current study employed an action research approach to inform the development of a school-based intervention program to enhance the communication abilities of minimally verbal students with ASD.

This study aimed to explore the effectiveness of the integrated CRAFT approach and share the successful experiences and difficulties teachers encountered in the implementation process. Through this intervention program, it was hoped that these students learn how to communicate and express their feelings and needs systematically.

Participants

Six minimally verbal students with ASD (aged 10-16) and diagnosed with Severe Intellectual Disability participated in the study. All of them received 7-day residential care in our school. All school staff, including teachers, hostel staff and specialists, were involved in delivering the intervention program.

The intervention program

A Whole-School Approach with a Three-Tier Support Model under the framework of CRAFT was adopted to deliver this program.

Tier 1: Universal level

Training on AAC, Assistive Technology, and Core Vocabulary was provided by a speech pathologist from Australia. Our speech therapist and teachers then developed a list of forty-one frequently used words based on the needs of our students. Our educational psychologist also provided training on CRAFT.

The Core Vocabulary was displayed in different areas of the school building, including the courtyard, dining hall and classrooms to encourage communication between the staff and students.

Tier 2: Selective level

The school incorporated morning exercise routine into the timetable to improve concentration. To increase the participants' motivation to communicate, they were encouraged to use the Core Vocabulary to express their feelings in their diaries during home room period.

Tier 3: Indicated level

Each participant was given their own set of Core Vocabulary according to their ability. Four students had all the words printed on a piece of A4 paper, one student used an enlarged version, in which the words were printed in groups of four on each page. The last one focused on eight words printed on two pages.

An individualized learning schedule and counselling lessons were developed for each participant during school time. A “Shall We Talk” program was introduced in the hostel, in which each participant was matched with a hostel staff and they would communicate regularly using the Core Vocabulary. The Core Vocabulary was also used during Bedside Stories to enhance their communication skills.

Results

Data was collected through various methods, including over 300 observations, meetings, interviews, and the participants’ communication abilities were assessed by the Communication Matrix (Rowland, 1990) by the speech therapist.

Both qualitative and quantitative data was collected before and after the intervention program. The effectiveness of the intervention program was assessed under three domains: Communication Abilities, Emotional Performance, and Interpersonal Relationships.

Results revealed that the participants benefitted from the intervention program. At the end of the study, the participants demonstrated an average of 36% increase in Communication Abilities. Their performance on emotional control improved, and their positive emotions had an increase of 148.2% on average, while their negative feelings decreased by an average of 28.1%.

All the participants were matched with a teacher and a hostel staff during the program. Relationship was fostered through various activities such as individual counselling sessions, home room periods, Shall We Talk, Bedside Stories and Big Mouth Camp. From the records, it was found that the participants were able to express more in-depth thoughts and feelings with the Core Vocabulary once they trusted the adults. The participants also expressed that the reason behind low motivation to communicate was sometimes due to being worried that they might be criticized or scolded by the adults. Hence, they chose to be unresponsive at times.

Conclusion

The school adopted the Whole-School Approach with a Three-Tier Support Model to deliver the integrated CRAFT intervention program to minimally verbal students with ASD. The program appeared to be an effective way in enhancing the communication skills of these students. Their emotional regulation skills seemed to have improved and more positive emotions were reported. The program was also an excellent way for teachers and their caregivers to build rapport with these students.

References:

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