

Video Modelling Module in Improving Self-Help Skills of Children with Autism Spectrum Disorder

Nor Syafiqah Noor Suhaimi^{1*}, Ahmad Zamir Che Daud², Mohamad Qayum Mohamad Sabri³, Saheer Al-Sabbah⁴

¹ Fakulti Sains Kesihatan, UiTM Puncak Alam, Malaysia

² Centre for Occupational Therapy Studies, Faculty of Health Sciences, Universiti Teknologi MARA, Malaysia

³ Special Population Research, Innovation and Knowledge (SPARK), Faculty of Health Sciences, Universiti Teknologi MARA, Malaysia

⁴ Department of Psychology, Fatima College of Health Sciences, Abu Dhabi City, UAE

Email of All Authors: syafiqah5498@gmail.com, zamir5853@uitm.edu.my, qayumsabri@gmail.com, saher.alsabbah@fchs.ac.ae
Tel: +60137659056

Abstract

This study aims to validate a video modelling module for children with Autism Spectrum Disorder (ASD) in Malaysia to improve their self-help skills. The printed module was developed using video modelling techniques to teach these skills successfully. A focus group discussion (FGD) was conducted to gather expert opinions on the module's content and structures. The results were analysed through content analysis, revealing that the module achieved its objectives with minimal improvements needed before the validation. The module can be widely used to improve self-help skills among children with ASD in Malaysia. The study's findings will be used to enhance the module further.

Keywords: Autism Spectrum Disorder; Self-Help Skills; Video Modelling; Validation

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1.0 Introduction

1.1 Background of The Study

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterised by impairments in social interaction, communication, and repetitive behaviour. The prevalence of classic ASD in the US is around 1%, with boys being more prevalent. The number of school-aged ASD students has increased significantly, from over 54,000 in 1998 to almost 260,000 in 2007 (Al-Batayneh et al., 2020). However, only 4% of all students receiving special education services are identified with ASD (Al-Batayneh et al., 2020). This high prevalence of ASD presents daily challenges for families with a family member with the disorder, as they face daily obstacles. (Kellems & Morningstar, 2012).

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Parents of children with ASD and other developmental disabilities worry about their children's safety, productivity, and independence. Proper hygiene behaviours are challenging for these individuals, requiring regular instructions and caregiver involvement. Many children with ASD rely on their parents or caregivers for daily tasks, which can lead to a decrease in self-worth and difficulty in self-care. (Aldi et al., 2016).

Self-help is crucial to independent living and survival in a social world. It involves essential skills like self-feeding, bathing, dressing, and personal hygiene. Video Modelling (VM) is an intervention that helps children with ASD develop self-help skills by imitating themselves, peers, or adults through video. VM is effective because autistic children respond better to visual rather than verbal instructions alone. There are four types of VM: basic, self-modelling, point of view, and prompting. (Aldi et al., 2016)

1.2 Problem Statement

To date, there are still not many studies that have focused on the module of video modelling to improve self-help skills among children with ASD, although it is widely recognised as an effective intervention. Most of the published research was concerned much more about other issues, such as the symptoms of ASD, and not the intervention on self-help skills issues. Recently, a module of video modelling on self-help skills was developed in the local context. This module was developed in the study by Che Daud et al. (2021). The Module focuses on helping children with ASD with self-help skills using video modelling techniques. The module has been developed in the local context, in which it was created in Malay, and the equipment and tools used in the module of video modelling for self-help skills are very familiar to Malaysia's concept. However, the module has not yet been validated and reviewed by the experts.

The validation process is crucial for delivering acceptable modules for users. Using rigorous development procedures, researchers must provide extensive information about a new scale's reliability and validity. Content validity is also important for forming judgments about the scale's quality. The methodological literature agrees that content validity is a matter of judgment, with two phases: a priori efforts by the scale developer to improve validity and posterior efforts by experts to evaluate the scale's content relevance.

1.3 Research Aims and Objectives of The Study

This study aimed to validate a video module to enhance self-help skills among children with ASD in Malaysia through a focus group discussion by experts. By validating this module, it can be broadly utilised locally to improve self-help skills among children with ASD. Subsequently, it will further enhance the developed module. This will give us a better understanding of the module on video modelling and the self-help skills problem faced by children with ASD. Additionally, the study aimed to explore and get experts' opinions on the components and structure of the video modelling module before the face and content validity will be performed.

2.0 Literature Review

2.1 Self-Help Skills Problem Among Autism Spectrum Disorder

Self-help skills involve developing oneself independently, such as toileting, brushing, bathing, dressing, and eating. These skills lead to eventual independence, making tasks more manageable for children as they grow older. Children with ASD often struggle with daily tasks and develop distinct skill patterns (Kramer et al., 2015). Parents prioritise developing independent living skills, as many children struggle to meet their basic needs, hindering their integration into post-school settings and causing dependency (Hendricks & Wehman, 2009). To live independently, children with ASD need extensive training in daily living and personal care skills, improving their ability to function independently and determining future help requirements (Kramer et al., 2015).

Moreover, some studies proved children with ASD have a lot of self-help skills issues. Ahmed et al. (2021) found that in the toileting task of 60 children with ASD, 17 were dependent, 29 needed help, and only 14 were independent. Next, feeding issues have been found to affect up to 25% of typically developing children. Ahmed et al., (2021) found that among 60 children with ASD, in the case of dressing 17 children were dependent, 28 children needed help in dressing and only 15 were independent in dressing. Meanwhile, in terms of grooming, 35 of the children with ASD required assistance, and only 25 were independent in grooming (Ahmed et al., 2021).

2.2 Video Modelling (VM)

Video modelling (VM) is a popular method for teaching targeted skills to children with ASD. It utilises visual processing (Bellini & Akullian, 2007) and interest in watching videos, thus increasing participation. Video editing helps control irrelevant inputs and correct over-selection. VM is cost-effective as it provides repeated practice opportunities without physically present modelling. Common approaches include video self-modelling (VSM), video prompting (VP), and point-of-view video modelling (PVM). These methods have gained popularity in recent years for effective skills instruction. Video modelling is an excellent technique to teach, change, and enhance a variety of behaviours (Kellems & Morningstar, 2012). This has been proved in research by Bellini & Akullian (2007), have conducted a

meta-analysis of 23 studies that used video modelling or video self-modelling (VSM) with individuals diagnosed with ASD and discovered that both procedures were effective in developing skill acquisition in individuals and that the effects lasted over time. As a result of earlier studies, video modelling appears to be a highly effective solution for several challenging behaviours (Bellini & Akullian, 2007).

2.2 The Module of Video Modelling

The VM Module aims to guide users in creating video modelling for children with ASD. A study by Ismail, F. S., & Jiar (2018) found that using the module increased social engagement among children with ASD. Special education teachers can also use it to promote social and interaction skills. Recently, Che Daud et al. (2021) developed a video modelling module for self-help skills in a local context. The module aims to enhance motivation and engagement in promoting self-help skills contact among children with ASD and is supported by previous research.

2.3 The Module of Video Modelling to Improve Self-help Skills.

A study by Che Daud et al. (2021) developed a video modelling module for self-help skills in Malay, as shown in Figure 1. The module uses layman's language for effective communication and is realistic for the parents. It uses culturally appropriate examples, appealing visuals, and eye-catching design to improve self-help skills, making it easier for potential users to understand and apply.

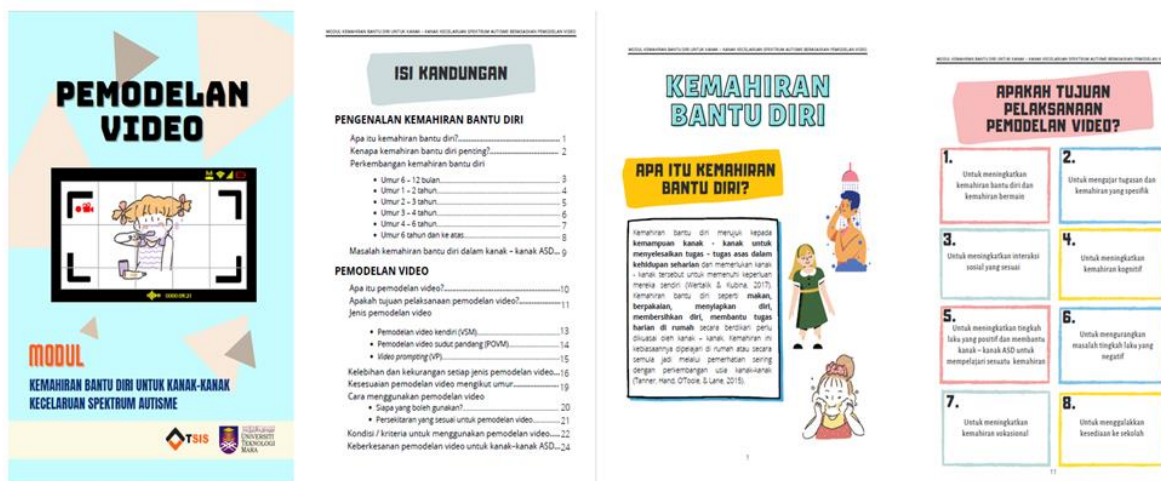


Fig 1: The module of video modelling to improve self-help skills among children with ASD.

The module, created by Che Daud et al., (2021), is designed to be easily understood and useful for occupational therapists, parents, and school teachers, incorporating the local context of Malaysian culture, such as equity and self-help skills, for effective learning. The video modelling implementation procedure, including basic, self-modelling, point-of-view modelling, and video prompting, is similar for all strategies. However, the module focuses on video prompting for children with ASD to practice and receive feedback. (why focus on VP-provide rationale and reson with citation. The module outlines ten steps for developing video modelling of self-help skills for children with ASD. It begins with identifying target skills, preparing necessary equipment, creating a recording plan, obtaining baseline data, producing the video, setting the viewing environment and time, watching the video, gathering task completion data, troubleshooting, and implementing a reduction strategy for showing the video and assistance given (Che Daud et al., 2021). The module aims to enhance user comprehension and develop video modelling skills for ASD children using 15 self-help tasks in a Malaysian culture setting but has not been reviewed by the expert. Thus, this study aims to get the experts' feedback about the module.

3.0 Methodology

3.1 Focus Group Discussion of Video Modelling Module

The study utilised Focus Group Discussions (FGD) to gather opinions, ideas, perceptions, and concerns about the video modelling module's content, layout, and design. FGD panels were expert panels with prior experience working with ASD children, typically consisting of 9 people (Hennink & Leavy 2014). The discussions were held for 90 minutes, with a demographic questionnaire and semi-structured FGD guide prepared to gather more suggestions and feedback. The aim was to improve the video modelling module's content, design, and format for children with ASD to enhance their self-help skills.

3.2 Sample and Sampling Procedure FGD

The development and design of this module were based on the findings of the previous study by Che Daud et al. (2021). Eight expert panels were invited to a focus group discussion on module improvement. The expert group consists of professionals who typically treat and manage children with ASD, such as occupational therapists, clinical psychologists and special education teachers.

This study recruited the participants using purposeful sampling, and the first and second authors facilitated the FGD. The demographic questionnaire and FGD question guide were also used. Most of the questions were open-ended to enable FGD to contribute more suggestions about the video modelling module's content, design, and format to help children with ASD improve their self-help.

3.3 Instruments FGD

The instruments for this study consisted of a demographic questionnaire and a focus group discussion guide. The expert panels have to fill out the demographic questionnaire on their age, gender, professional background, current workplace, the highest level of education, years of experience working with ASD children, and history of handling autistic children with poor self-help skills. A demographic questionnaire was created to gather data about the expert panels. A semi-structured FGD guide was developed to achieve the objective of the study. The majority of the questions were left open-ended to allow FGD to provide additional comments concerning the content, design, and style of the video modelling module, which is intended to aid children with ASD in improving their self-care.

3.3 Data Collection Procedure FGD

The process involved four stages: obtaining ethical approval from the UiTM ethics committee, screening participants' eligibility, obtaining informed consent and incorporating expert panels. Eight panels were selected based on inclusion criteria, aiming for broad consensus. The first version module of the video modelling and a set of questionnaires, including the demographic questionnaire, was delivered to expert panels. The data collection process for FGD was done in groups using online Google Meet platform. The discussion is an essential component of this FGD method; it is focused on a particular topic or a limited number of related issues, which are manageable within the time frame, which was 90 min. A moderator started the focus group discussion with pre-specified topics and open-ended questions used to stimulate discussion, encourage interaction, and prompt the panel. The note-taker recorded the conversation and any important points, issues, and summary opinions in FGD. The FGD was audio-recorded and transcribed verbatim before the analysis. Figure 2 shows the flowchart of Data collection FGD.

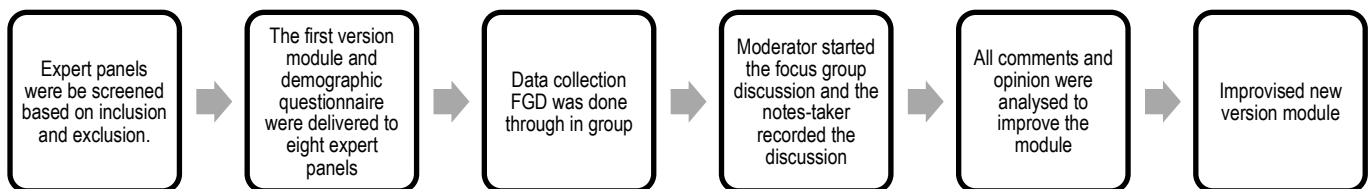


Fig 2: Shown the flowchart of Data collection FGD

3.3 Data Analysis FGD

Focus group discussions (FGD) were conducted using an interview guideline to ensure the objectives of the debate were met. A panel of experts evaluated the first version of the module before the FGD. The comments and feedback provided during the FGD on the video modelling module were recorded and analysed using content analysis for module improvements. Content analysis aims to describe the characteristics of the document's content by evaluating who says what, to whom, and with what effect. The moderator led the discussion, while the note-taker recorded the FGD and transcribed it verbatim into a transcript. Data from FGD was organised by open coding and forming categories, and the analysis process was reported through models, conceptual systems, maps, and a storyline. After considering FGD data, the new version of the module was produced.

4.0 Findings

4.1 Demographic and FGD

Nine multidisciplinary experts, aged 33 to 49 years. They are all Malay; one is male, and the other eight are female. The experts' Professional backgrounds and high education levels were considered when organizing the focus groups. All of the experts included in the study have more than eight years of experience handling children with ASD. The demographic characteristics of the expert panel are summarized in Figure 3.

	Gender	Age	Professional	Years experiences	Highest level education
Expert 1	Female	33	Occupational Therapist	8	Master
Expert 2	Female	36	Occupational Therapist	12	PHD
Expert 3	Female	33	Occupational Therapist	8	Master
Expert 4	Female	49	Occupational Therapist	More than 20	PHD
Expert 5	Female	35	Occupational Therapist	12	Master
Expert 6	Female	45	Special education teacher	13	Degree
Expert 7	Female	33	Occupational Therapist	9	Degree
Expert 8	Female	36	Coordinator 3PK in Sarawak	8	Degree
Expert 9	Male	36	Occupational Therapist	14	Diploma

Fig 3: Shown the demographic characteristics of the expert panel in summary

4.2 Result FGD

The findings from the FGDs indicated that the module achieved its objectives, with only minimal improvements needed before the validation process. The FGD expert panels have made some comments and suggestions regarding the module's design. The three main themes identified were (i) organisation, (ii) layout and typography, and (iii) content and language.

(i) Organisation

The module's organization is the initial theme. This theme goes into greater detail on the module's organizational content. Every expert has reviewed the module and offered feedback. One expert suggested using straightforward phrases on a single page to avoid using a lot of hard-to-understand wording.

On Page 28, the "right tool" in the sentence is difficult to understand (Expert 5)

The experts point up the fact that the users typically prefer shorter paragraphs, which encourages them to read more. Next, all of the experts agree and propose organizing the material in short and clear words which will help users understand and be interested in reading.

It's challenging to understand the meaning of the phrase "can use the toilet" in the given sentences on page 5. (Expert 3).

Moreover, one of the experts suggested that lists with bullets are easier to remember and comprehend than paragraphs.

Page 91, It would be helpful to reduce the use of "word monitoring data or performance data" to a simple, easily understood term. A list of bullets helps comprehension more compared to long paragraphs. (Expert 7)

The majority of experts agreed that simple written materials are preferable than complex ones. Every expert expressed their concerns. To improve user comprehension of the module, the content must be arranged in a straightforward and engaging manner.

The statement "discovering the recording" on page 28 is unclear and out of place in the sentence structure. It is advised to simplify sentences to straightforward and clear information. (Expert 5)

(ii) Layout and typography

The second theme is the layout and typography of the module. The experts highlighted that the text's structure, layout, and typography impacted the users' understanding. User comprehension can be facilitated by carefully planning the font size and layout of the materials.

Only one of the experts has voiced out concern that text and image attachments should be clearer and more concise in sentences. A material image's font size and layout can be carefully planned to enhance user comprehension.

In the video modeling phase of the self-help skills task analysis, the picture attachment recommends a more precise and concise explanation based on each image. (Expert 5)

In this theme has not much comment for improvement, the majority of the experts concluded that the module's font choice and layout are excellent.

(iii) *Content and language.*

The language and content of the module are the third theme. The module was developed in layman's Malay to make it more convenient to use. Two experts pointed out that the module needs to be corrected for a few minor spelling and grammar issues.

There are minor Spelling mistakes on page 7: "plate" (Expert 5)

"Expert therapist" is spelled incorrectly on page 20. (Expert 3)

Aside from that, the module's development in the original Malay language is the reason for its robust user interaction. The writing in the module should be straightforward and written at the lowest reading level needed to accurately convey the content. It was recommended by all experts that the content should not be too long for one page. In order to make the content easier to read and comprehend, shorter lines were encouraged.

The sentence on page 91, "collecting behavioural performance data" is too long.(Expert 3)

From the discussions, all experts agree that the module has good content and achieved its objective. The objectives of the materials were clearly stated as users can learn more with the module.

5.0 Discussion

This study aims to explore and get experts' opinions on the components and structure of the video modelling module from the experts and to validate a video modelling module to improve the self-help abilities of Malaysian children with ASD. Once this module has been validated, children with ASD can use it broadly locally to develop their self-help skills. It will therefore improve the developed module even more. The ability to help or grow oneself without relying on others is known as self-help. This learning skill enables children to become independent by encouraging them to learn to do things on their own in a simple manner that is appropriate to their capabilities. Self-help is one of the skills that children must master to achieve their goal of becoming self-sufficient and responsible individuals (Umam et al., 2019). To strengthen the self-help skills of children with ASD, the goal of this study is to investigate and gather expert comments on the components and structure of the video modeling module. It also aims to assess the face and content validity of the module. Nowadays, video-based instruction is becoming more popular. Video modelling is a teaching method in which a person watches a filmed example of a model executing a predefined activity or task (Wertalik & Kubina, 2017). Validation of this module will assist the user in comprehending the video modeling module and the issue with self-help skills that children with ASD experience.

All experts have responded and cooperated well in FGD. All of the comments made during the video modeling module FGD were compiled and documented. All of the comments were examined and content analysis was used as a research approach to assess module improvements. By analyzing who says what, to whom, and how, the content analysis seeks to characterize the qualities of the document's content (Vaismoradi et al., 2013). The process of content analysis involves choosing the unit of analysis, delving into the data to get a feel of it all, and determining whether to analyze manifest or latent content. Three themes were identified based on the FGD findings.

The organization of the module is the first theme. The findings of the study revealed that the majority of expert panel responses and suggestions are aimed at ensuring that content is arranged in a way that is more structured, clear, and understandable. The module's content is appropriate to be simplified into more comprehensible terms so that teachers and parents can more easily understand the application of video modeling. The module's content gets more approachable. The purpose of the VM Module's development is to help and direct prospective users in acquiring information and comprehension about how to make video modeling and apply it to children with ASD. This is supported by a previous study conducted by Ismail, F. S., & Jiar (2018), which has proven the effectiveness of a video modeling module facilitated social interactions in children with ASD. To communicate effectively with readers, layman's language was used in the module. The module used realistic and culturally appropriate examples, as well as appealing visuals and eye-catching design and colour. The module's typography and layout represent the second theme. The experts emphasized that the typography, layout, and organization of the material affected how well users comprehended it. The layout and font size of the materials can be carefully designed to improve user comprehension. The majority of experts concluded that the font selection and layout of the module are excellent. Lastly, the third theme is the module's language and content. To make it easier to use, the module was created in common Malay. Two of the experts noted that there are a few small spelling and grammar errors in the module, which need to be fixed before validation.

6.0 Conclusion and Recommendations

The module was developed specifically to help improve self-help skills among children with ASD, with the intervention of Video Modelling. The module was developed in the local context and layman language of Malay to help users understand the module content. The findings from the FGDs indicated that the module achieved its objectives, with only minimal improvements needed before further validation process. To ensure the module is suitable for use locally, particularly with children with ASD in Malaysia, it must be validated

with robust content and face validity. This will give us a better understanding of the module on video modelling and the self-help skills problem faced by children with ASD in Malaysia. The content of the module has the potential to be incorporated into special education school guidelines to benefit more user implement to children with ASD who have poor self-help skills.

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Paper Contribution to Related Field of Study

None

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