

Kertas Asli/Original Articles

**Video Modelling to Improve Hand Dexterity in Students with Learning Disabilities:
Special Education Teachers' Perspectives**

(Permodelan Video Bagi Meningkatkan Kecekatan Tangan Murid Dengan Masalah Pembelajaran:
Persepsi Guru Pendidikan Khas)

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ABSTRACT

Proficient hand dexterity (HD) may help students with learning disabilities (LDs) perform various hand tasks efficiently. Video modelling (VM) is a strategy that uses a model to improve desired skills. However, the limited study focuses on VM to improve HD among students with LDs. Therefore, this study explores VM implementation in the learning and teaching process to improve the HD of students with LDs. Five Special Education (SE) teachers who taught the Hand Manipulative Component lessons in two different states were purposefully selected and invited to participate in this study. A one-to-one interview was conducted with individual SE teachers. The interview sessions were audio-recorded and transcribed verbatim, and the data was analysed through thematic analysis. Rigorous approaches were performed to ensure the findings' trustworthiness, such as triangulation, member checking, and an audit trail. Four key themes emerged: conventional learning and teaching methods, challenges faced by students with LDs in improving HD, and the advantages of implementing VM in learning and teaching to improve HD and develop a video module. This study suggests SE teachers can implement VM in their learning and teaching processes to improve the HD performance of students with LDs. This current study concludes that VM can be a supportive strategy in the teaching process to improve HD performance among students with LDs.

Keywords: Hand dexterity; students with learning disabilities; video modelling; special education teachers

ABSTRAK

Mahir dalam kecekatan tangan (KT) boleh membantu murid dengan masalah pembelajaran (MP) melaksanakan pelbagai tugas tangan dengan cekap. Permodelan video (PV) adalah satu strategi yang menggunakan model untuk meningkatkan kemahiran yang diinginkan. Walaubagaimanapun, kajian kurang memberi tumpuan kepada PV untuk meningkatkan KT dalam kalangan murid dengan MP. Oleh itu, kajian ini menerokai pelaksanaan PV dalam proses pengajaran dan pembelajaran untuk meningkatkan KT dalam kalangan murid dengan MP. Lima orang Guru Pendidikan Khas (GPK) yang mengajar pelajaran Komponen Kemahiran Manipulatif di dua negeri yang berbeza dipilih secara bertujuan dan dijemput untuk mengambil bahagian dalam kajian ini. Temu bual satu-kepada-satu telah dijalankan dengan GPK. Sesi temu bual dirakam secara audio dan ditranskripsi secara verbatim, dan data dianalisis melalui analisis tematik. Pendekatan rapi telah dijalankan untuk memastikan kebolehpercayaan hasil kajian, seperti triangulasi, semakan ahli dan jejak audit. Empat tema utama muncul: kaedah pengajaran dan pembelajaran konvensional, cabaran yang dihadapi oleh murid dengan MP dalam meningkatkan KT, kelebihan melaksanakan PV dalam pengajaran dan pembelajaran untuk meningkatkan KT dan membangunkan modul video. Kajian ini mencadangkan GPK boleh melaksanakan PV dalam proses pengajaran dan pembelajaran mereka untuk meningkatkan prestasi KT bagi murid dengan MP. Kajian ini merumuskan bahawa PV boleh menjadi satu strategi sokongan dalam proses pengajaran dan pembelajaran untuk meningkatkan prestasi KT dalam kalangan murid dengan MP.

Kata kunci: Kecekatan tangan; murid dengan masalah pembelajaran; permodelan video; guru pendidikan khas

INTRODUCTION

Learning disabilities (LDs) or specific learning disabilities are neurodevelopmental disorders with a biological origin that is the basis for abnormalities at a cognitive level associated with the behavioural signs of the disorder. The biological origin includes an interaction of genetic, epigenetic, and environmental factors, which affect the brain's ability to perceive or process verbal or nonverbal information efficiently and accurately (DSM-5 2013, p. 68). One essential feature of LDs is persistent difficulties that may affect learning and using academic skills, such as reading, written expression, and mathematics (DSM-5 2013). Under DSM-5 (2013), the classification of disorders was designed and facilitate more reliable diagnoses. Hence, it becomes a standard reference used to serve as a practical, functional and useful guide for clinical practice in the mental health field.

In Malaysia, the category of LDs includes global delay development, down's syndrome, intellectual disabilities, autism spectrum disorder, attention deficit hyperactive disorder, and specific learning disabilities such as dyslexia, dyscalculia, and dysgraphia (Jabatan Kebajikan Masyarakat Malaysia 2020). Jabatan Kebajikan Masyarakat Malaysia provides these categories as a guideline for registering people with disabilities. Following this, the registration provides information about an education placement for students with LDs in the Malaysian Education System (Kementerian Pendidikan Malaysia 2015). Regarding Special Education of Malaysia, it is reported that the total enrolment of students with LDs in Special Education is 23,185 (Bahagian Pendidikan Khas 2016).

The Special Education Secondary School Standard Curriculum for students with LDs in the Special Education Integration Program was implemented in 2017. Under this program, there are two components in the core subject (Life Management) that Special Education Department has provided for students with low function LDs. One of the components is the Manipulative Skills Component (Kementerian Pendidikan Malaysia 2016). The formal learning in the Manipulative Skills Component includes fine motor activities such as grasp and open hands, clasp hand, squeeze, grip, pinch, crumpled, tear up, and others. Such learning will guide Special Education (SE) teachers to teach students with LDs (Kementerian Pendidikan Malaysia 2019).

Regarding hand dexterity (HD), manipulative skills are significant to dexterity (Şahin et al. 2016). HD is the ability to coordinate the fingers and manipulate objects through fine motor movements in a timely manner (Wang et al. 2011 & 2015). The development of HD gradually refined across development and occurs over time, such as other development in the whole body (Gaul & Issartel

2016). Following the developmental milestones, HD begins with gross motor movements and progressing to fine motor movements. Children progress in gross motor movement during preschool age, and the movement becomes more complex and controlled. A typical HD development enables a child to develop upper-body mobility and improve speed and accuracy (Czajka et al. 2018). HD refinement in primary school continues and stabilises across adolescence age (Fuelscher et al. 2021). HD is required across development to perform a range of daily activities (e.g., eating, bathing, and tying shoelaces), work, play, leisure and academic (e.g., handwriting) (Fuelscher et al. 2021; Ibrahim et al. 2019; Omar et al. 2018; Vascelli et al. 2020). Multiple tasks perform accurately if an individual has a reasonable degree of HD to control their hand tasks efficiently. However, having experience of limitation in HD may contribute to difficulty performing activities of daily living and school performance (McGlashan et al. 2017; Tremblay et al. 2017).

Specifically, at school, HD problems are immensely considered because 60% of school tasks involve fine motor activities and HD. HD requires students with LDs to perform school activities, and HD can be the most effective means of communication to complete the tasks given (Omar et al. 2018). However, studies have shown that students with LDs exhibit problems in HD that may affect school performance, for instance, handwriting (Havaei et al. 2016), speech (Obeid & Brooks 2018), social skills (Ohara et al. 2019), and numerical skills (Fischer et al. 2018). A further study by Ibrahim et al. (2019) has reported that more than half (54.7%) of students with LDs have shown difficulty in HD. Understanding that HD may affect a variety of school performance skills, the study has suggested a highly recommended strategy to improve HD performance among students with LDs (Ibrahim et al. 2019).

Video modelling (VM) is a video-based intervention widely used for individuals with diverse disabilities, including students with LDs (Kellems & Edwards 2016). VM involves viewing a video that demonstrates a targeted behaviour that allows the opportunity to imitate the behaviour (Bellini & Akullian 2007). Bandura's Social Learning Theory (1971) introduced modelling that new behaviour patterns can learn through direct experience by observing others' behaviour. The empirical research supports VM as an effective learning strategy to teach a range of skills. It shares a socially acceptable goal to improve the acquisition of desired skills (Aldi et al. 2016; Waldman-Levi et al. 2019). The effectiveness of VM has further research on academic skills (Yakubova et al. 2020), play (Kim 2016), social communication (Acar et al. 2016; Qi et al. 2018), vocational (Rosen et al. 2017), employment (Bross et al. 2019), activities of daily living (Aldi et al. 2016) and behavioural skill (Haydon et al. 2016).

In literature, VM is recommended for students with LDs because visual strengths make this strategy preferred in the learning process (Kellems et al. 2020). There are a few other benefits of VM for students with LDs: 1) VM gives students with LDs opportunities to watch, imitate, and practice the tasks many times, 2) VM allows students with LDs to practice at their own pace, 3) students with LDs who have problems following instruction can receive instruction directly from VM, eliminating extra stimuli so that they can be engaged on relevant stimuli, 4) able to focus on core aspects of instruction with visual cues, and 5) flexible to practice VM in a variety of settings (Hughes & Yakubova 2016; Kellems et al. 2020; Kellems & Edwards 2016; Seaman & Cannella-Malone 2016; Yakubova et al. 2019).

VM can be utilised in various settings, including therapy clinic, school, home, vocational training, workplace, and community settings (Bross et al. 2018; English et al. 2017; Golisz et al. 2018; Hillman 2019; Kellems & Edwards 2016; Regan & Howe 2017; Wilkes-Gillan et al. 2017). Particularly at school, SE teachers may use VM to address students with LDs' needs (Wynkoop et al. 2019). However, at schools, the focus of VM implementation is more on teaching academic subjects (Kellems et al. 2020; Kim et al. 2016; Satsangi et al. 2019; Yakubova et al. 2019). Given the limited research focused on HD for students with LDs at school, the purpose of this current study is to explore the implementation of VM in the learning and teaching process to improve the HD of students with LDs at school.

METHOD

This study employed a qualitative research design, in which data was gathered through one-to-one interviews with open-ended questions. This approach had the advantage of measuring current attitudes or practices, enabled researchers to collect data at one point in time, and provide information in a short amount of time (Creswell 2014). For conducting interviews, an interview protocol included five primary questions were provided for this study.

PARTICIPANTS

Purposive sampling techniques were used to recruit five SE teachers from four secondary schools to participate in the study. The five SE teachers were from two different states (Perak and Selangor), and the schools were from the suburban area. Due to the permission gained from the Ministry of Malaysia Education, time, and budget allocation to conduct this study, the SE teachers were

recruited from schools with the Special Education Integration Program, which offered the Hand Manipulation Component lessons for LDs students. After identifying the schools and approval from the Ministry of Education Malaysia, State Education Department, and the District Education Officer, the information and recruitment letters were sent out to particular schools and the Special Education Coordinator. They shared recruiting materials with their suitable SE teachers. Selected SE teachers voluntarily participated in this study, and Figure 1 below shows the demographic data of SE teachers involved in this study.

DATA COLLECTION

The interview was to get an insight into SE teachers' perceptions of VM implementation to improve HD of students with LDs through the lessons of the Manipulation Skills. The first protocol started with the design of open-ended questions. A list of interview questions had given to the other three experts in the research team, and a discussion was made to refine the interview questions. The primary interview questions were: 1) a usual teaching method of by SE teachers in the Manipulation Skills Component for students with LDs, 2) the challenges during the learning and teaching process in the Manipulation Skills Component, 3) SE teachers' opinions on the implementation of VM in the learning and teaching process, 4) SE teachers' opinions on VM implementation to improve HD of students with LDs, and 5) suggestion on the development of the VM module. For question three, the researcher showed an example of a video that illustrated VM on threading beads before proceeding with the related question. The reason for providing the video example was to provide a clear picture of VM, and it was also related to the next questions of numbers four and five.

A trial interview had conducted to get feedback on the clarity of interview questions and to validate the interview protocol before the questions and procedures used in the study. A trial interview can do together with peers or volunteers (McGrath et al. 2019). Therefore, the volunteer occupational therapist helped to become a person in the trial interview. By conducting the trial interview, it furnishes the interview protocol with an opportunity to explore the languages, and clarify the questions, procedure, and style (Howitt 2016). Further, the final version of the interview questions and procedures for collecting data were refined.

Due to having difficulties attending the interview at other places during school time, all the interview sessions were held at individual SE teacher schools during school

time. Before the interview sessions, SE teachers were asked to complete their demographic information and sign the consent form. The data were collected through a semi-structured interview based on the set of questions constructed earlier. The semi-structured interview method is generally organised around predetermined questions, and emerging questions can occur from the interview session between interviewer and participants (Howitt 2016).

During the interview, the first researcher performed as an interviewer, and another person plays the role of a note-taker. The note taker was a volunteer occupational therapist for this study. The interview used the Malay language as a communication medium. Apart from that, the researcher used a slide presentation to brief the interview session. The content of the slide presentation included background and purposes of conducting the study, brief literature on VM, HD, previous studies used VM in a classroom, gaps in the literature, and justification research conducted and proposed of VM module. The interview sessions were audio-recorded, and member checking occurred along the interview session to confirm the information from participants. According to Creswell (2014), member checking can be implemented during the interview process where the researcher can ask participants to check the information's accuracy. Each interview session was audio-recorded and transcribed verbatim to facilitate data analysis. The interview session was dismissed once the researcher reached data saturation from a few last interviews, which had been redundant from terms used in previous interviews (Joffer et al. 2020). For this study, interviews with each SE teacher held at one time, and the average time interviewed for each SE teacher was about 90 minutes. The interview was discontinued after interviewing the fifth SE teacher. It also means that the researcher identified the redundancy of terms from a few last previous interviews with SE teachers.

DATA ANALYSES

The interview data were analysed using thematic analysis (Braun & Clarke 2006). Thematic analysis is essentially a method for identifying and analysing patterns in qualitative data. Six phases of thematic analysis were implemented to develop themes from the qualitative materials (Braun & Clarke 2006; Braun et al. 2019). An inductive approach was applied to search data patterns during the process by obtaining the emergent ideas through the transcript analysis. The thematic narrative builds inductively from a central idea of the topic within its context from the present data and incorporates themes that are elaborated throughout the study (Creswell 2013).

The level of data abstraction started with reviewing and becoming familiar with the participants' completed transcripts to perform the coding process. The meaning of experiences viewing the emergent ideas then shifted to relevant codes. It was 91 relevant codes identified, and after that, the next level of coding allowed for sub-themes. All the relevant codes were grouped accordingly under each sub-themes that have a similar concept of meaning. Later, all the sub-themes broadened to several specific themes. Finally, four key themes were represented, and a written process of this study was conducted.

TRUSTWORTHINESS

A rigorous approach used to establish trustworthiness and produce insightful findings for this study. The trustworthiness criteria (credibility, transferability, dependability, and confirmability) were briefly applied during each thematic analysis phase to establish the rigorous of the findings (Elo et al. 2014; Nowell et al. 2017). First, the researcher triangulated different sources of data collection modes to increase the probability of findings by corroborating evidence data from note-taking, audio-recorded, and transcriptions to familiar them with all aspects of the data. Second, the researcher ensured that the coded items were not redundant and interchangeable to clarify and interpret the data. Each coded items were grouped into its similar meaning from each other. Third, to achieve validity of the data, the researcher determined the themes accurately reflected the whole meaning of the data set, and each theme should be different between them and cohere together meaningfully. The researcher would return to the raw data to ensure the themes were firmly covered. Fourth, the credibility analysis of this study conducted through member checking. Participants were allowed to give their feedback by providing them with the final themes, a feedback form, and transcriptions. Fifth, to ensure the final findings reached in logical, traceable, clearly documented and able to be generalised, the audit trail process was conducted to establish confirmability of the findings. Research team members had revised the final findings before presenting them to an independent auditor who is external to this research. The independent auditor was experienced with qualitative research and chosen based on the availability to involve in this study.

RESULTS

This study analysis led to four emergent themes. Figure 2 was a mapping result of this study, and it showed that a conventional learning and teaching method was still

implemented, specifically in the Manipulative Skills Component for students with LDs. It indicated that SE teachers had identified the challenges faced by students with LDs in improving HD during lessons. However, after showing an example of a video that illustrated hand activities, SE teachers had supported the discussion with the advantages of implementing VM in the learning and

teaching process to improve HD. Furthermore, SE teachers also had recommended developing a video module that could assist in increasing HD performance among students with LD. The four themes were discussed further in each identified theme.

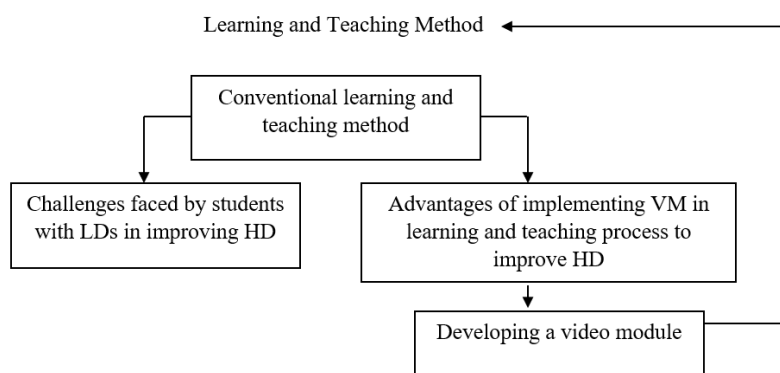


FIGURE 2 Mapping result of the study

CONVENTIONAL LEARNING AND TEACHING METHODS

The Hand Manipulative Skills Component lessons are taught for students with LDs. Therefore, to understand this lesson's learning and teaching process, five participants of SE teachers were interviewed and labeled as participants A, B, C, D, and E.

The first theme derived was conventional learning and

teaching methods. The theme referred to usual methods used by SE teachers in their learning and teaching process. Commonly practised among SE teachers were direct verbal instruction and explanation to perform activities. Although some of them used an appropriate video by searching on social media such as YouTube, this practice was seldom. The theme described with supporting quotes were shown below (Table 1).

TABLE 1 SE teachers' responses by theme and sub-theme of conventional learning and teaching methods

Theme	Sub-themes	SE teachers response
Conventional learning and teaching methods	Conventional methods: Show to students Explain Instruct Tell Not use videos Verbal instruction	Participant A: <i>'In a class, we show to students how to do it..'</i> Participant B: <i>'We explain.. we tell them the outcome of the activities and tell them to do it..'</i> Participant C: <i>'We instruct them to do.. for example, raise your right hand, then they have to do so. It also means that we have to tell them..'</i> Participant D: <i>'I teach fine and gross activities. I will tell them what activities to do..'</i> Participant E: <i>'I don't use any video. I mean.. I only use verbal instruction..'</i>

CHALLENGES FACED BY STUDENTS WITH LDs IN IMPROVING HD

The second theme derived from identifying some challenges which emerged among students with LDs during the learning and teaching process. These challenges may

affect the performance of students with LDs to have reasonable control of HD. Due to these challenges, the school activities are unsuccessful, and HD may be difficult to train. Some sub-themes were identified, such as emotion, behaviour, and fine motor skills, which finally contributed to this theme (Table 2).

Table 2 SE teachers' responses by theme and sub-theme of challenges faced by students with LDs in improving HD

Theme	Sub-themes	SE teachers response
Challenges faced by students with LDs in improving HD	Emotion	Participant B: <i>'Emotion always contributes to students' performances. If they are in a good emotion, they can learn..'</i>
	Emotion affects students' performances	Participant C: <i>'Emotion influences student's performance, it is influencing them..'</i> Participant D: <i>'It's challenging which involves student's emotion.. that's the problem..'</i>
	Behaviour	Participant B: <i>'Students who have behaviour problem is difficult to control and difficult to ask them to do..'</i>
	Difficult to control	Participant D: <i>'Sometimes, we can't control the students. They refuse to learn.. because they have behaviour problem..'</i>
	Refuse to do activities	Participant E: <i>'They yell so loudly. Refuse to do.. do not know why and it disturbs others too..'</i>
	Behaviour problems such as yelling	Participant A: <i>'Students have problems in doing fine tasks. They have problems using their fingers to do hand activities. Also, problem in eye-hand coordination..'</i>
	Fine motor	Participant C: <i>'They can't do.. also in scissoring. Pasting also can't do..'</i>
	Problems in using their fingers	Participant D: <i>'Students have difficulty to do hand activities, especially students who have difficulty understanding the instructions.. so it's hard for us to teach them as well..'</i>
	Problems in eye-hand coordination	
	Unable to perform school activities such as scissoring and pasting	

ADVANTAGES OF IMPLEMENTING VM IN LEARNING AND TEACHING PROCESS TO IMPROVE HD

The results of theme three indicated that SE teachers agreed and highly recommended VM implementation in the learning and teaching process to improve HD performance among students with LDs. After presenting an example of a video that demonstrated hand activities to SE teachers,

they discussed a range of advantages of VM, which they considered VM was a helpful strategy for students with LDs. According to them, VM was a strategy that may help students with LDs to watch the video repeatedly and enable students to imitate the activities demonstrated by the model in the video. Therefore, students with LDs and SE teachers may achieve the same goal for that particular HD activity. Table 3 shows the excerpts that make up this theme.

Table 3 SE teachers' responses by theme and sub-theme of advantages of implementing VM in learning and teaching process to improve HD

Theme	Sub-theme	SE teachers response
Advantages of implementing VM in learning and teaching process to improve HD	Advantages:	Participant A: <i>'Video can help students improve hand dexterity because they see and follow. They see what they have to do visually. In my opinion, if they watch the video, they can do it.. they will try...'</i>
	Improve HD	Participant B: <i>'Video modelling is suitable for students with LDs to learn hand manipulation. They watch the video and will imitate. It is different if we only talk..'</i>
	Learn from visual	Participant C: <i>'Students may confuse with instructions. So, a video can show step by step..and maybe they can follow..'</i>
	It is suitable in learning	Participant D: <i>'In my opinion, I agree. Teachers can repeat the video many times. We show to students and they will do..'</i>
	Watch the video	Participant E: <i>'I agreed. I prefer to show a video. It may help them to understand more. It will clear what to deliver to our students and understand what teachers wanted them to do and imitate the behaviour..'</i>
	Can repeat many times	
	Learn quickly	
	Show step by step	
	Achieve the same goal	
	Imitate the particular behaviour	
It is good to teach using video		
Video make students more understand		

DEVELOPING A VIDEO MODULE

For the final theme, the participants were provided with a question on suggestions of module development using VM. Across participants, they expressed their agreement on the

module development, which the module may assist students with LDs, and the SE teachers in the learning and teaching process. The excerpts that make up this theme are presented in Table 4.

Table 4 SE teachers' responses by theme and sub-theme of developing a video module

Theme	Sub-theme	SE teachers response
Developing a video module	Improve motor skills	Participant A: <i>'I think it is good if we have a module to teach manipulative skills for students with LDs... I hope the module can develop to improve motor skills ... and improving HD'</i> Participant B: <i>'I hope that a module can develop...'</i> Participant C: <i>'I think it is suitable if we have a module...'</i> Participant D: <i>'I absolutely agreed to have a video. Teachers can repeat teaching using the video and students will imitate do it..'</i> Participant E: <i>'students learn a new thing... not just like chalk and talk... I hope the module can improve my students' skills..'</i>
	Module can develop	
	It is good of having a video module	
	Not like chalk and talk	
	The module improves students' skills	

DISCUSSION

This study aimed to explore VM implementation in the learning and teaching process to improve the HD of students with LDs. Based on the first theme, SE teachers commonly use a range of conventional learning and teaching methods. Activities in the textbook and learning guides become more attention to teach in the learning and teaching process (Liu 2014). Although SE teachers searched a video on YouTube related to the activities this method is seldom used. Learning with verbal explanation or instruction became the primary learning and teaching option. This theme yielded findings that SE teachers must be equipped with the knowledge and skills to address the unique range of support needed for students with LDs. The practices using conventional learning and teaching methods need to ensure that the students with LDs receive appropriate support based on their characteristics and desirable outcome. In literature, VM encourages the learning and teaching process for students with LDs (Qahmash 2018). VM provides visual learning that gives relevant information, excludes unnecessary information, systematic and sequential (Yakubova et al. 2020). As a result, VM interventions focus only on desired skills and promote the process of better imitation (Richard & Noell 2019). Therefore, SE teachers could consider VM implementation in their students' learning and teaching process for their students with LDs to improve HD.

The identified challenges in the second theme may affect students' performances to obtain a good HD. These challenges may be related to students' participation in the learning and teaching process. Due to this, SE teachers may need to consider a strategy that assists students with LDs to engage in the activities given. The unique consideration of students' needs may help develop appropriate educational content and improve the learning and teaching methods (Ruppar et al. 2018). Moreover, it will be a considerable loss if students with LDs refuse to perform the given hand activities in the classroom. Such activities

may support students with LDs to improve their HD performance. A previous study has stated that HD is essential because 60% of school activities involved fine motor skills and HD (Omar et al. 2018). Furthermore, at school, the ability to perform HD is closely related to other skills such as handwriting (Havaei et al. 2016), social skills (Ohara et al. 2019), speech (Obeid & Brooks 2018), and numerical skills (Fischer et al. 2018). Therefore, regarding the challenges and contribution problems due to lack of HD, it seems crucial to develop other strategies for students with LDs. Research has also supported that understanding the importance of HD, a strategy to improve HD performance is highly recommended among students with LDs (Ibrahim et al. 2019). As such, VM implementation are suggested strategies in learning and teaching process for students with LDs.

Following the responses to an example of a video that illustrated VM implementation in the learning and teaching process, the third theme demonstrated several noteworthy aspects of VM's advantages. VM allows students with LDs to access a new learning concept that uses models presented in a video format. As the video can be presented on desired skills such as HD and trained repeatedly, it can give students with LDs opportunities to practice many times until they achieve and improve HD. Here, students with LDs take charge of the learning activities. Meanwhile, SE teachers can guide them to complete the task successfully. Thus, the outcome of activities may achieve by both SE teachers and students with LDs.

Furthermore, it showed that SE teachers perceived VM as a supportive strategy in educating students with LDs. Findings were also consistent with the literature that VM is expanding in learning strategy, and SE teachers may consider VM for students with LDs (Obrusnikova & Cavalier 2017; Satsangi et al. 2019; Wynkoop et al. 2019). Besides, research has found that the outcome of VM intervention to achieve desired skills improved among students with LDs (Campbell et al. 2015; Kent et al. 2018; Parsons et al. 2019; Waldman-Levi et al. 2019). Therefore, VM is a strategy that should consider.

IMPLICATIONS

The findings have reported that VM can be a suggested learning strategy for students with LDs. The implication of this current study may suggest that SE teachers implement VM in learning and teaching processes to improve the HD performance of students with LDs. VM is suitable to teach students with LDs based on the syllabus currently provided for them at the Special Education Integration Program. It provides systematic strategies by practising using a video (Brock et al. 2018). Besides that, most school tasks require fine motor and HD skills (Omar et al. 2018). With VM, it requires students with LDs to watch the video and imitate the demonstrated hand activities. Therefore, VM can be a recommended strategy for students with LDs to improve HD performances.

LIMITATION AND FUTURE RESEARCH

Firstly, the study's potential limitations were the data presented based on participants taught in suburban secondary schools under Special Education Integration Program. However, future research can suggest recruiting participants from urban areas. Thus, diverse data can provide to comprehend the understanding of VM implementation in the learning process for students with LDs between urban and sub-urban participants. Secondly, conditional approvals by the Ministry of Education limit the data collection for this study to observe and do a recording in the classroom. However, the data analysis only can be triangulated between verbatim transcription, voice recorder, and note-taking. Further research on observing students with LDs in a classroom suggests that it can provide more understanding of learning and teaching for students with LDs. Lastly, considering the current study was implemented in a school setting, SE teachers may use materials suggested in the syllabus instead of using a video to teach each activity. The existing practice patterns could influence the ways of delivering the learning and teaching to students with LDs. A proposal of a VM module that uses a video should be considered an alternative method in the learning and teaching process. Therefore, future studies using VM for students with LDs in the learning and teaching process should be conducted.

CONCLUSION

Given that conventional teaching methods are still implemented in the learning and teaching process, SE teachers agreed that VM could provide instructions on

performing activities correctly, particularly in the Hand Manipulative Skills Components lesson for students with LDs. There are a few challenges for students with LDs to learn HD; however, some advantages are identified to support the VM implementation in the learning and teaching process to improve HD among students with LDs. In conclusion, VM implementation can be a supportive strategy in the learning and teaching process to improve the HD of students with LDs, leading to better HD performance.

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