Turning a New Page: Using Pop-up Books to Motivate Students with Learning Disabilities

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ABSTRACT
Admidst the struggle of reaching a good quality of teacher competence in special education schools (*Sekolah Luar Biasa*/SLB), the teaching staff still must face students with learning disabilities who exihibit low levels of motivation to learn. While such description is not true for every institution, preliminary study in SLB Negeri Sorong Regency, Southwest Papua Province, proved this to be a long-term case. This study aims to solve the situation through the practice of introducing pop-up books, which are visual learning tools that are new for the selected school. A secondary aim is to thoroughly describe the factors behind the low motivation to learn for the students. The design is qualitative descriptive research, using data from observations and interviews collected from September to November 2023 (three months). With informed consent, the participants included in this study are three students, three parents, and one teacher of Phase A of the SLB Negeri Sorong Regency. The results of the new teaching media and method show an unanimously enthusiastic response from the students, turning the students' learning atmosphere in the classroom in a more positive way. The interview further revealed factors that have caused and reinforced the low learning motivation among the students, namely: (1) the repetitive and difficult-to-follow teaching instructions and, (2) discrimination against children with learning disabilities. While the former can be effectively solved with the use of pop-up books which characteristics are not only engaging but also easy-to-follow for the students, the latter remains to be the most glaring problem. This study is significant in revealing and improving the teaching quality of special needs children in one of the few special education schools that exists in Papua.

1. Introduction

"Having these students go out into the real world comes with the pressures of society. 'What exactly can they do? Actually, what do they do?' People ask me such questions. That is what makes me sad." — Caesar Astria Pusphita, a clinical psychologist at the Saraswati Learning Centre for children with special needs (Vatvani, 2023).

The above quote from a professional in the field of education for children with disabilities perfectly captures the general sentiment regarding this demographic type. The realization of a truly inclusive education is a high priority of Indonesian government's goals in the educational sector to address the needs of the brutally, yet commonly, called 'mentally impaired children' (Husna et al., 2019). The country's commitment to fulfilling the rights of persons with disabilities (PWDs), particularly children with disabilities (CWDs), is restated recently in the 2030 Agenda and the Sustainable Development Goals (SDGs) (Rofiah, 2023).

However, as of 2023, with roughly 23 million people who have been diagnosed with a disability in the country, Indonesia's 2,300 special education schools (commonly known as *Sekolah Luar Biasa/SLB* in Indonesian) are not enough to accommodate them all (Vatvani, 2023). This situation is not unique to Indonesia but proves true to almost every developing country around the world, and this fact simply underscores the severity of the situation. According to the findings made by the United Nations Educational, Scientific and Cultural Organization (UNESCO), more than 90% of children with disabilities in developing countries cannot access schools (Khan et al., 2017). The significance of the figure might be due to the conflict of how 'inclusive education' ought to be defined. Some people hold the perspective that

inclusive schools should mean schools that are welcoming towards minority groups (including children with special needs) (Ainscow, 2005; Nishio et al., 2017), while others argue that children with special needs must be placed in a special school, separate from being combined into one class with children of other backgrounds to avoid exacerbating the discrimination and abuse of physical and cognitive impairements (Djone & Suryani, 2019; Terzi, 2014). Indonesia's concept of special education schools is a manifestation of the latter perspective.

Regardless of whether children with special needs should be or should not be separated in their formative years, existing special education schools face similar issues that also continue to plague public schools (Rude & Miller, 2018). Lack of consistent and decent funding size for the schools, rare socialization of how schools can be more inclusive or what can be considered as a well-implemented special education school, lack of modern facilities and infrastructure that would truly accommodate students with physical disabilities, lack of general or outside community support, and many more (Allam et al., 2021; Hastings, 2005). Low level of teacher readiness is one of the most serious problems which this study will focus on. There is no definitive approach on how special education teachers need to be trained, so there are many shortcomings in the day-to-day operations of many schools (Buli-Holmberg & Jeyaprathaban, 2016; Movkebayeva et al., 2016). These challenges highlight the need for further improvements in the special education system to ensure that all students, including those with special needs, have access to quality education.

Regarding the location of the study, the researchers noted that special education schools in Indonesia are not only limited, but more than half of them are clustered in the central provinces of Central, West and East Java (Husna et al., 2019). In light of this fact, the researchers carried out a preliminary study in a selected special education school in Sorong Regency. This school is purposively selected because it is one of the only learning centres for children with disabilities that exist in Papua. In a single class in SLB Negeri Sorong Regency, the researcher found that only three out of a total of ten students show signs of enthusiasm or positive willingness to learn, based on the occurrences of their smiles and attention towards their teachers. A significant part of the problem is that most of the students seem to be very bored with the way the teacher was teaching them and were 'actively being passive' since they were visibly yawning and sleeping in the middle of the teaching process. There could be many factors that caused their low motivation, but the results of the preliminary observation point to the way the teacher was teaching (Daschmann et al., 2014; Dewaele & Li, 2021). The teacher's lecture-style of teaching seems to be too reminiscent of the way regular schoolteachers often teach. The lack of adjustment or care for special needs children was quite obvious based

on the learning media used, which was a PowerPoint presentation and textbook. Even regular students would be bored if the learning remained inflexible with only these materials without using anything interesting to them (Minarni et al., 2023), and holding the attention of children with intellectual disabilities is even more difficult (Pashapoor et al., 2018; Pirnazar et al., 2022).

The teacher readiness factor is a problem too enormous to solve in a short-term intervention that the researchers are capable of. However, addressing the matter of students' low motivation by changing the way the teaching method is carried out is a lot more doable, and is what this study intends to do. After considering the findings of the preliminary study, the researcher proposed to the teachers of SLB Negeri Sorong Regency to switch out a virtual PowerPoint presentation and physical textbooks by combining them into one physical, fun-looking book known as pop-up books. Pop-Up Book is a type of book in which there are folds of images that are cut and appear in the form of three-dimensional layers when the page is opened (Rorimpandey, 2023). With parts that can move or has 2-dimensional and 3-dimensional elements to provide interesting story visualizations, starting from the appearance of images that can move when the page is opened (Pratiwi et al., 2022). Pop-up book can be the new learning media that is very suitable for the children with special needs as fresh material. With the success of a simple change of teaching media, the researcher hopes to show the schoolteachers the immediate usefulness of changing their teaching methods to pique the interest of the children and, hopefully, continue to consistently keep the students' motivation to learn.

Moreover, despite how much inclusive education seems to be a hot topic, systematic literature review findings seem to indicate that quality publications concerning the topic are still very limited in number. Nishio et al. (2017) set their search parameters to find relevant papers published between 1995 and 2015 across any ASEAN countries, yet only 27 publications were identified, with almost 80% of the studies were conducted in Malaysia and Singapore. Within the more recent range of 2014-2019, Rante and Tulak (2020) systematically searched for journal articles about inclusive education in Indonesia and only obtained nine articles as the result of their search. There is a huge disparity in the research output of inclusive education research across countries, so this research hopes to contribute its findings set in Indonesia.

2. Literature Review

Teaching deaf, blind and special needs students—sometimes all together at once—requires creativity, flexibility and patience. School leaders here openly encourage teachers to do whatever they can to meet the needs of students who are often ignored by the nation's policymakers.

Pop-up book media is very suitable because its use is not complex and easy to bring into the classroom, besides that the images presented are concrete or real because they are three-dimensional, so they are more interesting to read. The advantages include (1) helping teachers in delivering lesson material, (2) able to increase student interest and motivation to learn, because with the use of this media students get new learning experiences that have an impact on student motivation and eventually achievement, (3) able to increase student involvement during the learning process, so that the knowledge gained is kept on the long-term. Moreover, Pratiwi et al. (2022) demonstrated that pop-up books can a) provide all interesting stories starting from the dimensional appearance of the image and when the book page is opened certain parts can later shift, b) give a surprise that can invite amazement whenever a page is flipped and that means readers will later wait for a surprise on the next page, and c) reinforce a stronger impression of the story and class lessons.

The use of a pop-up book is in accordance with constructivism learning theory which emphasizes that students' knowledge is built by themselves through direct experience. According to Gaol and Sitepu (2020), the role of learning media is to generate new learning motivation and generate motivation for student learning activities. Thus, a pop-up book can be said to be appropriate because in using it, the students are directly and physically involved in flipping, folding, and reading the material on this media. This can provide new experiences for students who are too used to being able and being allowed to be extremely passive in class so that what is learned will be more durable and easier to understand.

An additional point in favour of pop-up books is that the media can be very renewable. Pop-up books are not an entirely new learning media, but typically, schools (libraries) would submit a proposal to buy new interactive books such as pop-up books for their students. As mentioned previously, special education schools suffer a lack of funding and regular attention from the government and community, so buying these kinds of books, which are also usually highly expensive, is not a feasible step to take. But the novelty of this research is that the pop-up books were designed and made using recycled papers. The recycled materials used in pop-up books are used water or snacks cardboard, used plastic and dry leaves that are very easy to find in the surrounding environment. The use of recycled materials by the researchers aims to additionally educate students of the SLB that materials that are often considered waste can be recycled so that they provide great benefits for the world of education and benefits for the surrounding environment.

As Indonesia is one of the world's largest consumers, the country has a significant responsibility in tackling the problem of waste (Mairizal et al., 2021). Such an original creation is very visibly different from the usual teaching media, and since the pop-up books are customised and made directly in and for the selected SLB, the contents of the pop-up books are much different than the commercialised ones and can create emotional reactions from the students of the SLB (Ahmed, 2017).

3. Method

The research design is qualitative descriptive research as the aim is limited to describing and explaining the manifestations of the chosen phenomenon rather than to test any particular hypothesis (Duffy, 2009). The context is set in the Special Education School (SLB) Negeri Sorong Regency, which was selected via convenience sampling as special education schools in any regency in Indonesia are not widespread. As only a limited number of parents were willing to give their permission on behalf of their children, only three students from Class 'Phase A' became participants of this study. The researchers also obtained the agreement from the teacher of Class Phase A to teach with a pop-up book (after the researcher take over for one class to demonstrate using a pop-up book) and be interviewed. One of each students' parents were also asked to become informants for this study. The study will refer to them with alphabetical codes and will not disclose the genders of the students and the parents.

The duration of the study lasted three months (September-November 2023), which spanned the full time of a single school term. Throughout the term, the researchers carried out two main ways to collect data: (1) Observation, which was carried out systematically and non-participatively. A form of check list was used as the observation sheet. The sheet was based from reviewing the literature review on special needs children and special education schools, and the researcher simply ticked 'Yes' or 'No,' and (2) Interview, which primarily aimed to find out factors that influence or cause students with intellectual disabilities to be demotivated or motivated during the learning process.

The interviews were held in Indonesian as the language that the participants were most comfortable with. However, to collect a good amount of data that might not be possible since only three students were given permission to participte in the study, the perspectives of the teachers and parents were also included to find out other factors that might not be considered or brought up by the students. Table 1 shows the participants and the interview topics that were touched on with different stakeholders.

Table 1. Interview Guideline

Aspect	Informant	Indicators
Internal factor	Students (A, B, C)	Learning conditions
		Student interest in the media
		Student interest in the method
		Student interest in the subject matter
		Student curiosity towards the subject matter
External factor	1 Teacher	Teacher opinion on students' motivation
		Use of media and method
		How teacher reward increases student motivation
		Acceptance and attitude of parents towards their children
	3 Parents (A, B, C)	Acceptance and attitude of parents towards their children
		The relationship of parents with their children
		The child's learning motivation from their perspective

Verbal permissions to include pictures of the activities have been obtained from the involved parties. Consent was also given to allow the researcher to translate and adjust the quotations from the interview data, but only to improve clarity of the sentences' grammatical structure for the readers' benefit, not to change the meaning of their utterances.

The obtained data of observation results and interview notes were combined to allow the researcher to show the results of the use of pop-up books and explore the underlying factors that caused the students to be more enthusiastic about the new teaching media and factors behind why they had low motivation to learn in the first place. The data analysis technique refers to Miles and Huberman's (cited in Sugiyono, 2010) descriptive narrative, in which the data were first reduced, then presented, and finally concluded.

4. Result

This section will detail the data obtained from the researchers' observations of the teaching process using pop-up books and the interview sessions with the students, the teacher and parents. Because the interviewees frequently made comparisons of the before and after the implementation of the new teaching media of pop-up books, the researchers also decided to include the observations made during the preliminary study to highlight the significance of the new teaching method and media's impact when teaching children with learning disabilities.

4.1 Prior to the Use of Pop-up Books

It is commonly accepted among both students and teachers that the students cannot focus their attention for many tasks, whether for short or long. During the preliminary observation, the researcher's noted that the students visibly look tired, lackluster, and sleepy. They would often put their heads on the table or leaning their bodies backwards on their chairs while the lessons are still ongoing. At that stage, the researcher did not directly approach the students to ask about their low motivation, but during the study, the students shared their thoughts of the lessons they had had before the researchers' intervention.

"The class is usually boring. We have to listen. We don't get attention from her (the teacher) a lot. So, a lot of us get sleepy a lot."

Excerpt 1 (Student A)

"Learning in class is hard for me. It's hard to follow what my teachers are saying. I can't keep up."

Excerpt 2 (Student C)

"I suppose since we keep explaining the same things over and over, the students have the impression that the teaching is very monotonous and boring. But we have to keep explaining the concept because the students have to understand to move on to the next topic. […] There's only so many times you can dumb down your explanations. We can't show our frustration though, and we know the students must be frustrated too, so we just have to keep trying."

Excerpt 3 (Teacher)

The cause for the students' perpetual low motivation are the repetitive explanations, at least from the perspective of both students and teachers. The teaching activity that was observed mostly consisted of

verbal lecture. Visual aid such as PowerPoint presentation was used and even singing a song together was prompted by the teacher as an ice breaking activity, but much of the class were explanations given by the teacher.

From the teacher's perspective, the students need multiple explanations because when they were asked about the material, they could not answer often the first few times. When given the opportunity to ask questions, it often ended with the teacher needing to repeat the explanations from the beginning.

On the other hand, the students could not quickly comprehend from listening to the teacher, whether from the class-wide explanation of the lesson material or from the clarification explanations prompted from the lack of answers from the students. In the end, both sides feel frustrated at the necessity but also seemingly fruitless multiple explanations just to go through one lesson.

4.2 After the Use of Pop-up Books

Since the researcher figured out that one of the problems with of the usual teaching method was the students' boredom over seeing pictures or words on the screen via PowerPoint presentation or the school textbook, as confirmed by the subsequent interviews with the participants, the researcher decided to change the teaching method by introducing a new media.

Figure 1. Pop-up Book

The researchers had already prepared a pop-up book (Figure 1) beforehand. The cardboard was made from old, recyclable materials such as cardboard and used but blank papers, leaves as well as any leftover arts and crafts materials. The choice of materials was intentional to make the book look hand-made and to show the students something physical and real made from the act of recycling, thereby stressing the importance of caring for our everyday environment.

The pop-up book is designed to introduce the lesson material in the form of stories, so that students are required to pay attention to the first page before moving on to the next page to know the next part of the story. The researchers made sure that the pop-up book's pages do not look too crowded so as to not overwhelm the students. Moreover, some pictures were originally drawn while others were taken from a copy of an old book of the SLB Negeri Sorong Regency, so the students should be familiar with some of the pop-up book's illustrations.

Figure 2. One of the researchers introducing the students to a pop-up book in September

Figure 2 captured a moment in class when the students were visibly intrigued by the new teaching material. Two students stood up immediately to get a closer look at the pop-up book. Since the book's base material was a large cardboard box, the illustrations were big enough for the whole class to see, but not the text handwritten for the illustrated characters. While this sounds inconvenient, this is actually to differentiate it with the usual teaching process. With the usual PowerPoint presentation, it is best to make sure that all students from the front to the back can see projected text. This means that the students usually do not need and shouldn't be inconvenienced by needing to stand up just to see the PowerPoint material. However, the pop-up book is less readily accessible, so either the teacher or the student has to approach the other in order to read each page. This involves a lot more physical activity, and the close proximity between the teacher and the student means that every student does get direct attention from the teacher.

"I was confused at first since we don't follow the usual lesson. Like, we usually start by singing and then we listen to the teacher and answer her questions. Today, we just keep repeating what is on the pages. I guess it's easy. Easier."

Excerpt 4 (Student A)

"Yes, I liked it a lot. It was colorful and had a lot of pretty flowers. I want something like it."

Excerpt 5 (Student B)

"The instructions were a lot easier than usual. I just have to read what you were pointing on the page. Usually, I have to listen to everything she's (the teacher) saying. That's too difficult."

Excerpt 6 (Student C)

The excerpts above were taken from the interviews following the researcher's intervention. Overall, they shared the same opinion that the lesson with pop-up book was much easier to follow than the usual lesson with PowerPoint presentation. Their words match with the researcher's observations of their responses towards the pop-up book. They looked to be more motivated during the class, as they were smiling much more and were able to follow the lesson's instructions. Linking the lesson unit's instructions and tasks to a physical object, in this case, the pages of the pop-up book, gave them something concrete to follow along as the class progressed.

Figure 3. Students creating their own pop-up books in October

Figure 4. Pop-up Book

For the following lessons, rather than using the same pop-up book, the researcher instructed that the teacher have the class create their own pop-up book. This is to encourage the students to be more physically active and engaged with the following lesson units. It

is also an excellent opportunity for peer-to-peer interaction that would hopefully build a better and more supportive learning environment. Figure 3 shows a moment when the students are outside of the classroom, looking for materials that they can use for to create a new pop-up book. Each student contributed to creating the pages of the new pop-up book. The researchers and the teacher kept them on task as the students have many questions during the process. The result of their creation is shown in Figure 4.

Figure 5. The SLB Negeri Sorong Regency teacher using the class' handmade pop-up book in November

"It took a lot of effort to make it, but I can see that it's worth it. Our biggest struggle is the lack of budget you know? Not just the lack of time. Making our own material together with the student is giving me more ideas on how to teach my future lessons. I think my class students got closer with each other from making something together. And the lesson was very much easier for me. I didn't have to explain things over and over as much."

Excerpt 7 (Teacher)

After several classes where the students were guided to create the new pop-up book, in the final lesson, the teacher taught the class using their handmade creation. It can be seen that the students were very satisfied and happy to see that the lesson happened directly because of their hands since the teaching media was from their own work. The teacher herself looked more excited throughout the lesson and was verbally generous with compliments for individual students and frequently prompted high-fives and applauses. Based on the teacher's final comment about the activities, the researchers can tentatively conclude that the intervention was more than successful, as it not only achived the goal of increasing the students' low motivation to learn, but even inspired the teacher to try to think of more innovative ways to teach.

4.3 Parents' Reactions After the Pop-up Book Class Activities

In the three months while the researcher was teaching in the SLB Negeri Sorong Regency, the researchers not only talked with the students who consented to be participants of the study but also their parents, specifically their mother or father who brings and picks them up from the special education school. The researchers discussed about their children's progress and asked the parents questions about their relationship with their children surrounding their special needs.

"My child has emotional disorders. My child has difficulty focusing. I'm resigned to it. I just hope that they keep learning to increase their confidence, especially in public places. They just want to stay at home all day but that's not healthy at all. I have to keep bringing them outside. They need to be able to interact politely on their own."

Excerpt 8 (Parent of Student A)

"They're so shy. If I'm not there with them, they wouldn't want to talk to anyone else at all. I have to keep speaking for them whenever they meet someone, like other relatives or our neighbours. It took a while…It took several classes until my child got comfortable enough to talk with the teacher and the other students and follow the lessons here. But I'm proud they continued and never gave up."

Excerpt 9 (Parent of Student B)

"It's very hard for our kids with learning disabilities. Things that are easy for many people are so difficult for them, like just playing at the park with other children or playing new kinds of children's games. I always take the time to talk to the teachers to find ways how to help my kid be more active and not just silent."

Excerpt 10 (Parent of Student C)

The parents have accepted the condition of their children who have learning disabilities. The thing that all parents have in common is their want to increase children's confidence by inviting them to public places, often providing support so that students want to socialize in a new environment. But on the other hand, the parents came across as too protective of students.

"I can understand why their so afraid though. I can't be mad at them. Other kids, kids without learning disabilities, often bully them because my kid can't keep up. The homeroom teacher told me that because of that, my kid is really reluctant to approach other kid to play."

Excerpt 11 (Parent of Student A)

"I want my kid to have more self confidence. Being shy is okay, but if they're too shy, they're too silent, and so they don't play, and other kids don't bother them or even invite my kid to play with them. They're growing up without a close friend and that's why I'm afraid. I don't want them to be alone for so long. I want to hear them say, 'I have a friend. Can they come to our home?'"

Excerpt 12 (Parent of Student B)

"They got teased a lot. Whenever my kid spots or even hears the one who teased them in the past, they run away or go to me if I'm there. I don't want them to be silent during recess forever. That's why I liked the activity you had them do. Making a book together. My kid liked it and got to talk with their friends in class a lot."

Excerpt 13 (Parent of Student C)

Based on the results of the interview, it is known that students have experienced unfavorable treatment both verbally and non-verbally, through negative words and harsh treatment due to the still widespread discrimination. Almost as a direct result, the children with learning disabilities have a low level of enthusiasm for learning. The environment inside ethe school and outside the school seems to be distinctly different treatment, as the latter often does not support their conditions. The teacher has also indicated about the lack of funding for sufficient facilities and teacher training for children with special needs. They are often bullied and ostracized by the rest of society. Thus, by default, the students are already starting their day in class feeling embarrassed and reluctant to play with their peers.

5. Discussion

According to the Minister of National Education of Indonesia, inclusive education should provide opportunities to all students, including those with disabilities, with emphasis on different learning styles and students' ability to learn together. Dwilanisusantya (2023) states that the teaching of students with learning disabilities must use clear instructions and use adaptive learning media. Students with learning disabilities cannot be taught in the same way as students without any learning disability, cognitive impairment, or emotional disorder (Aksoy & Bercin-Yildirim, 2008; Fauth et al., 2017).

Ideally, the ones who teach these children should be experts trained in teaching children with special needs. However, most schools do not have special guidance teachers and need to rely on whatever teacher they have available, who would use the curriculum, teaching methods and learning assessments that are generally the same as non-disabled students (Terzi, 2005). In general, the implementation of inclusive education for children with special needs has not been in accordance with applicable regulations (Dwilanisusantya, 2023). Schools have been vocal

about how they face challenges such as getting trained teachers and proper facilities, and the government have recently passed a number of regulations derived from the 2016 Law on Persons with Disabilities (which did not exist prior to 2019), but progress is still slow (Vatvani, 2023).

Furthermore, the context of this study is more severe due to its location taking place in Sorong Regency. The island of Papua as whole simply do not have many of the resources available by a large margin compared to the central provinces in Indonesia. According to Husna et al. (2019), the 2019 Central Statistics Bureau 2019 Report shows that out of the 1,311 special education schools in the country, more than 200 are located in Central Java, another 200+ schools are in East Java, and another 200+ are in West Java. The teachers in Papua's few special education schools do not have paraprofessionals who they can reach out and collaborate in their guidance of children with special needs (Fingerhut et al., 2023). This study is highly significant because the intervention project has a high novelty value for taking place in an underexplored context.

Considering all the larger issues stemming from the lack of funds and qualified personnel, it is even more important to find ways to overcome the problem that would not unreasonably require said funds and paraprofessionals. This adds to the burden on the shoulders of the teacher. In Cameron's (2014) study, it is found that some teachers in public schools uphold the view that such a demanding role is not the responsibility of the teacher because "the severity of the child's disability was beyond the instructional domain of expertise," (p. 7). However, teachers who are specifically working in special education schools do not have the option of ignoring children with special needs and do need to take up the task of being more innovative in teaching. Where in an ideal world they should be able to focus on only teaching and have the necessary support from the educational infrastructure, their role has included being an innovator (Azmi & Ginting, 2021; Ballet & Kelchtermans, 2008), and the burden is even heavier in a day-to-day operation when they have to accommodate the learning of children with different kinds of disabilities.

This is why the proposed activity of handmaking a pop-up book as a class project is a very valuable teaching method and learning media in this context. This study aimed to address the issue of low motivation among children with special needs in SLB Negeri Sorong Regency. Based on initial observations, the problem appeared to be a lack of attention and participation among the students, which may have been reinforced, at least partially, by the repetitive teacher-centered teaching and media. Repetitive instruction is a common characteristic in the teaching of students with learning disabilities as many teachers have remarked how students with special needs require one on one attention on top of class-wide attention, physical demonstrations of each step of the teaching instruction, reminders to stay on task against distractions, thorough explanations and simplification of explanations (Cameron, 2014).

However, if the media can allow students to understand quicker, this defeats the need for repetitive instructions in the first place. In this study, the students showed that they have a much easier time following the instructions from the pop-up book compared to when they must follow the teacher's lecture-based instructions. This is because each instruction was made to be as simple as possible and were clearly illustrated in each page. The act of turning each page in the pop-up book were also like physical check mark of their progress of understanding, and since each page can only be viewed by the students one by one, they all received equal individual attention. Granted, this method works because the class were small in number, so it was within the time limit.

Additionally, the students were brought together to collaboratively develop a new, more personal version of the pop-up book. From the researchers' observations during the time when the students had to interact with many of their peers and the teacher to find materials and create the pages of the new book, the interactions were very friendly. Except for one instance when one student was pinched and hit by a peer, every other interaction that could be seen always encourages learning at every turn. When it comes to peer relationship, interviews with the parents were the most enlightening. They divulged that all the student participants have a past of frequent teasings from their peers over their difficulty in understanding lessons. After many times being called stupid, they would simply stay silent during recess. Their perception of inferiority interfered with their learning motivations, so they become inactive and quiet, exactly as Byrd and Andrews (2016) described about the effect of discrimination towards adolescents. Discrimination has discouraged them from interacting in the first place (Morris et al., 2023), and this attitude bleeds into their demeanour in the classroom because they are initimidated by others by default. The students have also been rejected by kids their age to play together, and the experience has stuck with them for too long. One of the students' parents mentioned that their child gets afraid whenever they hear the voice or see the other children who had rejected them. This underlines the important role of friends in the development of children, not just ones with learning special needs but most especially severe in their cases (Hill & Zhou, 2023). It is these very situations that cause many parents to fear for their children's circumstances. However, Hemm et al. (2018) warn the unforeseen consequences of overprotective parental attitude. If parents or guardians are too overprotective, their actions and fear might have the long-term effect in the children being less independent and not having the initiative to carry out activities.

Therefore, the best kind of group work or peer-to-peer activities then are ones that can encourage the children to bond to overcome the trauma of past unpleasant peer stigmasation. In this study, since all students were unfamiliar with the pop-up books and have never made one before, it luckily avoided the situation where one child or another would be ridiculed for their lack of knowledge or experience since each and every one were on the same level. The actions of colleagues sometimes make him unable to do anything other than be alone and silent. Because all students were trying something new together, there was a lack of fear as everyone is on equal ground. Based on this result, this study recommends that teachers in special education schools continue to find and utilise the type of learning media that would fulfil this kind of specific purpose—looking for a teaching tool not only through seeing the academic benefits but also through an emotional lens.

Though this study reports good success in its endeavour, it still has many limitations in its applicability. Pop-up textbooks, or indeed any other teaching media, would not constantly be 100% engaging once students are more used to it and therefore, more bored of the material. The material was able to effectively engage every student's attention because it allowed for one-on-one attention, but it worked effectively because the total amount of students in this study's selected class was only ten children.

What future studies ought to keep in mind when designing or adapting new teaching media are the highly visual and physical form of the lesson instructions that were realised with pop-up books. This feature seems to be the key in dealing with the students and the teacher's frustration of repetitive instructions, because the learning intervention ran successfully due to the easy-to-follow instructions and physical marker of the learning progress. Future studies of similar vein are recommended to emphasise similar features or key aspects with high specification in order to help lessen the burden on the shoulders of many teachers who are continuously expected to innovate even while they are already struggling to keep up (Dewaele & Li, 2021). The report of this successful intervention hopes contributes greatly to the teaching resources of special education schools and the teaching of children with learning disabilities.

6. Conclusion

This study is an intervention aimed to temporarily but effectively solve the issue of the low motivation of children with special needs in SLB Negeri Sorong Regency. The study is significant for not only exploring the teaching quality of the underexplored context of special education in Papua province, but also for effectively improving the teaching quality without requiring additional funds, facilities, or paraprofessionals that schools in this area simply cannot access or acquire. From initial observations, the problem was the students' lack of attention and participation, which seems to be partially if not fully reinforced by the repetitive teacher-centred teaching and media. The solution was in the form of three months of classes where the students were introduced to a new teaching media that required them to be more active so that the lesson can progress and where the students were brought to together to create a new variation of the teaching media. The intervention proved to be effective in motivating the students with their class lessons, and even further motivated the teacher at the school to think of better ways to engage the students in class. The result of this intervention is significant as it showcases an effective result of a classroom practice that can be easily replicated by many other special needs education, and it can also be a useful lesson plan for regular public schools.

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