International Journal of Education and Practice
2024 Vol. 12, No. 3, pp. 968-978
ISSN(e): 2310-3868
ISSN(p): 2311-6897
DOI: 10.18488/61.v12i3.3816

Mathematics education for students with intellectual disabilities: A study on thematic books utilization in special schools

Een Ratnengsih[1+]
Juntika Nurihsan[2]
Endang Rochyadi[3]
Sunardi Sunardi[4]
Ediyanto Ediyanto[5]

[1,2,3,4]*Department of Special Education, Universitas Pendidikan Indonesia, Indonesia.*
[1]*Email: ratnengsih_een@upi.edu*
[2]*Email: juntikanurihsan@upi.edu*
[3]*Email: endangrochyadi@upi.edu*
[4]*Email: nardilembang@upi.edu*
[5]*Department of Special Education, Universitas Negeri Malang, Indonesia.*
[5]*Email: ediyanto.fip@um.ac.id*


(+ Corresponding author)

Article History
Received: 12 September 2023
Revised: 8 December 2023
Accepted: 4 January 2024
Published: 22 July 2024

Keywords
Intellectual disabilities
Mathematics
textbook
Special school
Learning media
Learning needs.

ABSTRACT

Books are a significant source of mathematics learning for children with intellectual disabilities. A book's design and content must describe the learning requirements. This study seeks to discover how thematic books, specifically, are used in the learning of mathematics for students with intellectual disabilities. This study uses quantitative and qualitative methodologies with an explanatory sequential design. The content study of ten textbooks for high school students with intellectual impairments provides an overview of the applicability of the competencies contained in the curriculum. The number of pages in the textbooks ranges from four to 23, with practice questions dominating the majority of learning material about natural numbers with mixed computational kinds, and the majority of problems are short entries. The findings of this study show that teachers only use books occasionally, which is valuable data that opens up opportunities to design specific textbooks for mathematics learning. Their use is through adaptation and modification processes, but teachers use other sources for learning (e.g., designing their own and searching the internet), and computing material and the use of money are mostly taught to students through short answer questions. The conclusions of this study provide significant information for designers of future mathematics learning books.

Contribution/Originality: This study contributes to discovering the content composition of thematic books in mathematics learning for students with intellectual disabilities. It is also the first pilot study to analyze teachers' responses to the use of published books for teaching their students at school. This research also provides valuable data for academics and practitioners who develop mathematics textbooks for students with intellectual disabilities.

1. INTRODUCTION

Many students find mathematics difficult to learn, whether they are ordinary students or have intellectual disabilities. Long-term consequences of low interest in learning mathematics include difficulties in applying mathematical principles in everyday life. It is believed that approximately 25% of adults lack basic numerical knowledge, skills, and understanding that are essential in everyday life, educational settings, and work. Early mastery of arithmetic skills is critical for students' development of more advanced mathematical abilities and supporting post-secondary life, career, independence, and quality of life (Lemons, Powell, King, & Davidson, 2015; Morsanyi, van Bers, O'Connor, & McCormack, 2018).

Students with intellectual disabilities and poor intellectual functioning abilities have trouble retaining and processing information, making studying mathematics challenging (Schuchardt, Gebhardt, & Mäehler, 2010). Students with intellectual disabilities frequently have mathematical abilities considerably below those of normal children, and they suffer more than normal children with specific learning issues. Therefore, it is necessary for teachers of children with intellectual disabilities to create suitable content, allow adequate time to alter and complete school assignments, employ appropriate teaching methods, and accommodate the variations and specific requirements of each individual (Zikl, Havlíčková, Holoubková, Hrníčková, & Volfová, 2015).

Student textbooks are essential components of the mathematics education process. Books can be used as reference tools to assist learning, and they are frequently used as material for students to understand the content and to carry out exercises, and they can even be used to analyze or evaluate learning outcomes. The curriculum in service delivery schools for students with intellectual impairments will have a significant impact on the creation of student textbooks (McKenzie, 2021).

Several studies on mathematics textbooks have been conducted, including the adequacy of material content in specific areas for the anticipated accomplishments of Indonesia's 2013 curriculum (Isroaty, 2019; Murniati, Roza, & Maimunah, 2021), and a comparison of mathematics student handbooks used in Indonesia and China that focuses on the types of questions used in practice (Purnama, Wijaya, Dewi, & Zulfah, 2020). One of the sections investigated is the relationship between mathematics textbooks and mathematical literacy and cognitive elements (Lailatus Syarifah & Kumala Dewi, 2020; Syarifah, Yenni, & Dewi, 2020). Another study connected to the issues of learning mathematics is the use of thematic books, which teachers believe are less effective (Sukadari, 2020).

However, all previous textbook studies focused on students from elementary to high school. It is critical to investigate the individual textbooks used by children with intellectual impairments, with a greater focus on the content's alignment with the curriculum, number of pages, question styles, and topics. Changes to the 2013 curriculum toward an independent curriculum are a key component of this research, particularly in learning mathematics, which is seen as a difficult subject, particularly for children with intellectual disabilities. Tracing data about the instructor as a user who will promote student learning is critical to ensure the utility of books.

To understand more about textbooks used in teaching mathematics to children with intellectual disabilities, specifically thematic books, this study seeks to answer the following questions:

(1) How much is contained in the thematic books on mathematics learning in terms of competence suitability to the curriculum, number of pages, materials, types of calculations, and test questions?

(2) How can teachers utilize thematic books in teaching mathematics to students with intellectual disabilities?

2. LITERATURE REVIEW

2.1. Mathematics for Intellectually Disabled Students

Mathematical skills are essential for academic learning as well as daily tasks, including shopping, cooking, and time management (Faragher & Brown, 2005). Basic mathematics and arithmetic abilities are especially important as facilitators of social interactions and independence for children and individuals with intellectual disabilities (Spooner, Saunders, Root, & Brosh, 2017). Mathematics instruction for people with intellectual disabilities is frequently focused on teaching numbers and calculations (addition, subtraction, multiplication, and division), geometry, and algebra (Hudson, Rivera, & Grady, 2018). Jordan, Kaplan, Locuniak, and Ramineni (2007) discovered that early number sense is a powerful predictor of subsequent learning of important mathematical skills in everyday life. Students with intellectual disabilities can learn mathematical skills (Lemons et al., 2015), and their numerical development is comparable to that of typically developing students (Brankaer, Ghesquière, & De Smedt, 2011). Their ability, on the other hand, rarely progresses beyond elementary numeracy, and they require more time and practice to learn mathematical topics (Faragher & Clarke, 2014). The majority of students with learning difficulties exhibit significant deficiencies in cognitive function as well as adaptive behavior (Faragher & Clarke, 2014).

Effective mathematical treatments for students with intellectual disabilities include the use of manipulatives, visual representations, and graphic organizers (Schnepel & Aunio, 2022). According to Van Garderen, Scheuermann, Poch, and Murray (2018), teachers struggle to use manipulatives, especially when they need to use them to uncover patterns or explain an answer. These difficulties were not mentioned in the studies included in the literature review, most likely because teachers frequently followed scripted lesson plans outlining how to utilize the manipulatives (Browder et al., 2012).

Explicit and methodical training is included in the most successful teacher-directed mathematics therapies for students with learning difficulties (Spooner, Root, Saunders, & Browder, 2019). It has also been shown that task analysis training, visual organizers, and manipulatives are effective (Hudson et al., 2018; Spooner et al., 2019). Some research has been done to determine which method is best for learning and improving each mathematical skill. Butler, Miller, Kit-hung, and Pierce (2001) discovered that while numeracy skills were best taught by direct instruction, arithmetic abilities were largely learned via prompts, and mathematical problem solving was supported via self-regulation and strategy instruction. Repetitive direct instruction is the most effective teaching technique for developing basic arithmetic skills (Kroesbergen & Van Luit, 2003).

3. METHOD

This study used a mixed method approach with an explanatory sequential design in which quantitative data is collected and analyzed first, followed by qualitative data collection and analysis to explain the quantitative results (Creswell, 2003).

3.1. Quantitative Data

The first phase aims to answer the first research question (How much is contained in the thematic books on mathematics learning in terms of competence suitability to the curriculum, number of pages, materials, types of calculations, and test questions?) A quantitative frequency analysis was performed on a sample of ten grade 10 high school textbooks for children with intellectual disabilities. The books examined were issued in 2016 by the Ministry of Education and Culture to aid in the application of the 2013 curriculum. Table 3 in the Results and Discussion section contains a list of the books sampled and the number of pages of mathematics content.

3.2. Qualitative Data

In the second stage of study, a survey with closed and open questions was administered to eight teachers from four special schools (see Table 1). The survey was carried out by directly interviewing the teachers who teach students with intellectual disabilities. One teaches students with moderate intellectual disabilities, and one teaches students with a mild level of disability (grade 10).

Table 1. Survey questions.

Number	Question
1	Do you use thematic books in teaching mathematics to students with intellectual disabilities? (Yes/No)
2	How often are thematic books used in teaching mathematics to students with intellectual disabilities? (Always, sometimes, never)
3	How do you use thematic books in mathematics teaching?
4	Do you use media or other sources in teaching or giving math practice to students with intellectual disabilities?
5	What sources or media do you use to support mathematics learning?
6	What types of questions are usually given to students with intellectual disabilities?
7	What materials are often taught to students with intellectual disabilities?

The remaining six teachers taught a mix of grade, type, and level. The data was analyzed using descriptive statistics and qualitative content analysis (Schreier, 2014) to answer the second research question (How do teachers utilize thematic books in teaching mathematics to students with intellectual disabilities?). Content analysis is the interpretation of text data through the process of coding into categories.

4. RESULTS AND DISCUSSION

The first research objective is to analyze ten thematic books according to predetermined criteria. The frequency analysis carried out relates to several aspects, namely the relationship to the number of pages relevant to mathematical competence, material, types of calculations or computations, and types of questions.

The comparison of content and basic competencies in the realms of knowledge and skills for grade 10 at a special high school revealed four fundamental competencies each in terms of knowledge and skills. A frequency analysis is performed on portions of the mathematical material provided in each book to compare with fundamental competence; all perspectives on each book, then total the frequency of material throughout all books. The results demonstrate that the content for mathematics presented in the ten thematic books is dominated by information for arithmetic operations on natural numbers, with measurement material taking second place (see Figure 1). The mathematical content in theme volumes is designed to fulfill the distribution of competencies required by the 2013 curriculum, though the distribution of completed competencies is not even (see Table 2). The highest number is in natural number arithmetic operations, which covers addition, subtraction, multiplication, and division. Natural number operations are frequently found in assessment material for learning requirements, one of which is children with autism (Homdijah, Heryati, & Ehan, 2021). According to the study results, understanding the table of needs related to money in vocational fields has the least amount of material. The arrangement of the content in textbooks should ideally be balanced based on the competencies to be attained. Teachers can carry out the learning process through books based on the competencies to be acquired in the curriculum. Books are frequently used and are important in most learning environments to describe the competencies to be attained (Biström & Lundström, 2021; Blumberg, 2008; Issitt, 2004).

Table 2. Total suitability of the 2013 mathematics curriculum competencies in grade 10 thematic books.

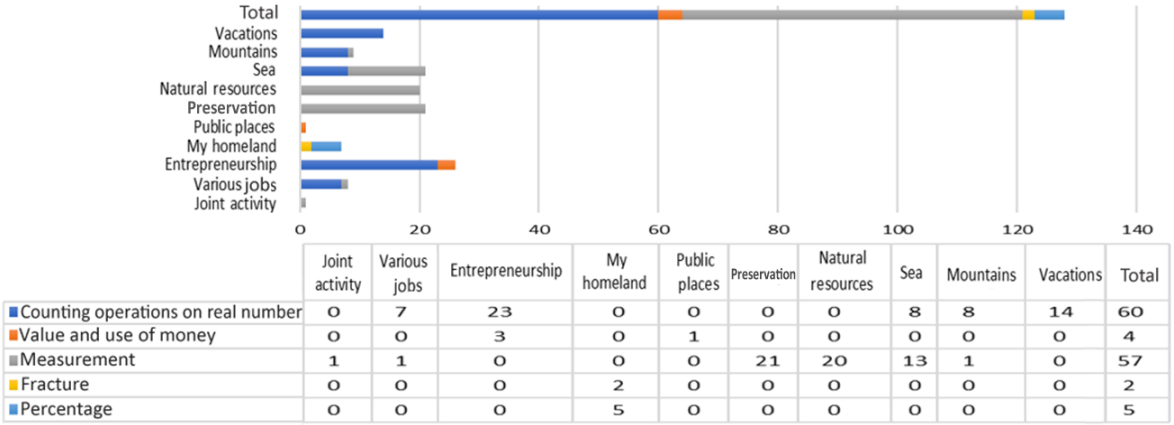
Core competencies 3 (Knowledge)	Core competencies 4 (Skills)	Number
10.3.1 Understanding the arithmetic operations of natural numbers (addition, subtraction, multiplication and division) in solving problems in everyday life	10.4.1 Performing calculations with natural number operations (addition, subtraction, multiplication and division) in solving problems in everyday life	60
10.3.2 Understanding percentage conditions in everyday life	10.4.2 Performing calculations of percentages in everyday life with the help of a calculator	7
10.3.3 Understand the concept of units of length, time, weight and volume in everyday life	10.4.3 Applying the concepts of units of length, time, weight and volume in everyday life	57
10.3.4 Understand the table of needs for money and goods in relation to vocational skills and activities	10.4.4 Making a table of needs for money and goods in relation to vocational skills and activities	4
Total		128

When analyzing how many pages of mathematical learning content are contained in thematic books, the results show that the lowest number is four and the highest is 23 (see Table 3). Book 3 contains the most material on the issue of entrepreneurship. The average thematic book has more than 100 pages. Mathematical information is separated into two types: explanations and practice questions. When compared to explanations, the number of pages devoted to practice questions dominates the page content. Textbooks exhibit the same pattern, with very little explanation of the requirements that students must understand (Van Garderen, Scheuermann, & Jackson, 2012).

Table 3. List of books and number of pages of mathematics content in grade 10 thematic books.

Book	Theme	Number of pages	Number of pages			Number of questions
			Mathematics content	Explanations	Exercises	
1	Joint activity	160	4	0	4	1–3
2	Various jobs	106	11	3	8	2–10
3	Entrepreneurship	116	23	2	21	1–5
4	My homeland	122	11	3	8	1–5
5	Public places	108	12	2	10	1–5
6	Savings	136	21	10	11	2–10
7	Natural resources	123	20	8	12	2–11
8	Sea	102	21	5	16	2–10
9	Mountains	116	10	2	8	1–5
10	Vacations	120	13	1	12	2–7
	Total		146	36	110	

Natural number arithmetic procedures dominate the mathematical content associated with thematic literature. Natural numbers are covered in five of every ten existing subject books (see Figure 1). Natural number operations involve single units, tens, and hundreds. The second sequence is dominated by measurement material, which consists of time, weight, and length measurements.

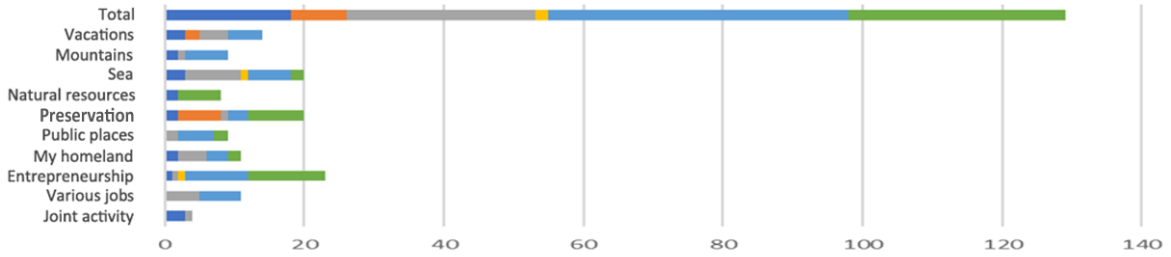


	Joint activity	Various jobs	Entrepreneurship	My homeland	Public places	Preservation	Natural resources	Sea	Mountains	Vacations	Total
Counting operations on real number	0	7	23	0	0	0	0	8	8	14	60
Value and use of money	0	0	3	0	1	0	0	0	0	0	4
Measurement	1	1	0	0	0	21	20	13	1	0	57
Fracture	0	0	0	2	0	0	0	0	0	0	2
Percentage	0	0	0	5	0	0	0	0	0	0	5

Figure 1. Data distribution based on material.

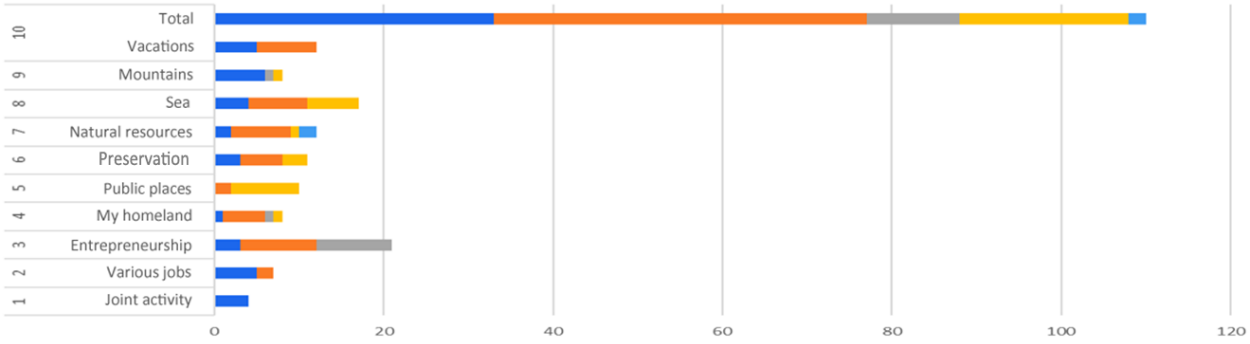
Data on the frequency distribution of the types of arithmetic or computational operations in Figure 2 show that mixed arithmetic operations dominate the ten books, with mixed formulations of addition and subtraction, multiplication and addition, addition and division, division and multiplication, and three types of operations (addition, subtraction, and multiplication). Eight out of every ten books include mixed operations. Multiplication is the second most common computation, with nine out of ten books featuring multiplication. Meanwhile, division is the least studied arithmetic operation, with only two books devoted to it. Non-computation is the dominant content of thematic books on mathematical material, which includes the concepts of numbers, fractions, non-standard units, measuring instruments, time, and measurement conversions (i.e., weight, length, time).

According to the frequency distribution data of the types of questions used in mathematics exercises in thematic books Figure 3, the most common types of questions in thematic books are short answer questions, and almost all books (eight out of ten books) have a total page count of 44 pages. While math word problems are the second most common order, there is only one book on the issue of public amenities that does not include math word problems. At the remarkable high school level, multiple choice questions are not frequently featured in the book, and matching questions take up the least amount of space in thematic books.



	Joint activity	Various jobs	Entrepreneurship	My homeland	Public places	Preservation	Natural resources	Sea	Mountains	Vacations	Total
Addition	3	0	1	2	0	2	2	3	2	3	18
Subtraction	0	0	0	0	0	6	0	0	0	2	8
Multiplication	1	5	1	4	2	1	0	8	1	4	27
Distribution	0	0	1	0	0	0	0	1	0	0	2
Mix	0	6	9	3	5	3	0	6	6	5	43
Non-computing	0	0	11	2	2	8	6	2	0	0	31

Figure 2. Distribution of data based on computing operations.



	1 Joint activity	2 Various jobs	3 Entrepreneurship	4 My homeland	5 Public places	6 Preservation	7 Natural resources	8 Sea	9 Mountains	10 Vacations	10 Total
Story question	4	5	3	1	0	3	2	4	6	5	33
Short questions	0	2	9	5	2	5	7	7	0	7	44
Multiple choice	0	0	9	1	0	0	0	0	1	0	11
Table	0	0	0	1	8	3	1	6	1	0	20
Matching	0	0	0	0	0	0	2	0	0	0	2

Figure 3. Distribution of data based on the type of questions.

The second stage, after analyzing the books and looking at the frequency of some of the features researched, is to confirm with teachers how they use books. Seven questions were submitted to eight teachers. The results of the interviews (see Table 4) demonstrate that they use thematic books in general, with only one teacher not using them. The teachers were also asked how frequently they use the books, and seven out of eight utilize them on occasion. The teacher who provided the never-before-used response stated:

"I never use books. How to put it… my students all have moderate intellectual disabilities" (Teacher 3).

One of the seven teachers who use thematic books in teaching mathematics to students with intelligence barriers stated that:

"….sometimes I use books to study mathematics, more often for learning Indonesian or science. I'm still sorting it out too. Maybe around 20%–30% is used for learning mathematics, and…must be modified because not all children are able to follow it" (Teacher 1)

We specifically asked the teachers how they used thematic books to teach mathematics. By coding and grouping the teachers' responses, we discovered that three out of the eight teachers modified math content to suit children's conditions, because most math content was too difficult for students with intelligence disabilities. Four out of eight teachers claimed that the content was chosen based on the students' needs, while one out of eight teachers stated that they had never used it. Most teachers do not use textbooks passively as learning tools; rather, they change them during implementation (Polikoff, 2015; Remillard, 2005).

We next asked whether the teachers use media or other tools to present math activities to children with intelligence problems in their lessons, and all teachers said yes. They were then asked, "What sources or media are

used to support learning mathematics?" Six of the eight teachers said they made it themselves, while the other two said they looked it up on the internet. One of the six who said that they made their own material stated:

"I make it myself… sometimes I make it in Word, I use pictures or sometimes I use Canva, I just edit it as needed. Canva is more interesting…" (Teacher 6)

When questioned about the types of questions given to students, each teacher provided more than one form of response. On average, they responded that they supplied short computational entries (addition, subtraction, multiplication, division) and the use of money, as well as additional responses to matching questions. When we asked whether students utilized calculators to learn mathematics as extra data, all teachers replied, "No."

Table 4. Survey data.

Question	Answer
1	Yes (n = 7) No (n = 1)
2	Always (n = 0) Sometimes (n = 7) Never (n = 1)
3	• Modified because the math content in the book is too difficult (n = 3) • Selected according to the child's intelligence (n = 4) • Never used because students are in the moderate category (n = 1)
4	Yes (n = 8)
5	Make it yourself (n = 6) Search the internet (n = 2)
6	• Computational short fill (n = 8) • Use of money (n = 8) • Matching (n = 1)
7	• Compute (n = 8) • Use of money (n = 8) • Flat shape (n = 7) • Build space (n = 3) • Time (hours) (n = 2)

In general, a learning textbook must be accessible to all children. Hence, the development of a textbook must consider the subjects that will be included as well as the conditions so that the book is truly beneficial and is fair to teachers and students (Cunningsworth, 1995). A textbook's key topic for students is how it can aid in the learning process in order to complete the curriculum. Teachers in general sometimes assume that curricular achievements are contained in books, hence adhering to textbooks is essential (Biström & Lundström, 2021). Another topic connected to mathematics learning is how books can be used as a medium for teaching contextual problem solving knowledge (Suprotun & Andriyani, 2022).

A theme structure was used to execute the 2013 curriculum for children with intellectual disabilities at all levels. Even at the senior high school level, the academic percentage is far lower than the vocational rate. The number of topics established in the 2013 curriculum increases the amount of content for learners. The data revealed that the most frequently used types of questions were brief answers dominated by computational material or number operations. Even though the most important achievement in learning mathematics is how it may be applied in everyday life. As a result, it is critical to create a framework that conceptualizes mathematics learning in real-world social practice scenarios (Cheong, Walker, & Rosenblatt, 2017; Faragher & Brown, 2005). Students with intellectual disabilities need a combination of mathematical goals and functional aspects. Functional mathematics focuses on teaching practical mathematics in real-life situations (Burton, Anderson, Prater, & Dyches, 2013).

As a resource who has direct contact with children with intellectual disabilities, a teacher can make books a medium for learning, particularly mathematics. The idea that teachers use other sources is an important part of the

study's findings, because a teacher must be innovative, creative, and overcome problematic situations in conditions of limited available resources by modifying learning to suit students' conditions and needs (Jeffrey & Craft, 2006).

Teachers who teach students with intellectual disabilities in high school are exceptional; yet, due to the diverse situations of the children in the class, they tend to use their books in different ways. As a result, the Ministry of Education's official textbooks lead to misunderstandings between student demands and the substance and themes that must be taught in textbooks, particularly mathematics (Alruwaili, 2016). The findings of this study suggest that by introducing a new curriculum, namely an independent curriculum, there is a chance to compile books that meet the needs of students with intellectual disabilities. Analyzing student textbooks can show how teachers utilize existing materials and separately compile mathematical learning books that are not framed by themes. The wide range of vocational fields available to students with intellectual disabilities has the opportunity for content development associated with the mathematical abilities needed (Denada Diah Ayu Ningtyas & Joeda Andajani, 2022; Ratnengsih, 2017).

5. CONCLUSION

Books are a significant source of math learning for children with intellectual disabilities. A book's design and content must meet learning needs. The content analysis of ten textbooks for students with intellectual disabilities at the high school level provides an overview of the suitability of the competencies contained in the curriculum. The textbooks contained between four and 23 pages, which are dominated by practice questions, and the majority of learning material is about natural numbers with mixed computational types, and the majority of questions are in the form of short entries. This study's quantitative findings indicate that teachers only use books on occasion, which is valuable data that opens up opportunities to design specific textbooks in mathematics learning. Their use is through adaptation and modification processes, and teachers use other sources for learning, such as designing their own and searching the internet. Students are generally taught computing material and the use of money through short answer questions. The conclusions of this study provide significant information for designers of future mathematics learning books.

6. LIMITATIONS

The limitations of this study must be recognized. The scope of the books is restricted to specific topics from specific publishers. As a result, there is no data that can be compared for the same topic at the same level. Because of the restricted sample in the survey, the researchers were cautious in drawing conclusions, which confines the conclusions to certain areas covered by the surveyed region.

Funding: This study received no specific financial support.
Institutional Review Board Statement: The Ethical Committee of the Educational Science, Universitas Pendidikan Indonesia, Indonesia has granted approval for this study on 19 May 2023 (Ref. No. 252/ACE-DS/2023).
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: Conceptualization, investigation, methodology, data curation, data analysis, project administration, supervision, and writing, E.R.; conceptualization, investigation, methodology, writing, J.N.; project administration, supervision, writing, conceptualization, E.R.; project administration, supervision, writing, conceptualization, S.S.; project administration, supervision, writing, E.E. All authors have read and agreed to the published version of the manuscript.

REFERENCES

Alruwaili, H. (2016). Obstacles of special education services for students with intellectual disabilities in Saudi Arabia: Future directions. *American Research Journal of Humanities and Social Sciences, 2*, 1–5.

Biström, E., & Lundström, R. (2021). Textbooks and action competence for sustainable development: An analysis of Swedish lower secondary level textbooks in geography and biology. *Environmental Education Research*, *27*(2), 279–294. https://doi.org/10.1080/13504622.2020.1853063

Blumberg, R. L. (2008). The invisible obstacle to educational equality: Gender bias in textbooks. *Prospects*, *38*(3), 345–361. https://doi.org/10.1007/s11125-009-9086-1

Brankaer, C., Ghesquière, P., & De Smedt, B. (2011). Numerical magnitude processing in children with mild intellectual disabilities. *Research in Developmental Disabilities*, *32*(6), 2853-2859. https://doi.org/10.1016/j.ridd.2011.05.020

Browder, D. M., Jimenez, B. A., Spooner, F., Saunders, A., Hudson, M., & Bethune, K. S. (2012). Early numeracy instruction for students with moderate and severe developmental disabilities. *Research and Practice for Persons with Severe Disabilities*, *37*(4), 308–320. https://doi.org/10.2511/027494813805327205

Burton, C. E., Anderson, D. H., Prater, M. A., & Dyches, T. T. (2013). Video self-modeling on an ipad to teach functional math skills to adolescents with autism and intellectual disability. *Focus on Autism and Other Developmental Disabilities*, *28*(2), 67–77. https://doi.org/10.1177/1088357613478829

Butler, F. M., Miller, S. P., Kit-hung, L., & Pierce, T. (2001). Teaching mathematics to students with mild-to-moderate mental retardation: A review of the literature. *Mental Retardation*, *39*(1), 20–31. https://doi.org/10.1352/0047-6765(2001)039<0020:TMTSWM>2.0.CO;2

Cheong, J. M. Y., Walker, Z. M., & Rosenblatt, K. (2017). Numeracy abilities of children in grades 4 to 6 with mild intellectual disability in Singapore. *International Journal of Disability Development and Education*, *64*(2), 150–168. https://doi.org/10.1080/1034912X.2016.1188891

Creswell, J. W. (2003). *Research: Qualitative, quantitative, and mixed methods approaches*. California. EUA: Sage.

Cunningsworth, A. (1995). *Choosing your coursebook*. Harlow: Longman.

Denada Diah Ayu Ningtyas, T., & Joeda Andajani, S. (2022). *Development of vocational skills for mild mentally retarded children on making bags from batik cloth at the SMALB level*. Paper presented at the Proceeding International Conference on Special Education in South East Asia Region.

Faragher, R., & Brown, R. I. (2005). Numeracy for adults with down syndrome: It's a matter of quality of life. *Journal of Intellectual Disability Research*, *49*(10), 761–765. https://doi.org/10.1111/j.1365-2788.2005.00747.x

Faragher, R., & Clarke, B. (2014). Mathematics profile of the learner with Down's Syndrome in educating learners with down syndrome research, theory and practice with children and adolescents. In (pp. 119–145). New York: Routledge.

Homdijah, O. S., Heryati, E., & Ehan, E. (2021). Developing mathematics assessment instrument for children with autism spectrum disorder. *Journal of ICSAR*, *5*(1), 25-28.

Hudson, M. E., Rivera, C. J., & Grady, M. M. (2018). Research on mathematics instruction with students with significant cognitive disabilities: Has anything changed? *Research and Practice for Persons with Severe Disabilities*, *43*(1), 38-53. https://doi.org/10.1177/1540796918756601

Isroaty, A. F. U. (2019). Analysis of questions in the 2013 curriculum math student book (revised edition 2017) based on the dimensions of the trends in international mathematics and science study. *Prosiding Seminar Nasional Pendidikan Matematika*, 80–90.

Issitt, J. (2004). Reflections on the study of textbooks. *History of Education*, *33*(6), 683–696. https://doi.org/10.1080/0046760042000277834

Jeffrey, B., & Craft, A. (2006). Creative learning and possibility thinking. *Creative Learning Practices: European Experiences*, 73-91.

Jordan, N. C., Kaplan, D., Locuniak, M. N., & Ramineni, C. (2007). Predicting first-grade math achievement from developmental number sense trajectories. *Learning Disabilities Research & Practice*, *22*(2), 36–46. https://doi.org/10.1111/j.1540-5826.2007.00229.x

Kroesbergen, E. H., & Van Luit, J. E. H. (2003). Mathematics interventions for children with special educational needs: A meta-analysis. *Remedial and Special Education*, *24*(2), 97–114. https://doi.org/10.1177/07419325030240020501

Lailatus Syarifah, L., & Kumala Dewi, W. (2020). Analysis of problems in mathematics textbooks for grade xi students in terms of cognitive aspects. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *4*(2), 1259–1272. https://doi.org/10.31004/cendekia.v4i2.335

Lemons, C. J., Powell, S. R., King, S. A., & Davidson, K. A. (2015). Mathematics interventions for children and adolescents with down syndrome: A research synthesis. *Journal of Intellectual Disability Research*, *59*(8), 767–783. https://doi.org/10.1111/jir.12188

McKenzie, J. (2021). Intellectual disability in inclusive education in South Africa: Curriculum challenges. *Journal of Policy and Practice in Intellectual Disabilities*, *18*(1), 53–57. https://doi.org/10.1111/jppi.12337

Morsanyi, K., van Bers, B. M. C. W., O'Connor, P. A., & McCormack, T. (2018). Developmental dyscalculia is characterized by order processing deficits: Evidence from numerical and non-numerical ordering tasks. *Developmental Neuropsychology*, *43*(7), 595–621. https://doi.org/10.1080/87565641.2018.1502294

Murniati, S., Roza, Y., & Maimunah, M. (2021). Analysis of problems in mathematics textbooks for grade xi students in terms of cognitive aspects. *Mosharafa: Jurnal Pendidikan Matematika*, *10*(2), 177-188.

Polikoff, M. S. (2015). How well aligned are textbooks to the common core standards in mathematics? *American Educational Research Journal*, *52*(6), 1185–1211. https://doi.org/10.3102/0002831215584435

Purnama, A., Wijaya, T. T., Dewi, S. N., & Zulfah, Z. (2020). Analysis of high school mathematics students' books from Indonesia and China on probability and statistics material. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *4*(2), 813-822. https://doi.org/10.31004/cendekia.v4i2.305

Ratnengsih, E. (2017). Implementation of vocational programs for mentally retarded children. *JASSI Anakku*, *17*(1), 87-92.

Remillard, J. T. (2005). Examining key concepts in research on teachers' use of mathematics curricula. *Review of Educational Research*, *75*(2), 211-246. https://doi.org/10.3102/00346543075002211

Schnepel, S., & Aunio, P. (2022). A systematic review of mathematics interventions for primary school students with intellectual disabilities. *European Journal of Special Needs Education*, *37*(4), 663-678. https://doi.org/10.1080/08856257.2021.1943268

Schreier, M. (2014). Sampling and generalization. In The SAGE Handbook of Qualitative Data Collection. In (pp. 84-97). London: SAGE Publications Ltd.

Schuchardt, K., Gebhardt, M., & Mäehler, C. (2010). Working memory functions in children with different degrees of intellectual disability. *Journal of Intellectual Disability Research*, *54*(4), 346–353. https://doi.org/10.1111/j.1365-2788.2010.01265.x

Spooner, F., Root, J. R., Saunders, A. F., & Browder, D. M. (2019). An updated evidence-based practice review on teaching mathematics to students with moderate and severe developmental disabilities. *Remedial and Special Education*, *40*(3), 150-165. https://doi.org/10.1177/0741932517751055

Spooner, F., Saunders, A., Root, J., & Brosh, C. (2017). Promoting access to common core mathematics for students with severe disabilities through mathematical problem solving. *Research and Practice for Persons with Severe Disabilities*, *42*(3), 171–186. https://doi.org/10.1177/1540796917697119

Sukadari. (2020). Thematic learning for children with special needs in low grade special schools. *G-COUNS: Jurnal Bimbingan Dan Konseling*, *4*(2), 339–351. https://doi.org/10.31316/g.couns.v4i2.820

Suprotun, S., & Andriyani, A. (2022). Character-loaded lift the flap book to enhance contextual problem-solving skills of mental retardation students. *Journal of Education for Sustainability and Diversity*, *1*(1), 39-53. https://doi.org/10.57142/jesd.v1i1.5

Syarifah, L. L., Yenni, Y., & Dewi, W. K. (2020). Analysis of questions in mathematics textbooks for class 10 students in terms of cognitive aspects. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *4*(2), 1259-1272. https://doi.org/10.31004/cendekia.v4i2.335

Van Garderen, D., Scheuermann, A., & Jackson, C. (2012). Developing representational ability in mathematics for students with learning disabilities: A content analysis of grades 6 and 7 textbooks. *Learning Disability Quarterly*, *35*(1), 24–38. https://doi.org/10.1177/0731948711429726

Van Garderen, D., Scheuermann, A., Poch, A., & Murray, M. M. (2018). Visual representation in mathematics: Special education teachers' knowledge and emphasis for instruction. *Teacher Education and Special Education*, *41*(1), 7–23. https://doi.org/10.1177/0888406416665448

Zikl, P., Havlíčková, K., Holoubková, N., Hrníčková, K., & Volfová, M. (2015). Mathematical literacy of pupils with mild intellectual disabilities. *Procedia - Social and Behavioral Sciences*, *174*, 2582–2589. https://doi.org/10.1016/j.sbspro.2015.01.936