

# Improving Addition and Subtraction Calculation Skills Among Dyscalculia Students Using the Speedline Dots Culia Method

Nor Azmidy bin Ismail

Sekolah Kebangsaan Bukit Beruang, Melaka  
*speedlinemath@gmail.com*

## ABSTRACT

Speedline Dots Culia is a new method for students with Dyscalculia. This practice aims to improve the quality of my teaching on the skills of calculating addition and subtractions for Dyscalculia students. This best practice involved a target group of 5 special education students in the Marikh class located at the Bukit Beruang Primary School of Melaka in 2020. The data collected in this study using video recordings, pictures and tests were analyzed. The findings find that the planned activities have helped teachers and improve the teaching and learning process in terms of formulating, planning and implementing student - centered PdP activities without compromising the content objectives that students need to master.

**Keywords:** Speedline Dots Culia Method, Addition and Subtract Operations, Special Education Students with Dyscalculia.

---

## Introduction to Best Practices

Awareness of the Learning Problems of Special Education Students of Dyscalculia has been around for a long time in Malaysia. In Malaysia, special education has begun since the early 1920s. Although they are not like other normal children, but with appropriate and appropriate learning styles, they can also master a branch of knowledge well. Every human being has his or her own intelligence. Children with learning problems also known as Slow Learner are one of the categories of special children that need attention and pedagogy that are different from normal children.

They also have low cognitive levels and are usually unable to achieve high level of thinking skills (EAT). This is because they cannot or are too slow to achieve a simple learning objective and need to be resolved in the short term. In addition, they also have the power of observation and weak stimulation (Fatimah, 2016). According to Mohd Zuri Ghani, Aznan and Che Ahmad Dyscalculia are a problem facing children who cannot perform operations involving numbers and symbols in Math. Dyscalculia characterizes the problems faced by children in mathematics in general and in mathematical operations in particular. The main cause of problems faced by children with mathematical difficulties (Dyscalculia) is observation. In addition, the features of Dyscalculia such as the problem of processing information or processing speed are slow that the child cannot solve or understand a new skill quickly

## Justification on the Implementation of Best Practices

The idea of creating a new method in this action study of the Speedline Dots Culia is based on students' difficulties in calculating addition and subtraction operations involving great values. high numbers. But since special education students have problems with their brain intelligence they are unable to calculate by using memory and brain, especially the number of large numbers.

Awareness of the problem of this disclosure pupils I try to figure out what is the best and easy way for these disclases to master the basic facts of mathematical facts based on the strength of their minds. When reviewing the strength of these weak students, overall They are only able to count basic numbers 0 to 9 only to answer the addition and subtract operations. Thus using the strength they have I try to create an easy -to -understand method / technique to help them answer addition and subtraction questions to enhance the addition Large numbers to millions. This method only involves the use of basic numbers, which is 0 to 9, which is to count and write up and down and use only a few points without the use of any teaching aids, fingers and even high brain cognitive skills. no need re -assemble the questions given.

## Implementation Objectives

Implementing this best practise has the following goals:

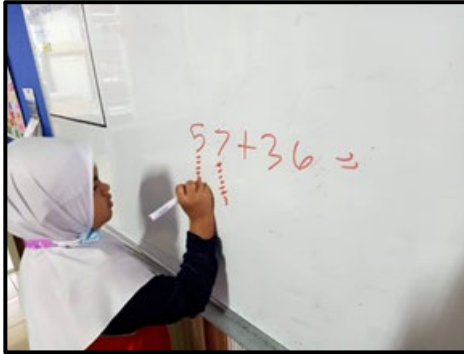

- i. Calculating addition operations and ascending numbers.
- ii. Calculating operations involving subtraction and descending sequences of numbers.

## Implementation of Best Practices

I also provide a schedule of action implementation to ensure that this study achieves the set objectives. The following is a schedule of intervention.

Table 1  
*Implementation of Intervention*

Day	Implementation of Intervention
<b>Week 1</b>	<ul style="list-style-type: none"> <li>- Students count and writing ascending numbers to <b>0 - 9</b> repeatedly.</li> <li>- Students count and writing decending numbers to <b>9 - 0</b> repeatedly.</li> </ul>
	<ul style="list-style-type: none"> <li>-The student should place a point under the number based on the question given.</li> <li>-Students count ascending numbers to <b>0 - 9</b> repeatedly.</li> <li>-When writing numbers <b>0</b> during points of points students must give 1 point an extra on the bottom.</li> <li>-The student is asked to circle each last number below to be written as an answer.For Example:</li> </ul>

<p><b>Week 2</b></p>	<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <math display="block">\begin{array}{r} 4870 \\ \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \end{array} + 2340 =</math>   <math display="block">\begin{array}{r} 4870 \\ \cdot 5 \quad \cdot 9 \quad \cdot 8 \\ \cdot 6 \quad \cdot 0 \quad \cdot 9 \\ \cdot 7 \quad \cdot 1 \quad \cdot 0 \\ \quad \cdot 2 \quad \cdot 1 \\ \hline 7210 \end{array} + 2340 = 7210</math> </div> <div style="width: 50%; border: 1px solid black; padding: 5px;"> <p>Reminder:</p> <ul style="list-style-type: none"> <li>- Write the point below the question number on the left based on the question number at right side.</li> </ul> </div> </div> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <math display="block">\begin{array}{r} 4870 \\ \cdot 5 \quad \cdot 9 \quad \cdot 8 \\ \cdot 6 \quad \cdot 0 \quad \cdot 9 \\ \cdot 7 \quad \cdot 1 \quad \cdot 0 \\ \quad \cdot 2 \quad \cdot 1 \\ \hline 7210 \end{array} + 2340 = 7210</math> </div> <div style="width: 50%; border: 1px solid black; padding: 5px;"> <p>Reminder :</p> <ul style="list-style-type: none"> <li>-Write the ascending number from <b>0 to 9</b> repeatedly.</li> <li>- Give an additional point at the next number at the bottom when writing and counting number <b>0</b>.</li> </ul> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="width: 45%; text-align: center;">  </div> <div style="width: 45%; text-align: center;">  <p><b>ADDITION</b></p> </div> </div>
<p><b>Week 3</b></p>	<ul style="list-style-type: none"> <li>-The student should place a point under the number by the house given based on the question given.</li> <li>-Students count decending numbers to <b>9 - 0</b> repeatedly.</li> <li>-When writing numbers <b>9</b> during points of points students must give 1 point an extra on the bottom.</li> <li>-The student is asked to circle each last number below to be written as an answer.</li> </ul>

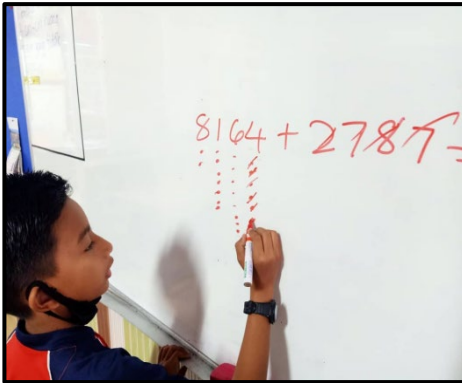
$$\begin{array}{r} 5124 \\ \cdot \\ \cdot \\ \cdot \\ \cdot \end{array} - 2341 =$$
  


$$\begin{array}{r} 5124 \\ \cdot 4 \quad \cdot 0 \quad \cdot 1 \quad \cdot 3 \\ \cdot 3 \quad \cdot 9 \quad \cdot 0 \\ \cdot 2 \quad \cdot 8 \quad \cdot 9 \\ \quad \cdot 7 \quad \cdot 8 \end{array} - 2341 = 2783$$

Reminder:  
 - Write the point below the question number on the left based on the question number at right side.

$$2783$$

Reminder :  
 -Write the decending number from **9** to **0** repeatedly.  
 - Give an additional point at the next number at the bottom when writing and counting number **9**.





**SUBTRACTION**

## Data Collection and Analysis

### Diagnostic Test

The test was conducted after the 3rd week of Speedline Dots Culia method was completed. The test decision was shown in Table 2:

Table 2  
*A Reflection on Data Best Practices*

No	Student	Gender	Diagnostic Test 1 %	Diagnostic Test 2 %	Result
1.	Student 1	L	30	94	Increased
2.	Student 2	L	25	82	Increased
3.	Student 3	L	18	74	Increased
4.	Student 4	L	26	88	Increased
5.	Student 5	L	16	96	Increased

I made comparisons between diagnostic tests 1 and diagnostic test 2 found that students were very weak mastering addition operations and subtraction involving large groups. By making this comparison I was able to conclude that the Speedline Dots Culia method has helped to improve students' understanding and mastery of addition and subtraction operations easier and faster after they are learned. Many students show a relatively good improvement in Diagnostic Test 2. Overall, student scores on Diagnostic Test 2 indicate a better understanding and achievement.

## Conclusion and Recommendations

In conclusion, after I implemented this practices It shows success in reducing my problems when teaching and assisting students in mastery of addition and subtraction operations and proving through the entire data obtained involving diagnostic tests 1 and 2. All showing changes and making positive decisions in line with my objective goals. This Speedline Dots Culia method has opened my mind to improve the learning method where researchers need to strive to diversify the more fun teaching and learning methods of the PdPC towards the Industrial Revolution of the 4.0 e-learning mobile game. For future studies I will study the use of IR 4.0 in learning to attract students and thus enable students to use this knowledge in their lives.

## References

- Ahmad, N. A., & Yoong, S. M. (2018). Challenges in preparing teachers for inclusive education and its impacts to students with learning disabilities. *International Journal of Academic Research in Progressive Education and Development*, 7(3), 569-581.
- Bahagian Perancangan dan Penyelidikan Dasar Pendidikan Kementerian Pelajaran Malaysia. (2008). *Kaedah Penyelidikan*. (2nd ed). Kuala Lumpur: Mc Graw Hill (Malaysia) Sdn. Bhd.
- Ferreira, J. M. (2017). What is special in special education from the inclusive perspective? *International Journal of Early Childhood Special Education*, 9(1), 50-65.
- Hameed, S. (2017).
- International Journal of Academic Research in Business and Social Sciences Vol. 11 , No. 10, 2021, E-ISSN: 2222-6990 © 2021 HRMARS Chinn, S., & Aschcroft, R. E. (2017). *Mathematics for Dyslexics and Dyscalculics: A Teaching Handbook*. United Kingdom: Wiley Blackwell.
- K.A Razhiyah (2006). *Mengapa Kanak-Kanak Sukar Belajar*. Kuala Lumpur, Malaysia. PTS Profesional Sdn Bhd
- Ministry of Education Malaysia. (2019). *Pelaporan Pentaksiran Sekolah Rendah 2019*. Retrieved from: <https://www.moe.gov.my/muat-turun/laporan-dan-statistik/lp/3056-pelaporan-pentaksiran-sekolah-rendah-2019/file>
- Muhaamad, K.A Jamila(2008). *Special Education For Special Children*. Jakarta. Hikmah
- Nadhirah Yaakob (2013). *Sebut Betul Tulis Salah*. Kajian Tindakan IPG Kampus Kota Bharu.

Mohd Zuri Ghani, Aznan Che Ahmad (2011). *Kaedah Dan Strategi Pengajaran Kanak-Kanak Berkeperluan Khas MPH*. Distributor Sdn Bhd.

Staves, L. (2019). *Very Special Maths: Developing Thinking and Maths Skills for Pupils with Severe or Complex Learning Difficulties*. London: Routledge.

United Nations. (2018). *Transforming our world: the 2030 agenda for Sustainable Development*. A New Era in Global Health, 529-568.

Van der Ven, F., Seger, E., Takshima, A., & Verhoeven, L. (2017). Effects of a tablet Game intervention on simple-addition and subtraction fluency in first graders. *Computers in Human Behavior*, 72, 200-207.

Yoong, S. M. (2020). An Introduction: What do you know about dyscalculia? In Habidin, N.F., Ong, S.Y.Y., Chik, T.W.T., & Muhammad, U.A. (Eds.). *The Revolution in Social Research and Education* (pp. 82-88). Tanjung Malim: Kaizentrenovation Sdn. Bhd.

Yunus, H., & Ahmad, N. A. (2019). A conceptual framework for META ProBaca Module In improving reading comprehension and reading fluency. *International Journal of Academic Research in Business and Social Sciences*, 9(11), 1187-1200.

Yoong, S. M., & Ahmad, N. A. (2020). A view on theories and models in the study Of dyscalculia. *International Journal of Academic Research in Business and Social Sciences*, 9(3), 128-137.

Yoong, S. M., & Ahmad, N. A. (2020). The needs and significance to design and develop A Dyscalculia checklist. *Malaysian Science and Mathematics Education Journal*, 10(2), 8-14.