

# Effects of Process-Based Writing Instruction using for Three Students with Writing Disabilities<sup>1</sup>

Joungmin Kim<sup>1</sup> and Hyunwook Kim<sup>2</sup>

<sup>1</sup>Soonchunhyang University, [nicki123@sch.ac.kr](mailto:nicki123@sch.ac.kr)

<sup>2</sup>Jungwon University, [kimhyunwook77@gmail.com](mailto:kimhyunwook77@gmail.com)

## **Abstract**

*It is of considerable concern that students do not develop the writing skills needed for school, occupation, or personal success. A number of explanations for this is, schools do not provide a good solution for teaching this complex skill. Writing is one of the most complicated literate activities in which children with writing disabilities engage. This study presents the effects of process-based writing instruction using ALMind on writing skill of students with writing disabilities. For this study, 3 elementary students were involved. The study was titled multiple baselines across subjects. According to the result, writing skills categorized in expression of accuracy and contents were increased.*

**Keywords:** *process-based writing instruction, ALMind, writing disability*

## **1. Introduction**

Writing is one of the major areas of communication in everyday life, to express one's intention, to immediately organize your thoughts when compared to what you say, and others can post thoughts and effectively record information and is a means of conveying ideas [1]. Even in classrooms in which teachers report is about teaching text transcription skills in the context of meaningful, authentic composing activities [2, 3]. A meta-analysis summarizing research on improving the content of expressive writing for students with LD to improve was used. There are many interventions or strategies regarding writing to improve writing content in a variety of genres [4]. Why do so many students can't write well enough to meet their grade level demands? One possible reason or answer for this matter is that schools do not do their job adequately. In this study, the ALMind writing program has been utilized to guide writing for three students with writing disabilities. For the purpose of this study is to examine how process-based writing instruction using ALMind affects the three students with writing disabilities. Two research questions were established to reach the purpose of the study as followings.

### **1.1. Research Question**

1. How effective is ALmind on the students with writing disability's accuracy?
2. How effective is ALmind on the students with writing disability's content of organization?

## **2. Methods**

### **2.1. Participants**

In this study, three elementary students with writing disabilities participated. The three students' intelligence level of below IQ80, KISE-BATT (writing) was below 15%, and all

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three students have writing disability rather than other disabilities (hearing, vision, developmental disability *etc.*) More detailed information is in Table 1.

**Table 1. Participants' information**

Students Categories	A	B	C
Gender	Male	Female	Male
Grade	5	5	6
K-WISC-III	105	97	85
KISE-BAAT	2%ile	5%ile	10%ile

## 2.2. Instrument

The measurement tool was used from the related literatures [5-8] and has been modified to fit the purpose of this study. More information is contained in Table 2.

**Table 2. Measurement Tools**

Expression accuracy	Content and area
Spelling	Accuracy of contents
Conjunction	Correspondence of content
Comprehension	High content
Correcting grammar and punctuation	Connection between the content
Postposition	
Sequence of tense	
Sentence connector	

## 2.3. Process-based Writing Instruction Using ALMind

This is the period of independence in the whole process of mediation dealing with the writing process-centric approach rather than writing output. More detailed information is in the Table 3.

**Table 3. Process Writing**

Step	Process	Content
Pre-writing	Bring up thought	<ul style="list-style-type: none"> <li>• Select the topic</li> <li>• Mind-mapping</li> <li>• Demonstration of bring up thought</li> </ul>
	Bind a thought	<ul style="list-style-type: none"> <li>• Determine sequence</li> <li>• Bind the ideas</li> <li>• Demonstration of binding a thought</li> </ul>
Writing	Write the first draft	<ul style="list-style-type: none"> <li>• Oral writing</li> <li>• Writing draft</li> </ul>
	Polish up	<ul style="list-style-type: none"> <li>• Polish up based on checklist</li> </ul>
Post-writing	Review	<ul style="list-style-type: none"> <li>• Review based on the object, process, make up for the weak points</li> </ul>
	Improve work	<ul style="list-style-type: none"> <li>• Complete the writing</li> </ul>

		<ul style="list-style-type: none"> <li>• Announce writing</li> <li>• Post the writing</li> </ul>
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**2.3.1. Bring Up Ideas:** ALMind is composed in three steps. More detailed information is in Table 4.

**Table 4. Frist Step of Process-based Writing Instruction**

Step	ALMind	Achievement
1	Centric topic 3, major topic 6	More than 60% accurate for 3 sessions (9 out of 6)
2	Centric topic 3, major topic 6, minor topic 12	More than 75% accurate for 3 sessions (21 out of 16)
3	Centric topic 3, major topic 9, minor topic 18	More than 60% accurate for 3 sessions (30 out of 27)

**2.3.2. Binding Ideas:** The idea is similar to look at a finished project eject the contents of the ALMind and the students need to look similar to the idea of writing good content themselves with the binder contents or duplicate content which is a process that can be verified.

**2.3.3. Writing the First Draft:** Write a draft first, ALMind scans the entire work, checking all the measured components such as spelling, conjunction so on.

**2.3.4. Polish Up:** Write on the topic of the writing process-centric is the basic curriculum language of special schools, the contents of the third-level textbook by utilizing the mind map of divergent thinking is as open topics as possible and selects the subject that is presented in a student-centered experience and their related attributes to a writing Professor and possible topics.

## 2.4. Study Procedure

**2.4.1. Baseline:** The first is a student sitting in front of the computer using their mind to know, student-friendly, 3 theme-oriented topics, 9 main topics, 18 sub topics painted step 3 load the picture, directed by AIMind, to enter each topic and write. Modify the input on the topic and mind the mindset to know time is 15 minutes, writing time is 25 minutes of the entire 40-minute class.

**2.4.2. Intervention:** The writing center required the process of learning about the procedure to assist in the demonstration phase, as outlined in the guide to practice, independent practice goes directly to step teaching method using arbitration.

**Table 5. The Example of Process-based Writing Instruction**

Stage	Training & learning activities
Demonstration	<ol style="list-style-type: none"> <li>1. Select the subject</li> <li>2. Writing a theme based on ALMind</li> <li>3. Deciding topic related the theme</li> <li>4. Thinking central topic and typing</li> </ol>

	<ol style="list-style-type: none"> <li>5. Thinking main topic and typing</li> <li>6. Thinking sub-topic and typing</li> </ol>
Teacher-driven practical stage	<ol style="list-style-type: none"> <li>1. A teacher tells the AlMindprocess and demonstrated.</li> <li>2. Students followed direction of ALMind (e.g., demonstration stage)</li> <li>3. Teacher reduced the demonstration and increase student work</li> </ol>
Independent practical stage	<ol style="list-style-type: none"> <li>1. Students write independently without teachers' helps.</li> <li>2. Student speaks in a low voice about a topic and writes it down.</li> </ol>

**2.4.3. Maintenance:** Keep checking after the mediation of the target children to determine the baseline and writing abilities in the same conditions.

**2.4.4. Fidelity:** Write-write for courses and course evaluations of professors to internalize strategies that teachers and students can look at the aspects of a conversation [8] on the basis of a study of the teacher's writing center process depending on the procedure goes to evaluate. Two special teachers were looking at the more than 50% of their intervention sessions for recording the video observation. To correct arbitrate a proceeding in a mediator goes to meet evaluates on a three-point scale. (Agreed upon score/full score) × 100, calculated results, 94% of the intervention fidelity.

**2.4.5. Reliability:** Write output more than 30% of the researchers and the expression for the two accuracy category and special teacher content categories based on scoring points. (Graded the same questions/full items) × 100% confidence level yielding results. 93.3

### 3. Result

#### 3.1. Expression Accuracy

As you can see in Table 6 and Figure 1, in the arbitration period, all three students' data points tend to target students who showed a trend of raising the accuracy of expression. The graphical analyses of the three students' performance (expression accuracy, contents organization) pre-post intervention in the classroom setting indicated improvement, and that progress was made toward achieving the goals. The trend and variability of the expression accuracy between baseline and intervention condition, the level refers to the mean performance of dependent variable during the phase of the study. Trend refers to the rate of increase or decrease of linear, best-fit straight line for the development variable within a condition (slope). The baseline mean range was 4.2%-40% which increased immediately with onset of ALmind intervention. The intervention phase range mean was 85.43-90.27% over 15 sessions, rise of over 50-80%. There were no overlapping data points between the baseline and intervention, which is indicating a strong effectiveness. The change to maintenance in two weeks appeared to show a small decline the dependent variable, but not low enough to exceed the lower range of variation in the expression accuracy in the intervention phase.

**Table 6. Average of Expression Accuracy**

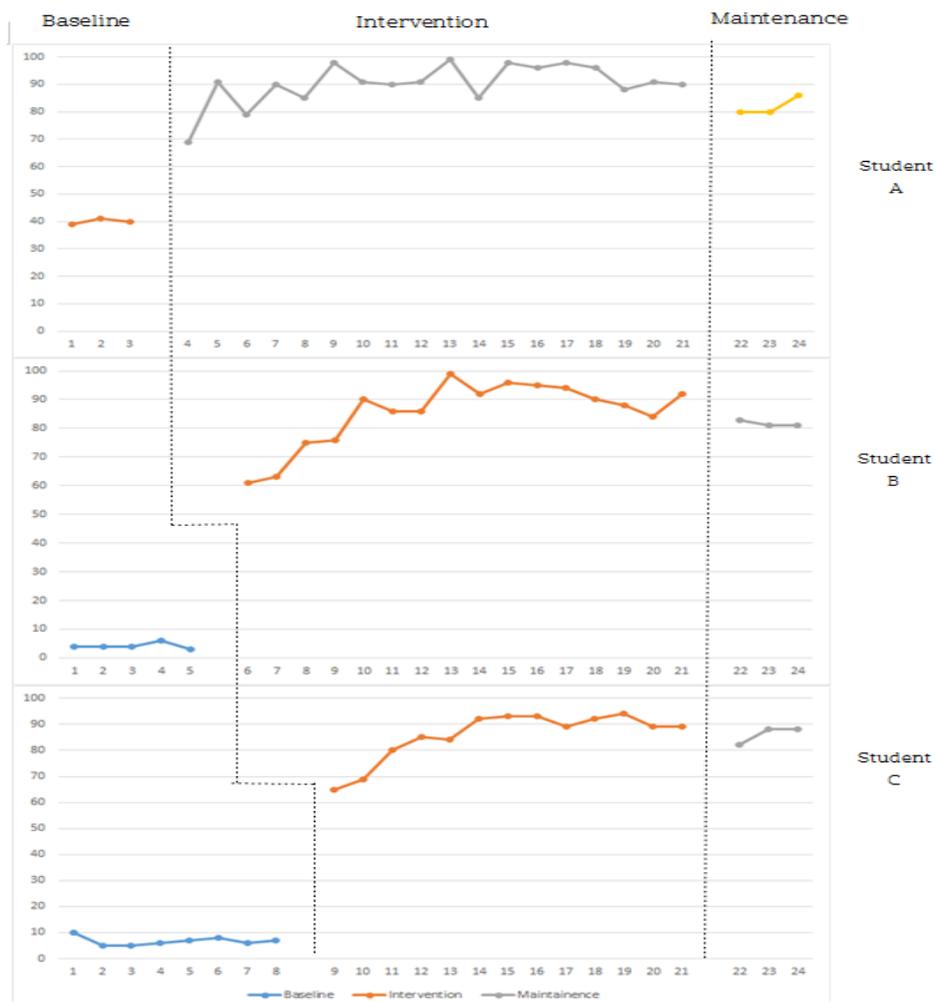
Students	Baseline	Intervention	Maintenance
A	40.0	90.27	82
B	4.2	85.43	81.66
C	6.75	85.69	86

### 3.2. Content of Organization

As you can see in Table 7 and Figure 2, in the arbitration period, all three students' data points tend to target students who showed a trend of rising the content of organization.

**Table 7. Average of Content of Organization**

Students	Baseline	Intervention	Maintenance
A	3	5	11
B	.6	6	9
C	2	4.75	10



**Figure 1. Expression Accuracy Rate**

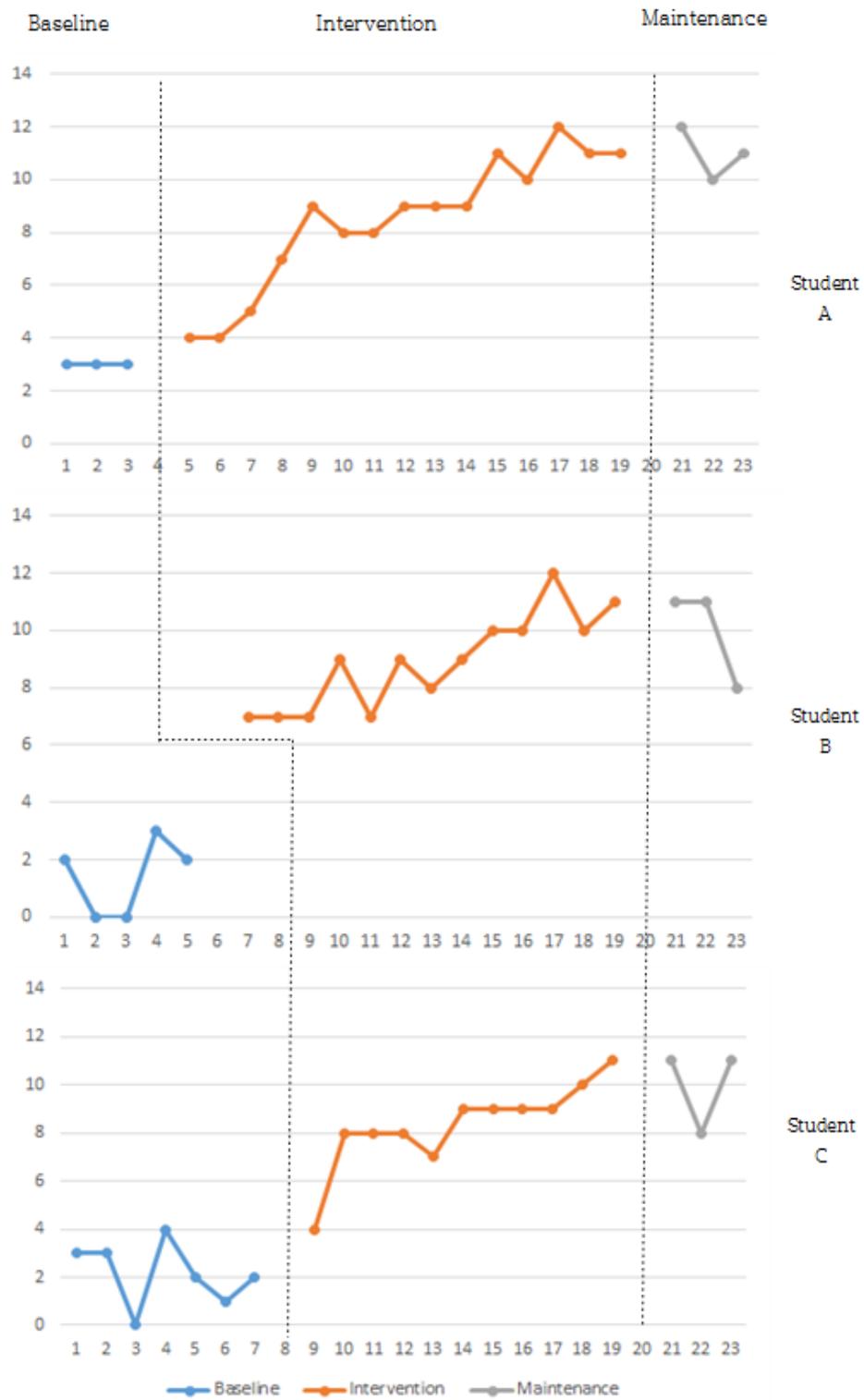


Figure 2. Content of Organization Rate

#### 4. Discussion

External validity is of particular interest to stakeholder (including parents, church members, and participants) who wants interventions that produce comprehensive lifestyle change [10].

The results of the study, all three writing disabilities represented the target students showed improvement in the accuracy and content of the configuration. AlMind takes advantage of activity which extends the thinking mind, to increase the vocabulary which could affect free expression using thinking computer programs by using the mind to know was useful to a professor in writing because writing an excellent study environment, which did not give the burden to students interested in learning. On the other hand, this included the Almind writing intervention reinforcing the three students' writing productivity (expression accuracy and content organization skills). Many experimental studies that have focused on writing intervention of children with writing disabilities have occurred in the classroom settings; however children with disabilities spend the majority of their time in the home and community environments [11]. Yet, there is paucity of research on the writing intervention of children with writing disabilities including learning disabilities in community settings or home [12] therefore it is considerable important issues on how to provide the effective intervention through liaison between school and home.

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