

Assessment of self-made educational workbook to E-writing skills of non-graded learners with autism spectrum disorder

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Abstract

This study used questionnaires and a self-made workbook for students with autism to determine their levels of writing proficiency and to identify their areas of strength and weakness. This tool is the one that Laguna University's third-year Bachelor of Elementary education students prefer to use when completing their own self-made workbook. The results show that before utilization of the Workbook the Learners with autism had an average of 2.6 in terms of Writing capabilities, it shows that before using the Workbook the students know how to write on their own. After Utilization of the Workbook the students with autism had an average of 3.4 in terms of Writing capabilities shows that after using the workbook the hand writing skills of the students with autism improves. The pencil grip and control before utilization is 2.4 which is proficient but after it becomes 3.4 that shows Excellent. The line usage before utilization is 2.6 which is proficient and after using the Workbook it becomes 3.2 and still proficient. Legibility and Formation before utilization has 2.6 which is proficient and after using the Workbook it becomes 3.6 that is Excellent. Letter/Word Spacing before utilization has 2 which is developing and after Utilization it becomes 3.6 which is excellent. Consistency before utilization has 2 which is developing after Utilization it becomes 3.2 which is Excellent. This study therefore recommended that learners with autism may have supplementary materials such as a workbook that includes tracing, coloring, puzzles and quizzes. The parents of students with autism can actively engage their child's attention in activities that can improve the writing skills of their child. It can also help the future research as their reference for having a topic that is connected to this Research.

Keywords: assessment; educational workbook; E-writing skills; autism

1. Introduction

Writing is an important part of academic and personal growth since it is necessary for people to communicate, express themselves, and actively participate in various activities. Writing skills are essential for students' academic success because a huge part of schoolwork, including exams, assignments, reports, and research is almost always written. Writing skill should be enhanced so it could be an instrument for success and advancement, not just for the students, but also for everyone.

Students with autism face unique challenges in the field of special education when it comes to refining and improving their writing talents. Non-graded autistic pupils, on the other hand, typically struggle in this area, which impairs their overall educational experience. The primary goal of this study is to develop a self-made instructional workbook that is specifically tailored to help kids with autism improve their writing skills and cater to their needs.

In this fast paced world, everyone can speak and express themselves through writing. It is, however, different for those with autism. Learning to write is tough for them, and mastering the proper letter-writing style may take a long period of time. This study aims to inspire youngsters to learn to write while also making it easier for their teachers to give instructions and guidance.

By implementing this novel technique, the researchers help non-graded learners with autism ages 10-19 years old overcome hurdles and reach their full potential in expressing themselves via writing. A self-created educational workbook is a great tool for teachers, parents, and caregivers since it provides access to a large resource that promotes and improves the development of writing abilities of autistic pupils.

To summarize, the purpose of this research is to contribute to the field of special education by providing a workable solution that improves the writing ability of autistic children. The researchers hope to improve this population's overall educational experience by addressing the unique challenges they face, fostering inclusivity and success in their social and academic life.

1.2. Background of the Study

According to the Deped order No.53 section 2008, the Bureau of Elementary Education (BEE) department, through the Special Education (SPED), regularly conducts training of teachers and administrators for children with special educational needs to provide them access to better education. This means that the majority of these children have mental, physical, medical, or psychological challenges that require more attention than typical students to accomplish learning results.

Victoria Elementary School offers Special Education that only has five learners with autism. Autism Spectrum Disorder is a type of Autism of students with different kinds of levels. Autism Spectrum Disorder (ASD) is a developmental disorder that can cause a wide range of social, communicative, and behavioral difficulties.

Everyone understands that having a disability may be difficult, especially when it comes to learning. They also have difficulty writing words or letters. Some autistic students struggle to understand instructions. Students are more motivated when they are working on projects that they find appealing or straightforward to use. Teachers are pleased when they see their children learning to write a letter or speak a brief word.

Workbooks have the potential to significantly improve students' writing abilities. It is tough to teach students to write a letter or a word, especially accelerated students. Teachers are having difficulty inspiring their kids. Not because of the kids' misbehavior, but because they are uninterested in learning to write, and this claim is confirmed. (Asep, 2018)

The selected learners with autism ages 10-19 years old at Victoria Elementary School struggle with writing, providing a workbook can help and motivate them to learn letter writing while still under the supervision of their teachers. Special Education teachers are more forgiving than other teachers, due to developmental challenges of pupils with autism.

Young learners can better prepare for what they could encounter in the classroom by completing activity books. A child's skill can be improved by coloring and other art activities which make it simpler for them to learn other dexterous abilities like handwriting. In the modern world, using worksheets is the best way to help kids learn through creative activity. In comparison to other methods of teaching, worksheets are more engaging and convenient for kids.

The workbook is useful for students with autism because it gives them regular experience using their writing skills. With the help of this workbook, students with autism can also benefit from better writing abilities. Additionally, writing helps students express their creativity since the more they write, the more they learn to visualize, picture, or just simply create ideas.

1.3. Statement of the Problem

The study aims to look into the utilization of self-made educational workbooks to improve the writing skills of non-graded learners with Autism ages 10-19 years old at Victoria Central Elementary School. Specifically, it sought to address the following questions:

1. What is the level of writing capabilities among non-graded learners with autism ages 10-19 years

old at Victoria Central Elementary School before and after using the workbook?

2. Is there a significant difference between the level of writing capabilities of learners with autism before and after utilizing a self-created instructional workbook?

1.4. Objectives of the Study

This study aims to determine the potential of self-made educational workbooks for teaching writing to Non-graded learners ages 10-19 Years old at Victoria Elementary School.

1. To determine the level of writing skills among non-graded learners with autism at Victoria Central Elementary School including the before and after the self-made educational workbook.
2. To determine if there is a significant difference between pre-test and post-test results of learners with autism utilizing a self-created educational workbook.

1.5. Significance of the Study

The purpose of this research is to look into the efficacy of self-made educational workbooks in improving the writing skills of non-graded students with autism ages 10-19 years old at Victoria Central Elementary School.

Teachers. This research will assist teachers in guiding students in the development of their writing skills, as they are the ones who teach them to write and monitor their progress.

Parents. They are said to have a higher level of engagement with their children, and they are the first teachers of their children. This study will assist them in motivating and providing sufficient engagement and practice to develop their child's writing skills.

Future Researchers. This research can be utilized as a future reference for individuals performing similar studies. They might even find a solution and utilize their findings to help children with autism improve their writing skills.

1.6. Hypothesis

There is no significant difference between the level of writing capabilities of learners with autism before and after utilizing a self-made educational workbook of non-graded learners with autism ages 10-19 years old at Victoria Elementary School.

1.7. Scope and Limitation

This study focuses on the effectiveness of the utilization of self-made educational workbooks for learners with autism ages 10-19 years old. The research was conducted at Victoria Elementary School in Brgy. Nanhaya, Victoria, Laguna in June 2022.

The researchers chose Victoria Elementary School due to its high number of non-graded students with autism. The positive response and support of the school administrators were also a big factor for the researchers to complete the study in Victoria Elementary School. That is why the researchers switched their responses from Santa Cruz Central Elementary School to Victoria Central Elementary School.

The researchers gathered data from articles on the internet, books, and interviews with professional teachers. They conducted a survey to know the number of the respondents and investigated the current level of writing skills of learners with autism. Pre-test and post-test were used by the researchers to evaluate the respondents.

1.8. Definition of Terms

The following terms were defined according to how they were used in the study:

Autism. Autism Spectrum Disorder is a type of autism of the respondents with different kinds of levels. According to the Centers for Disease Control and Prevention, Autism spectrum disorder (ASD) is a developmental disability caused by differences in the brain. People with ASD often have problems with social communication and interaction, and restricted or repetitive behaviors or interests. People with ASD may also have different ways of learning, moving, or paying attention.

Non-graded Learners with Autism. Children of various ages and abilities taught together in the same classroom without dividing them or the content into "grade" levels.

Special Education Students. This refers to students who have mental, physical, emotional, or behavioral problems.

Tracing Skill. This skill can develop various skills, like fine motor skills, that are aligned with improving writing, especially with the respondents, which are learners with Autism. The training skill is the skill that learners will do in the workbook to help them improve their writing skills.

Workbook. This refers to the researcher's intervention, which consists of tracing, quizzes, puzzles, coloring activities, and other types of interactive tasks to engage young pupils in honing their writing skills. This workbook is the intervention of the researchers to improve the writing skills of learners with autism.

2. Review of Related Literature

This chapter provides a review of related literature that is relevant to the research paper. All materials from journals, books, and online articles served as a guide for this study are enumerated in this chapter.

2.1. Special Education

Special Education or SPED is a program for children it serves to students who have mental, emotional, and behavioral disabilities.

Special education is the process by which students with special needs receive education via the process of addressing their differences while integrating them as much as possible into the typical educational environment of their peers. Success, measured as self-sufficiency, academic achievement, and future contributions to the community, may not be achieved if students with special needs do not receive this additional help. In the United States and many other countries, children who have special educational needs are entitled by law to receive services and accommodations that will help them perform to the best of their abilities and reach their academic potential

Special needs can include learning disabilities, speech and language impairments, autism spectrum disorders, cognitive impairments, emotional and behavioral disorders, physical disabilities like cerebral palsy, muscular dystrophies, sensory impairments like vision or hearing, chronic medical illnesses, and any condition that affects optimal education.

Whenever possible, the needs of these students should be met in the same environment where other peers learn. Only when progress is lacking in this mainstream setting, then a different classroom placement can be selected for their education. This new setting may include fewer students in the classroom, more teachers, or a higher level of support. The process of moving a child from the typical classroom or educational setting to a specially structured one is gradual. Emphasis should focus on finding the balance of meeting the student's educational needs in the least restrictive environment (Anthonella Ojeda, 2022)

2.2. Learners with Autism

Learners with autism exhibit a variety of behaviors. Some of them repeat their actions, while others are talkative, but if they become serious and begin to focus on the activity at hand, they will continue to do so until the activity is completed.

Autistic students frequently learn and develop in ways that neurotypical counterparts do not. Students on the autism spectrum have distinct strengths and problems that must be acknowledged in any learning environment in which they engage.

Students with autism generally struggle with social skills and communication. It can be difficult for them to keep concentrating in an overstimulating setting and to grasp the big picture of what they are learning. Teaching autistic students involves a unique set of skills, whether you are a teacher or a homeschooling parent. When you arm yourself with certain autism teaching tactics, you and your autistic student can feel more at ease and successful in the classroom (Elemey 2020).

2.3. Writing

Writing, even among young toddlers, is always used to communicate. Writing is one of the tools available to young children for communicating their ideas. While learning how to write, young children may find it difficult to construct and remember messages.

Al-Atabi (2020) defines "writing" as "the act of conveying thoughts and ideas in a comprehensible manner using symbols, alphabetic letters, punctuation, and spaces." It is a method of human communication in which symbols represent a language.

Students should enhance their writing skills, thus instructors, parents, or older people should help them to do so by educating them about writing topics and strategies such as directing and tracing their writing.

Writing by hand helps pupils solve difficult issues because it enables them to identify the connections between ideas. It pushes individuals to slow down and concentrate on their thoughts. Daily writing has been shown to help with communicating difficult ideas. In terms of emotional intelligence, this offers benefits. Writing may provide students a sense of achievement, which is significantly motivating to have, no matter how small it may be. A student might become more confident as a result of it, or it might at the very least boost their mood. Writing on requires effort. Because of this, handwriting is a challenging task that eventually gives results. It makes one take their time, carefully review each sentence, and keep track of their developments and revisions as they proceed Saxena (2021).

2.4. Educational Workbook

An educational workbook can assist students with autism spectrum disorder (ASD) learn and strengthen written communication skills. A workbook is a self-created tool designed expressly for the requirements of students with ASD, taking into account their unique strengths and challenges. In a systematic and understandable manner, the workbook employs a number of approaches and exercises to support the growth and enhancement of writing talents.

Workbooks, according to Ufuk (2018), are educational aids made up of a sequence of queries and facts intended to help pupils comprehend difficult concepts. As a result, workbooks are seen as having a complementary role in education.

2.5. Theoretical Framework

The Theory of Repetition (MasterClass 2022) serves as the foundation for this research. Repetition is a literary method in which the same word or phrase is used repeatedly in a piece of writing or speech.

Repetition is used by writers of all types, but it is especially popular in oration and spoken word, where a listener's attention may be more limited. It can enhance emphasis and catchiness in such situations. Learning through repetition can help students improve their writing skills. When teachers are aware of the writing learning process, they can employ an appropriate method to assist students develop their writing skills.

This theory can be recognized as a powerful tool for capturing attention and developing emotions. Repetition in writing, when applied skillfully, may produce a lasting impression and cause an effective response making it an invaluable tool for learners.

Learners will need additional practice to get more comfortable with writing. However, by employing repetition theory, it is possible to effectively increase learners' writing skills. The goal of repetition is not only to raise the word count of a document but to emphasize concepts and add rhythm to the writing.

Repetition theory in the context of writing skills for learners with autism, explores the inherent power of repetitive elements to enhance their learning experience. It can be a useful tool for comprehension, reinforcement, and skill development for learners with autism spectrum disorders. By incorporating repetitive patterns, phrases, or exercises into writing instruction, educators can create a structured and predictable environment that aids in information retention and understanding.

This provides a sense of familiarity and clarity, allowing learners with autism to engage with the material at their own pace and establish a solid foundation for language acquisition and expression. Furthermore, the systematic use of repetition can help build confidence, as learners gradually master and internalize writing concepts through consistent practice. With the thoughtful integration of repetition theory, writing instruction for individuals with autism can unlock their potential for creative self-expression and foster a sense of achievement in their journey as writers.

2.6. Conceptual Framework

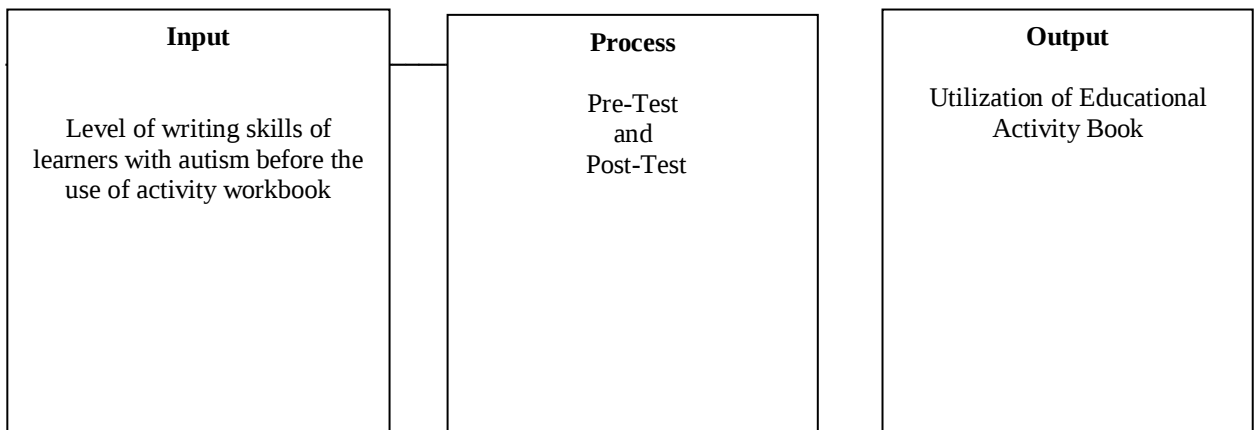


Figure1. Research Paradigm

The line indicates the relationship of educational books and the effect of using self-made educational workbooks to improve the writing skills of non-graded learners with autism ages 10-19 years old of Victoria Elementary School, S.Y. 2022-2023.

Frame 1. Shows the level of writing skills of non-graded learners with autism spectrum disorder (ASD) ages 10-19 years old of Victoria Elementary School before the use of self-made educational workbook. Frame 2. Shows the process of using Prp-test and post-test to assess the level of their writing skills. They selected five (5) with Autism from Victoria Elementary School to use the instructional workbook for five (5) days. They utilized the workbook on June 26, 2023 (Day 1) and continued until June 30, 2023 (Day 5).

Frame 3. Shows the utilization of self-made educational workbook for the non-graded learners with autism spectrum disorder ages 10-19 years old of Victoria Elementary School, S.Y. 2022-2023.

2.7. Synthesis

Children with disabilities, including those with autism, face unique challenges in controlling their behavior and emotions. However, they can learn strategies to manage and handle these difficulties. Special Education (SPED) teachers play a crucial role in ensuring that these students can learn and thrive despite their differences from regular children.

The objectives of this research are to determine the level of writing skills among non-graded learners with autism before and after using the self-made educational workbook. The researchers also wanted to determine if there is a significant difference between the pre-test and post-test results after the non-graded learners of Victoria Elementary School were exposed to the educational workbook.

In summary, children with disabilities, those with Autism, require specialized attention and support from SPED teachers to facilitate their learning. Word processing tools can be valuable in enhancing the written language skills of students with learning difficulties. Writing activities provide a means for SPED and autistic students to express themselves and improve their writing abilities. Effective teaching strategies, including rewards and creating a conducive classroom environment, contribute to the success of students with Autism in the writing process.

3. Methodology

3.1. Research Design

Learners with special needs require someone to go above and beyond in order to teach them life skills such as writing. Teachers must do their best to help every student with their writing skill. Even learning new abilities and considering several strategies for assisting children in learning more and adopting new abilities. Finding the correct resources, activities and instruments to use are some of the things that can help them improve.

This study employed a quasi-experimental research design. Five (5) non-graded students make up the total number of learners with autism ages 10-19 years old at Victoria Elementary School. Selected students were instructed to use the self-made educational workbook for five (5) days to test the hypothesis about the writing skills of autistic learners.

The workbook was intended to depict the state of a specific situation at the time of the study.

3.2. Population

3.2.1. Profile of the Respondents to Age

Age pertains to respondents' years living in this world from the day they were born up to the present time.

AGE	
10 years old below	1
11-15 years old	3
16 years old above	1

Table 1. Distribution of Residents to Age

The table shows the distribution of respondents according to their age. Out of five (5) respondents, there was one respondent who is 10 years old and below. On the other hand, there were 2 respondents below the age of 11-15 years old. While there was one respondent the age of 16 years old and above.

3.2.2. Profile of the Respondents to Gender

Gender pertains to the respondents' sexuality from whether they were born either male or female.

GENDER	
MALE	3
FEMALE	2

Table2:Distribution of Respondents as to Gender

The table illustrates the distribution of the respondents according to their gender. There were two (2) female respondents out of the five (5), and there were three (3) male respondents.

3.2.3. Profile of the Respondents to Level of Spectrum

Autism Disorder Syndrome (ASD) is divided into three (3) levels based on the severity of the disorder and the amount of support required.

LEVEL OF SPECTRUM	
Level 1 (1A, 1B, 1C)	1
Level 2 (2A, 2B, 2C)	1
Level 3 (1A, 2B, 3C)	3

Table3:Distribution of Respondents as to Level of Spectrum

The table depicts the distribution of respondents based on their spectrum level. One (1) respondent out of five (5) was from Level 1 (1A, 1B, and 1C). One (1) respondent out of five (5) was from Level 2 (2A, 2B, and 2C). Three (3) respondents were from Level 3 (3A, 3B, and 3C).

3.3. Research Locale

This study was conducted in Victoria Central Elementary School located in Brgy. Nanhaya, Victoria, Laguna on S.Y. 2022-2023.

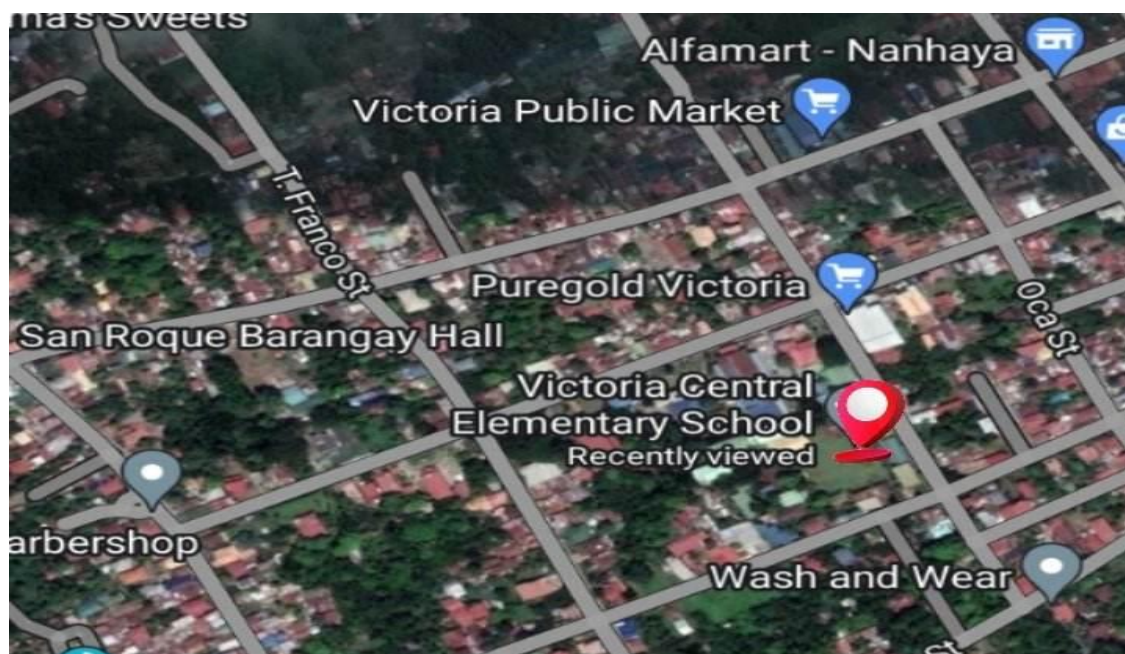


Figure 1 Banca-Banca Elementary School Map

Victoria Central Elementary School also known as VES is a DepED Managed Urban Public Elementary School. The whole community of the school is represented by a torch, a laurel leaf, a book, and wheel of success, the rays of the sun, and the platform. These are the symbols that give deep meaning to the drive of the school towards the ladder of success for the pupil to be knowledgeable, skillful, and equipped with the needed transformation of learning for personal growth and development.

Most students enrolled in this school for a variety of reasons. One of the reasons is accessibility in the town's center. It has all of the resources necessary to provide a high-quality education to the students of Victoria Elementary School, and it is located near the Fire Station, Municipal Hall, Medical Center, Markets, and Police Station.

3.4. Research Instrument

The researchers administered a pre-test to gather the information needed to assess the student's level of writing skills, and a post-test to see the changes after using the workbook.

To determine the student's present level of writing, the researchers administered a pre-test checklist using a rubric to score the workbook by writing their name in the first page until the end of day two. Finally, after completing the workbook, the researchers conducted a post-test to evaluate if the results have changed using the same rubric from day three to day five.

The workbook for the target respondents was developed by preparing the relevant materials and then designing an appropriate layout. The researchers designed the activity book to entice and motivate kids to develop their writing skills. To grab the attention of autistic learners, the workbook was done more creatively. It also provided encouraging activities and stickers to keep children interested.

Once the output was finished, the researchers looked for a Special Education instructor who has a learner with autism to validate the questions and activities that the learners with autism used. After getting

approval for the layout, the educational workbook was printed.

3.5. Data Gathering

The researchers conducted a survey with the teacher of the students to determine the total number of learners with autism. They selected five (5) learners from Victoria Central Elementary School to use the instructional workbook for five (5) days to determine if their writing skill level improves. They utilized the workbook on June 26, 2023 (day 1) and continued until June 30, 2023 (day 5).

The researchers examined the post-test that was administered following the weeks of using self-made educational workbooks. As a result, scores were tallied and evaluated.

3.6. Statistical Treatment of Data

To answer the problem of the research study, the data gathered were subjected to the following statistical treatment:

The mean was used to calculate the average value of the data. The average value was calculated by providing different weights to some of the individual values.

The formula:

$$\bar{x} = \frac{\sum x}{n}$$

Where:

$\bar{x}$ = mean

$\sum x$ = the sum of all observations

n = is the number of all observations

The Paired T-Test gives a hypothesis examination of the difference between population means for a set of random samples whose variations are almost normally distributed. Subjects are often tested in a before-after situation or with subjects as alike as possible. The paired t-test is a test that the differences between the two observations are zero. The formula of the Paired T-test is:

$$t = \frac{\sum d}{\frac{n(\sum d^2) - (\sum d)^2}{n - 1}}$$

Where:

d = difference per paired value

n = number of samples

4. Presentation, Analysis and Interpretation of Data

This chapter presents the data gathered, the results of the statistical analysis done, and the interpretation of findings. These are presented in tables and graphs with corresponding interpretations. The data collected were analyzed and interpreted where the basis of conclusions and recommendations of the study are drawn.

Table 1 Writing Capabilities Among Non-Graded Learners with Autism

CRITERA	BEFORE UTILIZATION			AFTER UTILIZATION		
	MEAN	STANDARD DEVIATIO N	VERBAL INTERPRETATI ON	MEA N	STANDARD DEVIATIO N	VERBAL INTERPRETATI ON
Pencil Grip and Control	2.6	1.1402	Proficient	3.4	0.8944	Excellent
Line Usage	2.6	0.8944	Proficient	3.2	0.8367	Proficient
Legibility and Formation	2.6	0.5477	Proficient	3.6	0.8944	Excellent
Letter/Word Spacing	2	1.5811	Developing	3.6	0.8944	Excellent
Consistency	2	1	Developing	3.2	0.4472	Proficient
OVERALL	2.36	0.9317	Developing	3.4	0.6928	Excellent

*:3.21-4.00 Excellent, 2.41-3.20 Proficient, 1.61-2.40 Developing, 0.81-1.60 Emerging, 0.00-0.80 Not Evident

Table 1 shows that the results of the pre-test in Writing Capabilities Among Non-Graded Learners with Autism had an average score of 2.6 and standard deviation of 1.1402. It was determined that the learners with autism were proficient in "Pencil and Grip" with an average score of 2.6 and a standard deviation of 0.8944. It was also found that the students were proficient in "Line Usage", with an average score of 2.6 and a standard deviation of 0.5477. The results showed that the learners with autism were proficient in "Legibility and Formation" with an average score of 2 and a standard deviation of 1.5811. It was also shown that the students were developing in "Letter/Word Spacing" with an average score of 2, and a standard deviation of 1. The students were also classified as developing in "Consistency." The students got an average score of 2.36, and a standard deviation of 0.9317. The overall results of the pre-test revealed that the learners with autism at Victoria Elementary School are now classified as developing.

The results of the post-test in Writing Capabilities Among Non-Graded Learners with Autism had an average score of 3.4, and a standard deviation of 0.8944. The researchers were able to identify that the students became excellent in "Pencil and Grip" with an average score of 3.2 and a standard deviation of 0.8367. The results also showed that the students were still proficient in "Line Usage", with an average score of 3.6 and a standard deviation of 0.8944. Learners with autism were also identified as excellent in "Legibility and Formation", with an average score of 3.6 and a standard deviation of 0.8944. The results also revealed that the students were excellent in "Letter/Word Spacing", with an average score of 3.2 and a standard deviation of 0.447. The students were also now proficient in "Consistency". Overall, the learners with autism got an average score of 3.4 and a standard deviation of 0.6982. The results of the post-test has shown that the non-graded learners with autism drastically improved after using the workbook, and got an overall rating of excellent.

Table 2. Difference Between the Writing Capabilities of Learners with Autism Before and After the Utilization of the Self-Made Educational Workbook

Writing Capability	Mean	t-value	Crit Value	Analysis
Before	2.36	-6.0449	-2.78	Significant
After	3.4			

Table 2 shows the difference between the writing capabilities of learners with autism before and after the utilization of the self-made educational workbook, with a T Value of -6.0449 and a critical value of -2.78. This means that the difference was significant and that after the utilization of the self-made educational

workbook, the writing capabilities of the learners have improved.

The writing abilities of students with autism before and after using a workbook showed the significance of the self-made workbook. "Workbooks, according to Ufuk (2018), can help students' writing abilities".

In this study, educational aids were made up of a sequence of queries and facts intended to help pupils comprehend difficult concepts, while in the researcher's study, the day-by-day increase of difficulty and repetition of the workbook helped the learners with autism improve their writing skills. As a result, workbooks were seen as having a complementary role in education.

5. Summary, Findings, Conclusion and Recommendations

This chapter presents the recapitulation of the contents of the study. It contains the summary, findings, conclusion, and recommendation of the study.

5.1. Summary

The purpose of this study was to examine the level of writing skills of non-graded learners with autism at Victoria Central Elementary School. The quasi-experimental method was utilized in this study to measure the usefulness of the researchers' self-made book. Sampling was the procedure of picking five respondents who answered the researchers' pre-test and post-test to obtain data.

The major instrument utilized in this study was the workbook delivered to respondents and the questionnaires filled out by the researchers through observation. The questionnaires have 15 questions in both the pre-test and post-test. According to the study's findings, the pre-test and post-test scores changed significantly, implying that the workbook improved the writing skills of kids with autism.

5.2. Findings

The following are the findings based on the data gathered:

1. The writing capabilities in the pre-test among non-graded learners with autism showed that "Pencil grip", "Line Usage" and "Legibility and Formation" had the highest mean.
2. The writing capabilities in the post-test among non-graded learners with autism showed that "Pencil grip", "Legibility and Formation" and "Letter/Word Spacing" had the highest mean.

5.3. Conclusions

In light of the findings, the following conclusions were drawn:

1. There was a significant difference between the level of writing capabilities of learners with autism before and after utilizing a self-made educational workbook of non-graded learners with autism ages 10-19 years old at Victoria Elementary School.

5.4. Recommendations

In light of the conclusions drawn from the findings, the following recommendations were made:

1. Learners with autism should utilize supplementary materials such as a workbook that includes tracing, coloring, puzzles, and quizzes more often in order to improve their writing skills.
2. Special Education students may use the worksheets in writing.
3. Parents of students with autism must actively engage their child's attention in activities that can improve their writing skills such as coloring, tracing, and other activities about writing.

4. For future researchers, further analysis may be given in this study. A larger number of respondents or a longer period of using workbooks can significantly change the result of this study.

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