

Jeraldine Approach On Braille Reading Skills Of Visually Impaired Pupils

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Abstract

Inclusive education, more than mainstreaming the learners with special needs, is also concerned with identifying and overcoming all barriers for effective, continuous and quality participation of all in education (Ramchand and Dummugudem, 2014). This research was conducted to test the effect of using Jeraldine Approach in reading braille alphabet in increasing the reading performance of pupils with visual impairment. Specifically, the study determined the mean score of the respondents before and after the implementation of Jeraldine Approach as intervention and how it helped them in a convenient way. The study was conducted to two purposively selected learners with visual impairment. It used the Explanatory Sequential Research Design which showed that all of them had poor understanding in language development particularly in braille reading before the intervention, however, the respondents showed a satisfactory result after the intervention. Utilizing the weighted mean and standard deviation in getting the mean score revealed that their mean percentage score has increased. This implies that the participants have improved their reading performance after the implementation of the Jeraldine Approach. Moreover, the pretest and posttest mean scores of the participants indicated of a very high significant difference, therefore the intervention has contributed large effect on the reading performance of the learners. The result, likewise, indicated the themes easy to understand, easy to use and easy to manipulate.

Keywords: Jeraldine approach; intervention; braille reading skills; learning outcomes

1. Introduction

1.1 Context and Rationale

It is unnecessary to underscore the importance of reading in the daily lives of people from all walks of life. While most studies on reading have concentrated on sighted reading, there is another modality that, while receiving far less attention in the literature, is both theoretically and practically important: tactile reading using braille.

In Midsayap Pilot Elementary School, there are fifty-two learners with special educational needs. They were categorized according to their different difficulties. Two of the learners who are admitted this school year 2021-2022 in self-contained and mainstreamed classes have difficulty in seeing or pupils with visual impairment. The pupils' evaluation, performance and progression in learning the lesson from the modules are consistently and closely monitored by the teacher. Based on the results from their summative tests and performance tasks, the learners are having difficulty in learning the lesson in language development, particularly in braille reading.

The goal for the braille learner is to recognize braille or other tactile symbols as easily as sighted people read print. Early exposure to print/braille is important. Learners should be exposed to a wide variety of print/braille in books and the environment. While reading braille, readers have to carry out the following operations (Hughes, 2011): (1) decode the dot patterns (perceptive processing) by activating representations of the letters in the cerebral

cortex; (2) access the meaning (linguistic processing); and (3) coordinate the movement of the fingers with the perceptive and linguistic processing. In the case of my learners, it is their first time to be introduced in Braille Reading and the teaching-learning process of this skill requires face to face setting. However, this pandemic is disrupting the convenience of the learners to learn this particular skill.

During the module distribution, I also oriented the parents on how to introduce the Braille Reading to their children, but since the learners are only receiving a second-hand instruction, they didn't totally absorb the whole process of learning it.

Based on the R.A. No. 7277 – Magna Carta for Disabled Person. This ensures that disabled persons are provided with adequate access to quality education and ample opportunities to develop their skills. Due to the COVID-19 situation in the country, DepEd has developed a Basic Education-Learning Continuity Plan which assured that Special Education is included in the various learning delivery modalities being prepared to ensure learning continuity of learners with exceptionalities.

This was the very reason why I was so determined to implement an intervention for simple, comfortable and fast way in reading the alphabets in braille system that does not require long period face to face teaching. I came up with Jeraldine Approach that is basically teaching the pupils the easier and simpler way of mastering the dot number/s in braille cell of each letter of the alphabet the fastest way using the three-easy steps that I developed. These steps require a speaker, flash disc, egg tray, papers, braille paper, slate and stylus. It is applicable to those braille learner starters because it will teach you the basic steps in learning braille reading. Earlier research tend to show that assistive technology for the visually impaired has its advantages, but they are still inconclusive. A study by Zahra and Zia (2017) on the use of smartphones for visually impaired students showed positive outcomes.

This strategy will not only help the learners improve their performance; moreover, it will also develop their self-confidence and motivate them to learn all the configurations in braille system.

1.2 Action Research Questions

Generally, this study aimed to test the effect of using Jeraldine Approach in reading braille alphabet in increasing the reading performance of pupils with visual impairment.

Specifically, this study sought to answer the following questions:

- What is the mean score of the pupils of the study before the implementation of Jeraldine Approach?
- What is the mean score of the pupils of the study after the implementation of Jeraldine Approach?
- Is there a significant difference in the mean score of the pupils of the study before and after the implementation of Jeraldine Approach?
- What is the effect size of Jeraldine Approach in Reading Braille Alphabet into the reading performance of the pupil?
- What are the experiences of the pupils during the implementation of Jeraldine Approach?

1.3 Intervention, Innovation and Strategy

The intervention developed by the researcher is called Jeraldine Approach. Jeraldine is the first name of the researcher in which she purposely named her intervention to give emphasis on the ownership of the strategy she developed. This intervention included the parents of the learners with visual impairment who have difficulty in braille reading. They were capacitated by the teacher-researcher on how to help the pupils to read the braille alphabets. The sessions between the teacher, parents and learners were done in four consecutive Mondays. The teacher conducted the sessions with the permissions of all persons involved in the intervention.

2. Methodology

2.1 Description of the Action and Implementation Plans

The action research utilized Jeraldine Approach in reading braille alphabets particularly the first ten letters. The strategy has three series of steps to follow using an audio material, egg tray with crumpled papers as improvised braille cell and raised dots and slate and stylus.

On the first week of implementation, the audio material such as, speaker and flash disk was given to the learner and instructed them to listen to the recorded voice of the teacher repeatedly and master the dot number/s of the first ten letters in the alphabet (a-j). Within the week, I monitored the parents and ask them to assist the learners to listen to the recorded voice and memorize the dot number/s.

On the second week, I provided them an improvised braille cell which is an egg tray and improvised raised dot/s which is the crumpled papers. I introduced to each of them how to use the materials as braille cell and raised dot/s. Afterwards, I asked them the dot number/s of each letter based on what they had listened and memorized. While they verbally answer, I put the crumpled paper on its proper improvised braille cell (egg tray) and let them touch it to know the proper dot number/s of each letter.

On the third week, I used the slate and stylus in writing on the braille paper. I formally introduced to them the dot number of each letter by touching the raised dot on the braille paper. As they touch it they need to say the raised dot number and what letter it is.

Pre and Post Test was conducted before and after the implementation.

Jeraldine Approach, this was given to the identified respondents for the three consecutive Mondays on the month of February and March 2022 at 10:00 am – 11:00 am. The collection of data is retrieved from the outputs of the pupils from the said learning area and the answers during the interview from the learners and parents.

2.2 Research Instrument and Data Collection

To answer the questions posed in the beginning of the study, Sequential Explanatory Design was employed by the researcher with the use of the pre-test and post-test scores. Ten items were given to the subjects at their most convenient time in their house. The test questions were taken from the MELC-based Self-Learning Module and teacher-made test questions approved and validated by the school SPED coordinator and the school principal. A pre-test was administered at the onset of the study; then Jeraldine Approach was used by the researcher as an intervention to aid the pupils how to read the first ten letters in the alphabet in braille. After applying the strategy using the three steps, the subjects were given the post-test. Also, the researcher conducted an interview to the two visually impaired pupils with their parents to know their perception on the Jeraldine Approach. The results were then recorded and analyzed.

Moreover, following descriptive statistical tools were used to accurately analyze and statistically interpret the data utilizing Statistical Packages for Social Sciences (SPSS) student version: Weighted Mean and standard deviation were used to answer problems 1 and 2 pertaining to pre-test and posttest mean scores of the participants in reading performance before and after the implementation of Jeraldine Approach; t-test was employed to research problem 3 to determine significant difference in the scores of respondent before and after the implementation of the intervention and Eta² - squared was used to measure the effect size of Jeraldine Approach in reading alphabet in braille of visually impaired pupil in Midsayap Pilot Elementary School.

3. Presentation, Analysis And Interpretation Of Data

3.1 Results and Discussion

Table 1. Pretest and Posttest scores of the participants in the implementation of Jeraldine Approach.

Variable	N	Minimum Score	Maximum Score	Mean	Std. Deviation
Pretest	2	0	0	0	0.000
Posttest	2	9	10	9.50	0.707

Table 1 shows the pretest and posttest scores of the participants in the implementation of JFB strategy. Both of them got 0 during the pretest and got 9 and 10 in the posttest respectively. The mean score and standard deviation of the participants during pretest is both 0. As for the posttest, the mean score is 9.50 and its standard deviation is 0.707. This implies that the participants have improved their reading performance after the implementation of the Jeraldine Approach.

Analysis on the Significant Difference on the Reading Performance of the Participants

Table 2. Test on the significant difference between the pretest and posttest mean scores on reading performance.

Variable	Mean	Std. Deviation	t	df	Sig.
Pretest-Posttest (Reading Performance)	-9.500	0.70711	-19.000**	2	0.003

**Significant at 0.01 level of significance

Table 2 depicts the significant difference on the pretest and posttest mean scores on reading performance of the participants. The data show that the pretest and the posttest of the participants on reading performance have a mean score difference of -9.500. The obtained t-value is -19.000 and the significance is 0.000 which is lesser than 0.01 level of significance is indicative of a very highly significant difference between the pretest and posttest mean scores of the participants.

Descriptive Analysis on the Effect Size of JFB Strategy in Reading Braille Alphabet into the Reading performance of the Participants

Table 3. Effect size of Jeraldine Approach in Reading Braille Alphabet into the Reading performance of the Participants.

Variable	N	Eta	Eta ²	Remarks
Reading Performance	2	0.997	0.994	Medium Effect

Legend for Effect Size: Small = ≤ 0.2 , Moderate = 0.5, Large = ≥ 0.8 (Cohen, 1992, as cited by McLeod, 2019)

The Eta² value for reading performance is 0.994 which signifies large effect. This means that the Jeraldine Approach has contributed large effect on their reading performance.

Presented in this portion are the results during the interview I conducted to the two visually impaired pupils for the school year 2021-2022 and one of the parents.

Table 4. Perception of Visually Impaired Pupils to Jeraldine Approach

Formulated Meanings	Theme Cluster
Easy to use	Simplified Reading Materials
Easy to understand	
Easy to manipulate	

Results of the study revealed that the two subjects found it very convenient for them to use the Jeraldine Approach in developing reading particularly reading the braille alphabets. They don't need to have daily interaction with their teacher to learn the competency because they can repeatedly listen from the audio assistive device while manipulating the other materials. Furthermore, aside from the fact that the materials of Jeraldine Approach are very user friendly and they can learn anywhere they go since the materials are very handy and they can use it at their own convenient time.

Table 5. Perception of the parents visually impaired pupils to Jeraldine Approach

Formulated Meanings	Theme Cluster
Easy to use	Simplified Reading Materials
Easy to instruct	
Easy to follow	

The result revealed that the parents themselves were very satisfied in using the Jeraldine Approach in teaching their children on how to improve their braille reading skills. Collaborating with the parents is a big help in educating our learners with special needs especially in this time of pandemic. Teachers are given limited time to have an interaction with the pupils due to health protocol that we need to follow.

Table 6. The challenges encountered by visually impaired pupils in utilizing the Jeraldine Approach.

Formulated Meanings	Theme Cluster
Tiredness	Common Challenges of Visually Impaired Pupils
Forgetfulness	
Trust issue to parents	

The results revealed that due to health condition, one of the respondents easily forgot the important details in learning how to read the braille alphabet because this subject is considered having multiple difficulties based on

Also, pupils trust their teacher more than their parents when it comes to guidance and in giving instruction. They are more confident if the one that give them instruct is their own teacher.

3.2 Learning and Insights

It is always my passion to make every effort for the improvement of my learners with special educational needs especially these learners with visual impairment. I was very grateful to the parents who willingly engaged themselves especially their children in the implementation of this intervention.

The Jeraldine Approach was indeed very effective in developing the braille reading skills of the learners because it clearly shows in the results of the scores of the participants before and after the intervention an indicative level of highly significant difference and using the intervention contributed a large effect to the re3ading performance oOf the pupils.

Since the intervention has a satisfying effect not only to my learners but also to their parents, I assured them that I will continue to dedicate myself in finding means that will give them convenience in the education to all my learners with special educational needs. Moreover, I will continue to develop more interventions, innovations, and strategies in developing, improving and enhancing their skills.

4. Conclusions and Recommendations

4.1 Summary

The intervention program is termed as Jeraldine Approach. This intervention is a modified and teacher-made strategy which has three series of steps to follow using an audio material, egg tray with crumpled papers as improvised braille cell and raised dots and slate and stylus. The materials and instructions for this strategy were given to pupils for four consecutive Mondays. Pre-Test and Post-Test were administered before and after the utilization of intervention. Two visually impaired pupils of Midsayap Pilot Elementary School were selected using purposive sampling. The researcher used Weighted Mean and standard deviation were used to answer problems 1 and 2 pertaining to pre-test and posttest mean scores of the participants in reading performance before and after the implementation of Jeraldine Approach; t-test was employed to research problem 3 to determine significant difference in the scores of respondent before and after the implementation of the intervention and Eta² - squared was used to measure the effect size of Jeraldine Approach. On the other hand, thematic analysis was used for qualitative data to substantiate and be considered as reflection of the respondents to support the effectiveness and convenience of the utilization of the intervention.

4.2 Findings of the Study

The results of the study led to the following findings:

- The two respondents showed a poor performance before the conduct of Jeraldine Approach.
- Based on Jeraldine Approach, respondents have a very satisfactory performance on their language development particularly the braille reading skills after the intervention was conducted.
- The pretest and posttest mean scores of the participants has an indication of a very high significant difference.
- The intervention has contributed large effect on the reading performance of the learners.
- The interview conducted to the pupils exhibited three (3) themes : easy to use, easy to understand and easy to manipulate.

4.3 Conclusion

In the light of results drawn from analysis and finding of the research following conclusions can be drawn.

- The mean score of the learners with visual impairment has increased after the use of Jeraldine Approach.
- The learners perceived that utilizing the Jeraldine Approach is very effective and easy in learning braille reading.
- The parents perceived that using the Jeraldine Approach in developing the braille reading skills of their children is very satisfying.
- Generally, all the participants perceived that utilizing the Jeraldine Approach helped them in developing their braille reading skills in a very convenient way.

4.4 Recommendation

- Jeraldine Approach shall be used in other schools who have learners with visual impairment.
- The intervention should also be employed not only for language literacy but also for numeracy.
- The Jeraldine Approach can be utilized in all schools in the Division who have learners with visual impairment especially to the learners who are still beginner in learning braille alphabets.

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