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Language Learning Difficulties of Students With Dyslexia: A Case Study at a Primary School

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***Abstract*—Dyslexic learners have trouble learning English as a foreign language because of their difficulties in reading, focus, and sensory motor skills. Dyslexia is a specific learning disability derived from neurological deficits. This research aims at investigating the Language Learning Difficulties of learners with Dyslexia: A Case Study at a Primary School, Chennai District. This study is a descriptive research design. The subjects of the research are 19 teachers of dyslexic students at primary school, Chennai, District. The data were collected using a questionnaire and it was analyzed through the descriptive statistics technique. The result of the data analysis shows that students with dyslexia have challenges with reading, spelling, identifying sounds and letters, and decoding and recognizing words (vocabularies). In addition, the finding explored that teachers implement learners-center teaching methods and collaboratively work to enhance their students' reading skills. Furthermore, the result showed that the use of assistive technology, multi-sensory instruction, and individualized support are effective interventions for enhancing the reading ability of dyslexic students. This study helps future researchers as a benchmark for further exploration.**

***Index Terms*—dyslexia, reading, language learning difficulty, intervention, assistive technology**

I. Introduction

Language acquisition encompasses reading, writing, speaking, and listening. Some people learn languages easily, whereas others struggle. Language aptitude, motivation, learning tactics, social and cultural settings, instructional methods, learning environment, and cognitive or neurological issues might cause these challenges.

Dyslexia is a neurological disease that impairs reading skills. Dyslexic students struggle with reading, spelling, and sentence organization. The International Dyslexia Association defines dyslexia as a neurobiological learning disorder that impairs word identification, pronunciation, spelling, and decoding (Subramaniam & Nasir, 2020).

According to Shaywitz et al. (2018), 5-10% of students suffer from dyslexia. It basically impedes reading comprehension, decoding, and phonological processing. 20% of dyslexics have attention and motor ability deficiencies, and 50% have visual focusing issues. In many schools, students with dyslexia do not get early intervention and support because of teachers' lack of awareness about dyslexia. As stated by Natalie and Daly (2018) most schools don't have dyslexia policies and procedures, so kids with a learning disability are often forced to drop out because they aren't being adequately accommodated. Even though many studies have been conducted on students with reading dyslexia, very few studies investigate the challenges dyslexic students face, teachers' perspectives, and the effectiveness of the interventions at this specific primary school. Therefore, the researchers were motivated to fill this gap that previous researchers couldn't touch.

Dyslexic learners at one primary school, Chennai, District are the subject of the study. The study is significant in revealing challenges that dyslexia students face, showing the uses of assistive technology, and highlighting the effectiveness of intervention for language instructors and educators to understand these learners' unique issues. Therefore, for the study the following objectives were developed:

- To assess the major difficulties that dyslexic students with suffer while reading.
- To explore the teaching practice used in the reading classroom.
- To identify the use of assistive technology in enhancing their reading skills.
- To investigate effective interventions that develop their reading skills

II. Literature Review

Empirical Researches

Dyslexic language learners have been studied extensively. Snowling and Hulme (2011) observed that dyslexics have trouble phonologically processing language sounds. This made word decoding and recognition challenging. Working memory, the capacity to store and manipulate information was also impaired in dyslexics. This made reading hard. Catts et al. (2012) discovered that dyslexics struggled in receptive and expressive language. Expressive and receptive language skills are different. Dyslexia affects linguistic competence in both domains, according to the study.

Berninger et al. (2008) discovered that dyslexics struggled with spelling, grammar, and punctuation. These issues hinder their writing. Shaywitz et al. (2018) examined children's dyslexia's neurological underpinnings. fMRI was used to compare brain activity in dyslexic and non-dyslexic youngsters while reading. The language-processing left hemisphere of dyslexic youngsters was less active. This study proves dyslexia is a neurological condition that impacts language processing.

Georgiou et al. (2010) conducted a study on "A meta-analysis of studies assessing dyslexics' abilities in hearing and reading." Students with dyslexia have greater trouble understanding what they read than either their age-matched normal reading peers or younger, reading-level-matched typical reading peers (g = 1.43 and g = 0.64, respectively). Listening comprehension was another area where kids with dyslexia lagged behind their typically reading-age peers (g = 0.43).

Landerl et al. (2017) also explored dyslexia in a large German-speaking kid population. And they identified that 7.5% of the learners suffer from dyslexia. Catts et al. (2019) also explored how dyslexia affects children's reading comprehension. Dyslexia was associated with worse reading comprehension scores. The study reveals that dyslexia impacts reading comprehension and decoding.

Moll et al. (2020) revealed that dyslexic children showed more anxiety and depression than non-dyslexic youngsters. Dyslexic students also exhibit worse self-esteem and social skills. These findings emphasize the necessity of treating dyslexic children's social and emotional needs as well as academic demands. Snowling et al. (2016) tested a dyslexia reading intervention program. In dyslexic youngsters, the intervention program improved reading accuracy, speed, and phonological awareness. Early intervention programs may assist dyslexic youngsters to improve their reading and academic skills.

Multisensory education helps dyslexic pupils. Multisensory education improves reading and phonological awareness in dyslexic individuals, according to Fawcett and Nicholson (2017). This method uses sight, sound, and touch to teach pupils.

Assistive technology works too. Assistive technology like text-to-speech and voice recognition software can help dyslexic kids with reading comprehension and writing (Peterson et al., 2019). Students may focus on comprehension and understanding using this technology.

Dyslexic students need early intervention. Torgesen et al. (2018) found that early dyslexia detection and treatments improve reading results. Early intervention can teach youngsters how to read. Dyslexic learners need a friendly and inclusive classroom. Snowling and Hulme (2019) discovered that a supportive and inclusive learning environment improves dyslexic students' reading and self-esteem. Teachers can offer extra time for reading and writing and build a welcoming classroom. As discussed by Tondeur et al. (2017), educators' pedagogical ideas reflect their assumptions about the relationship between education and student development.

III. Methods

This research aims at investigating the Language Learning Difficulties of Students with Dyslexia: A Case Study at a Primary School, Chennai District. This study used a mixed research technique and a descriptive research design. Purposive sampling was used to recruit 19 third-grade teachers at a primary school who work with kids who have learning impairments. Data was gathered through a questionnaire. The researchers used SPSS to analyze the data. The results are displayed in tables and figures.

IV. Results and Discussion

Analysis of the Questionnaire

Q1. Dyslexic students have L2 learning difficulties

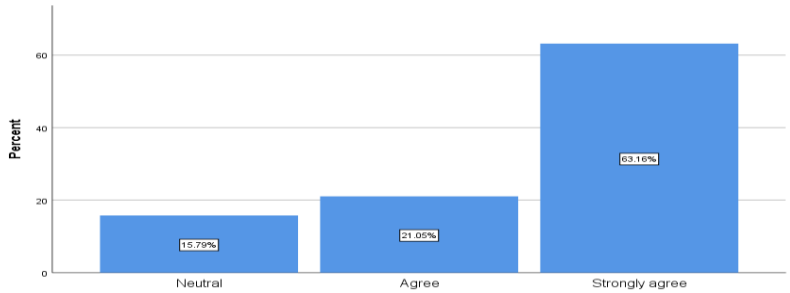

Figure 1. Respondents' Level of Agreement on Students' L2 Learning Difficulties

Figure 1 shows 63.16% and 21.05% of the participants strongly agreed and agreed respectively that the dyslexia students have second learning difficulties. However, 15.79 % of the participants were not sure about the statement.

From this result, it can be concluded that the major challenge of dyslexic students is second language learning. This finding is similar to Lin and Chen (2018) found that dyslexic students encounter difficulties with executive functions when learning a second language, impeding their language acquisition. Besides, Ganschow and Sparks (1996) discovered that dyslexic children struggle with academic writing and reading in a second language. In addition, Lin and Chen (2017) found that dyslexic students' acquisition of a second language is hindered by their working memory. Furthermore, a study by Rimmele and Ganschow (2015) found that the dyslexic individuals studying German as a second language, oral language abilities are substantially associated to reading performance.

Q2. Dyslexic students face challenges in learning vocabulary

TABLE 1
RESPONDENTS' LEVEL OF AGREEMENT ON STUDENTS' VOCABULARY LEARNING CHALLENGES

		Frequency	Percent
Valid	Neutral	2	10.5
	Agree	6	31.6
	Strongly agree	11	57.9
	Total	19	100.0

Table1 shows 57.9% and 31.6% of the participants strongly agreed and agreed respectively that the dyslexic students face challenges in learning vocabulary. However, 10.5 % of the participants were not sure about the statement.

From this result, it can be concluded that the major challenge of dyslexic students is learning new vocabulary. This finding is supported by Bishop and Snowling (2004) that revealed students with reading dyslexia often experience difficulties in various aspects of language, grammar, vocabulary and comprehension.

Q3. Students with Dyslexia have word recognition problems

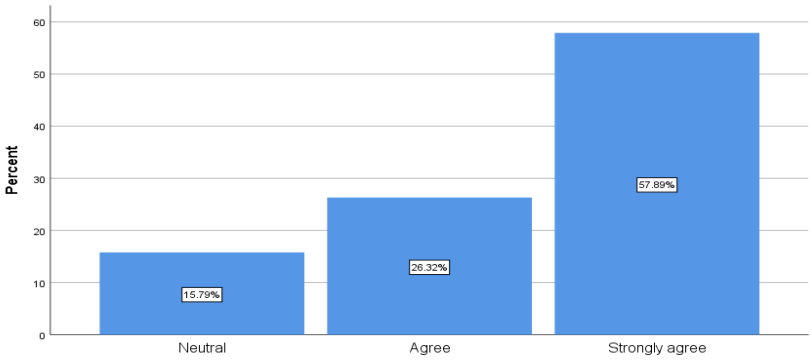

Figure 2. Respondents' Level of Agreement on Students' Word Recognition Problems

Figure 2 shows 57.89% and 26.32% of the participants strongly agreed and agreed respectively that students with dyslexia have word recognition problems. However, 15.79 % of the participants were not sure about the statement.

From this result it can be concluded that the major challenge of dyslexic students is decoding words. Similarly, study Fletcher et al. (2007) learners with dyslexia experience challenges with decoding and word recognition.

Q4. Students with Dyslexia have phonological processing difficulties

TABLE 2
RESPONDENTS LEVEL OF AGREEMENT ON STUDENTS' PHONOLOGICAL PROCESSING DIFFICULTIES

		Frequency	Percent
Valid	Neutral	2	10.5
	Agree	4	21.1
	Strongly agree	13	68.4
	Total	19	100.0

Table 2 shows 68.4% and 21.1% of the participants strongly agreed and agreed respectively that students with dyslexia have phonological processing difficulties. However, 10.5 % of the participants were not sure about the statement.

From this result, it can be concluded that the major challenge of dyslexic students is phonological processing difficulty. The finding aligned with Koda (2005) that observed dyslexic children struggles with phonological that affect learners reading and sound recognition. Similarly, Kuo and Anderson (2010) discovered that dyslexic learners experience difficulties in orthographic and phonological processing and it negatively affects their reading and language acquisition. Furthermore, Chung and Ho (2010) discovered that phonological awareness correlates with reading performance. Moreover, Cuetos and Suárez-Coalla (2010) discovered that dyslexic pupils across languages had phonological processing deficiencies. In addition, Yeung et al. (2013) suggested that phoneme awareness lessons

enhance dyslexic students' reading skills. Furthermore, Anis et al. (2018) found that training in phonological skills and alphabetical literacy enhances reading skills. Besides, Saiegh-Haddad (2013) found that dyslexic Arabic learners' phonological awareness is closely connected to reading success.

Q5. Dyslexic students face sound recognition challenges

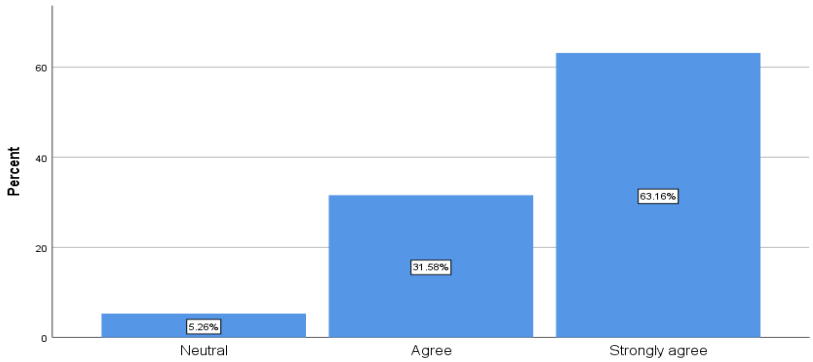

Figure 3. Respondents' Level of Agreement on Students' Sound Recognition Challenges

Figure 3 shows 63.16% and 31.58% of the participants strongly agreed and agreed respectively that dyslexic students face sound recognition challenges. However, 5.26% of the participants were not sure about the statement.

From this result, it can be concluded that the major challenge of dyslexic students is confusion with letters' sound correspondence. This finding aligns with Vellutino et al. (2004) that found children with dyslexia often exhibit difficulties in early reading development and letter-sound correspondence.

Q6. Dyslexic students have difficulties in spelling words

TABLE 3
RESPONDENTS' LEVEL OF AGREEMENT ON STUDENTS' SPELLING WORDS DIFFICULTIES

		Frequency	Percent
Valid	Neutral	1	5.3
	Agree	7	36.8
	Strongly agree	11	57.9
	Total	19	100.0

Table 3 shows 57.9% and 36.8% of the participants strongly agreed and agreed respectively that the dyslexic students have difficulties in spelling words. However, 5.3% of the participants were not sure about the statement.

From this result, it can be concluded that the major challenge of dyslexic students is difficulty in reading and spelling words. This finding is similar to Snowling (2000) that found dyslexia students face difficulties with imperfect word recognition and poor spelling and decoding abilities.

Q7. Students with Dyslexia have letter-sound corresponding difficulties

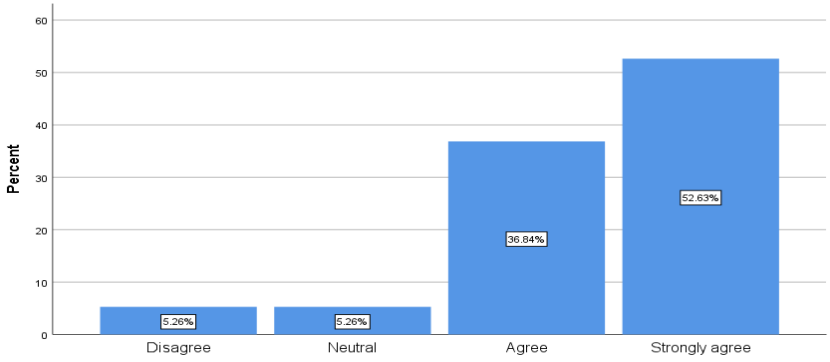

Figure 4. Respondents' Level of Agreement on Students' Letter-Sound Corresponding Difficulties

Figure 4 shows 52.63% and 36.84% of the participants strongly agreed and agreed respectively that the Students with Dyslexia have letter-sound corresponding difficulties. However, 15.79 % of the respondents remained neutral, and 5.26% of the respondents disagreed that students with dyslexia have letter-sound corresponding difficulties.

From this result, it can be concluded that the major challenge of dyslexic students is difficulty with sound correspondence. This result aligns with Sparks and Ganschow (1993) that found dyslexic students struggle with foreign language sound structure.

Q8. Students with Dyslexia have difficulties understanding the main idea

TABLE 4
RESPONDENTS' LEVEL OF AGREEMENT ON STUDENTS' DIFFICULTIES IN UNDERSTANDING THE MAIN IDEA

		Frequency	Percent
Valid	Agree	10	52.6
	Strongly agree	9	47.4
	Total	19	100.0

Table 4 shows 47.4% and 52.6% of the participants strongly agreed and agreed respectively that students with dyslexia have difficulties in understanding the main idea.

From this result, it can be concluded that the major challenge of dyslexic students is difficulty finding the main idea in the text. A similar result was found by Elbeheri and Everatt (2007) that observed dyslexic learners suffer from foreign language reading comprehension, especially in understanding the main idea.

Q9. How often do you identify students with dyslexia in early classrooms?

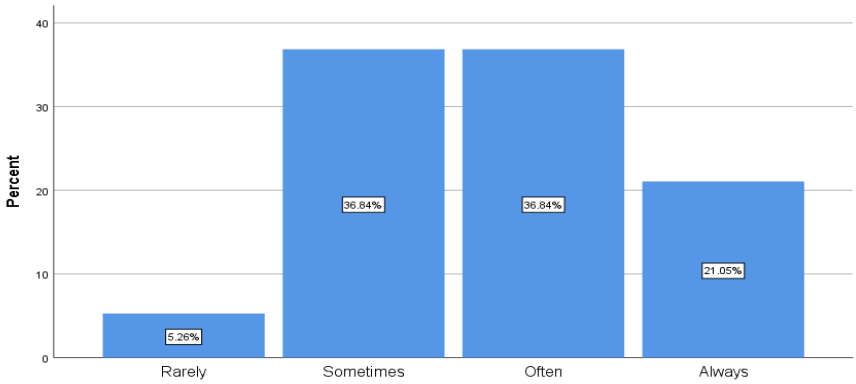

Figure 5. Respondents' Level of Frequency of Identifying Students With Dyslexia

Figure 5 reveals that 21.05% of the participants stated that they always identify students with dyslexia in early class. 34.84% of the participants stated that they often identify students with dyslexia in early class. Similarly, 34.84% of the participants stated that they sometimes identify students with dyslexia in early class. Only 5.26% of the participants stated that they rarely identify students with dyslexia in early class.

From this result, it can be concluded that the major of the teachers can identify learners with dyslexia problems. According to Kundi and Alharbi (2022), It is necessary to examine how foreign language students viewed English by determining their needs, gaps, and desires. An efficient classroom might evaluate early dyslexia identification to help pupils.

Q10. How often do you use the student-centered teaching method?

TABLE 5
RESPONDENTS LEVEL OF FREQUENCY OF USING STUDENT-CENTERED TEACHING METHOD

		Frequency	Percent
Valid	Rarely	2	10.5
	Sometimes	9	47.4
	Often	5	26.3
	Always	3	15.8
	Total	19	100.0

Table 5 reveals that 15.8% of the participants believed that they always employ learner-centered teaching method. 26.3% of the participants believed that they often employ learner-centered teaching methods. However, 47.4% of the participants believed that they sometimes employ learner-centered teaching methods. Only 10.5% of the participants stated that they rarely employ learner-centered teaching methods.

From this result, it can be concluded that the major of the teachers uses student-centered teaching method. According to Mahoney (2010), effective teaching method improves dyslexic pupils' writing and reading skills.

Q11. How often do you employ multi-sensory instruction to improve students' reading skills?

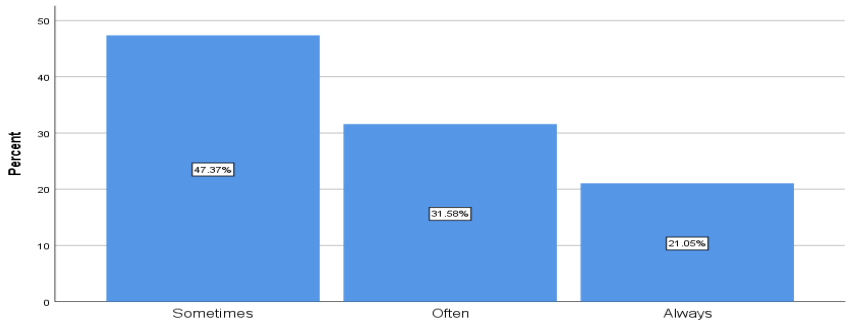

Figure 6. Respondents' Level of Frequency of Employing Multi-Sensory Instruction

Figure 6 reveals that 21.05% of the participants stated that they always employ multi-sensory instruction to improve students' reading skills. 31.58% of the participants stated that they often employ multi-sensory instruction to improve students' reading skills. However, 47.37% of the participants stated that they sometimes employ multi-sensory instruction to improve students' reading skills.

From this result, it can be concluded that the majority of the teachers employ a multisensory instruction approach. According to Fawcett and Nicholson (2017), multisensory education improves dyslexic students' reading and phonological awareness.

Q12. How often do you use assistive technology to help students learn reading?

TABLE 6
RESPONDENTS' LEVEL OF FREQUENCY OF USING ASSISTIVE TECHNOLOGY

		Frequency	Percent
Valid	Sometimes	2	10.5
	Often	11	57.9
	Always	6	31.6
	Total	19	100.0

Table 6 depicts that 31.6% of the participants indicated that they always employ assistive technology to help students learn reading. 57.9% of the respondents indicated that they often employ assistive technology to help students learn reading. Whereas, 10.5% of the respondents stated that they sometimes employ assistive technology to help students learn reading.

From this result, it can be concluded that the major of teachers use assistive technology to help students improve their reading skills. According to Fernandez-Lopez et al. (2013), employing of electronic devices and multimedia materials increased learners' interest in learning and attention. Similarly, Lee and Huang (2019) revealed the importance of computer-assisted instruction help dyslexic learners English language learning. Furthermore, Pirani and Sasikumar (2015) found students with learning difficulties (such as dyslexia) benefit from an adapted classroom equipped with various aids.

Q13. How often do you implement sustainable intervention to support students learning?

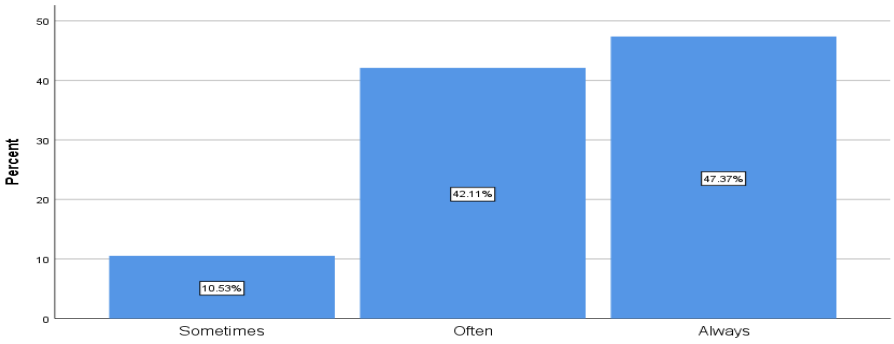

Figure 7. Respondents' Level of Frequency of Implementing Sustainable Intervention

Figure 7 reveals that 47.37% of the participants stated that they always apply the sustainable intervention to support students learning. 42.11% of the participants stated that they often apply the sustainable intervention to support students learning, but 10.53% of the participants stated that they sometimes apply sustainable intervention to support students learning.

From this result, it can be concluded that the major of teachers implements interventions to support their students' learning. According to Smith (2018), intervention employs the word in passages via the use of particular instructional activities including word tracing, use the word in passages, and visual modulation of vocabulary is very helpful in enhancing students' reading skills.

Q14. How often do you collaboratively work with others to enhance students' reading skills?

TABLE 7
RESPONDENTS' LEVEL OF FREQUENCY OF COLLABORATIVELY WORKING WITH OTHERS

		Frequency	Percent
Valid	Sometimes	1	5.3
	Often	10	52.6
	Always	8	42.1
	Total	19	100.0

Table 5 reveals that 42.1% of the participants indicated that they always collaboratively work with others to enhance students' reading skills. In addition, 34.84% of the participants indicated that they often collaboratively work with others to enhance students' reading skills. Only 5.3% of the participants indicated that they sometimes collaboratively work with others to enhance learners' reading skills.

From this result, it can be concluded that the majority of the teachers often collaboratively works with other concerned bodies to help their students. According to Fey et al. (2000) states that children with learning difficulties benefit greatly from collaboration because it fosters a feeling of belonging. There must be communication and cooperation between classroom teachers, speech therapists, and parents to help dyslexic students.

V. CONCLUSION

Reading in English is far more demanding and challenging than reading in one's native language. Learning to read opens up a world of knowledge beyond only the spoken word. Dyslexia is a language learning difficulty that influences reading abilities. Dyslexic students face challenges with reading, spelling, identifying sounds and letters, and decoding and recognizing words (vocabularies).

Dyslexic students need individualized and targeted instruction that is consistent with long-term intervention and support. Improving pupils' reading abilities is dependent on having access to and making use of effective educational systems for dyslexic kids and a multimodal approach. Students may now learn not just from their professors and tutors, but also from one another and from outside experts via the use of cooperative and assistive technologies. The use of multisensory training, assistive technology, and a supportive and inclusive learning environment have been found to be effective ways to improve the reading skills of dyslexic learners reading skills and academic achievement.

This study is limited to one primary school since it takes much time to involve many schools in the study. Therefore, researchers suggest future researchers can do a similar study on a similar topic in incorporating different schools.

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