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Effectiveness of literacy and numeracy in commerce subjects among secondary schools in Fiji

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ABSTRACT

This study aimed to evaluate the students' efficacy in literacy and numeracy skills in commerce subjects in secondary schools in Fiji. Focus group discussions and semi-structured interviews were used to gather relevant data. The findings show that literacy and numeracy skills are essential in commerce subjects, as students require basic literacy and numeracy skills to read, write, comprehend, calculate, and interpret. The findings also showed that parental engagement at an early stage of the child's life helps improve the child's literacy and numeracy skills. The results also showed that the "drop everything and read" or DEAR programme and modern technology positively affect students' literacy and numeracy skills, which helps them do better in commerce classes.

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1. INTRODUCTION

The subjects of literacy, numeracy, and commerce are interdependent. Reading, writing, and mathematics are foundational learning skills that are intrinsically linked to the quality of life, personal well-being, economic stability, and future prosperity. While literacy and numeracy skills are essential to academic success in commerce subjects, these are frequently overlooked in schools. Numerous studies have emphasised the significance of communication skills in the curriculum of commerce courses, such as accounting, economics, and commercial studies. Most discussions concerning literacy have primarily centred on accounting students' oral and written communication skills. According to Maupin and May [1], the importance of communication skills to the successful practise of accounting has long been recognized. In 1968, the American Accounting Association (AAA) asserted that no other quality is more important for commerce students than communicating effectively orally and in writing [2].

Due to the fact that literacy and numeracy are taught separately from commerce subjects, most people are unaware that literacy and numeracy are utilized in commerce studies. Literacy and numeracy complement and are integral to the teaching of commerce. Consequently, as stated by Bushong [3] and Rebele [4], while developing viable oral and written communication skills for those entering the accounting profession has received attention, evaluating the efficacy of literacy and numeracy skills in commerce subjects in secondary school has received little consideration. Therefore, in order to understand the efficacy of literacy and numeracy skills in commerce subjects, three essential research questions were investigated.

These are: i) What is the significance of literacy and numeracy in commerce subjects?; ii) Which (class size, genetics, or teacher effectiveness) has the greatest impact on students' reading and math skills?; and iii) What strategies do parents, teachers, and schools employ to improve students' literacy and numeracy skills?

2. LITERATURE REVIEW

2.1. Relationship between Numeracy and commerce subjects

A close relationship exists between numeracy and commerce subjects [5], [6]. Numeracy refers to the knowledge, skills, behaviours, and attitudes that students require to apply mathematics in a variety of contexts. The commerce subjects consist of commercial studies, accounting, and economics. Numerous calculations are performed by students in commercial studies, accounting, and economics, making numeracy essential to the successful study of commerce. There is a need to learn commerce subjects from the perspective of mathematics. Warsono *et al*. [7] believe that mathematical knowledge is important to take commercial studies, accounting, and economics. According to Shaftel and Shaftel [8], commerce subjects require numerical and analytic skills, which are also fundamental components of mathematics. In addition, Serai [9] points out that mathematics and commerce both involve critical thinking.

Mkhize [6] argues that having numeracy skills benefits those doing commerce in the following ways: i) Mathematical calculations: Accounting tasks and activities include both simple and complex calculations and require accurate reporting of financial data, so it is important to have a strong background in math and algebra; ii) Word problems: Word problems in accounting typically involve fundamental mathematical concepts. Therefore, in addition to mathematical competence, reading skills are required; iii) Concepts about the time value of money: Accounting problems that involve the time value of money require a wide range of math skills; and iv) Other skills: In addition to mathematics and accounting, other important skills include communication abilities. Accounting requires relatively little mathematical knowledge.

2.2. Relationship between literacy and commerce subjects

Literacy and commerce have a relationship, just like numeracy and commerce [10]. Literacy is the ability to read, write, speak, and listen so as to communicate effectively and comprehend the world. Particularly, when students can read and write, they can understand commercial studies, accounting, and economics. According to the Australian Curriculum Assessment and Reporting Authority [11], literacy enables students to develop accounting and economics knowledge and understanding and investigate, discuss, analyse, and communicate subject-specific information, concepts, and ideas. The American Accounting Association [2] asserts that both written and oral communication are essential for commerce students. Phillips and Nagy [12] argue that students can analyse and perform calculations more effectively when they can read. In addition, according to Borland [13], students may perform poorly in subjects such as accounting and economics due to a lack of fundamental vocabulary skills and the ability to calculate and comprehend. Furthermore, Graham and Perin [14] posit that literacy is a requirement for participation in civil society and the global economy. In addition, Mobley [15], suggests that the "drop everything and read" (DEAR) programme used in schools prevents students from dropping out by improving their reading skills and encouraging them to perform well in school.

2.3. Promoting literacy and numeracy to improve students' performance

Literacy and numeracy are crucial skills for young people, especially those who attend school, but they are frequently ignored [16]. According to Espinoza and Reznikova [17] and Zarifa *et al*. [18], students perform better in class once they develop stronger literacy and numeracy skills. One of the determinants of a student's success is self-efficacy. Self-efficacy is important when it comes to the student's ability and willingness to achieve the desired goal or outcome. Begum *et al.* [19] described the role of self-efficacy in fostering student success. Students are the primary agents who determine their own success based on their perceptions of goal attainment. According to Lih and Ismail [20], self-efficacy significantly contributes to the improvement of students' literacy and numeracy. When self-efficacy, reading, and mathematical abilities improve, commerce students perform better [20]. In addition, Sio and Ismail [21] discovered that teacher efficacy is the most significant factor in enhancing students' literacy and numeracy skills. When teachers are effective, students' numeracy and literacy achievement levels improve.

2.4. Genetic and environmental influences on learning numeracy and literacy

Genetics and environment significantly influence a student's academic performance, personality, behavioural issues, motivation, and individual needs. Grasby and Coventry [22] propose that genetic heritability and environmental factors such as socioeconomic status, school attendance, nurturing, and the

influence of nature influence a student's literacy and numeracy skills. However, according to Larsen and Byrne [23], environmental factors such as biomedical factors, personal differences, and school factors have a greater impact on student performance than genetics. The environment plays a significant role in the areas of literacy and numeracy that influence the overall performance of the students, taking into account the student's socioeconomic background, personal learning attitude, and learning behaviour.

Furthermore, Abuya *et al.* [24] asserted that parental involvement positively impacts a student's academic achievement, resulting in improved problem-solving skills, the development of comprehension, and the emergence of literacy skills. Boonk *et al.* [25] argue that parents must participate in their child's education by helping with homework, communicating with the child about school issues, and monitoring their child's daily progress. Moreover, Van Voorhis *et al*. [26], suggest students learn better when they are involved in activities they like.

2.5. The impact of class size on learning numeracy and literacy

Significant factors influencing academic performance in literacy and numeracy include gender, the school calendar, and class size. Watson *et al.* [27] and Uhrain [28] suggest that class size influences student learning because smaller class sizes positively affect student achievement. The teacher has the opportunity to focus on individual students and tailor instruction to their basic literacy and numeracy skills. In terms of literacy and numeracy skills, Ecalle *et al.* [29] found that students in smaller classes perform better and exhibit significant effects when compared to students in larger classes. Class size affects students' ability to perform well in literacy and numeracy because teachers with small class sizes can engage with each student individually and foster collaborative learning. The study of commerce subjects is also inclusive, despite the fact that smaller class sizes are important for effective learning in all subjects.

2.6. Teacher professional development and structured lesson notes

Teachers must improve their knowledge transmission system to achieve literacy and numeracy goals. These can be enhanced through various means [30]. These strategies include providing teachers with appropriate techniques to improve student learning, preparing lesson notes based on students' learning abilities, and providing teachers with ongoing coaching and support to meet the needs of struggling literacy and numeracy learners. Merga [31] suggested that professional development (PD) is essential for assisting struggling literacy and mathematics students. The improvement in literacy and numeracy skills will, in turn, improve students' performances in accounting and economics. In order to increase literacy and numeracy and enhance learning in developing nations, Piper *et al*. [30] further suggested that professional development, teacher instructional support, and coaching are the most cost-effective interventions.

2.7. Teacher education, experience, and technological use

The teacher's content knowledge and how they present the material to students, taking into account their literacy and numeracy skills, impact the students' performance. Ali *et al*. [32], Magfirah [33], and Rahim and Chun [34] all state that teacher education is important for improving students' reading and math skills because teachers need to have reading and math skills to help their students do better.

The consistent use of technology also enhances students' literacy and numeracy skills because they have access to a variety of learning materials suited to their abilities. Skryabin *et al.* [35], Rogowsky *et al.* [36], and Hu *et al.* [37] describe the positive effect of computers on the improvement of literacy and numeracy. The use of technology improves students' literacy and numeracy skills by providing them access to online learning materials that encourage critical thinking. When literacy and numeracy skills increase, students' accounting and economics performance also improve [3], [4].

3. RESEARCH METHOD

This qualitative study examined the efficacy of literacy and numeracy skills in commerce subjects in secondary schools in Fiji. This study employed a qualitative research approach to gain a deeper understanding of the issue by collecting data on the participants' experiences, perceptions, and behaviours [38]. The participants in this research study were purposefully selected. Due to the fact that the Fiji National University (FNU) was the only institution that could provide ethical approval, the majority of participants were undergraduate and postgraduate students from FNU. Students at FNU included both pre-service and in-service teachers. Interviews and focus groups were used to gather information.

A postgraduate scholar with extensive experience as a department head and two scholars with more than five years of commerce teaching experience were interviewed. As the COVID-19 protocols at the time did not permit social contact, all interviews were conducted via Zoom. The duration of each interview was between 15 and 20 minutes. In addition, three focus group discussions were conducted. The first focus group consisted of two former heads of schools and three former commerce teachers, the second group consisted of

six parents, and the third group comprised ten first-year FNU Commerce major students. All focus groups were facilitated through Zoom.

The data was analysed using thematic analysis, in which the researchers closely examined the data to identify recurring themes, concepts, and meaning patterns [39]. The researchers employed a six-step procedure to analyse the data in this study. In the initial phase of familiarisation, the information was transcribed into writing. Step two involved the coding of the transcribed data. The third step involved the development of suitable themes. Steps four and five consisted of reviewing, defining, and identifying the themes for this study. The final step was the conformation of this research paper.

4. RESULTS

The data analysis resulted in findings that explain the efficacy of literacy and numeracy skills in commerce subjects. Five major themes were: i) The importance of literacy and numeracy skills in commerce; ii) Parental involvement; iii) The DEAR programme as an improvement strategy; iv) Teachers' teaching strategies; and v) Students' career paths. The following sections examine and discuss each of the five major themes in greater detail.

4.1. Importance of literacy and numeracy skills in commerce

As a subject, commerce encompasses commercial studies, accounting, and economics. By studying subjects in commerce, students develop their financial literacy, enabling them to learn how to budget, track spending, make sound investment plans, and prepare and analyse financial reports. Literacy and numeracy skills are essential for commerce students because the subject requires critical thinking, comprehension, and the application of reading, writing, and carrying out calculations. One of the respondents stated:

> "*I believe literacy is important in commerce, as it helps the students understand the questions or learning outcomes. Numeracy skills are important in commerce because they allow students to calculate figures*." (TB)

In addition, students' literacy and numeracy skills have a greater impact on their performance in commerce classes, as these subjects require students to be able to read questions and apply basic content knowledge during examinations. The following remark exemplifies the point:

> "*A student's literacy and numeracy skills have a greater impact on their performance because if the child is not able to read and write, he or she will not be able to understand and comprehend the question. A student with poor numeracy skills cannot calculate or prepare accounts in commerce*." (TA)

If a commerce student does not know how to read and count, he or she will not be able to do well in the subject because they won't be able to figure out what the questions are trying to get at.

4.2. Parental involvement

Parents play an essential role in their children's lives. Early teaching in literacy and numeracy begins while the child is still in the developmental stage. This is evident from the following interviewee's responses:

> "*I concur that parental involvement in the early years of a child's life is crucial, as parents can assist the child in understanding and learning new things*." (TB)

There are a variety of ways in which parents can foster their child's literacy and numeracy skills. This can be achieved by reading storybooks to children, teaching the alphabet and numbers at home, encouraging the child to speak English, and involving the child in practical tasks such as making a shopping list. This became apparent when one of the interviewees stated:

> "*As parents, we are the children's first teachers at home. Some parents would argue that I do not know how to teach, but the truth is that we have all completed primary school and know the alphabet, numbers, and phonics. Not only must the parent be involved in their child's educational journey, but they must also be consistently present in their life*." (TA)

4.3. DEAR programme as the strategy for improvement

The DEAR programme is one of the strategies implemented in schools to improve the students' reading, writing, and speaking skills. Students who participate in the DEAR programme develop a preference and routine for reading books, articles, newspapers, and more. This provides the child with a substantial knowledge base and encourages students to become critical thinkers and text analysts. A participant in the interview remarked:

> "*My school has implemented the DEAR programme, which is observed each morning from 8:00 a.m. to 8:20 a.m. and each afternoon from 2:00 p.m. to 2:20 p.m. This is one of the most effective methods for enhancing students' literacy skills. Reading increases our knowledge and writing skills, which can be utilised when writing an essay in economics. In addition, we have the opportunity to learn new words.*" (SA)

4.4. Teachers' teaching strategies

The teacher may employ a range of approaches to assist students with poor literacy and numeracy skills. Not all students are similar. There are students in the class who would comprehend the concepts if taught at a slow pace. The teacher must teach at a pace that students can comprehend. One of the participants made the following observation:

> "*Step-by-step instruction is a skill I've acquired through my education. In my Year 11 accounting class, for instance, we are currently studying the strand on accounting process, in which I teach students how to prepare ledger accounts. I have students who are fast learners, as well as a few who take longer to comprehend the concept. To ensure that all of my students can easily comprehend, I go slowly and teach step by step.*" (TA)

As a teaching strategy, many teachers employ the use of vernacular because students who have difficulties reading and comprehending English can easily understand it in their native language. The following comment illustrates the point:

> "*I also teach students with poor literacy and numeracy skills in my class. To help them comprehend what I am teaching, I have explained the material in Hindi (vernacular). And I can attest to the success of this method because their performance on the topic tests I've administered this term has improved.*" (TB)

4.5. Students' career paths

Literacy and numeracy are essential skills for students to possess in the current technological era. Without these fundamental skills, achieving one's career objective becomes challenging. Literacy and numeracy enable individuals to acquire the fundamental reading, writing, interpreting, and problem-solving skills necessary for a successful future career. An interviewee remarked:

> "*If we lack literacy and numeracy skills, we will not be able to score well in commerce; therefore, achieving our career goal will remain a dream. Most of what we learn and practise in school will be applied in the real world. I believe that if a student lacks the fundamental skills of reading, writing, and performing tasks, it will be difficult for them to find a meaningful job.*" (SA)

5. DISCUSSION

The study examined the efficacy of literacy and numeracy skills in commerce subjects in Fijian secondary schools. The findings indicate that literacy and numeracy skills are essential in commerce courses because they enable students to solve accounting and economics problems, comprehend the questions, and achieve the desired learning outcome. This finding is consistent with that of Borland [13], who believes that students may perform poorly in subjects such as accounting and economics due to a lack of basic vocabulary skills and the capacity to calculate and comprehend. Students must develop the basic literacy skills of exploring, discussing, analysing, and communicating concepts in commerce subjects. Students use their literacy skills to comprehend the questions, interpret the data as tables and figures, and evaluate their findings as essays and paragraphs. Commerce as a subject also requires students to use literacy skills in order to comprehend and memorise commerce terminology, which is only possible if the student possesses strong literacy skills. Calculating values and interpreting the results requires fundamental numeracy skills, making numeracy a crucial competency for commerce subjects.

Another intriguing finding was parents' role in enhancing their children's early literacy and numeracy skills. The first five years of a child's life are crucial for parental involvement, as it is during these years that children develop into enthusiastic learners who enjoy exploring and learning new things. Early on, parents can enhance their children's literacy and numeracy skills in a variety of ways. This involves reading with their children daily, conversing with them daily, and asking them about their school day and what they learned. The findings are consistent with those of Boonk *et al.* [25], who discovered that parental involvement in their child's education includes assisting with homework, communicating with the child about school issues, and monitoring their child's progress daily. Similarly, Abuya *et al.* [24] asserted that parental involvement positively affects a child's academic achievement, resulting in improved problem-solving abilities, comprehension development, and literacy skills. The parental role should not be confined to the four walls of the home; children also learn better through exploration and observation of their surroundings. These findings are similar to those of Van Voorhis *et al.* [26], who also found that learning is enhanced wherever children learn best.

The findings also revealed that DEAR programmes implemented in schools effectively enhance students' literacy skills. The DEAR programme encourages students to engage in reading any available educational material. Reading increases a student's knowledge base, which can be utilised when writing paragraphs and essays in commerce. When students are exposed to new terms, their vocabularies also improve. Students' writing may also improve due to their increased reading engagement. Mobley [15] explained that the DEAR programme implemented in schools prevents students from dropping out because early exposure to the DEAR programme improves students' reading skills and fosters academic achievement. Thus, the greater the students' exposure to reading, the greater their knowledge and skills, which will be advantageous in real-world situations.

The results indicate the efficacy of various teaching strategies employed by teachers to assist students with inadequate literacy and numeracy skills. Several of the strategies derived from the findings include teachers' early intervention, teaching students appropriately, having clear learning outcomes, and employing a variety of teaching methods to transmit knowledge to students. In contrast, previous research by Sio and Ismail [21] found that teacher efficacy is the most important factor in improving students' literacy and numeracy skills. This could be because teachers are good at using different teaching methods to improve their students' reading and math skills.

The findings also revealed that basic literacy and numeracy skills must be taught in schools. Students who cannot develop and improve their literacy and numeracy skills are at risk of being unable to participate fully in the work environment. For workforce participation and productivity, literacy and numeracy skills are essential. The results are comparable to those of Graham and Perin [14], who demonstrated that literacy is a prerequisite for participation in civil society and the global economy. Individuals with higher language, literacy, and numeracy skills are more likely to be employed and contribute to the community [40]. Consequently, literacy and numeracy are essential components in preparing students for future employment.

6. CONCLUSION

Commerce subjects require proficiency in reading and mathematics. Students taking a commerce course must possess basic literacy skills to read and comprehend the course material. Students of commerce must also possess the necessary numeracy skills to calculate statistics, construct graphs, and interpret the graphs. Parents can assist in the early development of their child's literacy and numeracy skills by reading with them, exposing them to outdoor activities such as visiting libraries and spending time at educational centres. The DEAR programme has been implemented in schools to help non-readers improve their literacy skills. It demonstrates that if students cannot read, they will not be able to write, and as commerce majors, these are essential skills for tackling the subject. When attempting to improve students' literacy and numeracy skills, teachers must employ various instructional strategies to aid students who struggle with reading, writing, and mathematics. The strategy may include structured lesson notes for students with poor literacy and numeracy skills, continuous coaching or monitoring, and professional development sessions for teachers.

This research will help the Ministry of Education, Heritage, and the Arts (MEHA) develop policies or reforms that may improve students' literacy and numeracy skills in commercial studies, accounting, and economics. The research will also benefit commerce teachers, who will be able to address the issue of literacy and numeracy in their subjects. The findings will encourage more researchers to investigate the topic to add to the existing body of knowledge.

REFERENCES

[1] R. J. Maupin and C. A. May, "Communication for accounting students," *International Journal of Educational Management*, vol. 7, no. 3, Mar. 1993, doi: 10.1108/09513549310039918.

[2] American Accounting Association, *A guide to accounting instruction: Concepts & practices*. South-Western Publishing Company, 1968.

[3] J. G. Bushong, "Effective communications," *Management Accounting: Montvale*, 1993. https://www.proquest.com/docview/229756192?fromopenview=true&pq-origsite=gscholar (accessed Apr. 21, 2023).

[4] J. E. Rebele, "An examination of accounting students' perceptions of the importance of communication skills in public accounting," *Issues in Accounting Education*, vol. 3, pp. 41–50, 1985.

[5] Y. A. Babalola and F. R. Abiola, "The Importance of Mathematics in the Recording and Interpretation of Accounting," *International Journal of Financial Economics*, vol. 1, no. 4, pp. 103–107, 2013, [Online]. Available: http://www.rassweb.com.

[6] M. V. Mkhize, "Transdisciplinary relationship between mathematics and accounting," *The Journal for Transdisciplinary Research in Southern Africa*, vol. 15, no. 1, Feb. 2019, doi: 10.4102/td.v15i1.451.

[7] S. Warsono, A. Darmawan, and M. A. Ridha, "Using mathematics to teach accounting principles," *SSRN Electronic Journal*, 2009, doi: 10.2139/ssrn.1439057.

[8] J. Shaftel and T. L. Shaftel, "The influence of effective teaching in accounting on student attitudes, behavior, and performance," *Issues in Accounting Education*, vol. 20, no. 3, pp. 231–246, Aug. 2005, doi: 10.2308/iace.2005.20.3.231.

[9] Y. Serai, "Degrees in accounting and mathematics similarities," *The Classroom | Empowering Students in Their College Journey*. https://www.theclassroom.com/degrees-accounting-mathematics-similarities-7976898.html (accessed Apr. 21, 2023).

[10] H. Cai, M. Wang, and Y. Yang, "Teaching accounting in English in higher education – Does the language matter?," *English Language Teaching*, vol. 11, no. 3, p. 50, Feb. 2018, doi: 10.5539/elt.v11n3p50.

[11] Australian Curriculum Assessment and Reporting Authority (ACARA), "What is literacy?," *ACARA*, 2016. https://www.australiancurriculum.edu.au/resources/national-literacy-and-numeracy-learning-progressions/national-literacy-learning-progression/what-is-literacy/ (accessed Apr. 21, 2023).

[12] F. Phillips and A. Nagy, "Does reading case responses and using graphic organizers enhance accounting students' case analyses?," *Issues in Accounting Education*, vol. 29, no. 1, pp. 149–168, Feb. 2014, doi: 10.2308/iace-50620.

[13] H. Borland, "Conceptualising global strategic sustainability and corporate transformational change," *International Marketing Review*, vol. 26, no. 4/5, pp. 554–572, Jul. 2009, doi: 10.1108/02651330910972039.

[14] S. Graham and D. Perin, "A meta-analysis of writing instruction for adolescent students.," *Journal of Educational Psychology*, vol. 99, no. 3, pp. 445–476, Aug. 2007, doi: 10.1037/0022-0663.99.3.445.

[15] M. C. Mobley, "Development of the SETIS Instrument to Measure Teachers' Self-Efficacy to Teach Science in an Integrated STEM Framework," 2015.

[16] J. Jayaraman and S. Jambunathan, "Financial literacy among high school students: Evidence from India," *Citizenship, Social and Economics Education*, vol. 17, no. 3, pp. 168–187, Dec. 2018, doi: 10.1177/2047173418809712.

[17] R. Espinoza and L. Reznikova, "Who can log in? The importance of skills for the feasibility of teleworking arrangements across OECD countries," 242, 2020. doi: 10.1787/3f115a10-en.

[18] D. Zarifa, B. Seward, and R. P. Milian, "Location, location, location: Examining the rural-urban skills gap in Canada," *Journal of Rural Studies*, vol. 72, pp. 252–263, Dec. 2019, doi: 10.1016/j.jrurstud.2019.10.032.

[19] S. Begum, N. Flowers, K. Tan, D. M. H. Carpenter, and K. Moser, "Promoting literacy and numeracy among middle school students: Exploring the mediating role of self-efficacy and gender differences," *International Journal of Educational Research*, vol. 106, p. 101722, 2021, doi: 10.1016/j.ijer.2020.101722.

[20] J. Sio Jyh Lih and R. Bin Ismail, "Binary logistic regression analysis of teacher self-efficacy factors influencing literacy and numeracy," *World Journal of Education*, vol. 9, no. 1, p. 209, Feb. 2019, doi: 10.5430/wje.v9n1p209.

[21] J. Sio and R. Ismail, "Binary logistic regression analysis of instructional leadership factors affecting English language literacy in primary schools," *3L The Southeast Asian Journal of English Language Studies*, vol. 25, no. 2, pp. 22–37, Jun. 2019, doi: 10.17576/3L-2019-2502-02.

[22] K. L. Grasby, W. L. Coventry, B. Byrne, R. K. Olson, and S. E. Medland, "Genetic and environmental influences on literacy and numeracy performance in australian school children in grades 3, 5, 7, and 9," *Behavior Genetics*, vol. 46, no. 5, pp. 627–648, Sep. 2016, doi: 10.1007/s10519-016-9797-z.

[23] S. A. Larsen *et al.*, "Identical genes, unique environments: A qualitative exploration of persistent monozygotic-twin discordance in literacy and numeracy," *Frontiers in Education*, vol. 4, Mar. 2019, doi: 10.3389/feduc.2019.00021.

[24] B. A. Abuya, M. Oketch, M. W. Ngware, M. Mutisya, and P. K. Musyoka, "Experiences of parents with the Reading to Learn approach: a randomised control trial initiative to improve literacy and numeracy in Kenya and Uganda," *Education 3-13*, vol. 43, no. 5, pp. 514–529, Sep. 2015, doi: 10.1080/03004279.2013.829859.

[25] L. Boonk, H. J. M. Gijselaers, H. Ritzen, and S. Brand-Gruwel, "A review of the relationship between parental involvement indicators and academic achievement," *Educational Research Review*, vol. 24, pp. 10–30, Jun. 2018, doi: 10.1016/j.edurev.2018.02.001.

[26] F. L. Van Voorhis, M. F. Maier, J. L. Epstein, C. M. Lloyd, and T. Leung, *The impact of family involvement on the education of children ages 3 to 8: A focus on literacy and math achievement outcomes and social-emotional skills*. MDRC, 2013.

[27] K. Watson, B. Handal, and M. Maher, "The influence of class size upon numeracy and literacy performance," *Quality Assurance in Education*, vol. 24, no. 4, pp. 507–527, 2016, doi: 10.1108/QAE-07-2014-0039.

[28] C. Uhrain, "Effect of Class Size on Student Achievement in Secondary School," 2016.

[29] J. Ecalle, C. Gomes, P. Auphan, L. Cros, and A. Magnan, "Effects of policy and educational interventions intended to reduce difficulties in literacy skills in grade 1," *Studies in Educational Evaluation*, vol. 61, pp. 12–20, Jun. 2019, doi: 10.1016/j.stueduc.2019.02.001.

[30] B. Piper, S. Simmons Zuilkowski, M. Dubeck, E. Jepkemei, and S. J. King, "Identifying the essential ingredients to literacy and numeracy improvement: Teacher professional development and coaching, student textbooks, and structured teachers' guides," *World Development*, vol. 106, pp. 324–336, Jun. 2018, doi: 10.1016/j.worlddev.2018.01.018.

[31] M. K. Merga, "'Fallen through the cracks': Teachers' perceptions of barriers faced by struggling literacy learners in secondary school," *English in Education*, vol. 54, no. 4, pp. 371–395, Oct. 2020, doi: 10.1080/04250494.2019.1672502.

[32] R. Md-Ali, H. B. B. Abdul Karim, and F. Mohd Yusof, "Experienced Primary School Teachers' Thoughts on Effective Teachers of Literacy and Numeracy," *Malaysian Journal of Learning and Instruction*, no. Vol. 13, No. 1 June 2016, pp. 43–62, Jun. 2016, doi: 10.32890/mjli2016.13.1.3.

[33] T. Magfirah, "Students' reading and listening comprehension based on their learning styles," *International Journal of Education*,

vol. 10, no. 2, Feb. 2018, doi: 10.17509/ije.v10i2.8028.
[34] F. Abdul Rahim and S. C. Lee, "Proposing an affective literacy framework for young learners of English in Malaysian rural areas: its key dimensions and challenges," *Malaysian Journal of Learning and Instruction*, vol. 14, no. 2, pp. 115–144, Dec. 2018, doi: 10.32890/mjli2017.14.2.5.
[35] M. Skryabin, J. Zhang, L. Liu, and D. Zhang, "How the ICT development level and usage influence student achievement in reading, mathematics, and science," *Computers & Education*, vol. 85, pp. 49–58, Jul. 2015, doi: 10.1016/j.compedu.2015.02.004.
[36] B. A. Rogowsky, C. C. Terwilliger, C. A. Young, and E. E. Kribbs, "Playful learning with technology: the effect of computer-assisted instruction on literacy and numeracy skills of preschoolers," *International Journal of Play*, vol. 7, no. 1, pp. 60–80, Jan. 2018, doi: 10.1080/21594937.2017.1348324.
[37] X. Hu, Y. Gong, C. Lai, and F. K. S. Leung, "The relationship between ICT and student literacy in mathematics, reading, and science across 44 countries: A multilevel analysis," *Computers & Education*, vol. 125, pp. 1–13, Oct. 2018, doi: 10.1016/j.compedu.2018.05.021.
[38] S. Tenny, J. M. Brannan, and G. D. Brannan, *Qualitative Study*. 2023.
[39] J. Caulfield, "How to Do Thematic Analysis | Step-by-Step Guide & Examples," *Scribbr*, 2019. https://www.scribbr.com/methodology/thematic-analysis/ (accessed Nov. 25, 2022).
[40] Department of Education and Training, *National foundation skills strategy for adults*. Australian government, 2013.

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