Enhancing Grade 5 Pupils' Spelling Proficiency Using Chain Technique Strategy

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ABSTRACT

Spelling is an essential literacy skill that promotes written communication, vocabulary growth, and reading fluency. However, a lack of exposure to efficient techniques that encourage mastery, and retention causes numerous pupils to struggle with spelling. Creative teaching strategies that enhance pupils' spelling ability must be examined to overcome this obstacle. The effectiveness of the Chain Technique Strategy in improving the spelling skills of fifth-grade pupils was investigated in this action research study. Most of the 30 participants scored below the satisfactory level on the pretest, indicating they had trouble spelling words correctly. The Chain Technique Strategy was implemented during spelling sessions using a single-group pretest and posttest design. This strategy involved forming words by linking letters step by step, which helped learners recognize correct spelling patterns and improve retention. Post-test results showed significant improvement, with most pupils achieving satisfaction and above levels. The mean score increased from the pretest to the posttest. A statistically significant difference was revealed by a paired samples t-test, confirming the positive impact of the strategy on spelling performance. The Chain Technique Strategy is an effective and engaging approach for improving pupils' spelling skills. It is recommended for continued use in classroom instruction to support literacy development.

Index Terms— chain technique strategy, spelling proficiency, literacy development, retention

INTRODUCTION

A fundamental literacy skill that is essential to the development of reading and writing is spelling. Complex cognitive processes, such as phonological, orthographic, and morphological knowledge, are necessary for spelling proficiency. Improved writing results correlate with proficient spelling, allowing pupils to employ a more expansive vocabulary and write longer, more cohesive stories. Spelling lessons prepare pupils for difficulties in the workplace, boost their confidence in communication, and help them thrive academically. (Kim and others, 2020)

Even though literacy skills instruction is essential, recent research shows that reading and spelling disorders are relatively common among pupils, highlighting the need for early detection and intervention. A study found that 4.6% of elementary school pupils were at risk for reading disorders and 6.5% had spelling issues (Serafino et al., 2021). These difficulties, which may be comparable to those faced by language learners of other languages, are frequently caused by irregularities in orthographic systems, such as low backward regularity in languages like German. This emphasizes the necessity of evidence-based, hands-on spelling interventions (Siemons et al., 2023)

Various strategies have been developed to improve spelling proficiency. For instance, the Cover, Copy, Compare (CCC) strategy has successfully enhanced spelling skills, particularly among younger learners (Rashid et al., 2020). Lexical competence research suggests that improving this skill reduces errors in both reading and writing

tasks (Bigozzo et al., 2021). Studies advocate systematic and explicit spelling instruction tailored to meet the needs of diverse learners, including those with dyslexia (Mordecai et al., 2024). There are still unanswered questions about how creative and cooperative methods can enhance spelling results even more, especially for middle schoolers. Research on teaching methods and interventions that can be incorporated into classroom procedures is required (Stoiber & Gettinger, 2021)

Acquiring spelling skills during the early years is crucial, as proper spelling helps readers better comprehend written messages. Spelling proficiency remains a critical area of research, particularly for elementary school students (Nicolas et al., 2024). Research indicates that elementary pupils' overall writing quality and spelling proficiency are significantly correlated, highlighting the significance of proper spelling for literacy development and effective written communication (Kearns & Palombo, 2021)

Spelling interventions for students, especially those with dyslexia, are lacking. The best ways to apply particular spelling techniques, like Phonics and orthographic instruction, to various student populations require more focused research. According to a systematic review that assessed the efficacy of several interventions, Phonics and morphology-focused strategies had moderate to high success in enhancing spelling abilities. However, memorization-focused strategies were less effective (Galuschka et al., 2020). Further research should investigate how students with dyslexia incorporate their spelling knowledge and methods into their written works. The derived inferences need to offer unambiguous direction to educators: proficient spelling training should be overt, methodical, and centered on spelling tactics (Mordecai-Nair et al., 2024)

This study addresses common spelling challenges using the Chain Technique Strategy to reduce errors and build learners' lexical and linguistic competence. The study's main objectives are to increase pupil word usage, boost their confidence in using increasingly difficult words, and improve their ability to apply spelling rules correctly. It aims to assist pupils with spelling trouble, including those who may have read and writing difficulties, by providing them with systematic and structured instruction.

This action research aimed to improve students' spelling proficiency in one of the elementary schools in Misamis Occidental during S.Y. 2024-2025. Specifically, the study sought to answer the following questions:

1. What is the spelling proficiency level of Grade 5 pupils before using the Chain Technique Strategy
2. What is the spelling proficiency level of Grade 5 pupils after using the Chain Technique Strategy?
3. Is there a significant improvement in the spelling proficiency of Grade 5 pupils before and after implementing the Chain Technique Strategy?

Methods

Research Design

This action research utilized a classroom-based research design to assess the effectiveness of the Chain Technique Strategy in enhancing spelling proficiency among Grade 5 learners. The pretest and posttest approach were used to measure changes in spelling proficiency before and after the implementation of the strategy, allowing for a comparison of students' abilities. Through this approach, the teacher could research teaching methods and assess what worked and what didn't for the children in the classroom (Cronholm & Göbel, 2022).

Research Setting

The participants in this elementary school study were fifth-grade pupils at a public elementary school in Ozamiz City, Misamis Occidental. The school provided education from kindergarten to Grade 6 and was dedicated to delivering quality learning experiences. It adhered to a thorough curriculum that promoted character development, community service, and academic performance. By fostering an atmosphere that catered to kids with varying origins and learning styles, the school demonstrated its commitment to inclusivity and encouraged varied learners. These educational endeavors prepared every pupil to face the challenges of a world that was changing all the time.

Respondents of the Study

The participants of this study consisted of 30 Grade 5 pupils from one section taught by the researcher. They were selected through purposive sampling based on the following criteria: pupils enrolled as Grade 5 learners for the school year 2024–2025, pupils who demonstrated low spelling proficiency based on preliminary observations, and pupils who were willing to participate actively. Before putting the plan into action, the researcher made sure that these requirements were satisfied. Students from different sections within the same grade level were not included to keep the results consistent and focused.

Research Instruments

The researcher used the following instruments in this study:

Vocabulary Skills Pretest. Pretests and post tests were developed to assess the pupils' spelling proficiency and measure their performance. The pretest identified the initial spelling skills of the participants, while the posttest evaluated the improvements after implementing the Chain Technique Strategy. The researcher conferred with qualified individuals, such as the cooperating instructor and research consultant, to guarantee the validity of the tests. Therefore, in determining the test performance, the following scale was used:

Score	Grade Equivalent	Interpretation
19-20	90-100	Outstanding
17-18	85-89	Very Satisfactory
15-16	80-84	Satisfactory
13-14	75-79	Fairly Satisfactory
Below 13	Below 75	Did Not Meet Expectations

Lesson Plan. The researchers created structured lesson plans to guide the intervention. These lesson plans outlined specific objectives, activities, and assessment methods aligned with the Chain Technique Strategy. Before implementation, the cooperating teacher reviewed the lesson plans to ensure their appropriateness and alignment with the study's goals. The intervention was conducted in one of the public schools in Misamis Occidental, specifically with Grade 5 pupils during S.Y. 2024–2025.

Data Collection

1. Pre-Implementation Phase. The researcher first sought permission from the Dean of the College of Education, the Schools Division Superintendent, the principal, and the participating teacher to conduct the study. Once approval was obtained, consent forms were sent to the parents of the pupils, and assent forms were collected from the pupils themselves. After securing all necessary permissions and forms, a pretest was administered to assess the pupils' baseline knowledge of spelling and the targeted concepts in the study. Furthermore, the researcher created lesson plans and pertinent resources by incorporating the Chain Technique Strategy into the teaching methodology. At this stage, activities and assessments were created using the teachers' lesson plans and PowerPoint presentations.

2. Implementation Phase. A pretest was given at the start of the implementation phase to assess participants' starting spelling ability. The Chain Technique Strategy was implemented over a predetermined time frame. The researcher closely monitored the participants' development during this time, noting their motivation, involvement, and spelling abilities. Detailed instructions regarding using the Chain Technique Strategy were provided to the pupils to ensure they understood the approach to the activities and assessments. After a month of implementing the strategy, a posttest was conducted to measure improvement in spelling proficiency. Data was gathered through evaluations and observations. All data, including test results, photos, and eld notes, were analyzed to determine the strategy's effectiveness.

3. Post-Implementation Phase. Post-implementation data were analyzed to evaluate the Chain Technique's impact on improving pupils' spelling proficiency. The changes in spelling performance from the pretest to

the posttest were summarized using descriptive statistics, such as mean and standard deviation. A T-test was used to find out if the improvements were statistically significant. A research report summarizing the findings was distributed to pertinent parties, including educators and school officials. Additionally, the researcher evaluated the research procedure, considering its advantages, disadvantages, and recommendations for further research on spelling education utilizing the Chain Technique Strategy

Ethical Considerations

Per ethical standards, the study ensured that informed consent was obtained from all participants before their involvement. Participants were thoroughly briefed on the provisions of the Data Privacy Act of 2012, which set the researchers' commitment to protecting personal information and ensuring accountability in managing sensitive data. Participants were fully informed about their participation objectives, potential benefits, and significance throughout the study. The researchers also assured participants that all data collected would remain confidential, and their anonymity would be maintained throughout the research process.

Data Analysis

Using the Minitab Software, the following process was conducted to analyze the data collected:

Mean and Standard Deviation. These were used to summarize the spelling proficiency levels of pupils before and after implementing the Chain Technique Strategy.

T-test. These were applied to explore the significant difference in pupils' spelling performance before and after using the Chain Technique Strategy.

RESULTS AND DISCUSSIONS

Spelling Proficiency Level of Grade 5 Pupils' Before the Use of the Chain Technique Strategy

Table 1 presents the spelling proficiency levels of Grade 5 pupils before implementing the Chain Technique Strategy. The data reveal that all pupils struggled with spelling, as evidenced by 100% of the class falling under the "Did not Meet Expectations" category (M = 9.13; SD = 0.71). This indicates that pupils had difficulty accurately spelling words, showing low skill mastery. The mean score suggests a consistent pattern of low performance across the class, with minimal variation among learners. No pupil reached even the reasonably satisfactory level of spelling proficiency, highlighting the urgent need for an intervention strategy to improve their spelling performance. This data indicates that before implementing the Chain Technique Strategy, Grade 5 pupils experienced substantial difficulty in spelling, as evidenced by all learners falling into the "Did not Meet Expectations" category. The low mean score and minimal variation (M = 9.13; SD = 0.71) suggest a consistent lack of spelling proficiency across the class. These results reflect broader findings in educational research, which show that students often struggle with spelling due to underdeveloped phonological, orthographic, and morphological awareness (Williams & Novelli, 2025). When learners lack these foundational skills, they cannot map sounds to letters effectively or recognize common spelling patterns (Hurskainen et al., 2020). Traditional spelling instruction, which relies heavily on rote memorization, may not sufficiently support pupils in internalizing spelling rules or understanding word structure. Students are less likely to retain correct spellings over time without structured approaches that make word relationships and meanings explicit (Templeton, 2023). Furthermore, poor lexical representations hinder spelling and reading fluency, making it difficult for learners to recall correct spellings independently (Niolaki et al., 2023). These findings highlight the urgent need for research-based learning to deepen learners' understanding of how words work. Structured Word Inquiry and similar approaches integrating visual, phonological, and semantic cues have shown promise in addressing low spelling proficiency (Ramsdell et al., 2024). Hence, the data clearly pointed to the necessity of implementing an intervention like the Chain Technique Strategy to improve spelling outcomes for these pupils. The consistently low performance of pupils in spelling before implementing the Chain Technique Strategy implies a critical gap in existing instructional methods. This suggests that schools must reevaluate traditional spelling instruction and adopt more structured and interactive strategies, like the Chain Technique, that actively engage learners in

pattern recognition and sequential learning. Addressing foundational weaknesses in spelling through an effective strategy could lead to long-term improvements in overall literacy skills.

Table 1. Spelling Proficiency Level of Grade 5 Pupils Before Implementing the Chain Technique Strategy

Proficiency Level	Frequency	Percentage	M	SD
Did not meet the Expectations	30	100.00	9.13	0.71

Note Scale: 19-20 (Outstanding); 17-18 (Very Satisfactory); 15-16 (Satisfactory); 13-14 (Fairly Satisfactory)0-12 (Did Not Meet Expectations)

Spelling Proficiency Level of Grade 5 Pupils After the Use of the Chain Technique Strategy

Table 2 presents the spelling proficiency levels of Grade 5 pupils following the implementation of the Chain Technique Strategy. The results indicate improvement in pupils' spelling performance, with a significant portion of the class achieving higher proficiency levels than in the pretest. Notably, 43.33% of the " pupils " achieved the "Outstanding" level (M = 19.46; SD = 0.52), demonstrating substantial gain in spelling accuracy and mastery. Additionally, 23.33% of the class achieved" a "Very Satisfactory" level (M = 17.86; SD = 0.38), while 1.33% performed at a "Satisfactory" level (M = 15.50; SD = 0.58), indicating that the intervention benefited not only the top performers but also learners who had previously struggled. Although 20% of the class remained in the "Did not Meet Expectations" category (M = 11.17; SD = 1.17), this was a notable decrease from the pretest results, where all my pupils had fallen below that level. The overall class average improved significantly to a mean score of 16.90 (SD = 3.26), reflecting increased proficiency and greater variation in individual performance. These results suggest that the Chain Technique Strategy significantly impacts pupils' spelling skills, supporting more effective retention and application of correct spelling patterns. Spelling is a foundational skill in language development, and proficiency in spelling supports reading fluency, vocabulary growth, and written expression (Barrett & Hegarty, 2020). Many pupils struggle with spelling due to limited exposure to patterns and structures within words, especially when traditional methods lack repetition and engagement. Learners who rely solely on memorization often fail to internalize spelling rules, leading to difficulty applying them consistently in context (Mendez, 2024). The Chain Technique Strategy, which involves a sequential and repetitive process of linking letters or words, addresses these gaps by strengthening visual and cognitive associations. This method improves memory consolidation, pattern identification, and phonological awareness—all critical for proficient spelling (Nkurunziza & Sheila, 2024). It has been demonstrated that spaced retrieval practice, made possible by the repetitive and structured nature of the chain technique, greatly enhances long-term retention and recall (Nguyen & Elliott, 2023). Furthermore, the interactive and engaging nature of Chain Technique supports active learning and increases student motivation. Students are more likely to retain information when learning activities involve meaningful participation and cognitive engagement. Breaking down words into manageable segments and allowing pupils to reconstruct them step-by-step helps foster more profound understanding and better mastery of spelling conventions (Ehri, 2021). Overall, the data from Table 2 supports the Chain Technique's effectiveness in improving pupils' spelling proficiency. It is a practical and inclusive approach to addressing diverse learning needs and enhancing foundational literacy skills in the classroom. The post-intervention results imply that incorporating structured and engaging strategies like the Chain Technique can significantly improve pupils' spelling proficiency across different performance levels. The marked improvement in scores suggests learners are more likely to retain and apply correct spelling patterns when provided with interactive, step-by-step instruction. This highlights the value of shifting classroom instruction toward learner-centered and research-based methods that promote mastery and motivation, ultimately leading to improved literacy outcomes.

Table 2. Spelling Proficiency Level of Grade 5 Pupils After the Use of the Chain Technique Strategy

Proficiency Level	Frequency	Percentage	M	SD
Outstanding	13	43.33	19.46	0.52

Very Satisfactory	7	23.33	17.86	0.38
Satisfactory	4	13.33	15.50	0.58
Did not Meet the expectations Overall Performance	6	20.00	11.17	1.17
	30	100.00	16.90	3.26

Note Scale: 19-20 (Outstanding); 17-18 (Very Satisfactory); 15-16 (Satisfactory); 13-14 (Fairly Satisfactory)0-12 (Did Not Meet Expectations)

Significant Difference in the Spelling Proficiency Level of Grade 5 Pupils Before and After the Implementation of the Chain Technique Strategy

Table 3 presents the significant difference in the spelling proficiency levels of Grade 5 pupils before and after using the Chain Technique Strategy. The results indicate a substantial performance improvement, as shown by the increase in the mean score from M = 9.13 (SD = 0.71) in the pretest to M = 16.90 (SD = 3.26) in the posttest. After applying the strategy, the computed t-value of 18.74 and a p-value of 0.00 rejected the null hypothesis, confirming a significant difference in pupils' spelling proficiency levels. The results affirm the effectiveness of the Chain Technique Strategy as a scaffolded and interactive approach that supports spelling mastery through step-by-step learning (Ehri, 2021). This strategy, used in the present study, helps pupils break down words into manageable parts, promoting deeper engagement and cognitive processing—both essential for literacy development (Rupley & Blair, 2021). By reconstructing words segment by segment, learners can internalize spelling patterns more effectively (Cruz, S. 2022). The Chain Technique Strategy also aligns with constructivist learning theory, emphasizing that learners build a stronger understanding through active participation and meaningful tasks (Arega et al., 2025). This study proved especially helpful for pupils who previously struggled with spelling, as it reinforced repetition and encouraged consistent practice in a structured manner (Lynch, B. 2024). Overall, the improvement in posttest scores demonstrates the value of the Chain Technique Strategy in enhancing spelling proficiency and supporting diverse learning needs in the classroom (Ehri, 2020). The significant improvement in pupils' spelling scores after applying the Chain Technique Strategy implies its practical value in enhancing literacy instruction. This suggests that structured and engaging methods bridge gaps in learners' foundational skills, especially for those struggling with spelling. Integrating such strategies into regular classroom practice can lead to more meaningful learning experiences, promote skill retention, and support the academic growth of diverse learners. The Chain Technique proves to be not just an intervention but a sustainable approach for improving spelling proficiency in elementary education.

Table 3. Significant Difference in the Spelling Proficiency Level of Grade 5 Pupils Before and After Implementing the Chain Technique Strategy

Variables	M	SD	t-value	p-value	Decision
Before the Use of the Chain Technique Strategy	9.13	0.71	18.74	0.00	Reject Ho
After the Use of the Chain Technique Strategy	16.90	3.26			

Note: Probability Value Scale: **p<0.01 (Highly Significant); *p<0.05 (Significant); p>0.05 (Not Significant)

SUMMARY AND FINDINGS

Summary

Spelling proficiency is fundamental for academic success, enabling learners to communicate effectively and build literacy. However, many Grade 5 pupils face challenges in mastering spelling through traditional teaching methods. This study aimed to determine the effectiveness of the Chain Technique Strategy in enhancing spelling proficiency among Grade 5 pupils during S.Y. 2024–2025 in a public school in Misamis Occidental. Using a

classroom-based action research design, the study assessed the impact of the Chain Technique Strategy on pupils' spelling skills. Data was collected through researcher-designed pretests and posttests and analyzed using statistical methods. The study sought to answer the following research questions: 1) What is the level of spelling proficiency of Grade 5 pupils before implementing the Chain Technique Strategy? 2) What is the level of spelling proficiency of Grade 5 pupils after implementing the Chain Technique Strategy? 3) Is there a significant difference in the spelling proficiency of Grade 5 pupils before and after using the Chain Technique Strategy?

FINDINGS

The following were the study's essential findings:

1. The pupils' spelling proficiency before using the "Chain Technique" strategy did not meet expectations.

2. The pupils' spelling proficiency after using the "Chain Technique" strategy was outstanding.

3. There is a highly significant difference in the pupils' spelling proficiency before and after implementing the "Chain Technique" strategy.

CONCLUSION AND RECOMMENDATIONS

Conclusions

The study's findings led to the following conclusions:

1. Traditional approaches to spelling instruction may not fully address the learning needs of struggling spellers, as evidenced by the low proficiency levels before implementing the Chain Technique Strategy.
2. The Chain Technique Strategy offers a structured and engaging approach that significantly enhances spelling retention and mastery, providing a more effective method of spelling instruction.
3. The significant improvement in spelling performance following the application of the Chain Technique Strategy highlights the strategy's efficacy as a tool in English instruction. It validates its beneficial effects on improving spelling competence.

Recommendations

Based on the findings and conclusions, it is recommended that:

1. School administrators and educators should consider integrating the Chain Technique Strategy into spelling instruction to support better pupils who struggle with traditional teaching methods.
2. English teachers are encouraged to adopt the Chain Technique Strategy regularly as part of their teaching practice to improve spelling retention and mastery among learners.
3. Pupils may be encouraged to actively engage in spelling activities that utilize strategies such as the Chain Technique, as these can build confidence and strengthen mastery over time.
4. Future research may explore the adaptation and application of the Chain Technique Strategy across different grade levels and subject areas to further validate and expand its effectiveness.

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