



RESEARCH PAPER

Effect of Early Literacy Skills on Students' Academic Achievement at Primary Schools of District Narowal

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ABSTRACT

The basic aim of this research study is to investigate the effect of early literacy skills on students' academic achievement at primary schools of Narowal. Early literacy skills considered as globally acceptable variable to enhance students in their future educational tasks. Experimental design was used to conduct the study. Align with prerequisites of experimental design two groups e.g. control and experimental group was created. The experimental group was taught early literacy skills. In comparison control group was taught traditional syllabus. Pretests and posttests were administered to both the experimental and control groups to evaluate the academic achievement of the students for this purpose, a self-developed early literacy skills test was used for data collection. Two intact group classes (60 students in total) of primary school who studied the early literacy skills curriculum in the same first grade were selected through purposive sampling technique. The researcher compared the academic achievement of the experimental and control groups after the intervention. According to the study's findings early literacy skills instruction significantly effects' students' academic achievement. However, students who acquire early literacy skills perform better academically than students in the control group. it was recommended heads of institutions must ensure that schools have resources teacher training and early literacy friendly atmosphere. Longitudinal studies that follow kids from early grades to higher grades may be strongly advised for future researchers.

KEYWORDS Early Literacy Skills Learning, Academic Achievement, Learner Centered Instructional Strategy, Pre-Requisites For Implementation Early Literacy Skills

Introduction

The process of becoming literate or capable of learning literacy skills necessitates a number of foundational abilities which are known as early literacy skills Rand & Morrow, (2021). Many researchers agree that early literacy skills were learned earlier in kindergarten and are linked to a variety of domains of development including language and motor development Rand & Morrow, (2021). According to research children's literacy growth and achievement are influenced by their early literacy skills Rand & Morrow, (2021). It is widely acknowledged that the preschool years are a critical era for children to learn about the roles and objectives of reading in contemporary society. According to Maharani (2019) for children to become good readers as well as writers in the future they must acquire literacy skills and self-awareness. Children's literacy levels are a strong indicator of their long term academic medical and economical outcomes (Logan et al., 2024). Research has shown for decades that proficiency in both language interpretation and word recognition is essential for successful reading (Logan et al., 2024). Constrained and unrestrained capabilities are the two categories into which divide basic literacy skills. Constrained skills that are easily taught to younger children comprise phonetic recognition, letter name knowledge, oral reading pronunciation and early

printing skills (McCormick et al., 2020). They increase in childhood from inaccessible to high or peak levels. The other type of skills that truly affect a wide variety of language development related areas are unrestrained skills such as vocabulary and composition knowledge which are not limited by the amount of knowledge to be learned or by the time spent studying (McCormick et al., 2020).

Numerous studies have shown a direct and indirect relationship between creative vocabulary more general oral language competencies at school entry such as linguistics grammar syntax and adaptive vocabulary and reading competency during the first two to four years of school (Lovett et al., 2021). Additionally, there is evidence suggesting children's expressive vocabulary at age two predicts their language and reading abilities up to Grade five (Lovett et al., 2021) and that children's vocabulary development at age three also predicts their vocabulary growth at age thirteen (Lovett et al., 2021). While there is no doubt that reading and oral language including vocabulary are related the relationship between vocabulary and understanding is especially evident (Lovett et al., 2021). According to (Kim et al., 2021) superior content literacy education can help students engage with complicated texts as well as acquire understanding of the domain. Reading engagement is a general word that includes readers' psychological inspirational and cognitive abilities (Kim et al., 2021).

Literature Review

Phonological awareness oral communication and vocabulary the cornerstones of literacy start to evolve in early childhood before kids start receiving official reading instruction in school (Hill, 2019). Before children enter the school their early experiences and surroundings have a discernible impact on their literacy abilities. The most influencing factors in a child's early years are their parents and their household.

According to research (Hill, 2019) students who acquire excellent literacy skills in early grades are more likely to succeed academically and speak the language more fluently in the future effectively. Furthermore, early literacy is developed through rich interactions in classrooms communities and at home where parents and teachers play crucial roles in promoting these abilities. It is not limited to the preschool years (Erbeli et al., 2024).

According to recent research early interventions are crucial for fostering reading readiness particularly for kids from socioeconomically or linguistically underprivileged homes. For instance, phonological games and shared book reading stories greatly increase children's vocabulary and print awareness (McWeeny et al., 2022). Similarly, by offering interactive learning opportunities digital tools can improve the development of early literacy when utilized properly (Cusiter et al., 2025). The foundation for reading comprehension critical thinking and lifelong learning is laid by developing excellent early literacy abilities.

Few research particularly in Brazil have examined the accuracy for prediction of these abilities on reading and writing competencies despite evidence of contemporaneous correlations between them. International studies indicate that these skills grow significantly in the years before starting formal schooling at the preschool level (Pazeto et al., 2020) and particularly in the case of PA (phonemic awareness) show significant predictive potential with regard to subsequent reading and writing ability (Pazeto et al., 2020). In certain research primary or beginning reading and writing (RW) skills have been linked to future performance. These skills include for instance the child's

comprehension of the letters and their sounds or even their capacity to encode and decode individual words or syllables (Pazeto et al., 2020).

A review of the literature by (Dicataldo et al., 2022) found Preschool print exposure was not only a strong predictor of text comprehension in subsequent school years but the strength of the relationship increased over time suggesting that print access is a crucial aspect of early childhood education. According to a National Early Literacy Panel meta-analysis incorporating reading activities into preschool curricula that emphasize play help children develop important skills and knowledge such as vocabulary print concepts alphabetic comprehension and phonological awareness (NELP 2008) (Dicataldo et al., 2022).

Preschool can support a child's growth in a number of ways. First by spending more time in a controlled educational environment and less time in other forms of care such informal care family care, parental care or alternative formal care it can improve children's school ready skills (Zhang et al., 2024). However, the ability of preschool to develop abilities that are critical to child development in comparison to the development of same skills in other forms of care will determine whether or not replacing preschool with another form of care is good or bad for a kid's development Incognito and Pinto, (2023).

Home Literacy and Emergent Literacy Skills in Preschool

This study's approach to encouraging reading and writing in elementary schools is strongly related to the early literacy abilities that young children possess at home (Bigozzi et al., 2023) as well as during preschool. According to earlier research (Bigozzi et al., 2023) actually the analysts found that the best way to think the development of reading and writing skills is a continuous process that begins in preschool and lasts the entire dignified literacy age. Bronfenbrenner's ecological theory (1979) states that the microsystem of the family where significant informally involvements at home pertaining to literacy take place can be used to track the development of young children's capacities for reading and writing. In order to comprehend the concept of home literacy several theoretical frameworks have been developed. In general models put forward in the literature (Bigozzi et al., 2023) demonstrate the importance of both code allied and meaning allied activities in helping preschoolers develop their home literacy.

Role of Teacher in Developing Early Literacy Skills

Teachers are essential in supporting the growth of early literacy because they serve as both teachers and facilitators of rich language and literacy experiences in the classroom (Ranu et al., 2024). Their responsibilities also include facilitating conversations modeling fluent reading and fostering children's expressive and receptive language skills through interactive storytelling and dialogic reading. An important factor in promoting the growth of literacy is the instructor Venketsamy & Sibanda, (2021). Teachers' actions and words have an impact on their students' linguistic development pupils' learning is influenced by their language as well Venketsamy & Sibanda, (2021). Teachers must be familiar with a range of tactics for helping students improve their literacy and give them adaptable informative feedback Venketsamy & Sibanda, (2021). According to the Victoria Department of Education (2020) teachers have a responsibility to make sure that students acquire the fundamentals of literacy. Students need to be encouraged to practice their reading skills as much as possible.

Role of Class Environment in Promoting Early Literacy Skills

Children's reading development is greatly aided by the classroom's physical layout. According to research how a classroom is set out can have a big impact on how much time pupils spend reading. Iqbal & Mehmood, (2024) imply that more interaction with reading materials is encouraged in classrooms with easily accessible and places. Students are more likely to spend time reading when they have comfortable well organized seating alternatives. This improves their reading abilities and fosters a favorable link with reading related activities. The classroom should be set up carefully by teachers to reduce distractions and increase pupils' attention spans for reading assignments Park & Piasta, (2024). Apart from the actual arrangement the classroom environment should be friendly and engaging. Students can be inspired to read and write by a stimulating environment created with interactive board games colorful décor and themed exhibits. Teachers can foster the development of critical literacy skills and provide a solid basis for students' academic achievement by fostering a friendly and literacy rich learning environment in the classroom Iqbal & Mehmood, (2024). Similarly, classrooms that are well systematized as demonstrated by established procedures explicit opportunities and efficient classroom administration probably have more time for intervention lessons and allow teachers will engage with pupils in small groups while the rest of the class is occupied. In fact, research shows that the quality of the classroom environment is positively associated with small-group instruction (Piasta et al., 2024).

Peers Role in Promoting Early Literacy Skills

Vygotsky (1986) described the proximal development zone as the difference between the level of prospective growth based on adult problem solving techniques under adult supervision or in collaboration with those who are more skilled and the actual level of development as assessed by autonomous problem solving (Ryokai et al., 2023). In early literacy activities adults help children's literacy development by acting as the capable partner. Children converse in a variety of ways with their parents and teachers including sharing knowledge reprimanding and interacting with others and expressing emotions. Peers are essential for fostering early literacy abilities in preschool and early childhood settings because social interactions mimicry and cooperative activities with classmates are common ways for kids to pick up language communication techniques and literacy practices (Freudenthal et al., 2023). Peer assisted learning techniques including cooperative storytelling partnered reading and peer tutoring have been found to promote active participation scaffolding and shared responsibility for learning all of which foster emergent literacy. In preschool classrooms play based peer interactions give kids the chance to explore letters sounds and words in meaningful contexts which fosters print awareness symbolic representation and phonological awareness.

Early literacy learning is extremely important because it establishes the cognitive linguistic and socio emotional foundation for later reading academic success and lifetime participation in school and society. Understanding how strong foundations in reading writing and language development affect later performance enables educators, parents and policymakers to design successful instructional strategies and interventions that help children from the start of their learning journey. The findings may help to improve teaching techniques which guide curriculum creation and ensure that children are better prepared to perform academically and adapt to varied learning settings. Lack of literacy skills is a big issue with multiple negative and harmful consequences for pupils' academic achievement. Because this study attempts to highlight the effect of early

literacy skills on student academic accomplishment policymakers and instructors may benefit from learning how to improve Pakistani students' performance in early literacy skills.

Material and Methods

A quantitative research experimental approach was employed to investigate the effect of early literacy skills on students' academic achievement. I choose quasi-experimental research design for my study. Quasi-experimental research was a useful technique for understanding connections between causes and effects. It allows us to alter variables and monitor the outcomes which is crucial for understanding how different factors impact a study's conclusion. Additionally, quasi-experimental design allows for non-random selection (Garton et al., 2020).

The researcher taught the early literacy skills to experimental group and control group taught traditional syllabus for this research. The duration of this activity was three months or twelve weeks. The experimental group of study was taught early literacy skills (Phonemic, Vocabulary EPA exercise of practical life) through using activities tools and techniques. The study's control group was instructed using a standard curriculum in a traditional teacher centered classroom environment. The researcher was responsible for all of the class activities.

Prior to the intervention both the control and experimental groups completed a pretest. At the end a post test was administered to assess the student's achievement level. For this purpose, the academic achievement of the student's assessed using the early literacy skills test. Both experimental and control group classes were instructed by the researcher.

Sample

Out of the selected population two intact groups were chosen using a non-probability sampling technique. Under the umbrella of Non-probability sampling, purposive sampling techniques was used to select the sample of the study. Purposive samples are non-probability samples selected according to study goals and demographic characteristics. The researcher used the purposive sample technique with the intention of teaching early literacy skills. Only a few schools in the Narowal District offered these skills (vocabulary phonemics' letter knowledge and narrative skills). Initially I located the schools that were implementing the early literacy skills. I used the purposive sampling technique to choose two groups based on this information. Another concern was the availability and authorization to teach in any of the Narowal schools for this reason I chose to use the purposive sampling technique for this study. Two intact classes of one grade student's who were studying the course of early literacy skills were selected purposively. In this way the participants of the planned study consisted of a sample of 60 students (30 experimental group and 30 control group) one grade student from the Rising School System Narowal. It was also guaranteed that both selected groups were from the same session to ensure sample homogeneity.

Instrument

The effect of early literacy skills on student academic achievement was assessed using an early literacy skills test. The test was based on a self-developed instrument with six sections and 31 items designed to assess first grade students' experience and learning.

The rationale for this was that the researcher instructing the early literacy skills was intended to assess academic achievement in these areas.

Twenty students were selected from a group that was representative of the population to pilot the test before final data collecting. The data acquired throughout this approach was entered for reliability testing in SPSS. The Reliability coefficient value of the test instrument was .79. Two language specialists provided their professional opinion to verify legitimacy. The alpha value six factors of early literacy skills print motivation print awareness letter knowledge vocabulary phonological awareness and narrative skills were .70 and higher.

To assess the students' basic knowledge in both the experimental and control groups a pretest was given before to the experiment. Following instruction in early literacy skills students were given a posttest to gauge their achievements in two tests. Additionally, the impact of the intervention on the students' performance was evaluated and the differences between the experimental and control groups' post test results were ascertained.

Data collection procedure

Participants in the study provided quantitative data to the researcher. The quantitative data was collected using the early literacy skills test. Pretest data was gathered from the control and experiment groups via a test before the intervention began. Posttest results were collected from individuals in both groups following the approximately three-month long intervention.

Data analysis procedure

To analyze quantitative data collected during the pretest and posttest phases of the study the researcher used both descriptive and inferential statistics. The statistical package for social science (SPSS) program was initially used to enter the data. Second to calculate the mean difference between the two groups before and after the intervention an independent sample t-test was employed for both the pretest and posttest. Third the mean difference between the groups' pretest and posttest scores was calculated using the dependent sample t-test. Lastly the achievement scores of the experimental and control groups after the intervention were compared using the independent sample t-test.

Results and Discussion

Table 1
Comparison of the Experimental Group's and Control Group's pretest scores using the Independent Sample t-test to assess Academic Achievement

Scores	Mean value	SD	Df	t-value	Sig. (2-tailed)
Control Group	6.30	2.08	58	.000	1.000
Experimental Group	6.30	2.08			

Here, n = 60

Table 1 shows the experimental and control groups' pretest scores as determined by the independent sample t-test. The control and experimental groups' pretest mean scores were compared using an independent t-test. The average score for the control group's performance on the pretest was (M = 6.30, SD = 2.08) and the experimental group's mean score on the pretest was (M = 6.30, SD = 2.08). The experimental and control

groups' pretest scores were calculated using an alpha level of significance of 1.000. There is no significant difference between the experimental group's and pretest control group's scores.

The calculated t-value (.000) at the level of $df = 58$ and level of significance is 1.000 which is the maximum possible value. Since significantly $p = 1.000$ is much greater than any conventional alpha level as 0.05, 0.01 which showed that no significant difference in student performance during pretest was found. Thus, it is possible to draw the conclusion that there is no significant difference between the experimental and control groups' scores on the pretest regarding early literacy skills.

At the start of the intervention a pretest on early literacy skills was administered to check the students' previous knowledge and interest as well as to assess how much basic knowledge they had before teaching them just to confirm whether the two groups' levels of knowledge are the same or different. According to the statistical analysis there was no discernible difference in the experimental and control groups' performance and they both had the same foundational understanding of early literacy skills before to the experiment.

Table 2
Comparison of the Control Group's and Experimental Group's posttest results using the Independent Sample t-test based on Academic Achievement

Scores	Mean value	SD	Df	t-value	Sig. (2-tailed)
Control Group	16.2	3.49	58	-13.350	<.001
Experimental Group	26.6	2.44			

Here $n = 60$

Presented in the Table 2 the posttest results for the experimental and control groups obtained by using the independent sample t-test. To compare the mean scores of the experimental and control groups as a consequence of the posttest an independent t-test was used. As a consequence of the posttest control group the mean score of students' academic performance was ($M = 16.2$, $SD = 3.49$) and the mean score for the experimental group's posttest was ($M = 26.6$, $SD = 2.44$). The experimental and control groups' posttest scores utilizing the alpha level of significance $<.001$. There was a substantial difference between the experimental group's and the control group's posttest results.

The estimated t-value (-13.3) for $df = 58$ was significantly lower than the critical table value at .05 level of significance. Likewise, $p < .05$ it demonstrated that according to the results of the posttest there was a substantial difference in the academic achievement of students based on the innovative early literacy skills and standard syllabus learning through teacher directed technique. Consequently, it demonstrates that students' who received instructions about early literacy skills activities and traditional syllabus have different level of academic achievement.

During the posttest the individuals in the experimental and control groups were given the early literacy skills test once again. The mean difference between the two groups' scores was compared using the independent sample t-test to determine each group's academic success level. The findings indicate that following treatment the experimental group performed better than the control group in terms of academic accomplishment and scores. The academic achievement of primary school students' is significantly impacted by early literacy skills exercises compared to typical literacy curricula it can be reasonably stated.

Table 3
The Dependent\Paired Sample t-test was used to Compare the Experimental Group's pretest and posttest scores to assess Academic Achievement

Scores	Mean value	SD	Df	t-value	Sig. (2 tailed)
Pretest	6.30	2.08	29	-36.285	<.001
Posttest	26.6	2.44			

Here, n=30

Presented in Table 3 are the experimental group's pretest and posttest results obtained using the dependent sample t-test. The mean scores of the pretest and posttest groups taught utilizing early literacy skills exercises were compared using the depended sample t-test. The average academic achievement score of the students as a result of gaining early literacy skills during the pretest was ($M=6.30$, $SD = 2.08$) and the mean score for the experimental group's posttest was ($M = 26.6$, $SD = 2.44$). Pretest and posttest results for the experimental group utilizing the alpha level of significance $<.001$. There was a significant distinction between the experimental group's pretest and posttest results.

The calculated t-value (-36.2) at the level of $df = 29$. Similarly, $p<.05$ indicated that early literacy skills instruction had a significant effect on students' academic performance. As a result, students who received early literacy skills instruction performed better academically on the posttest. Through activities students acquire abilities that have a significant effect on their performance and their post test results shown a significant improvement over their pretest results.

The experimental group of the student were taught early literacy skills through activities. Teachers served as facilitators and students actively participated in the activities. During the pretest and posttest experimental group was given an early literacy skills test to evaluate their level of achievement as a result of learning these abilities. The dependent sample t-test was used to analyze the mean difference between the pretest and posttest for the experimental group. According to the statistical analysis, there was a noteworthy distinction between their academic success levels on the pretest and posttest. These findings would suggest that learning literacy skills at a young age has a big effect on the academic performance of primary school students.

The fact that early literacy skills can be introduced in Pakistani schools as early as kindergarten and must be taught step by step in every primary grade school may also be significant. Lorimor-Easley & Reed (2019) the rationale for this is that a step by step approach aligns with the developmental stage of young children preventing confusion and cognitive overload. Teachers can identify gaps early and offer focused support through gradual sequencing ensuring that no child is left behind. Small manageable steps boost self-esteem and drive forming successful reading habits over time.

The study was initially planned to be conducted in a formal classroom setting for six months however due to summer vacations it was carried out for only three months. In order to better comprehend students' progress it is advised that future researchers carry out similar experiments in formal classrooms for six months or possibly a whole school year. The findings of this investigation show that early literacy skills learning has a significant effect on students' academic achievement and ultimately on their future performance. However, in public schools there has traditionally been no focus on these skills. There are no organized activities to teach early literacy skills. As a result, students' are unable to acquire these abilities and do poorly in both subject matter and language

acquisition which has an adverse influence on their performance in subsequent grades and raises secondary dropout rates.

According to (Weadman et al., 2023) little study has been done in Italian education system on how preschool studies that link to literacy abilities structured literacy period reading and writing acquisition. The findings of my study are similar to those of previous study in that I emphasize that applying early literacy skills to the experimental group had a strong favorable influence on students' reading and writing acquisition and their achievement scores significantly improved. According to the study's findings early literacy skills significantly effect on primary school students' academic performance enhance their language proficiency and help them perform better in higher grades. When compared to a typical curriculum with teacher directed learning the context specific character of early literacy skills education suggests that they improve children' academic progress.

The study's results are similar with those of other researchers (Piasta et al., 2024, Cortázar 2015, Castro and Barrera, (2019) that early literacy skills could lead to increased academic success in general and in higher education in particular. Early literacy skills are regarded as a solid foundation for later academic accomplishment because they provide children with critical skills such as vocabulary print knowledge phonological awareness and comprehension methods that promote good reading and writing. In this research when the researcher applied early literacy skills in the classroom students' performance improved after the intervention.

Conclusion

The study's main objective was to examine the effect of early literacy skills on students' academic achievement at primary schools of Distract Narowal. As the research developed and the relevant literature was examined research compare students' academic performance which could be useful as a supplementary component. The experiment was conducted using a quasi-experimental method and two groups were established a control group and an experimental group. Experimental group was taught early literacy skills through using effective activities while control group was taught traditional literacy syllabus. Student performance as a result of traditional literacy syllabus learning and early literacy skills learning was measured using an early literacy skills test. For three months the experiment was carried out on campus and the first term exam was also held at that time.

There was a notable variation in the students' academic performance who participants in innovative early literacy skills exercises and those who followed the traditional course. The reasoning is that unique early literacy skills activities encourage critical thinking active engagement and learning ownership but traditional rote learning literacy syllabus frequently restrict students' creativity and interaction. Results from the post test showed a significant distinction between the experimental and control groups' academic achievement.

Recommendations

Early literacy skills had the potential to significantly effects pupils' academic performance yet this may vary depending on the system. In this sense policy makers, administrators and educators can carry out early literacy learning activities after meeting all requirements such as supportive curriculum, teachers training, availability of

resources and need parents support. For early literacy programs policymakers must guarantee creative curricula clear national standards sufficient financing and supporting legislation. Longitudinal studies that follow kids from early grades to higher grades may be strongly advised for future researchers. And replication studies to compare outcomes in different provinces or districts. To ensure that literacy development becomes a cooperative sustainable process at all educational levels government policies must also promote smaller class sizes ongoing teacher training and consistent assessment techniques to monitor progress and correct learning gaps early.

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