Research Article

Play-Way Method and Reading and Numeracy Skills of Foundational Stage Learners

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ABSTRACT

The present study evaluates the effectiveness of the Play-Way Method in developing the reading and numeracy skills of foundational stage learners. A quasi-experimental pre-test/post-test design with an experimental group and a control group was used. The sample comprised 62 Grade 2 students (31 in each group) from a CBSE-affiliated demonstration school in Bhubaneswar, Odisha. Reading (fluency, accuracy, pronunciation, expression and understanding) and numeracy (addition and subtraction) were assessed with competency-based rubrics before and after the intervention. The two groups did not differ significantly at pre-test in reading ($p = 0.830$) or numeracy ($p = 0.131$). At post-test, the experimental group, taught through the Play-Way Method, scored significantly higher than the control group in both reading ($p = 0.003$) and numeracy ($p = 0.007$). The findings suggest that the Play-Way Method can support the development of foundational reading and numeracy skills and merits wider use in early-grade classrooms, subject to replication with larger and more diverse samples.

Keywords: Foundational Learning, Literacy Skills, Numeracy Skills, Play-Way Method, Student Engagement.

INTRODUCTION

The National Education Policy 2020 defines the Foundational Stage of education, which includes children aged 3 to 8 years with three years of pre-school education and Grade 1 and Grade 2 studies. This stage is recognised as a critical period for cognitive, linguistic, socio-emotional, and motor development, which forms the foundation for all subsequent learning activities. Early reading and numeracy skills acquired during these formative years are essential for lifelong learning because they enable children to comprehend texts, express ideas, engage in logical reasoning, and participate meaningfully in academic and social contexts (Ministry of Education 2020). Foundational literacy and numeracy skills determine academic success while also impacting students' confidence levels and their motivation to learn throughout their educational journey. The implementation of effective teaching methods at this educational level serves as a fundamental requirement for achieving equitable and high-quality educational results (Popoola 2018).

In many foundational classrooms, teaching still relies on traditional approaches in which teachers deliver information and children learn through memorisation, repetition and passive reception. Such approaches overlook children's developmental needs and their natural tendency to learn through exploration and play, and they can restrict the development of understanding and critical thinking (Ministry of Education 2020). Educational institutions are therefore turning to models that prioritise child development and active learning, because practical experience and collaboration with peers have been associated with better learning outcomes. The Play-Way Method is one such framework for young children. It combines play-based learning and exploratory activity with organised content to support the development of reading ability and mathematical understanding. By building on children's interests and current developmental abilities, it creates learning environments that foster motivation, creativity and deeper conceptual understanding (Misna and Pamungkas 2025). Reading and numeracy are the gateway skills of schooling. A child who cannot read with understanding finds it difficult to use the textbooks, instructions and problems that fill every other subject, and a child who lacks a secure grasp of number finds later mathematics and science hard to follow. Difficulties that are not addressed in the early grades tend to persist, because later teaching assumes that the basics are already in place. This is why the foundational stage, which the National Education Policy 2020 defines as the first five years of schooling, from age three to age eight (Ministry of Education 2020), has become a priority for educational planning. The question for teachers is not only what young children should learn but how they should be taught, since the way in which early lessons are organised shapes children's attitudes towards learning as well as their attainment.

Research has examined a range of teaching methods for developing young children's early reading and numeracy skills. However, few studies have assessed the effectiveness of the Play-Way Method with foundational stage learners in Indian classrooms working under current policy frameworks. The present study investigates how effective the Play-Way Method is in developing reading and numeracy skills among foundational stage learners, and thereby provides evidence for reforms in early childhood teaching. It is relevant to educators, curriculum designers and policymakers who wish to improve foundational learning outcomes in line with national goals. The remainder of the paper is organised as follows. The Review of Literature summarises earlier work on the Play-Way Method and on foundational literacy and numeracy. The objectives and hypotheses are then stated, followed by the research methodology, the results and analysis, the discussion, and the conclusion. Implications, limitations and directions for future research are included, and the references are given at the end.

Rationale of the Study

The National Education Policy 2020 advocates play-based, experiential and child-centred pedagogies for children aged 3–8, and the NIPUN Bharat Mission aims for every child to attain foundational literacy and numeracy by the end of Grade 3 (Ministry of Education 2021). The Play-Way Method aligns closely with these reforms because it promotes learning through enjoyable activities matched to children's developmental stages. However, evidence of its effectiveness in Indian classroom settings remains limited, and classroom practice often still depends on memorisation-based teaching, so policy intent and classroom practice do not fully match. Reading and numeracy are examined together because they are complementary foundations for success in later learning. The study seeks to provide context-specific evidence on whether the Play-Way Method can turn national educational goals into concrete gains in foundational learning outcomes.

REVIEW OF LITERATURE

Concept and Features of the Play-Way Method: The belief that young children learn best through play has a long history in educational thought. Early childhood pioneers such as Friedrich Froebel and Maria Montessori built their approaches on the idea that children's own activity is the natural route to learning, and John Dewey argued that education should grow out of children's experience and purposeful activity. The Play-Way Method draws on this tradition. In the Play-Way Method, the teacher presents curriculum content through games, songs, stories, drama, puzzles, building and sorting activities and other forms of purposeful play, so that the child experiences learning as enjoyable activity rather than as a duty imposed from outside.

Three features distinguish the Play-Way Method from simple recreation. First, the activities are planned around specific learning goals, so that play serves a curricular purpose. Second, the teacher takes an active role in guiding, questioning and extending children's play rather than leaving children entirely to themselves. Third, the activities are matched to the developmental level of the children, which means that they use concrete materials and familiar contexts and move gradually towards more abstract ideas. Play-based approaches are often described along a continuum, from free play that is initiated and directed by the child, through guided play in which the teacher sets up the environment and the goal, to games with rules in which the structure is supplied by the activity itself. The Play-Way Method, as generally understood in the literature, falls towards the guided end of this continuum, because it combines children's enjoyment with the teacher's instructional intent.

Foundational Literacy and Numeracy: Early reading is not a single skill but a set of related components. Children must learn to recognise letters and the sounds they represent, to decode words accurately, to read connected text with appropriate speed and expression, and to understand what they read. In the present study these dimensions are represented by fluency, accuracy, pronunciation, expression and understanding. Early numeracy likewise begins with number sense, which includes counting, recognising quantities and understanding place value, and then develops into the basic operations of addition and subtraction, which are the focus of this study. Both domains depend on repeated practice and on meaningful connections between abstract symbols and concrete experience, and both can be taught through activities that children find motivating. Indian policy has placed these skills at the centre of school reform. The National Education Policy 2020 treats the attainment of foundational literacy and numeracy as an urgent national mission and recommends play-based and activity-based learning in the early years (Ministry of Education 2020). The NIPUN Bharat Mission translates this into a target that every child should acquire

these skills by the end of Grade 3 (Ministry of Education 2021). Meeting such a target depends on classroom methods that actually help children learn, and it is here that evidence on the Play-Way Method has practical value.

Theoretical Framework

Constructivist Theory of Learning: Constructivist theory, associated with Jean Piaget and Lev Vygotsky, holds that children build knowledge through experience and social interaction. Vygotsky (1978) emphasised language, collaboration and scaffolding as essential tools for learning within the Zone of Proximal Development. The theory argues that active participation leads to meaningful learning, whereas passive listening limits it. Storytelling, phonics games and hands-on mathematical tasks give children opportunities to construct their own understanding of literacy and numeracy (Waite-Stupiansky 2022). The Play-Way Method follows constructivist principles because it lets children learn through real-world experiences that require active participation.

Experiential Learning Theory: David A. Kolb's Experiential Learning Theory describes learning as a process in which knowledge is created through the transformation of experience. Kolb (1984) proposed a four-stage cycle of concrete experience, reflective observation, abstract conceptualisation and active experimentation. Learners understand concepts better when they complete meaningful tasks and reflect on what they have learned. The theory supports play-based learning, since storytelling, role-play, phonics games, counting activities and manipulatives give children concrete experiences that support literacy and numeracy development. Active involvement is likely to yield a better understanding of reading and numerical concepts than passive instruction. The Play-Way Method thus applies experiential learning by letting learners take part in activities through which they discover new knowledge (Taneja et al. 2022).

Play-Way Method and the Conventional Method at the Foundational Stage

The Play-Way Method has long been regarded as an effective approach in early childhood and primary education. In a quasi-experimental study in Gombe Metropolis, Bappah and Umbugadu (2023) found that nursery children taught through the Play-Way Method achieved higher post-test scores than the control group, with no major gender differences. Olagunju et al. (2024) reported that pupils taught through the Play-Way Method outperformed those taught by the traditional lecture method, supporting play-based methods as a means of raising academic achievement. Suhanya and Jeyagowri (2022) developed and validated play materials for mathematics, such as a counting math wheel and lacing beads, which strengthened children's basic mathematical skills and increased their interest in learning activities. In elementary schools in Abuja, Writer (2023) reported that pupils taught through the Play-Way Method showed stronger academic performance, conceptual understanding and classroom engagement than pupils taught through the traditional method. Together, these findings indicate that the Play-Way Method can yield academic advantages and enhance pupil involvement.

Play-based approaches are not without difficulties, and a balanced review should acknowledge them. Play that is poorly planned can become unstructured activity in which children enjoy themselves without meeting learning goals. Teachers who have been trained mainly in lecture-based methods may feel unsure about how to guide play, and large classes, limited space and a lack of materials can make activity-based teaching harder to manage. Pressure to complete a syllabus and to prepare children for tests may also push teachers back towards drilling and memorisation. These concerns do not weaken the case for play-based learning, but they suggest that its benefits depend on the quality of planning and implementation and not simply on the use of games.

The role of the teacher is central to this discussion. In a Play-Way classroom the teacher is not a bystander but a designer, facilitator and observer. The teacher selects or creates activities that serve the learning objectives, introduces the rules and vocabulary needed for them, watches how children respond, asks questions that push their thinking further, and gathers the information needed to judge progress. Seen in this light, the choice between the Play-Way Method and conventional teaching is not a choice between freedom and discipline. Both require planning and classroom management, but they differ in how far they involve children as active participants in constructing their own learning.

Effectiveness of Play-Based and Interactive Learning Approaches in Enhancing Foundational Reading and Numeracy Skills

Related studies show that active, interactive approaches similar in spirit to the Play-Way Method can support engagement and achievement. Project-based learning has been associated with better retention and greater interest in learning (Maroš et al. 2021; Zen and Ariani 2022), although the latter study was conducted in higher education. Conto et al. (2021) documented the challenges that school disruptions created for children learning to read and write, and Angrist et al. (2022) found that low-tech strategies involving parental support improved learning during school closures. These studies do not test the Play-Way Method directly, but they indicate that active, guided learning experiences can benefit children who are acquiring early literacy and numeracy.

Taken together, the studies reviewed above point in a consistent direction. Play-based and activity-based methods are repeatedly associated with better achievement, greater engagement and stronger conceptual understanding than conventional lecture-based teaching. The evidence is nevertheless limited in several respects. A good deal of it comes from other countries, where curricula, class sizes and school cultures differ from those in India. Many studies examine a single subject, so it is often unclear whether the same method supports reading and numeracy together. Some do not report whether the groups were comparable before teaching began. A pre-test/post-test design that compares an experimental class with a control class, and that tests both reading and numeracy in the same group of children, can address part of this gap. The present study uses such a design with Grade 2 learners in an Indian school.

Objectives of the Study

- To study the effectiveness of the Play-Way method on the reading skills of children at the foundational stage.
- To study the effectiveness of the Play-Way method on the numeracy skills of children at the foundational stage.

Hypotheses of the Study

H1: There is a significant difference in the mean score of reading skills of children taught by the play-way method and conventional method at the foundational stage.

H01: There is no significant difference in the mean score of reading skills of children taught by the play-way method and conventional method at the foundational stage.

H2: There is a significant difference in the mean score of numeracy skills of children taught by the play-way method and conventional method at the foundational stage.

H02: There is no significant difference in the mean score of numeracy skills of children taught by the play-way method and conventional method at the foundational stage.

RESEARCH METHODOLOGY

This study examined the effectiveness of the Play-Way Method in improving reading and numeracy skills among Grade 2 learners at the foundational stage, using a quasi-experimental quantitative design. A pre-test/post-test control group design with intact classes was adopted. The researcher herself delivered the teaching in both classes. The sample of 62 students came from two sections of Grade 2: Class 2A (n = 31), the control group, taught through the conventional method, and Class 2B (n = 31), the experimental group, taught through the Play-Way Method. The study had a descriptive component, which analysed performance levels in reading and numeracy, and an inferential component, which tested the significance of differences between the experimental and control groups.

The research was conducted at the Demonstration Multipurpose School on the R.I.E. campus in Bhubaneswar, Odisha, which is affiliated to the CBSE. The school and the Grade 2 classes were selected through purposive sampling. Students' reading (fluency, accuracy, pronunciation, expression and understanding) and numeracy (addition and subtraction) were assessed with competency-based rubrics. Secondary data were drawn from journals, books and policy documents, including the National Education Policy 2020 and the NIPUN Bharat Mission, to build the theoretical framework. Data were processed in Microsoft Excel and SPSS using the mean, standard deviation, skewness, kurtosis and t-tests, which were used to test the hypotheses.

Participants and Sampling: The participants were 62 Grade 2 students enrolled in two sections of the same school. Purposive sampling was used, which means that the school and the grade were chosen deliberately because they were suitable for the aims of the study rather than selected at random. Because the children came from existing classes, the classes were not formed by random assignment, and the study is therefore described as quasi-

experimental. Both classes were taught in the same school at the same grade level, which helps to keep the conditions of teaching broadly comparable.

Variables and Measures: The independent variable was the teaching method, which had two levels: the Play-Way Method for the experimental group and the conventional method for the control group. The dependent variables were reading skills and numeracy skills. Reading skills were assessed through five components, namely fluency, accuracy, pronunciation, expression and understanding. Numeracy skills were assessed through addition and subtraction. Competency-based rubrics were used so that each child's performance could be judged against defined criteria. The same measures were applied before and after the intervention, which allows the change in performance to be examined.

Data Analysis: Descriptive statistics, namely the mean and standard deviation, were used to summarise performance. Skewness and kurtosis were computed to check whether the score distributions were suitable for parametric analysis. The t-test was then used to test the null hypotheses, and the results were interpreted at the 5 per cent level of significance, so that a p-value below 0.05 was treated as evidence of a statistically significant difference. Two hypotheses were tested for each outcome, one stating that a difference exists and one stating that no difference exists.

Rationale for the Design

A quasi-experimental design was chosen because it is often the practicable option in school research, where children cannot usually be reassigned to new classes for the purposes of a study. Including a control group allows the performance of children taught through the Play-Way Method to be compared with that of children who continued with conventional teaching, so that general growth due to maturation and ordinary schooling is not mistaken for an effect of the method. Administering a pre-test makes it possible to check whether the groups were similar at the start, and the post-test shows where each group stood at the end. Together, these features allow a more careful judgement than a single post-test comparison.

RESULTS AND ANALYSIS

Demographic Findings

Table 1: Demographic findings

Demographic Variable	Category	Frequency	Percent
Gender	Female	24	38.7
	Male	38	61.3
	Total	62	100.0
Age	6 years old	32	51.6
	7 years old	21	33.9
	8 years old	9	14.5
	Total	62	100.0
Class	2A (control group)	31	50.0
	2B (experimental group)	31	50.0
	Total	62	100.0

Table 1 shows the composition of the sample. Males constitute 61.3% and females 38.7% of the sample, so the gender distribution is not equal. By age, 51.6% of participants were 6 years old, 33.9% were 7 and 14.5% were 8, which falls within the 3–8 age range of the foundational stage. Class 2A (control) and Class 2B (experimental) each contain 31 students (50.0%), so the two groups are equal in size. Equal group sizes keep the comparison balanced, although, because the sample was drawn purposively from a single school, the findings should not be assumed to represent all foundational stage learners.

Normality Test

Normality testing checks whether the data follow an approximately normal distribution, which is an assumption of parametric tests such as the t-test. In this study, normality was examined through the skewness and kurtosis values of the literacy and numeracy variables, so that the subsequent inferential analysis rests on sound assumptions.

Table 2: Normality test (pre-test and post-test; all 62 students combined)

Variable	Phase	N	Mean	Std. Deviation	Skewness	Kurtosis
Fluency	Pre-test	62	2.5484	1.06629	0.582	-0.329
	Post-test	62	2.9677	1.00764	0.464	-0.325
Accuracy	Pre-test	62	2.3548	0.97673	0.423	0.186
	Post-test	62	2.6935	0.86059	0.487	0.390
Pronunciation	Pre-test	62	2.2903	0.87567	0.902	1.596
	Post-test	62	2.5484	0.86228	0.718	0.805
Expression	Pre-test	62	1.9839	1.19414	0.808	-0.946
	Post-test	62	2.2903	0.99815	0.912	0.503
Understanding	Pre-test	62	2.0484	1.07775	0.632	-0.566
	Post-test	62	2.5806	0.93297	0.821	0.573
Addition	Pre-test	62	3.2097	1.34453	-0.313	-1.020
	Post-test	62	3.6774	1.11288	-0.649	-0.441
Subtraction	Pre-test	62	3.3065	1.19547	-0.208	-0.948
	Post-test	62	4.0000	1.07123	-0.909	-0.049

Table 2 shows that the pre-test and post-test distributions of all variables are approximately normal. Fluency, accuracy, pronunciation, expression and understanding are positively skewed in both phases, and addition and subtraction are negatively skewed, but all skewness values lie within ±1, indicating only moderate asymmetry. Most kurtosis values are close to zero. The pre-test kurtosis for pronunciation (1.596) is the highest but remains below 2. No variable shows extreme skewness or kurtosis (all absolute values are below 2), so the assumption of normality is considered satisfied for the parametric analysis.

Results Based on Hypothesis

H1: There is a significant difference in the mean score of reading skills of children taught by the play-way method and the conventional method at the foundational stage.

H01: There is no significant difference in the mean score of reading skills of children taught by the play-way method and the conventional method at the foundational stage.

Table 3: Paired-samples statistics and test for reading skills

Pair	Group Comparison	Mean Difference	Std. Deviation	t-value	Df	Sig. (2-tailed)	Interpretation
Pair 1	Reading skill, pre-test (experimental vs control)	0.19	4.98	0.217	30	0.830	Not significant
Pair 2	Reading skill, post-test (experimental vs control)	3.06	5.22	3.268	30	0.003	Significant

Table 3 shows that at pre-test the mean difference in reading scores between the experimental and control groups was only 0.19 (t = 0.217, p = 0.830), which is not significant; the groups therefore had comparable reading skills before the intervention. At post-test the mean difference increased to 3.06 (t = 3.268, p = 0.003), which is statistically significant. The experimental group, taught through the Play-Way Method, thus scored significantly higher in reading than the control group after the intervention. The null hypothesis (H01) is therefore rejected, and the result supports the view that the Play-Way Method improves the reading skills of foundational stage learners.

H2: There is a significant difference in the mean score of numeracy skills of children taught by the play-way method and the conventional method at the foundational stage.

H02: There is no significant difference in the mean score of numeracy skills of children taught by the play-way method and the conventional method at the foundational stage.

Table 4: Paired-samples statistics and test for numeracy skills

Pair	Group Comparison	Mean Difference	Std. Deviation	t-value	Df	Sig. (2-tailed)	Interpretation
Pair 1	Numeracy skills, pre-test (experimental vs control)	-0.71	2.55	-1.552	30	0.131	Not significant
Pair 2	Numeracy skills, post-test (experimental vs control)	1.10	2.10	2.903	30	0.007	Significant

Table 4 shows that at pre-test the mean difference in numeracy scores between the experimental and control groups was -0.71 (t = -1.552, p = 0.131), which is not significant; the groups therefore had comparable numeracy skills before the intervention. At post-test the mean difference was 1.10 (t = 2.903, p = 0.007), which is statistically significant. The experimental group thus scored significantly higher in numeracy than the control group after the intervention. The null hypothesis (H02) is therefore rejected, and the result supports the view that the Play-Way Method contributes to the development of early numeracy skills, particularly basic addition and subtraction.

In summary, the results show a consistent pattern across the two outcomes. Before the intervention, the experimental and control groups did not differ significantly in either reading or numeracy, so the groups can be regarded as starting from comparable positions. After the intervention, the experimental group scored significantly higher in both. The difference was larger in reading (a mean difference of 3.06) than in numeracy (a mean difference of 1.10), although, because reading is assessed through five components and numeracy through two, the raw differences are not directly comparable. Both null hypotheses were rejected.

DISCUSSION

The results indicate that the Play-Way Method can improve reading and numeracy skills among young children. This is consistent with child-centred learning theories. Constructivist and experiential perspectives hold that children learn best by doing, constructing their own understanding through meaningful interaction, and the Play-Way Method fits this view by giving learners opportunities to discover, collaborate and learn by doing. The stronger post-test performance of the experimental group in reading and numeracy is consistent with this learner-centred approach. Play-based learning also creates an enjoyable and relaxed environment that may sustain children's attention and motivation. Games, stories and role-play can help children maintain attention while they develop reading and problem-solving abilities, and learning through social play rather than rote memorisation may help them apply knowledge in real-world situations.

The pattern of results can be interpreted through the theoretical perspectives outlined earlier. From a constructivist standpoint, play creates situations in which children act on objects, talk with peers and solve small problems, and these experiences allow them to construct meaning for themselves instead of receiving it ready-made (Waite-Stupiansky 2022). Vygotsky's emphasis on social interaction and guided participation is also relevant, because play-based activities in a classroom usually involve conversation with the teacher and with other children, and such conversation can support the development of language, which is central to early reading (Vygotsky 1978). Kolb's cycle offers a further explanation. When children handle counters, act out a story or play a word game, they have a concrete experience; when the teacher invites them to talk about what happened, they reflect on it and move towards a general idea that they can test in the next activity (Kolb 1984). Conventional teaching, in which children mainly listen and copy, offers fewer opportunities to move through this cycle. It must be stressed, however, that the present study did not observe these processes directly, so the theoretical interpretation remains a plausible explanation.

The larger difference in reading than in numeracy deserves comment. Reading in this study was assessed through five components, and play-based activities such as storytelling, role-play, word games and reading aloud naturally provide practice in fluency, pronunciation and expression, which are behaviours that rubrics can capture. Numeracy was assessed through addition and subtraction only, which is a narrower set of skills and may leave less room for a method to produce visible differences. The fact that both outcomes favoured the experimental group nevertheless suggests that the benefit of the Play-Way Method is not confined to a single domain. This point matters for classroom practice, because early-grade teachers rarely have the time to run separate methods for each subject. The

comparability of the two groups at the start strengthens the interpretation of the post-test results. The pre-test difference between the groups was negligible, and in numeracy it was small and not statistically significant.

Children who experience a new way of teaching may respond to the novelty and to the extra attention that accompanies it, and such effects can raise performance temporarily regardless of the method itself. Because the same researcher taught both classes, the enthusiasm and expectations of the teacher may have differed between the groups, and the classes may have differed in ways that were not measured, such as home support for learning or children's earlier exposure to reading and number activities. The design cannot separate these influences from the effect of the method. The results are therefore best read as showing that the Play-Way Method was associated with higher post-test scores in this school, with further studies needed to establish how far the method itself was responsible. Earlier research is consistent with these findings. Damsgaard et al. (2022) found that embodied, play-based learning, which combines physical movement with cognitive activity, supported pre-reading skills. De Chambrier et al. (2020) found that structured play-based interventions in classrooms and at home helped children develop numeracy skills by making abstract concepts concrete. Gasteiger and Moeller (2021) reported that playing conventional board games fostered early numerical competencies by offering plentiful practice in an enjoyable setting, and Ramani et al. (2020) showed that number and working-memory games improved kindergartners' numerical knowledge. Patel et al. (2021) found that a game-based phonics intervention helped first and second grade learners in India develop early reading skills, and Glatz et al. (2023) found that digital game-based literacy training supported beginning readers. Pyle et al. (2024) showed that teacher-facilitated play supported literacy development in kindergarten. Meta-analyses by Gersten et al. (2020) and Denton et al. (2021) further indicate that reading interventions in the primary grades, including foundational-skills and multicomponent interventions, improve reading outcomes.

Learning through play is widely regarded as contributing to the holistic development of the child, including cognitive, social, emotional and physical development. It may support not only academic performance but also creativity, communication, collaboration and confidence, although these outcomes were not measured in the present study. The Play-Way Method therefore appears to be a viable approach for supporting children's learning at the foundational stage. The findings also bear on policy. The National Education Policy 2020 and the NIPUN Bharat Mission both call for playful, activity-based learning in the early years (Ministry of Education 2020; Ministry of Education 2021), but policy statements do not by themselves change what happens in classrooms. Evidence from a local school, showing that children taught through the Play-Way Method scored higher than comparable children taught conventionally, gives teachers and school leaders one practical reason to adopt such methods.

Educational Implications

The findings have implications for several stakeholders in foundational education. Teachers may adopt child-centred, play-based methods to engage pupils actively while developing reading and numeracy skills. Curriculum planners and school administrators could incorporate structured Play-Way strategies into the curriculum in line with children's developmental needs and national educational goals. Integrating play-based activities into daily classroom practice can create an interactive learning environment that supports learning. Effective and sustained implementation will require teacher training, continuing professional development, and adequate resources.

For classroom teachers, the findings suggest that play can be used as a deliberate teaching strategy and not only as a reward or a break from lessons. Teachers can plan games, stories, songs, role-play and manipulative-based tasks around specific reading and numeracy objectives, for example by using word cards and picture stories to practise decoding and expression, and counters, number lines and everyday objects to practise addition and subtraction. Assessment can use simple rubrics, as in this study, so that teachers can see which components of a skill are developing and which need further support.

For curriculum designers and school leaders, the implications concern time, space and materials. Play-based teaching requires a timetable that allows extended periods of activity, classrooms arranged so that children can work in groups, and low-cost teaching-learning materials that are available to every teacher. Textbooks and teacher guides for the early grades can include suggested play-based activities linked to learning outcomes, so that teachers have a clear starting point.

For teacher education and policy, the findings highlight the need for training. Teachers who were themselves taught through memorisation may find it difficult to organise play that is both enjoyable and purposeful. Pre-service and in-service programmes can therefore include demonstration lessons, practice with materials and opportunities to

observe colleagues, and school systems can support teachers with mentoring and time for planning. Without such support, play-based approaches risk being reduced to unstructured activity that does not serve learning goals.
Families and communities also have a part to play. Some parents may believe that learning through play means that children are not working seriously, and this belief can lead schools to return to formal drills. Schools can address it by explaining the purpose of activities to parents, by sharing evidence of children's progress, and by suggesting simple play-based ways of practising reading and counting at home, such as reading picture books together, playing counting and sorting games with household objects and telling stories. When home and school support one another in this way, the gains made in the classroom are more likely to be sustained.

CONCLUSION

The study indicates that the Play-Way Method is effective in improving the reading and numeracy skills of foundational stage learners. The experimental and control groups performed at comparable levels before the intervention, but afterwards the students taught through the Play-Way Method scored significantly higher in both reading and numeracy. These results support the use of play-based learning as a primary teaching approach at the foundational stage, since it matches the developmental needs of young children and promotes active, hands-on learning. Given the limitations noted above, the findings should be replicated with larger and more varied samples before they are generalised. In practical terms, the study offers early evidence that a method already endorsed in national policy can be used in a Grade 2 classroom with benefit to both reading and numeracy. Teachers do not need to choose between enjoyment and academic progress, because well-planned play can serve both aims. The findings need to be tested in more schools and over longer periods, but they give educators, school leaders and policymakers a reasonable basis for expanding the use of the Play-Way Method in the early grades and for studying its effects more closely.

Limitations and Directions for Future Research

The sample was small (N = 62) and was drawn purposively from a single school. Only reading and numeracy outcomes were measured. A longer intervention with follow-up testing would show whether the gains persist after the Play-Way activities end. Studies in several schools, drawn from urban and rural areas and from government and private management, would test whether the findings hold across contexts. Comparisons of play-based teaching with other child-centred approaches, and studies that measure outcomes such as creativity, critical thinking, social skills, engagement and motivation directly, would clarify the contribution of the Play-Way Method to children's overall development.

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