

Effectiveness of Individualized Education Program (IEP) on Basic Literacy and Numeracy Skills among School Students

Ms. Sulthana Nasrin K K¹, Ms. Fathimathu Thafseela²

¹Academic Coordinator, Markaz Public school Kaithapoyil

²School Counsellor, Markaz Public school Kaithapoyil

Abstract

This action research study investigates the effectiveness of an Individualized Education Program (IEP) in enhancing basic literacy and numeracy skills among school students. The study involved 47 students from Grades 3 to 9 identified as having learning difficulties through classroom-based screening and structured preliminary assessments conducted by a school counsellor. The intervention consisted of one-to-one individualized instruction delivered by approximately 40 teachers over a planned duration of 25 hours per student. A systematic documentation and monitoring framework was maintained, including teacher logs, student workbooks, parent communication records, and centralized tracking. Despite implementation challenges such as time constraints, limited infrastructure, and incomplete session delivery, the findings indicate improvements in student engagement, confidence, academic skills, and parental involvement. The study emphasizes the importance of early intervention, structured monitoring, and individualized teaching strategies in strengthening foundational learning competencies.

Keywords: Individualized Education Program, action research, literacy skills, numeracy skills, remedial teaching, inclusive education

1. Introduction

Education plays a vital role in shaping the intellectual and social development of children. Inclusive education emphasizes providing equal learning opportunities for all students, including those who experience learning difficulties. Literacy and numeracy are the foundation of all academic learning, and deficiencies in these areas can lead to long-term academic challenges.

Students who fail to acquire basic reading, writing, and mathematical skills often experience low confidence and reduced motivation. Therefore, early identification and intervention are essential. One effective approach is the Individualized Education Program (IEP), which provides personalized instruction based on each student's learning needs.

At Markaz Public School Kaithapoyil, a need was identified to support students struggling with foundational skills. Traditional classroom instruction alone was insufficient to meet diverse learning needs. Hence, an IEP-based intervention was implemented to provide individualized support.

This study adopts an action research approach to evaluate the effectiveness of the IEP in improving literacy and numeracy skills, while also identifying challenges and best practices in implementation.

2. Objectives of the Study

The study was conducted with the following objectives:

1. To identify students with difficulties in basic literacy and numeracy skills.
2. To assess their baseline academic performance.
3. To implement individualized remedial instruction.
4. To evaluate the effectiveness of the intervention.

3. Methodology

3.1 Research Design

The study adopted an action research design to address learning difficulties within the natural classroom environment through intervention and observation.

3.2 Sample

The sample consisted of 47 students from Grades 3 to 9 who were identified based on low academic performance in classroom assessments.

3.3 Sampling Technique

Purposive sampling was used to select students who required remedial support in literacy and numeracy.

3.4 Tools for Data Collection

- Preliminary assessment test
- Pre-test and post-test scores
- Teacher IEP notebooks
- Student workbooks
- Parent communication logs

3.5 Procedure

Students were first identified through classroom screening, followed by a structured baseline assessment. Individualized Education Programs were then designed and implemented through one-to-one instruction. Each student received approximately 25 hours of intervention. Continuous monitoring and documentation were maintained throughout the process. A post-test was conducted to measure improvement.

3.6 Data Analysis

Data were analyzed using simple comparison of pre-test and post-test scores. Qualitative observations such as student participation, confidence, and parental involvement were also considered.

4. Review of Literature

Research highlights the importance of early intervention in developing foundational literacy and numeracy skills. Studies indicate that individualized instruction significantly improves learning outcomes among students with learning difficulties.

Hallahan and Kauffman (2006) emphasize that teaching methods must be adapted to meet individual learning needs. UNESCO (2009) supports inclusive education practices that incorporate flexible and personalized teaching strategies.

Vaughn, Bos, and Schumm (2011) found that structured remedial instruction and continuous monitoring lead to measurable improvements in student performance. Similarly, national educational frameworks stress the importance of inclusive education and individualized learning support.

Overall, literature supports the effectiveness of IEPs in addressing learning gaps and improving academic outcomes.

5. Results and Findings

5.1 Session Completion

Only a small number of teachers completed the full 25-hour intervention, while the majority completed it partially.

5.2 Student Improvement

The intervention resulted in:

- Increased student participation
- Improved reading and writing skills
- Better understanding of basic mathematical operations
- Increased confidence in learning

5.3 Parental Involvement

Regular communication with parents improved their involvement in the learning process.

5.4 Challenges

- Time constraints due to academic schedule
- Lack of dedicated space
- Teacher workload
- Extensive documentation requirements

6. Discussion

The findings indicate that individualized instruction is effective in improving literacy and numeracy skills. The one-to-one teaching approach allowed teachers to focus on specific learning needs. However, practical challenges such as limited time and resources affected full implementation.

Parental involvement and structured documentation played a key role in ensuring consistency and monitoring progress.

7. Conclusion

The study concludes that the Individualized Education Program is an effective intervention for improving foundational learning skills. Early identification, proper planning, and adequate support systems are essential for successful implementation.

8. Recommendations

- Implement IEP at the beginning of the academic year
- Provide dedicated resource rooms
- Integrate IEP into the school timetable
- Use digital tools for tracking progress
- Provide teacher training in remedial education

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