Bilingualism for pre-school children in Kerala using Malayalam and English Language: An Experimental Study

Abdul Raseed M.K., Prof. Dinesh Pandey

Abstract: *This study was aimed at exploring the use of Bilingualism for pre-school children as most of the schools in Kerala are English medium schools where the pre-school children use Malayalam as their mother tongue. Pre and Post tests were used using Language Module Test using Bilingualism in English and Malayalam Scripts. The Module was used for teaching basic knowledge of pre-school children so as to learn the concept. Digital Materials were used to enhance the learning by Bilingual teaching. A sample size of 50 pre¬school children were selected using convenient sampling. Pre- test was conducted to determine the previous knowledge of learners prior to using interventions of materials and use of Bilingualism as to impart the module of teaching using materials and Bilingualism. It was found that 80%of children have performed better due to using interventions of materials and Bilingualism. It was also noticed that such children grab two languages at a faster pace without barriers. Thus, Bilingualism has proved to be a good substitute for children to learn in English medium schools using their mother tongue and English both used as medium of instruction in such schools.*

Keywords: Pre-School Children, Bilingualism, Test Module, Materials And Digital Resources

Abdul Raseed M.K., Research Scholar, Mangalayatan University, Aligarh
Prof. Dinesh Pandey, Director, Institute of Education and Research, Mangalayatan University, Aligarh

Introduction

Bilingual learning depends on meaningful language support, opportunities to interact and view the objects of learning using digital materials and also understanding of the concept in both mother tongue as well as English language.Developmental theories describe how children move between action, representation, and language, while multimedia learning research emphasizes that visual and verbal information must be coordinated with the learning task. The quality of an educational institution imparting education to pre-school children in a language dierent from the mother tongue of the learners depends on active engagement and social interaction of the learners by contextual understanding by the learners in their mother tongue simultaneously with the English language.

In preschool English medium schools, materials help children in understanding the objects, number system, body parts, day to day vocabulary used if a digital media is added to give a visual understanding if added with mother tongue used with English

programs are helpful to understand both concrete and abstract vocabulary received by pre-school children effortlessly for better comprehension, recognition and recall of their memories. Thus, the interventions of Bilingualism prove to strengthen the knowledge level comprehension of pre-school children in such mixed language classrooms.

This study was aimed at exploring the use of Bilingualism for pre- school children as most of the schools in Kerala are English medium schools where the pre-school children use Malayalam as their mother tongue. Pre and Post tests were used using Language Module Test using Bilingualism in English and Malayalam Scripts. The Module was used for teaching basic knowledge of pre-school children so as to learn the concept. Digital Materials were used to enhance the learning by Bilingual teaching.

Review of Literature

The researcher made a comprehensive review of literature pertaining to the present study given as below:
Mathew, et al. (2012) studied the effect of ICT on the language development of students in primary schools and found out that the Boys' reading interest increased for Automobiles, occupations, music, and travel, but decreased for outer space. Girls read significantly more books than boys did.

Chuzaimah (2012) conducted a study to see the influence of four important factors of school libraries on student's language development, reading habits and reading comprehension achievement based on gender and type of schools. 306 students from 36 schools in South Sumatra were involved as sample for the study. It was found that language development, reading habits and reading achievement of the students of Schools in South Sumatra is still low and there is a significant difference between boys and girls with regard to language development and reading habits.

Debnath (2013) conducted a study on the language development of students studying in the primary schools of Jalpaiguri district of West Bengal. It was found out that maximum number of students selected their course matter related reading material which was advised by the teacher. It was also found that boys scored higher than the girls on language development and urban students read more compared to the rural students. There was a significant relationship between SES and language development of the students.

Debnath (2013) conducted a study on the language development in preschool children of Jalpaiguri district of West Bengal. It was found out that there was a significant relationship between language development and bilingual education and language development was found to be highly influenced by the bilingual education of the students.

Richards C Rodgers (2014) conducted a study on the
Effectiveness of Digital Flashcards in Early Bilingual Learning" and evaluated the use of digital flashcards in bilingual education. The research found that interactive flashcards with audio support aid in vocabulary retention, pronunciation, and word recognition. Bilingual children benefit from the visual and auditory reinforcement provided by technology. The Key findings were Digital flashcards enhance vocabulary learning; Audio-supported flashcards improve pronunciation; Interactive tools sustain children's interest in learning. Implications are Teachers should integrate digital flash cards into lessons; Parents can use bilingual flashcard apps to reinforce learning at home.

Garcia and Wei (2014) conducted research on "Interactive technologies should provide real¬time jifeedback to enhance language development". This review examined the sociocultural factors influencing bilingual education and the role of technology in preschool settings. The study highlighted translanguaging as a natural part of bilingual development. Multilingual apps and digital storytelling tools allow children to switch between languages, Lin C Lan (2015) conducted research on "The Role of Virtual Reality in Early Bilingual Education" and investigated how virtual reality (VR) technology enhances bilingual education. VR provides immersive language environments where children can practice real-life conversations in both languages. The study found that VR-based learning improves fluency, confidence, and comprehension in bilingual children.

Chenet al (2020) conducted a study on "The Augmented
Reality (AR) can support language development in bilingual pre-schoolers. AR applications provide interactive and immersive experiences, allowing children to engage with 3D objects while learning new words in two languages. em.

Hirose et al (2020) conducted a study on "Parental Involvement and Digital Tools in Bilingual Homes" and explored how parental use of technology supports bilingual development at home. The study analyzed families using apps like Khan Academy Kids and Bi- lingual Baby to reinforce minority languages (e.g. Mandarin in English-speaking households). Results showed that parent-child co-use of apps led to stronger oral proficiency and cultural connection to heritage languages.

Chen et al (2021) conducted a study on "Augmented Reality (AR) in Bilingual Language Development" and investigated the use of AR tools to enhance bilingual vocabulary acquisition in preschoolers. AR apps like Quiver and Merge Cube were used to create immersive 3D experiences where children interacted with labeled objects in two languages (e.g. touching a virtual apple to hear its name in English and Spanish).

Gonzalez et al (2022) studied on "Digital vs Traditional Materials: A Comparative Study compared the effectiveness of digital e.g. tablets, apps and traditional (e.g. picture books, puppets) materials in bilingual preschools. The study found that digital tools excelled in teaching phonological awareness (e.g. through interactive phonics games,) while traditional materials better supported social language use (e.g. role-playing with puppets).

Park C Kim (2023) conducted research on "Preventing Language Attrition Through Technology" and studied how AI-driven chatbots (e.g. Replica, Duolingo's bots) can prevent language attrition in bilingual preschoolers. The chatbots engaged children in daily conversations in their minority language (e.g. Korean in the U.S.). Over six months, children using chatbots maintained 90% proficiency in the minority language, compared to 60% in non-tech groups.

Sharma et al (2023) conducted a study on "Policy-Driven Technology Integration in Bilingual Preschools". Aligned with India's NEP 2020 he evaluated the impact of DIKSHA (Digital Infrastructure for Knowledge

Sharing) in bilingual Anganwadi's. The study highlighted how DIKSHA's multilingual content (e.g. stories in Hindi and tribal languages) and teacher training videos improved instructional quality. Children using DIKSHA showed 25% higher gains in bilingual vocabulary than peers in non-tech classrooms.

Thus, it was revealed in the reviews that use of technology and materials help to enhance the learning by use of Bilingualism.

Identifying a specific "research gap'' among studies on bilingualism was found to be educational interventions as used in the present research.

Methodology of Research

The study followed a mixed-methods field research design to investigate the effect of bilingual education on language development in preschool children, emphasizing the role of instructional materials and educational technology. Both quantitative (pre- and post-language development assessments) and qualitative (classroom observations, teacher interviews) methods were used.
Variables

Independent variable: Bilingual Education Dependent Variable: Language Development Intervening variables: Materials and Technology

Research Questions

This study intends to answer the following research questions:

1. Is there any effect of bilingual education on language development for preschool children?
2. Is there any role of materials in promoting bilingual education in preschool children?
3. Is there any effectiveness of digital bilingual materials/Technology in enhancing language development in preschool children?
4. Is there any association between the Bilingual Education and Language Development among preschool children?

By addressing these questions, this research aimed to provide valuable insights into the optimal strategies for promoting language development in bilingual preschool children, with a particular focus on the effective use of materials and technology.

Three self prepared tools were used by the researcher i.e., Language Test Module, Response Schedule for Parents and Teachers and also observational study

Major Findings and Discussion

On the basis of results as accrued from the study, following findings revealed on record:

- Bilingual education impacts on language development among preschool children with the use of technology/digital materials variatio
- Bilingual Education has positive contribution to Language Development among preschool children.
- Language development improves by use of digital bilingual materials.
- The effectiveness of Bilingual education on Language development regarding materials and technology/digital bilingual materials was proved based on pre and post test scores.
- Most of the teachers believe that providing bilingual education through various activities in the classroom positively affect the language development among preschool children.
- A majority of parents believe that providing bilingual education through various activities in the classroom and home positively affect the language development among preschool children. Recommendations

The present study makes the following recommendations:

- Teachers and parents should give more emphasis on developing language development amongst preschool children.
- Teacher should be very vigilant regarding the development of language among preschool children. They should be able to provide motivation for the students to develop interest in Bilingualism.
- Workshops and seminars should be held on a regular basis for the teachers so that they can keep themselves abreast with the latest development in different methodologies and strategies to be adopted in Bilingualism.

The findings of this study will contribute to the existing body of knowledge on bilingual education and inform the development of evidence-based practices for educators and policymakers. Ultimately, this research empowers young children with the cognitive and linguistic advantages of bilingualism, setting them on a path towards academic success and global citizenship.

References

Chen, C. H., Ho, C. Y., C Lin, C. F. (2020). The role of augmented reality in supporting language development in bilingual preschoolers. Journal of Computer Assisted Learning, 36(4), 512–523. Chen, Y., Wang, T., C Lee, S. (2021). Augmented Reality (AR) in bilingual language development: Immersive 3D tools and early vocabulary acquisition. Computers C Education, 172, Article 104252. Chuzaimah, D. (2012). The influence of school library factors on students' language development, reading habits, and reading comprehension achievement based on gender and school type in South Sumatra. Indonesian Journal of Applied Linguistics, 2(1), 45–58.

Debnath, S. (2013). Language development of students studying in primary schools of Jalpaiguri district, West Bengal (Doctoral dissertation). University of North Bengal.

García, O., C Wei, L. (2014). Translanguaging: Language, bilingualism and education. Palgrave Macmillan.

González, M., Rodriguez, P., C Fernandez, H. (2022). Digital vs. traditional materials: A comparative study of phonological awareness and social language use in bilingual preschools. Early Childhood Research Quarterly, 59, 210–222.

Hirose, K., Tanaka, M., C Smith, J. (2020). Parental involvement and digital tools in bilingual homes: Reinforcing minority languages through interactive applications. Bilingual Research Journal, 43(3), 289–305.

Lin, D. T., C Lan, Y. J. (2015). The role of virtual reality in early bilingual education: Immersive language environments and speaking confidence. Educational Technology C Society, 18(4), 134–147.

Mathew, N. G., Alidmat, A. O. H., C Farooq, M. U. (2012). A study on the usefulness of Information C Communication Technology (ICT) tools in language learning and reading habits among primary school students. International Journal of English Linguistics, 2(5), 86–92.

Ministry of Education. (2020). National Education Policy 2020. Government of India.

Park, J., C Kim, E. (2023). Preventing language attrition through technology: AI-driven conversational agents in early minority language maintenance. Language Learning C Technology, 27(2), 75–94.

Richards, J. C., C Rodgers, T. S. (2014). Approaches and methods in language teaching (3rd ed.). Cambridge University Press.

Sharma, R., Verma, A., C Gupta, P. (2023). Policy-driven technology integration in bilingual preschools: Evaluating the impact of DIKSHA in Anganwadi centers. International Journal of Educational Development, 98, Article 102741.