



## Early Childhood Education Matters: Comparing Educational Outcomes of Children with and Without Home Instruction for Parents of Preschool Youngsters (HIPPY)

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### ABSTRACT

The study adopted a pre-test and post-test quasi-experimental research design for understanding the phenomena in 60 children. A purposive sampling technique was used for selecting the sample. Three instruments were used: Home Instruction for Parents of Preschool Youngsters (HIPPY) Instructional Guide (HIG), Parent-Child Interaction Survey (PIS), and School Readiness Assessments (SRA). The Parent-Child Interaction Survey and School Readiness Assessment were subjected to reliability tests and yielded 0.79 and 0.83, respectively. There was a significant effect of the HIPPY model on pupils' learning outcomes in literacy. Those exposed to the HIPPY model performed significantly better in literacy than those without HIPPY literacy exposure. There was no significant interaction effect of the HIPPY model and gender on pupils' learning outcomes in literacy. There was no significant interaction effect of the HIPPY model and location on pupils' learning outcomes in literacy. There was no significant interaction effect of the HIPPY model, gender, and location on pupils' learning outcomes in literacy. The HIPPY model seems promising and effective in the selected community. It is therefore recommended that the government and private school owners adopt the HIPPY model as an effective strategy to enhance children's literacy development. Parents should be encouraged to adopt the HIPPY model in their homes to improve their children's literacy development.

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## 1. INTRODUCTION

Children who originate from low-income, single-parent, and minority families are more likely to have poor language skills, health problems, and social and emotional difficulties that interfere with learning when they first enrol in school. There are many various kinds of intervention programs for at-risk children, but those meant to improve children's school readiness and stave off future academic problems work best when they appear at the start of school or in the preschool years.

Parent-child relationships are emphasized in strategies that can help children get ready for school. Programs for early childhood home visits help set parents and kids on a successful course for development and learning. Programs like Home Instruction for Parents of Preschool Youngsters (HIPPY), which conduct early learning home visits, are well known for their beneficial outcomes. The benefits for these young children are noteworthy, and statistics suggest that children who take advantage of early learning services are better prepared for kindergarten.

The traditional definition of literacy is the ability to read and write, listen and speak and enumerate. However, in the modern context literacy involves the ability to use and communicate in a diverse range of technologies. In general terms, literacy is a condition whereby one can successfully function at certain levels in a society where literacy plays a role in providing access to power. [Essien \(2005\)](#) maintains that literacy is concerned with the ability to read and write in a language.

A literate person is, therefore, someone who can read and write in a language or language. Thus, the standards for what level constitutes 'literacy' differ from society to society. Literacy has also been expanded to include skills in computer, basic numeracy, sound, still and moving images, and graphical elements in digital-based communication. Also, it is reported that the National Council of Teachers of English (NCTE) and the International Reading Association have added "visual representing" to the list of communicative competencies that constitute literacy.

An analysis of three prekindergarten programs revealed that children are more adequately prepared for kindergarten the more sessions they attend. The following findings were obtained from an examination of kindergarten-age students in Hillsborough County, Florida: Children who participated in only one prekindergarten program were ready to read at a rate of 55%; those who participated in two prekindergarten programs were prepared at a rate of 68%; and those who participated in all three prekindergarten programs were prepared at a rate of 76%. This information emphasizes how crucial it is to provide early education services.

The application of the HIPPY model as an early learning evidence-based model that positively improves children's early learning by preparing them for kindergarten has been widely proved through research and program assessment studies carried out in the United States and elsewhere. Many evaluation studies show how HIPPY helps kids get ready for kindergarten. While participating in the HIPPY program, children show statistically significant improvements in measures of school readiness ([Payne et al., 2020](#)). By enabling HIPPY parents to serve as their child's first teacher, the parental involvement curriculum in HIPPY programs enables at-risk children to overcome the obstacles they experience and start school. According to this report, 88% of the children were prepared for kindergarten ([Brown & Johnson, 2014](#)).

The scholastic achievements of HIPPY and non-HIPPY pupils who started kindergarten in 2013–2014 in Florida were significantly different, according to a comparison study of the State kindergarten preparation examinations. According to this study, significantly more HIPPY

youngsters (54%) than those in the comparison group (46%), were prepared for kindergarten. Additionally, a considerably higher percentage of HIPPY pupils (56%) than those in the comparison group (44%) were advanced to the first grade (Payne *et al.*, 2020). Data from a HIPPY model pilot study in Liberia demonstrated that program participants' children improved academically from the pretest to the posttest. This shows that the HIPPY curriculum is imparting valuable educational and developmental principles to participants' children.

To better prepare children for school, the HIPPY program also strives to enhance the home literacy environment, the level of parent-child verbal engagement, and parent's ability to support their children in learning. In a quasi-experimental study, James *et al.*, (2019) assessed the benefits of HIPPY for parents who participate in the program. The

study examined a sample of New Zealand parents, both HIPPY and non-HIPPY, to determine their level of participation in formal education, their attitudes about education, and their perceptions of themselves. HIPPY parents participated in educational activities substantially more than comparative caregivers did. These tasks ranged from serving as teaching assistants to helping out on field trips and school committees. Additionally, HIPPY parents were notably more likely to participate in an adult education class. Regarding attitude and self-esteem, there were no discernible differences.

Parent involvement was measured using a parent interview developed by the Center for Parent Education at the University of North Texas, which was adapted from tools developed by the Center for Young Children and Families at Teachers College, Columbia University. Sixteen percent (16%) of parents said they regularly or always encouraged their children to read, peruse books, or interact with any other written material. Additionally, 84% of parents stated that being a member of the HIPPY program made them more conscious of the importance of reading.

Mother-child dyads taking part in the HIPPY program were observed for their behavior in terms of scaffolding in a study. In pre and post-HIPPY observations, mothers' and children's participation in HIPPY activities was examined. During post-HIPPY observation, all the mothers showed a variety of scaffolding behavior. Data on the number of children aged 0 to 5 and early childhood development in Nigeria generally are quite scarce (World Bank Saber Country Report, 2013). Parents living in Kwara state do not have easy access to data on children 0–5, either.

The data on preschoolers revealed that 37.4% of children in Kwara state between the ages of 36 and 59 months (or children ages 3-5) received early childhood education. Their education is mostly provided by privately run early childhood programs, most of which are found in urban areas. This shows that the majority of Kwara State parents send their children straight to primary school without any preschool or early education foundation. Other factors are peculiar to this study and affect literacy development in learners like parental factors and school environment, but of concern to this study is gender.

Also, HIPPY's gender-specific effects on the academic achievement of English language learners based in Texas. A quasi-experimental design was used to compare the academic achievement of third-grade male and female students who participated in the HIPPY program when they were 4 and 5 years old to a matched group of third-grade students who attended preschool programs offered by the public-school district but were not HIPPY. The findings indicated that HIPPY participants among male students outperform non-HIPPY program participants in terms of academic performance. While female students who took part in the HIPPY program performed worse than those in the control group.

Male and female children who had participated in the HIPPY program for two full years and were enrolled in the third and sixth grades were compared to see how it affected them, A

quasi-experimental research in which female and male children who participated in the HIPPY program were compared in the study. This study revealed that females performed better than male children, the researchers also further explained that this could be as a result of the close interaction between mothers and their daughters than their male children. Just as the gender with its contradicting findings, the researcher also observed disputing findings on school type.

Location is another variable of interest. This implies rural and urban locations. Many studies (Monteith, 2012) have been carried out on location but none of these studies was carried out concerning the HIPPY model in Elemere and Maleta where this study was carried out. The Nigerian early childhood education system is inadequate, with only 32% of children under the age of 5 enrolled in pre-primary education. Lack of access to early childhood education has negative consequences on the cognitive and developmental abilities of children, leading to academic failure in later years.

Children from low-income families are at higher risk of academic failure due to the inequality at the starting gate. Early childhood intervention programs can help reduce the risk factors that put children at risk for negative outcomes. Initiatives like the HIPPY program that offers early learning at home are crucial for economically disadvantaged children to prepare them for preschool and prevent academic failure. Hence, this is the research gap the study intended to fill. Hypotheses are the following:

- i) **H<sub>0</sub>1:** There is no significant effect of the HIPPY model on pupils' learning outcomes in literacy
- ii) **H<sub>0</sub>2:** There is no significant interaction effect of the HIPPY model and gender on pupils' learning outcomes in literacy
- iii) **H<sub>0</sub>3:** There is no significant interaction effect of the HIPPY model and location on pupils' learning outcomes in literacy
- iv) **H<sub>0</sub>4:** There is no significant interaction effect of the HIPPY model, gender and location on pupils' learning outcomes in literacy

## 2. METHODS

This study employed a pre-test, post-test control group non-equivalent quasi-experimental research design. The population of this study comprises all children in Maleta and Elemere communities, the targeted population was children between the ages of three to five years who are yet to receive any form of pre-primary education. A total number of 60 children were sampled from Elemere and Maleta communities in the Moro Local Government Area of Kwara State. These communities represent poor and economically disadvantaged children who are yet to be enrolled in any type of pre-primary school and are not receiving any formal educational services. A purposive sampling technique was used to select the sample size, which was further divided into two groups, an intervention group (HIPPY Model) of 30 children and their families and a control group (Non-HIPPY Model) of 30 children and their parents. Home instructors were trained and visited the intervention homes (group) to deliver HIPPY Model throughout the study.

The HIPPY Model was delivered to the 30 children and their parents/caregivers in the manner that the model requires. The HIPPY model comprises a 30-week curriculum that includes storybooks, Weekly activity packets for children and their parents. Each week curriculum was delivered directly to the parents by the home visitors using role play. This also includes monthly Group meetings with families. The three instruments used for this study were the HIPPY instructional guide, Parent-Child Interaction Survey, and School Readiness Assessments. The three instruments were validated by experts in early childhood education; Parent-Child Interaction Survey and school readiness were subjected to reliability and yielded

0.79 and 0.83 respectively. An instrument named Parent Involvement Survey was used by the Principal Investigator to ensure they are culturally appropriate for families. All data collected were analyzed using Analysis of Covariance (ANCOVA).

### 3. RESULTS AND DISCUSSION

#### 3.1 Hypothesis one: There is No Significant Effect of the HIPPY Model on Pupils' Learning Outcomes in Literacy

**Table 1** reveals that there was a significant effect of the HIPPY model on pupils' learning outcomes in literacy ( $F_{(1;51)} = 108.582$ ;  $p < 0.05$ ). The hypothesis is therefore rejected in light of the result since the significant value is less than 0.05. This implies that the HIPPY model had a significant effect on pupils' learning outcomes in literacy. **Table 2** reveals the source of the difference in pupils' learning outcomes in literacy.

**Table 2** shows that the significant effect shown in **Table 1** was a result of the significant difference between pupils exposed to and without the HIPPY model. This implies that those exposed to the HIPPY model (Mean = 68.32) performed significantly better in literacy than those without HIPPY literacy exposure (Mean = 51.33). This implies that exposure to the HIPPY model was effective in bringing about improvement in pupils' learning outcomes.

The significant effect observed could be a result of the home-based instruction given to the parents of preschool children. This finding is in line with the finding of [Nievar et al., \(2011\)](#), and a significant difference in the reading and language art performance of children exposed to HIPPY and other children. In support of the finding, also reported that children participating in HIPPY had better expressive language skills, and their mothers showed more parental involvement at home than a control group.

**Table 1.** Effect of the HIPPY model on pupils' learning outcome in literacy.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4500.309 <sup>a</sup>	8	562.539	15.015	.000
Intercept	32.438	1	32.438	.866	.356
Pretest	75.458	1	75.458	2.014	.162
Treatment	4067.977	1	4067.977	108.582	.000
Treatment * Gender	21.805	1	21.805	.582	.449
Treatment * Location	1.701	1	1.701	.045	.832
Treatment * Gender * Location	4.581	1	4.581	.122	.728
Error	1910.691	51	37.465		
Total	226026.000	60			
Corrected Total	6411.000	59			

**Table 2.** Summary of Bonferroni's post hoc pairwise comparison of the scores within the two groups.

Groups	Mean Scores
Pupils exposed to the HIPPY model	68.32
Pupils without the HIPPY model	51.33

#### 3.2 Hypothesis Two: There is No Significant Interaction Effect of the HIPPY Model and Gender on Pupils' Learning Outcomes in Literacy

**Table 1** further shows that there was no significant interaction effect of the HIPPY model and gender on pupils' learning outcome in literacy ( $F_{(1;51)} = 0.582$ ;  $p > 0.05$ ). The hypothesis is therefore not rejected in the light of the result since the significant value (.449) is greater than

0.05. The finding was in tandem with the report of [Swanson et al., \(2019\)](#) which found no significant differences in reading and math outcomes between boys and girls in a HIPPY program. However, [Katz and Riggio \(2019\)](#) found that girls in a HIPPY program outperformed boy in measures of reading, writing, and vocabulary.

**3.3 Hypothesis Three:** There is no significant interaction effect of the HIPPY model and location on pupils' learning outcomes in literacy

The result in **Table 1** showed that there was no significant interaction effect of the HIPPY model and location on pupils' learning outcomes in literacy ( $F_{(1;51)} = 0.045$ ;  $p > 0.05$ ). The hypothesis is therefore not rejected in the light of the result since the significant value (.832) is greater than 0.05. The finding was in support of the finding of [Guarino et al., \(2018\)](#) which reported that there was a significant positive impact of a literacy intervention program on student achievement in both urban and rural settings, suggesting that the intervention was effective across different locations.

Similarly, a study by [Chandra et al., \(2019\)](#) found that an early literacy intervention program was effective in improving reading skills in students from both urban and rural areas. However, the finding negated the finding of [De Moya et al., \(2015\)](#) which unfolded that a literacy intervention program was more effective in improving student outcomes in urban schools compared to rural schools. Similarly, a study by [Manzo et al., \(2020\)](#) found that a mathematics intervention program had a greater impact on student learning outcomes in urban schools compared to rural schools.

**3.4 Hypothesis Four:** There is No Significant Interaction Effect of the HIPPY Model, Gender, and Location on Pupils' Learning Outcomes in Literacy

The result in **Table 1** showed that there was no significant interaction effect of the HIPPY model, gender, and location on pupils' learning outcome in literacy ( $F_{(1; 51)} = 0.122$ ;  $p > 0.05$ ). The hypothesis is therefore not rejected in the light of the result since the significant value (.728) is greater than 0.05. The finding was consistent with a finding of [Cheung and Slavin \(2013\)](#) which revealed that there was no significant interaction effect between treatment and gender.

Similarly, a study by [Kwok et al. \(2019\)](#) found no significant interaction effect between treatment and location. However, [Moore and Cahill \(2016\)](#) found significant interaction effects of treatment and gender on reading fluency, suggesting that the intervention was more effective for girls than boys. Similarly, a study by [Kintu et al. \(2020\)](#) found significant interaction effects of treatment and location on reading comprehension, suggesting that the intervention was more effective in urban than rural areas.

#### 4. CONCLUSION

Based on the findings of the study, it was concluded that the HIPPY model as it is an effective strategy for enhancing children's literacy development. It is recommended that Government and private school owners should adopt the HIPPY model as it is an effective strategy for enhancing children's literacy development.

#### 5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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