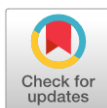


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Cognitive Development Outcomes of Storytelling Media: A Comparative Study of Pakistani Government and NGO-based (Charity) Schools

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Abstract

This paper reflects on the factors involved in nurturing students' cognitive development from storytelling media with respect to the different school categories. The study was specifically conducted on Pakistani students belonging to low socio-economic population. Keeping this class in mind, two classifications of schools were considered for the study: government and charity-based schools. The study aimed to examine whether there were any differences among the cognitive skills of students from different schools when they were exposed to oral and visual storytelling media. Experimental method was adopted for the study. Memory recall, vocal lexicon and perspective were the cognitive skills the students were tested upon. A total of 200 students belonging to 'late childhood' age group participated in the study, selected through random sampling method. 100 students listened to stories from a teacher whereas the other half watched them on a television screen. Experiments were conducted on weekly basis. 10 episodes were included in the study. After each episode, students filled out a questionnaire based on the content they were exposed to. Results proved that charity schools are playing a more significant role in the development process of children through storytelling media learning as compared to students belonging to government schools in both methods.

Keywords: development communication, low socio-economic class, media effects, SDG4, storytelling

Introduction

Education is a fundamental tool to inculcate responsible behavior amongst individuals. Hence, access to quality education becomes an integral part of human progress. Development communication has played a vast role in educating children. Early learning development has been an integral element of SDG-4 which encompasses the significance of early childhood

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education (ECE) to develop cognitive proficiencies in students for a sturdy foundation (Pakistan Institute of Education, [2024](#)).

Role of Media in Development Communication

Development communication has played a positive role in refining students' academic skills through different media. From Sesame Street to educational characters on Baby TV, numerous programs are directly associated with cognitive skills of students (Hogg, [2016](#); McKinley et al., [2014](#); Pouliot & Cowen, [2007](#)).

History and Development of Schooling Systems

Schooling and cognition have been together since the time of the Greeks. They laid the foundations of teaching and constructive discourse that were further polished by the Romans (Bloomer, [1997](#)). As times progressed further, linguistics gained importance along with the learning of philosophy and science. Aristocratic families wanted their children to be polyglots, so they made them learn multiple languages (Thomson, [2002](#)). This quickly spread to the merchant classes as they wanted their children to conduct business and indulge in economic discourse around the world.

In the contemporary age, educational institutions have started to rely greatly on the technological tools and gadgets in the elementary education stage. However, the modern-day scenario is vastly different in Pakistan, where the diverse schooling systems exist. There are private and public schools, madrassas and other tuition centers that impart education on various levels. Research evidence suggests a potential outperformance by private school sector over other educational systems (Bhutta et al., [2024](#)). However, there exists a huge divide between elitist schools, local English-medium schools and charity-based schools within the private sector. Elite schools are preferred by rich families for their educational standards and quality of facilities (Farah & Rizvi, [2007](#)). In such schools, English is the main language of instruction and conversation. On the other hand, local English-medium schools lack the facilities and standards to impart good quality education. This educational disparity began when the British established English-medium schools in the subcontinent. As these schools offered better facilities than the local ones, they charged a higher fee than their local counterparts. The British schooling system deeply ingrained the class divide among students by coining a word “Brown Englishmen” for the locals who studied there (Neupane et al., [2025](#)).

Emergence of Schools in Pakistan

Since the independence of Pakistan, schools started to arise in different forms. The number increased during 1960s when Ayub Khan's government decided to establish missionary schools. With the formation of the Hamood-ur-Rahman Commission, these schools gained popularity and attracted the elite class despite facing criticism from lower classes.

The next regime took a completely different approach led by General Zia-ul-Haq. He appeared to oppose English-medium schools and decreed Urdu as the core instructive language of school education. However, later he granted the permission to adopt O level and A level system to English-language school systems. The government also tried to bridge the gap between elite & lower-middle classes by amalgamating English & Urdu mediums (Baqir, [1998](#)). Gradually, to reduce the disparity among different classes, a relatively new form of education began to gain popularity among the masses, known as schools run by NGOs.

NGO-Based Schools

Charitable organizations are non-profit entities that work on several philanthropic endeavors. Their existence plays a crucial role in the country's development by extending the outreach of social welfare amongst underserved segments of society. Such organizations depend on private lending and support, while benefiting society especially in terms of their contributions to health and scholastic sectors. The trend of establishing charity schools has picked up pace in Pakistan in recent years. These schools emphasized learning by inculcating new technologies and adopting modern teaching pedagogies within a minimal fee structure.

Present Study

Schooling is one of the foremost foundations that influence the communication development and other cognitive skills of children. These school-going children largely depend on media for their spare time entertainment. At primary level, inculcating storytelling activities in the curriculum by means of oral and visual media is gradually becoming an exercise in the schools to adopt language learning and other developmental skills of students.

Research Objectives

- To determine whether storytelling programs increase the level of

learning among primary school students.

- To assess if there are any differences in the learning outcomes of primary level students either enrolled in government or in NGO-based schools.
- To evaluate and compare the impact of promoting storytelling initiatives through oral and screen media on primary level students.

Statement of Significance

In a country which has multiple educational systems, this study retains both scholastic and practical significance. Studies vastly show discrepancies in the outcomes of students' performances and learning, belonging to different categories of schools (Siddiqui et al., [2025](#)).

This study contributes to the SDG4 which emphasizes the essential requirement of equitable quality education. Cognitive learning skills are an essential part of school curriculum. These abilities can be developed not only through textbooks, but other designed activities such as listening to stories and viewing educational cartoon videos. These activities are being implemented by many schools to provide better learning opportunities for the students, especially at pre-primary and primary levels. The provision of cognitive learning resources, enriched academic atmosphere, and pedagogical techniques are some of the underlying characteristics which add value to the learning abilities of students (Ali & Raza, [2024](#)).

Moreover, the inclusive trend of two diverse communication approaches (via live listening and watching learning material on screen) demonstrates the contemporary practice of human resources and media-integrated learning in adapting cognitive learning in classroom settings (Mayer, [2009](#)). These approaches have distinct effects on the cognition of children. The observations of this experimental study are pertinent to the Pakistani context, where institutional disparities among different educational sectors exist. Academic professionals and legislative bodies can upgrade the teaching standards in the light of finding impartial access to cognitive resources provided in all schools, mainly paying special attention to government and NGO based charity schools.

Literature Review

There has been a large emphasis on scholars all around the world introducing storytelling activities for students, especially in the pre-primary

and primary years of school. Such projects not only engage the students but also prove to be a powerful tool to develop and enhance cognitive abilities. Schatt et al. ([2021](#)) underscore that oral story listening ventures have a direct association with the academic development of students. Multiple storytelling techniques have been familiarized in the schooling systems after the arrival of various aural and visual mass media.

Researchers like El Chaabi and Younes ([2025](#)) and Scînteî ([2023](#)) point out that storytelling activities have become an essential part of the curriculum in today's age. Classrooms where these practices take place eventually groom the students' cognition in academic tasks. Maureen et al. ([2022](#)) accentuate that storytelling must be an integral fragment of early years education to build literacy and language basics among children. Listening to, and interpreting stories improve their content perspective which results in grooming intellectual abilities (Roney, [1996](#); Schatt et al., [2021](#)).

An experimental study on students belonging to low-income backgrounds executed by Neuman et al. ([2020](#)) stresses that storytelling techniques assist children to relate the stories with the practical world scenarios. Hence, they remarkably expand their understanding and interpretation skills. Similarly, Woolley ([2011](#)) observe that storytelling exercise helps children to focus and improve their visualization. Thus, they can recall and relate tangible experiences of their everyday life with the shared stories.

A teacher has a prime role in a school setting which is directly linked to students' language and cognitive development (Fayyaz et al., [2023](#)). Gregor ([2010](#)) highlights that competitive and skilled teachers engage their students by means of collaborative storytelling techniques. Multimedia usage in the classroom delivers prodigious assistance to teachers in disseminating educational content through storytelling. Studies carried out by different scholars such as Maureen et al. ([2018](#)) emphasize that the incorporation of digital storytelling via screens has an impeccable effect on classroom learning. More importantly, the students greatly develop retention, vocal lexicon and early literacy through watching cartoon characters and learning stories on screens (Holdich & Chung, [2003](#); Schlesinger et al., [2016](#)).

Nonetheless, the facilities provided at public sector primary schools in Pakistan are not sufficient for the students. The report of the Education

Statistics 2023-24 Pakistan, documented by the Institute of Education (PIE) within the regulation of the Ministry of Federal Education and Professional Training, Government of Pakistan, paints a drastic picture of these schools. The report highlights that 53% of the government sector schools even do not have access to the five basic amenities including power supply, clean water consumption, washrooms, proper boundary walls, and standard-compliant infrastructure. This scenario is a major obstacle to providing storytelling media assistance in public-sector schools. Moreover, 68% of primary schools are deprived of the Early Childhood Education (ECE) resources which are essential for basic cognitive development. According to the report, Punjab Education Foundation (PEF) encourages collaborative ventures of public-private schools to prosper low-income private schools. However, the data of private schools in two main provinces, Sindh and Balochistan, have not been provided by the authorities which is a question of concern (Pakistan Institute of Education, [2024](#)).

Table 1

Study Attributes

Author(s) & Year	Focus	Population	Method	Findings
Schatt et al. (2021)	Aural storytelling	Students	Empirical	Supports academic tasks
El Chaabi & Younes (2025)	Story-integrated pedagogy	Students	Review	Advances cognitive functioning
Maureen et al. (2018)	Foundational education level	Children	Empirical	Develops language competence
Neuman et al. (2020)	Underprivileged students	Primary level Children	Experimental	Storytelling fosters comprehension
Wolley and Wolley (2011)	Imagery skills through visualization	Children	Experimental	Enhance memory retention

Table 2*Thematic Synthesis in Literature*

Theme	Description	Studies
Cognitive Growth	Fortifies analytical thinking	(Schatt et al., 2021 ; Neuman et al., 2020)
Learning Abilities	Develop linguistic skills	(Maureen et al., 2022 ; Roney, 1996)
Visual Cognition	Promotes memory and creative learning	(Woolley, 2011)
Screen-based Narratives	Enhance students' involvement	(Maureen et al., 2018)
Role of a teacher	Supports storytelling instructional approaches	(Fayyaz et al., 2023 ; Gregor, 2010)

Research Gaps

After reviewing various studies related to the subject, notable gaps drawn in accordance with above literature review include:

- There is a lack of social sciences studies specifically focused on the cognitive skills of children because of media usage in the developing countries of South Asian region, particularly with reference to Pakistan.
- There are insufficient 'Experimental Studies' on schools' efficacy through aural/visual media as most of the studies on the theme are found on survey methods, or showed cross sectional study patterns.
- The roles of primary classroom environment and learning mechanisms involving media with reference to the types of school is another dimension which is barely explored through experimental studies in Pakistani context.

In the context of above shared studies and identified research gaps, subsequent research questions arise:

Research Questions

RQ 1: What are the considerable disparities in the cognitive skills of students belonging to primary level NGO-based and government schools, if there are any?

RQ 2: What is the magnitude of educational storytelling programs at public and low-income schools on primary students' learning?

RQ 3: What are the possible outcomes of storytelling pursuits with the assistance of oral and visual media inside classrooms of government and NGO-based schools?

Hypotheses

H1: Students enrolled in charity schools have stronger memory recall after storytelling media exposure than those enrolled in government schools.

H2: Students enrolled in charity schools have stronger vocal lexicon after storytelling media exposure than those enrolled in government schools.

H3: Students enrolled in charity schools have more sharpening perspective and insights after storytelling media exposure as compared to the students enrolled in government schools.

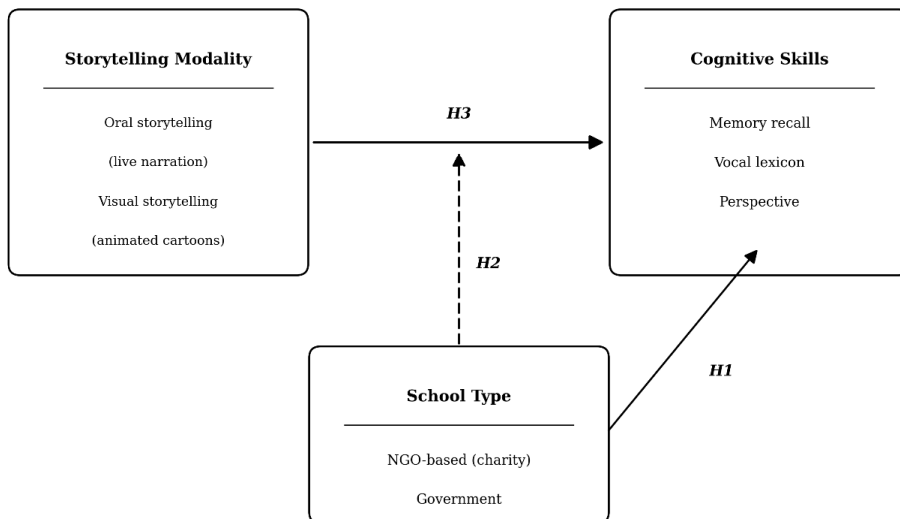
Theoretical Framework

The emphasis of this study is on the theories specifically related to children's cognition and mental growth, as well as to highlight how different communication modes play their role in shaping the children's cognitive skills. Piaget is considered as one of the pioneer psychologists whose theory of Cognitive development emphasizes that children largely learn by constructing schemas in their minds during the concrete-operational stage. Mental activities such as listening to stories in this age group may provide children with a meaningful experience and enhance their cognitive abilities. Sociocultural theory by another famous psychologist Vygotsky upholds a similar perspective that children's zone of proximal development supports cognitive progresses because of interactive linguistic activities such as storytelling. Additionally, Social Cognitive Theory presented by Bandura (2011) highlights the learning process occurred in children through direct observation. The stories and content children watch through screens have a direct influence on their cognitive thinking. Similarly, Multimedia Learning Theory by Mayer (2009) enlightens us about the predicted deviation between sensory modes: merely listening to stories requires more focus as a listener's mind is engaged in making inferences through self-imagery, whereas both audio and visual paths are involved in decoding messages from watching stories on screen. It requires less attention comparatively than the previous one. Therefore, it can be presumed that there might be some differences in the cognitive levels of the children adopting different learning routes. In Pakistan, both learning methodologies are usually applied in elite schools to provide students with

a comprehensive learning experience. But the situation in schools situated in low-income areas is dissimilar due to multiple factors. Overall, the above mentioned theories jointly concentrate on the significance of incorporating storytelling activities in classrooms for better exposure and development of cognitive skills, including memory recall, vocal lexicon and building perspectives, among students. Dissimilar school categories and distinct learning modalities may also have varying degrees of impact of storytelling activities, depicting the conceptual base for the hypothesized associations displayed in Figure 1.

Figure 1

Conceptual Model



Research Methodology

To scrutinize micro-level cognitive learning among primary school children from government and NGO-based (charity) schools in view of diverse learning modalities, a quasi-experimental research design has been adopted with the following details:

Participants

Total 200 participants were selected from four different schools through random sampling method in Karachi, Pakistan. Two charity schools were

administered by NGOs, whereas the other two were government schools. All subjects belonged to the low socio-economic class. For the purpose, only those students could take part in the study whose house-hold income was below 50,000 Pakistani Rupees per month when the data collection occurred. Parental consent had been taken from all students who participated in the study. All respondents belonged to the age group of ‘late childhood’ (7 to 12 years). This age is designated as ‘concrete operational stage’ by Piaget in his theory of cognitive development (Piaget, [2000](#)).

Procedure

All students were divided into two groups. Half of them belonged to NGO based charity schools, whereas the other half were from government schools. Participants in both groups were further randomly divided into two sub-groups. One group listened to stories from a 57-year-old woman narrator. The other group watched the same stories in the shape of animated cartoons on television screen. School was the first independent variable which was divided into the categories of charity and government schools. The second independent variable was the message which was categorized as stories narrated by adults, and stories watched on television. Cognitive skills (memory recall, vocal lexicon and perspective) were the dependent variables. Environment of laboratories, selected content, children’s background, location, and time duration were the control variables.

Stimulus Materials

The content used for this experiment was especially designed for Asian children by UNICEF ([2012](#)). This material was accessible in the form of story books and cartoon films in Urdu. Ten stories and cartoon films of similar content were chosen. The protagonist in all stories was a young girl ‘Meena’ who takes a stand on different problems usually faced by under-privileged society, including issues related to health, education, gender discrimination and dowry practice etc.

Measurement Tools

The questionnaires had been designed after the consideration of multiple cognitive tests. After a careful examination, the pattern of questionnaires was adapted by taking Children’s Memory Scale by Cohen ([1997](#)), the WORD Test-2 Elementary by Bowers et al. ([2014](#)) and the Test of Narrative Language (TNL) by Gillam and Pearson ([2004](#)) into account. Then questionnaires were reviewed for validity by two experts specialized

in Psychology field from University of Karachi by considering the clarity and complexity level. Total 100 questions were asked from students in the study, 10 in each session. All questions were related to the content students were exposed to. For checking the internal reliability, Cronbach's Alpha (K-R 20) test was carried out which showed good internal consistency for all measures (.80 for memory recall, .82 for vocal lexicon and .83 for perspective tasks). Before the actual experiment, a pilot test was conducted, and some minor changes were made in the questionnaire in the light of the study.

Research Experiment

For the actual study, two laboratories of almost equal sizes (20' by 30') were allocated to conduct the experiment in each school. 10 distinct sessions were arranged in all schools for 10 sequential weeks from September till November. Each session consisted of one episode. In one laboratory, the content was narrated by an adult female, whereas in the other laboratory, it was shown on television as animated cartoon movies. Each group contained 12 students. A separate multiple-choice questionnaire in Urdu was given to students after each session. The cognitive skills of students were measured through questionnaires, which were distributed into three parts: Memory recall, vocal lexicon and perspective. For data evaluation, IBM Statistical Package for Social Sciences (SPSS), version 25 was applied.

Results

The responses showed that charity schools significantly differ from the hypothesized value of government schools. Chi-square tests of independence were performed to establish the link between cognitive abilities (perspective, vocal lexicon and memory recall) with the school categories, NGO-based (charity) and government.

Chi-square tests of independence were carried out to explore the relationship between variables estimating cognitive skills with the scores achieved by children of different school categories. The data demonstrate a significant association between memory recall and scores of respondents from NGO-based (charity) and government schools, $\chi^2 (2, N = 200) = 46.410, p = 0.000$. Vocal lexicon also differed significantly between the scores of children from both school types, $\chi^2 (2, N = 200) = 37.170, p = 0.000$. Additionally, the scores of participants from both groups reveal a significant connection with perceptive skills of students, $\chi^2 (2, N = 200) =$

33.220, $p = 0.000$. Hence, it can be surmised that the overall hypotheses are proved which indicate that the respondents from NGO-based (charity) schools outperformed their counterparts in the scores of memory recall, vocal lexicon and developing perspectives.

Table 3

Relationship of School Category with Memory Recall, Vocal Lexicon, Perception and Cognition (N = 200)

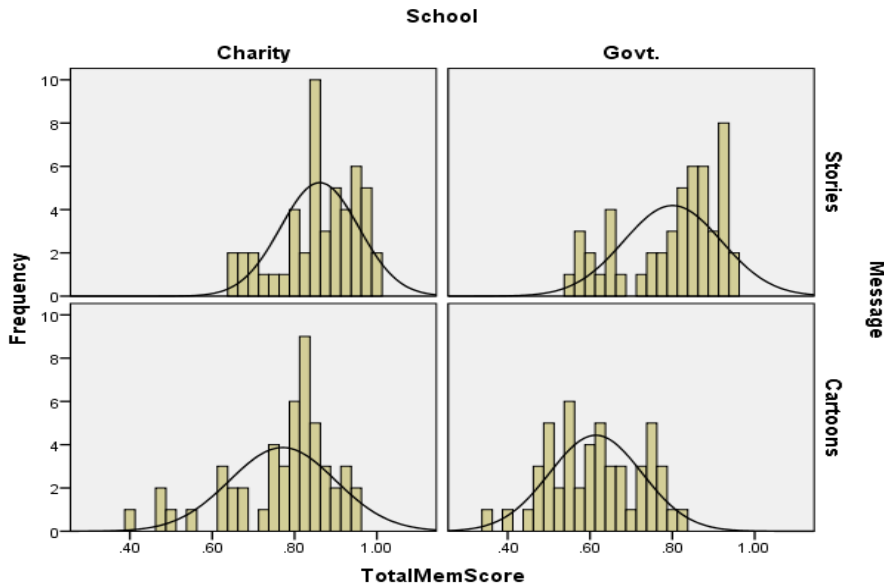
Variables	2	3	4	5	6
1. Message	.000	0.431***	0.483***	0.501***	0.483***
2. School	-	0.404***	0.438***	0.351***	0.421***
3. Memory_Recall_Score		-	0.758***	0.810***	0.895***
4. Vocal_Lexicon_Score			-	0.761***	0.846***
5. Perspective_Score				-	0.861***
6. Cognition_Score					-

Note. *** $p < .001$

Multi-Factor Testing

Figure 2

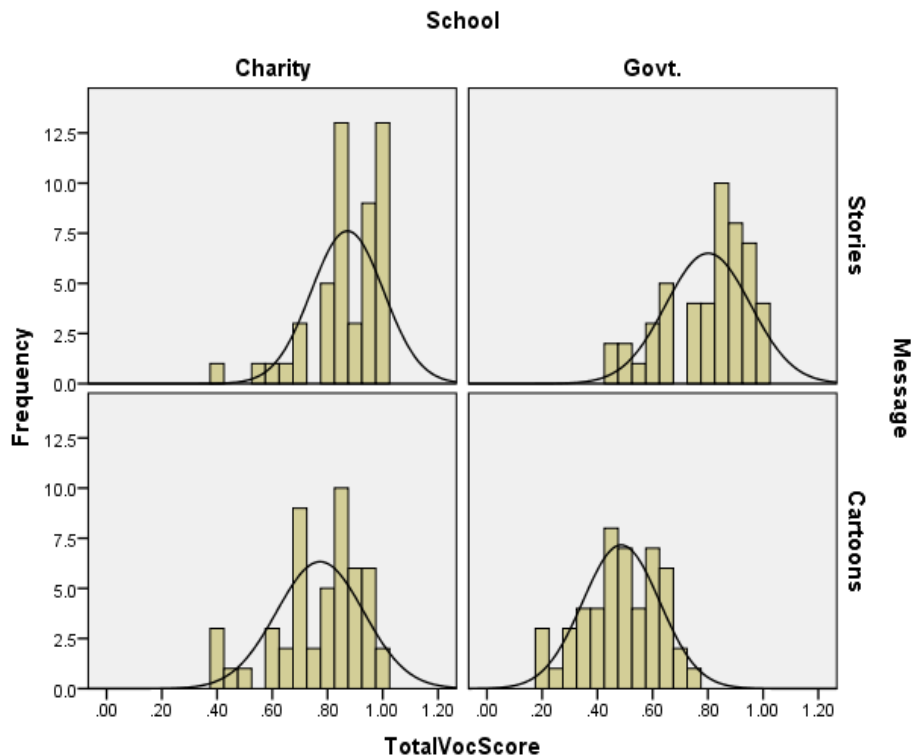
Visualization of Memory Recall Scores between NGO-Based (Charity) Schools and Government Schools



The above chart represents the memory recall scores participants accomplished. Through visual data, it can be figured out that histograms for the NGO-based (charity) schools show leptokurtic distributions in both scenarios, meanwhile the patterns for the government schools display mesokurtic to platykurtic images respectively. As the earlier groups show a more peaked distribution, it means that many participants scored closer to the mean from the NGO-based (charity) schools.

Figure 3

Visualization of Vocal Lexicon Scores between NGO-Based (Charity) Schools and Government Schools

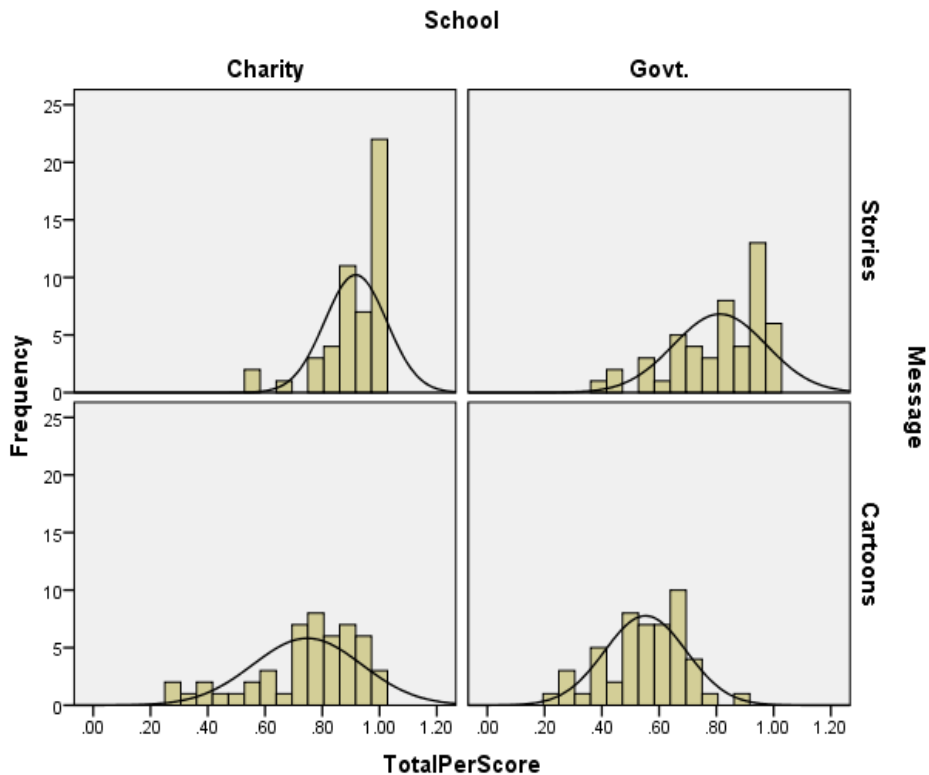


The above chart represents the vocal lexicon scores participants attained. Through visual data, it can be figured out that histograms for the NGO-based (charity) schools show leptokurtic distributions in both scenarios, meanwhile the patterns for the government schools display mesokurtic to platykurtic images comparatively. As the earlier groups show

a more peaked distribution, it means that many participants from the NGO-based (charity) schools scored closer to the mean.

Figure 4

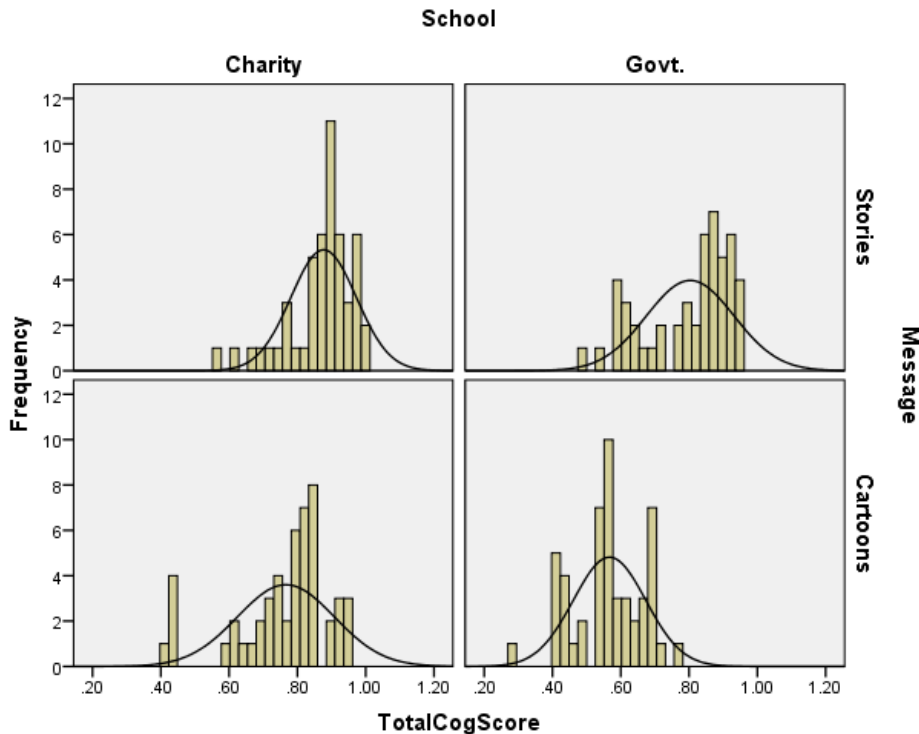
Visualization of Perspective Scores between NGO-Based (Charity) Schools and Government Schools



The above chart represents the perspective scores participants accomplished. Through visual data, it can be figured out that histograms for the NGO-based (charity) schools show leptokurtic distributions in both scenarios, meanwhile the patterns for the government schools display mesokurtic to platykurtic images. As the earlier groups show a more peaked distribution, it means that many participants scored near to the mean from the NGO-based (charity) schools.

Figure 5

Visualization of Cognition Scores between NGO-based (Charity) Schools and Government Schools



The above chart represents the total cognition scores participants attained. Through visual data, it can be figured out that histograms for the NGO-based (charity) schools show leptokurtic distributions in both scenarios, meanwhile the patterns for the government schools display mesokurtic to platykurtic images comparatively. As the earlier groups show a more peaked distribution, it means that many participants from the NGO-based (charity) schools scored closer to the mean.

Discussion

Results indicated that the primary-level children from NGO-based (charity) schools were outclassed and outnumbered by the government schools at every stage of inference and skills. Findings paved the way to a thorough understanding of the elements driving such change. If the content is

prosocial, then children learn new vocal lexicon which enhances their cognition (Iqbal et al., [2022](#)). Diverse classroom activities such as learning through multimedia, engaging students in live storytelling activities, educational animated cartoons and interactive performances with the help of oral and visual media provide a valuable experience to children (Sultana & Rafiq, [2018](#)). But the teachers at government schools are generally found using Grammar Translation Method or the teacher-centered approach. On the contrary, in NGO based charity schools, the teachers are kept in line with the modern and changing trends and methods of teaching through their access to contemporary technology including digital gadgets and screens. Scholars affirm that the pedagogical material can easily be transferred through screens to the audience's minds and foster their cognitive refinement process (Guvendir & Guvendir, [2023](#); Rafiq et al., [2024](#)).

From a conceptual framework, various theories related to cognition, learning and environmental viewpoints widely support the outcomes of this study. Early psychologists such as Piaget ([1952](#)) and Vygotsky ([1978](#)) accentuate the roles of interpersonal communication, social participation, and supplemented learning atmosphere as the key approaches to develop cognition in Cognitive Development Theory. The results of this study assert that the manifestation of these instructional methods have a positive impact on students in the classroom context.

Another significant theory aligned with the results is Social Cognitive Theory which emphasizes social learning, concentration, and learning readiness as the fundamental cognitive development areas. Contemporary studies in the Pakistani context reaffirms that cognitive skills at primary school level can be enhanced by teaching pedagogies (Tahzeeb, [2024](#)). Similarly, Information Processing Theory by Atkinson and Shiffrin ([1968](#)) also considers the importance of a systematic teaching approach to develop students' cognition. A relatively recent theory of Multimedia Learning presented by Mayer ([2009](#)) also corroborates the findings. This theory advocates the significance of multimodal cues based on auditory and visual inputs for an enriched cognitive experience.

Individual attention and one-to-one communication inside classrooms create better learning opportunities for children (Rafiq & Zuberi, [2018](#)). Thus, student-teacher ratio may also have a massive influence on the cognitive learning process. In comparison with government schools, NGO-based schools relatively consist of smaller strength of students which allow

them to focus on each student individually.

The lack the professionalism or lack of access to the media resources to implement learning strategies through innovative storytelling methods is another major factor reflecting the comparatively lower scores of children belonging to the public sector schools. There are thousands of ghost schools in the country. The absence of government teachers from their duties may also have an inverse effect on students' capabilities (Kazmi & Quran, [2005](#)). Similarly, students' absenteeism in government schools attributed to various social and financial challenges is another significant determinant of low academic performance (Kumar & Choudhury, [2021](#)). However, scholars affirm that charity schoolteachers generally are more regular and disciplined. Their management also emphasizes strengthening the relationship between the teachers and the students. Arif and Saqib ([2003](#)) conducted a study on the analysis of cognitive skills of students from different types of schools. They stressed that teachers' attitude towards students is an important factor in improving students' skills. Teachers have a different orientation towards the students there.

Taken together, results determine the superior performance outcomes by charity-based NGO schools over responses of primary school students from government schools. These persistent improved responses from the earlier type of schools demonstrate that the efficacy of storytelling modes shows significant improvement in the presence of other facilitating parameters. Some of these core attributes include educational resources accessibility, previous learning environment, and teachers' positive attitude. The lack of these approaches may result in limited learning outcomes.

To reduce these disparities, there is a critical need for systematic reforms especially in Pakistani government sector schools. The judicious implementation of modern storytelling teaching pedagogies is a landmark development to ensure the fulfilment of SDG4 which advocates for the access of inclusive and high-standard education and learning opportunities by 2030.

Limitations

There are some limitations of this experimental research which must be noted while considering the outcomes of the study. Firstly, the study is geologically restricted to only Karachi. Primary level students from this city may not represent the cognitive skills of the children from other urban and

rural areas of Pakistan. Secondly, since it was quasi-experimental research, the sample for this study was obtained from four schools only, which confines the entire representation of all types of NGO-based and government schools within the city. Moreover, the results are based on researcher-adapted questionnaires. Even though the expert validity and internal consistency reached adequate standards, but similar research experiments are required to affirm the calibration in other populations. Overall, these limitations represent the necessity of similar studies with other variable sets including multiple regions, age groups, school categories, and diverse samples to reiterate and generalize the current findings.

Conclusion and Recommendations

The study sustains the idea that facilities like utilizing media resources for innovative storytelling experience inside the classrooms provided to students at primary stages not only improve their cognition and analytical abilities but also galvanize the country's development in general. However, other factors and facilities available at NGO-based (charity) schools offer a more coherent cognitive development in the areas of memory recall, vocal lexicon and determining perspectives through storytelling media in contrast to the government schools. Thus, the study recommends the education sector and government of Pakistan to adopt modern multimedia storytelling technology and incorporate live storytelling sessions in the primary curriculum to refine students' cognitive learning. Specifically, supported by previous research, the current study reaffirms that government schools require additional consideration and policy reforms to align with the emerging storytelling platforms through cognitive learning pedagogies.

Author Contribution

Khushboo Rafiq: conceptualization, methodology, investigation, data curation, formal analysis, writing—original draft, and writing—review and editing. **Asmat Ara:** conceptualization, validation, interpretation of results, and writing—review and editing. **Nisar Ahmed Zuberi:** supervision, methodology, validation, and writing—review and editing.

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

Data supporting the findings of this study will be made available by the corresponding author upon request.

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The authors did not use any type of generative artificial intelligence software for this research.

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