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Tech meets tradition: A dive into primary school students' English learning preferences

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Abstract

The paper investigates the choice of English language learning material in primary school using a traditional or technology-based approach. Given the fast-paced advance of educational technology, virtual learning resources such as holography, interactive multimedia and talking characters are being increasingly used as a means to promote student motivation and engagement. Yet, it is still necessary to find out how these technologies perform in comparison with conventional methods of teaching specifically at primary level. This paper examines how 3rd, 4th and 5th graders responded to traditional storybooks and technology-based learning tools. This study is a descriptive survey with a quantitative research method that measures the students' attitudes and preferences related to the multimedia materials such as video and interactive. The results show that qualitative methods are most preferred by the younger students (e.g., those in Grade 3) versus the older students who prefer quantitative and technology-supported traditional learning methods. The research also suggests that, though technological advances such as holograms and talking dolls appear to be popular, there is still the important requirement for teachers to have proper training in order to successfully introduce these resources into the classroom. It highlights on the centrality of integrating the old with the new in order to fashion an active and effective educational environment for pupils.

Keywords: Educational technology, English learning, Primary students

Introduction

The inclusion of technology in education has changed the way students learn and interact with educational content especially at elementary level(Mdhlalose & Mlambo, 2023; Venkatapuram, 2025)(Pettersson, 2021). Technologies that contribute to inclusive education are digital tools and specialized devices that facilitate equitable access to learning for students with diverse abilities(Navas-Bonilla, Guerra-Arango, Oviedo-Guado, & Murillo-Noriega, 2025). Longstanding approaches to instruction, the foundation of teaching practices for centuries, are becoming more and more enriched by digital resources that afford new possibilities for engaging and interacting(Kalyani, 2024; Kushwaha et al., 2024; La Fleur & Dlamini, 2022)(Lawrence, 2022). In English language teaching, where a cognitive ability and emotional motivation are both required, the fusion of traditional storybooks with new technology [i.e., augmented reality (AR) and interactive multimedia] or emergent technologies (Bonfield, Salter, Longmuir, Benson, & Adachi, 2020) would provide an innovative learning model (Anggraini & Apriana, 2025). The present research tries to investigate the views of primary school students towards the traditional and modern learning, in particular within English textbooks.

With the constant evolution of educational technology, interactive tools such as holograms, “talking” characters or books have become popular ways to help engage and teach students a new language(Ahmad, Abdullahi, & Usma, 2015)(Goagoses et al., 2025) Although these technologies have great potential, it is unclear how they compare with traditional learning methods, especially in younger students. Based on Uysal study showed that there was no significant difference between traditional learning and hologram e-learning for 1st and 2nd-grade primary school students. The results of both methods were similar in terms of effectiveness, with p-values of 1.00 and 0.843, respectively, which are greater than 0.05 (indicating no significant gap)(Uysal & Yavuz, 2015). However, in the digital era, conventional education methods often fail to accommodate students' learning preferences, particularly in physical education, sports, and health, where practical engagement is critical(Kusuma, Atrup, Pratama, & Daulay, 2023). It is important to understand how students respond to these learning tools and whether

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or not the innovations that they offer are consistent with their educational needs and emotional motivations, in order for educational strategies to be developed.

Some challenges faced by teachers in implementing learning methods and media. The teachers faced challenges such as lack of competence, deficient teaching materials, and inadequate digital teaching skills when attempting to integrate technology into their classrooms(Salam et al., 2023), lack of differentiated instruction, and poor classroom infrastructure (Astuti, Samanhudi, & Pratiwi, 2024), the need for pedagogical adjustments, insufficient training and support, and time constraints (Boonmoh & Sanmuang, 2024).Teachers play a key role in facilitating language learning by incorporating diverse, interactive media, such as arts, music, and films, to create an engaging learning environment, encourage active learning and critical thinking (Dahlan, Abdul Halim, Kamarudin, & Zuraine Ahmad, 2023). Teaching a foreign language at the primary level is complex, requiring careful planning and the use of suitable teaching methods and media. The study highlights the role of various methods, including the use of interactive media, collaborative learning, and personalized teaching approaches, to make foreign language learning more effective(Schlueter, 2019). Despite having some qualified teachers, the study found that the overall effectiveness of English language instruction was still limited due to challenges in teacher qualifications, classroom environments, resource availability, administrative issues (Suar et al., 2025), , lack of student motivation and cultural differences among students (Alrashdi, 2024). Many teachers were not fully equipped to implement innovative and varied teaching techniques, which impeded the overall effectiveness of the English learning program(Daud, 2024; Khdhir, Hussein, & Abdallah, 2022). The study highlighted a significant lack of educational resources, such as textbooks, teaching aids, and multimedia materials, which hindered the quality of English instruction. Teachers had to rely on basic materials like companion books and cassettes, and were also trying to incorporate social media into lessons, although internet connectivity issues made this approach difficult(Sekar Pramesty, Maghfiroh, & Atiek Mustikawati, 2022).

Teachers requested more differentiated materials that could cater to the varying proficiency levels in their classrooms. They wanted materials that would allow them to teach a joint topic to all students but at different levels of difficulty(Tajik, Noor, & Golzar, 2024). There was also a call for more resources that would help students practice specific skills like listening, speaking, and grammar. Teachers expressed a need for materials that could engage students while also addressing their diverse needs and abilities. Materials that would help reduce teacher workload by providing ready-made resources were highly desired. The study also revealed that many teachers felt unprepared to use picture books and other authentic materials effectively. There was a need for professional development and support to help teachers better understand how to incorporate multimodal resources like picture books into their teaching. Teachers expressed the need for more training and resources to make full use of these materials in the classroom(Nilsson, 2024).

Previous studies have underscored the beneficial effects of interactive and technology-enhanced learning on students' motivation and understanding (Ginting & Ramadhan, 2024), indicating that if students are given agency with regard to how they interact with content, they would be more likely to identify with the material, feel motivated and more happines to learn it (Cerezo, Calderón, & Romero, 2019). This is particularly the case in language learning, as motivation and engagement are critical to successful learning. The technology effectively attracted students' attention, making lessons more dynamic and engaging,The use of the 3D Holographic LED-Fan Display significantly increased student interest and motivation in the classroom (Ortega et al., 2020; Abbas et al., 2025).

The current study aims to fill this gap by examining whether primary school learners' preference for traditional or computer-based English learning materials. Through aspects such as attitudes regarding storybook reading, visual and interactive materials, creative technology applications like holographs and talking dolls, this study endeavors to address how a combination of traditional and tech-approaches can be intertwined efficiently in L2 English learning.

The aim of this study is to investigate the perception

of primary school students on English learning resources by integrating traditional approach and technology. More precisely, in this paper we study how the students react to conventional storybooks and technologically enhanced learning elements like hologram and talking characters. This study examines the factors and attitudes involved in two pedagogical approaches, and offers guidance on how both can be successfully incorporated into English language learning for improved student engagement, motivation and understanding.

This research is important because there is a demand of more effective English language learning in the primary school years through variety ways. "Advances in given the amazing development of Educational Technology, resources such as holograms, talking characters and interactive multimedia have great possibilities to motivate students and support ESL". Nevertheless, despite these prospects, questions remain about the value of such technologies and how they compare with traditional approaches to instruction, particularly for younger children. Thus, it is very important to what extent these learning tools are useful for the students and satisfy their learning needs, emotions as well.

In addition, the study responds to the current need of many teachers who would like to implement quality instruction based on teaching effects. Many teachers are not well prepared to make use of multimodal materials, such as picturebooks and digital media, that can potentially enhance the quality of foreign-language teaching. All of this effect will offer for first time valuable evidence on which kinds of learning resources and strategies can help teachers to 'break through' and operate more effectively when teaching a foreign language like English. This study's results may be useful for designing more interesting and effective English learning materials by taking into account students' individual differences in learning.

Methods

The methodology is descriptive survey research with quantitative approach. Here's how we did the analysis:

Population and Sample:

This study population was all of primary school (SD/MI) students in Jepara regency that is grades 3 among to 5. Because the population was dispersed and unknown exactly, infinite population sampling (using a Lemeshow margin of error formula with 10%) was employed(Sugiyono, 2016). Minimum sample size was 68 students after calculation, at 90% confidence interval. 328 students were included in the study from six primary schools. These were selected in an effort to capture variation in academic quality, ranging from high-performing to standard to low-resource schools. The students within these schools were a diverse population, in terms of academic and social backgrounds.

Questionnaire design

The research tool used was a questionnaire that explored the attitudes and reactions of elementary students to different dimensions of fun English-instory learning. The key indicators used in the questionnaire were four: 1) Interest in reading and visual materials; 2) Interactive and Traditional Learning Methods; 3) Technology and Learning Innovation; and Motivation and Emotional Response(Sekarwangi, Sartono, Mustadi, & Abdulah, 2021). For each indicator the questionnaire contained one or more multiple-choice questions. The question numbers breakdown (per indicator) is a follows:

Indicators	Code
Interest in Reading and Visual Materials	Q1, Q3, Q8
Interactive and Classically-Explanatory Learning Strategies	Q2, Q10
Technology and Learning Innovation: Questions	Q4, Q7
Mood and Motivation	Q5, Q6, Q9

Questionnaire distribution

The survey was administered in six primary schools as a representative sample from Jepara Regency, based on differences in school quality. This provided a comprehensive and diverse view on the students' interests and reactions. It was distributed levels 3, 4 and 5 to check how students in different grades react to varieties of the English materials and methods.

Data Collection and processing

Descriptive statitistics were employed for the manage- ment of data, ascertaining a frequency distribution on each question in the questionnaire. The study explored the recurrent themes and participants' preferences in their answers about methods of learning English and materials used. It yielded information on students' preferences for visual, interactive and traditional modes of learning.

Comparative analysis

A post hoc test was performed to determine the students' preference with respect to grade levels (Grade 3, Grade 4, and Grade 5). This study investigated differences in interest, learning attitudes, and acceptance of learning technology innovation.

Further explorations were also conducted through comparing between two types of primary educational institutions – State Primary School (SD) and Madrasah Ibtidaiyyah (MI) – this was done to see how student preference toward method, as well as materials used in learning process is influenced by schools type.

With such methodology, the researchers were able to collect and analyze data in a systematic manner and shed light on what kinds of learning preferences primary school students adopt and how they react to different English learning materials or methods. The findings may contribute to the enrichment of English story book materials that are interesting and effective for the students in Jepara Regency.

Findings and Discussion

The population in this study was all primary school (SD/MI) students in Jepara Regency who were in grades 3 to 5. Because the population was widespread and not known with certainty, an approach from sampling theory with an infinite population was used, with a Lameshow margin of error formula of 10%. Therefore, after calculation, the minimum number of respondents required was 67.65, rounded up to 68 SD/MI students to validly represent the population with a 90% confidence level.

The researchers then distributed questionnaires to six primary schools, taking into account varying academic qualities—from excellent (high) schools, standard (medium) schools, to schools with low resources. The number of respondents obtained (328 pupils) far exceeded the minimum number required by the Lemeshow formula (68 pupils), so the results of this survey have strong validity and can be used as a basis for developing English language books that suit the needs of primary school pupils in Jepara Regency.

Finding list of schools and respondent profiles

The details of the list of schools and respondent profiles are as follows:

	***n* = 328**	
	Percentage (%)	***n***
School		
State Primary School 1 Senenan	19.8	65
State Elementary School 9 Jambu	24.1	79
Bumi Kartini Jepara Integrated Excellence Primary School	14.6	48
Sadamiyah Bangsri Islamic Elementary School	18.6	61
MI Mathalibul Huda Mlonggo	9.5	31
Ngandong Islamic Elementary School	13.4	44
Gender		
Female	50.6	166
Male	49.4	162
Grade		
3	46.0	151
4	27.1	89
5	26.8	88
Age		
9	36.9	121
10	32.0	105
11	22.6	74
12	8.2	27
13	0.3	1

This study involved 328 primary school students from six different schools in Jepara Regency. The distribution of respondents took into account school quality categories—high, medium, and low—to ensure diversity in academic and social backgrounds. The distribution of students from each school was fairly even, namely SD Negeri 9 Jambu (24.1%), SD Negeri 1 Senenan (19.8%), MI Sadamiyah Bangsri (18.6%), SD Unggulan Terpadu Bumi Kartini Jepara

(14.6%), MI Ngandong (13.4%), and MI Matholibul Huda Mlonggo (9.5%).

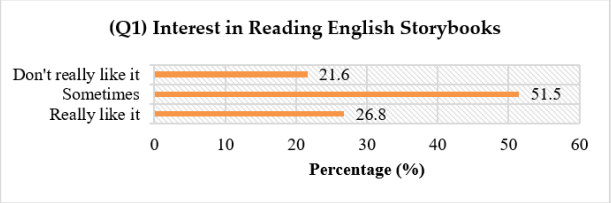
Based on gender, 50.6% of respondents were female and 49.4% were male, indicating an ideal gender balance and enabling a fair analysis of English learning needs. In terms of grade level, the majority of respondents were from Grade 3 (46.0%), followed by Grade 4 (27.1%) and Grade 5 (26.8%). This indicates that the English storybook products developed need to consider initial literacy levels as the main foundation. The age range of respondents varied from 9 to 13 years, with a predominance in the 9–10 age group. The largest proportions were with - 9 years old (36.9%) and 10 years old (32.0%), reflecting that the target of material development should focus on early childhood who are entering the phase of language exploration and vocabulary improvement.

2. Finding the needs and preferences of primary school students for fun, story-based English learning.

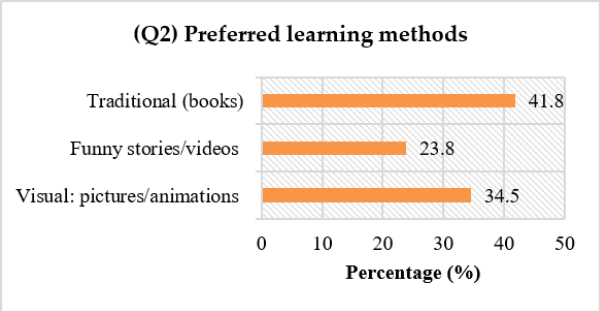
The questionnaire was compiled based on four main indicators that reflect the needs and preferences of primary school students for fun, story-based English learning. Each indicator includes several multiple-choice questions designed to explore specific aspects of the learning process. These indicators include interest in reading and visual materials, interactive and traditional learning methods, learning technology and innovation, and emotional response motivation. The breakdown of the question numbers is shown in the following table:

Indicators	***Question Number***
Interest in Reading and Visual Materials	Q1, Q3, Q8
Interactive & Traditional Learning Methods	Q2, Q10
Technology and Learning Innovation	Q4, Q7
Motivation and Emotional Response	Q5, Q6, Q9

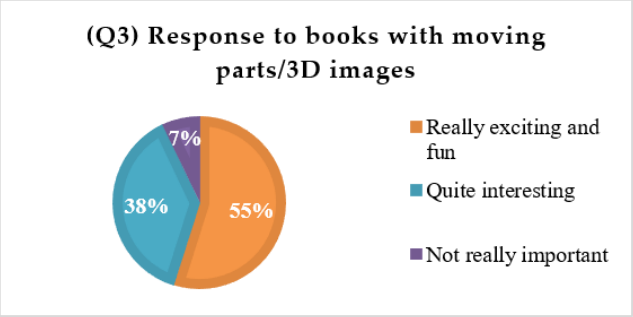
Next, here are the results of the analysis of primary school students' needs and preferences in English language learning. The diagram below showed that 50.1% of students like to read in English occasionally, while 26.8% really like it and 21.6% do not particularly like it. This shows that interest in reading is quite high, but strategies are needed to encourage students to read more consistently.



Next is about prefering learning method. A total of 41.8% of students chose the traditional method of reading regular books. However, visual methods such as pictures/animations (34.5%) and funny stories (23.8%) were also quite popular. The following is an analysis in diagram form:

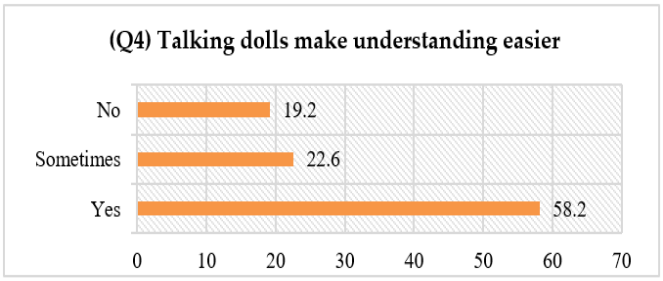


Question number 3 is about response to books with moving parts/3D image. Based on the diagram below, the majority of students (54.9%) stated that they were very interested in interactive visual features. Only 7.0% felt that these features were unimportant. The potential of technologies such as AR/3D in learning media is very high.

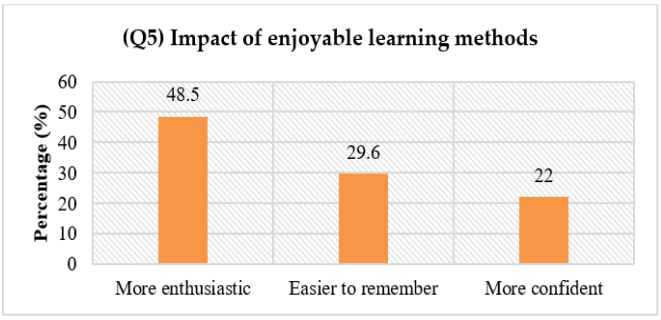


Question number 4 is about talking dolls make understanding easier. Based on the following diagram, many as 58.2% as of respondents felt that talking characters helped with comprehension,

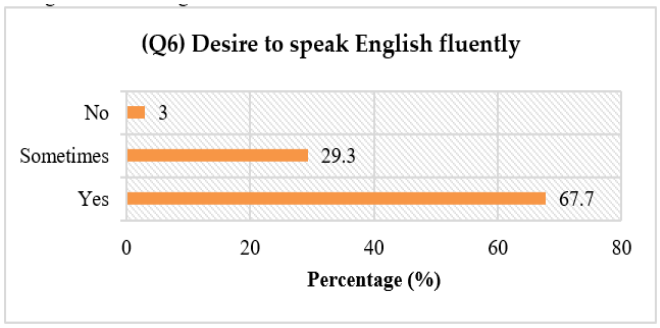
supporting a multisensory approach.



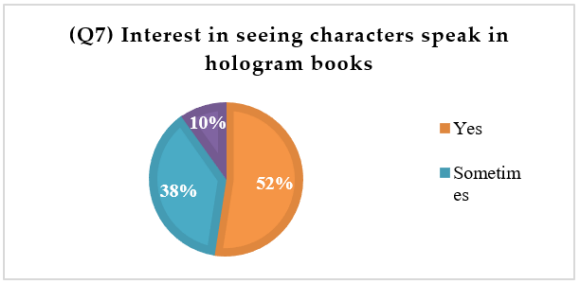
Question number 5 is about impacting of enjoyable learning methods. The results show that enjoyable methods make students more enthusiastic (48.5%), easier to remember (29.6%), and more confident (22.0%). This is the following diagram:



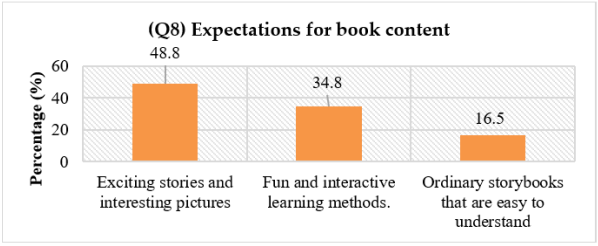
Question number 6 focuses on being desire to speak English. Based on the following diagram, a total of 67.7% of students are very eager to be fluent, showing high motivation. Based on this data, this is an important indicator that a fun approach can encourage active learning.



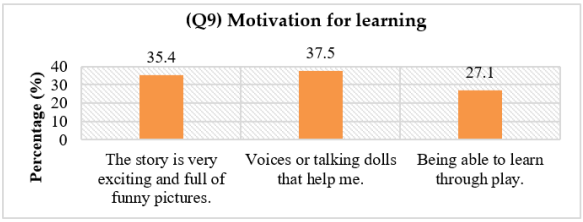
Qusetion number 7 is about interesting in seeeing characters speak in hologram books. According to diagram below, A total of 52.4% of respondents stated that they were very interested in seeing talking characters in hologram books, and 37.8% felt that they might want to try it.



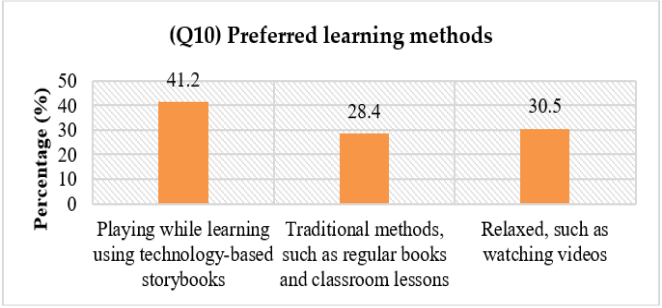
Question number 8 is about expectation for book content. According to diagram belum, most students want exciting stories and interesting pictures (48.8%), followed by fun learning methods (34.8%)



Question number 9 focuses on motivation for learning. Based on the following diagram, it showed that talking dolls and funny stories are both major motivators for learning (35.4% and 37.5%).



Question number 10 focuses on preferring learning methods. According to diagram below, 41.2% of students chose to learn by playing with technology-based books, while those who chose traditional and relaxed methods were fairly balanced.



3. Comparative analysis based on grade level

This study aims to understand students' preferences and responses to various approaches to learning English in grades 3, 4, and 5. Based on data obtained from 10 survey questions, a comparative analysis was conducted to identify differences in interest patterns, learning methods, and acceptance of learning technology in each class.

Table 1. Reading interest and visual materials

Reading Interest and Visual Materials (Q1, Q3, Q8)	**Grade 3** ***(n= 151)***		**Grade 4** ***(n= 89)***		**Grade 5** ***(n= 88)***	
	%	*n*	%	*n*	%	*n*
(Q1) Interest in reading English storybooks						
Very interested	24.5	37	34.8	31	22.7	20
Sometimes	51.7	78	52.8	47	50.0	44
Not particularly fond of	23.8	36	12.4	11	27.3	24
(Q3) Response to interactive books / 3D images						
Very exciting and enjoyable	53.6	81	60.7	54	49.4	44
Quite interesting	40.4	61	36.0	32	34.8	31
Not very important	6.0	9	3.4	3	15.7	14
(Q8) Expectations regarding the book's content						
Exciting stories and interesting pictures	49	74	51.1	45	47.7	42
Fun and interactive learning methods.	32.5	49	36.4	32	38.6	34
Easy-to-understand storybooks	18.5	28	12.5	11	13.6	12

Grade 4 students showed the highest interest in 3D images (60.7%) and picture stories (51.1%), surpassing grades 3 and 5. Meanwhile, grade 3 students also had a strong interest in picture stories (49.0%) and 3D images (53.6%). Grade 5 showed slightly lower interest in visual aspects, but it was still significant (3D images: 49.4%). This indicates that visual-based approaches and interactive stories are still relevant and appealing to students at all levels, especially grades 3 and 4.

Table 2. Interactive & traditional learning methods

Interactive & Traditional Learning Methods (Q2, Q10)	**Year 3** ***(n= 151)***		**Grade 4** ***(n= 89)***		**Grade 5** ***(n= 88)***	
	%	***n***	**%**	***n***	**%**	***n***
(Q2) Preferred Learning Methods						
Visual: images/animations	33.1	50	31.5	28	39.8	35
Funny stories/videos	24.5	37	21.3	19	25.0	22
Traditional (book)	42.4	64	47.2	42	35.2	31
(Q10) Choice of learning method						
Playing while learning using technology-based storybooks	44.4	67	39.3	35	37.5	33
Traditional methods, such as textbooks and classroom lessons	22.5	34	43.8	39	22.7	20
Relaxed, like watching a video	33.1	50	16.9	15	39.8	35

Year 3 pupils tend to prefer visual-based play-based learning methods (Q2: 33.1%; Q10: 44.4%) compared to Years 4 and 5. Year 4 shows a higher preference for traditional methods (Q2: 47.2%), but remains open to play-based methods (Q10: 39.3%). Year 5 is in the middle, with a balanced preference between interactive methods (Q2: 39.8%; Q10: 37.5%) and conventional methods (Q2: 35.2%; Q10: 22.7%). These findings indicate that fun and game-based learning approaches are more effective in Year 3, while Years 4 and 5 are beginning to show a tendency towards more structured methods.

Table 3. Technology and learning innovation

Technology and Learning Innovation (Q4, Q7)	**Grade 3** ***(n= 151)***		**Grade 4** ***(n= 89)***		**Grade 5** ***(n= 88)***	
	%	*n*	%	*n*	%	*n*
(Q4) Talking dolls facilitate understanding						
Yes	58.3	88	62.9	56	53.4	47
Sometimes	23.2	35	15.7	14	28.4	25
No	18.5	28	21.3	19	18.2	16
(Q7) Interest in seeing characters speak in hologram books						
Yes	49	74	62.9	56	47.7	42
Possibly	40.4	61	29.2	26	42.0	37
No	10.6	16	7.9	7	10.2	9

Grade 4 students were the most enthusiastic about innovative technologies, such as talking dolls (62.9%) and hologram characters (62.9%). Grade 3 also showed high interest in technology (talking dolls: 58.3%; holograms: 49.0%), while Grade 5 was slightly lower (talking dolls: 53.4%; holograms: 47.7%). These responses indicate that Grade 4 students are more prepared to accept technology-based learning media, making them an ideal target for the development of interactive digital products.

Table 4. Learning motivation and emotional responses

Motivation and Emotional Responses (Q5, Q6, Q9)	**Grade 3** ***(n= 151)***		**Grade 4** ***(n= 89)***		**Grade 5** ***(n= 88)***	
	%	*n*	%	*n*	%	*n*
(Q5) Impact of enjoyable learning methods						
More enthusiastic	45.0	68	49.4	44	53.4	47
Easier to remember	33.1	50	27.0	24	26.1	23
More Confident	21.9	33	23.6	21	20.5	18
(Q6) Desire to speak English fluently						
Yes	64.9	98	70.8	63	69.3	61
Possibly	31.1	47	29.2	26	26.1	23
No	4.0	6	0.0	0	4.5	4
(Q9) Motivation to learn						
The story is very exciting and full of funny pictures.	41.1	62	28.1	25	33.0	29
A voice or doll that can talk and help me.	32.5	49	47.2	42	36.4	32
Can learn by playing while learning.	26.5	40	24.7	22	30.7	27

Grade 4 students have the highest motivation to master English if the learning method is enjoyable (Q6: 70.8%). Grade 5 students also show high enthusiasm for learning (Q6: 69.3%; Q5: 53.4%) and ease in remembering material (Q5: 26.1.0%). Meanwhile, Year 3 students stand out in terms of enthusiasm for learning, which is triggered by exciting stories with attractive visualisations through funny pictures (Q5: 45.0%; Q9: 41.1%). This shows that students' motivation to learn increases as they progress through the grades, but an enjoyable approach remains an important factor in successful learning.

Comparative Analysis Based on School Type (Elementary School vs Islamic Elementary School)

To deepen understanding of students' needs in English language learning, a comparative analysis was conducted between two types of primary education institutions: Elementary Schools (SD) and Madrasah Ibtidaiyyah (MI). Although both are at the same level of education, the characteristics of the curriculum, learning approaches, and student backgrounds can influence their preferences for learning media and methods.

Table 5. Reading interest and visual materials (Q1, Q3, Q8)

Reading Interest and Visual Materials (Q1, Q3, Q8)	**Primary School *(n= 192)***		**Madrasah Ibtidaiyah *(n= 136)***	
	%	*n*	%	*n*
(Q1) Interest in reading English storybooks				
Very interested	26.0	50	27.9	38
Sometimes	51.6	99	51.9	70
Not particularly fond of	22.4	43	20.6	28
(Q3) Response to books that can move / 3D images				
Very exciting and enjoyable	56.8	109	52.2	71
Quite interesting	37.0	71	39.7	54
Not very important	6.3	12	8.1	11
(Q8) Expectations regarding the book's content				
Exciting stories and interesting pictures	48.4	93	49.3	67
A fun and interactive way to learn.	37.0	71	31.6	43
Ordinary storybooks that are easy to understand	14.6	28	19.1	26

MI students showed a slightly higher interest in reading (Q1: 27.9%) than SD students (26.0%), but the difference was not significant. In terms of interest in 3D images and pop-up books, SD students were more dominant (Q3: 56.8%) than MI students (52.2%). In terms of expectations regarding the content of storybooks, MI students were slightly ahead (Q8: 49.3%) compared to SD students (48.4%). Both groups showed a high interest in visual material, but SD students were slightly more responsive to interactive features such as 3D images.

Table 6. Interactive vs traditional learning methods (Q2, Q10)

Interactive & Traditional Learning Methods (Q2, Q10)	**Primary School *(n= 192)***		**Madrasah Ibtidaiyah *(n= 136)***	
	%	*n*	%	*n*
(Q2) Preferred Learning Methods				
Visual: images/animations	37.5	72	30.1	41
Funny stories/videos	24.0	46	23.5	32
Traditional (books)	38.5	74	46.3	63
(Q10) Choice of learning method				
Playing while learning using technology-based storybooks	46.9	90	33.1	45
Traditional methods, such as regular books and classroom lessons	21.4	41	38.2	52
Relaxing, such as watching videos	31.8	61	28.7	39

Primary school students prefer learning methods that use images or animations (Q2: 37.5%) compared to MI students (Q2: 30.1%). In terms of preferred learning methods, primary school students also prefer technology-based play approaches (Q10: 46.9%) compared to Islamic school students (33.1%). Primary school students tend to be more open to interactive and technology-based learning methods, while Islamic school students show a more balanced preference between traditional and relaxed methods.

Table 7. Technology and learning innovation (Q4, Q7)

Technology and Learning Innovation (Q4, Q7)	**Primary School *(n= 192)***		**Madrasah Ibtidaiyah *(n= 136)***	
	%	*n*	%	*n*
(Q4) Talking dolls facilitate understanding				
Yes	63.5	122	50.7	69
Sometimes	20.3	39	25.7	35

No	16.1	31	23.5	32
(Q7) Interest in seeing characters speak in hologram books				
Yes	53.1	102	51.5	70
Possibly	36.5	70	39.7	54
No	10.4	20	8.8	12

Primary school pupils showed greater enthusiasm for talking dolls (Q4: 63.5%) and hologram characters (Q7: 53.1%) than Islamic primary school pupils (Q4: 50.7%, Q7: 51.5%). Although the difference was not significant, primary school pupils appeared to be more receptive to technology-based learning media. Primary schools have greater potential to adopt technological features in storybooks, such as interactive characters and animated movements.

Table 8. Motivation and emotional response (Q5, Q6, Q9)

Motivation and Emotional Response (Q5, Q6, Q9)	**Primary School *(n= 192)***		**Madrasah Ibtidaiyah *(n= 136)***	
	%	*n*	%	*n*
(Q5) Impact of enjoyable learning methods				
More enthusiastic	50.5	97	45.6	62
Easier to Remember	28.6	55	30.9	42
More Confident	20.8	40	23.5	32
(Q6) Desire to speak English fluently				
Yes	69.3	133	65.4	89
Possibly	28.1	54	30.9	42
No	2.6	5	3.7	5
(Q9) Motivation to learn				
The story is very exciting and full of funny pictures.	31.3	60	41.2	56
A voice or a talking doll that can help me.	41.1	79	32.4	44
Can learn by playing while learning.	27.6	53	26.5	36

The report also highlights how the enthusiasm towards learning tools changes with age, as younger students (Grade 3) tend to prefer interactive and playful ways to learn, whereas those in older years (Grade 4 and 5) are inclined towards more traditional techniques supplemented by technology. Moreover, the results demonstrate that children of all ages are greatly motivated by entertaining teaching content and images, especially when it is paired with state-of-the-art technology (holograms, talking dolls). School education, particularly primary, needs to be more about a blend of traditional and technology when it comes to making learning interesting. The research finding by revealed that technological infrastructure has a significant positive relationship with conscious attention and affection while a positive but insignificant relationship with enthused participation and social connectedness(Arfat, Shahid, Al-tayyar, Mahmood, & Alghamdi, 2025). Next, according to Tong's research, blended learning produced improvements in students' learning attitudes, self-study skills, and academic achievement. It also increased the number of interactions between students and teachers(Tong, Uyen, & Ngan, 2022). This combination of methodological strategies can accommodate students' different learning styles and lead to better language acquisition results. These findings also emphasize the need to train teachers to use these emerging learning tools in their classrooms, thereby enabling them to best integrate these innovative technologies (Hattie & O'Leary, 2025). According to a survey of students' opinions, blended learning produced improvements in students' learning attitudes, self-study skills, and academic achievement. It also increased the number of interactions between students and teachers.

Discussion

The integration of hologram-based learning in primary education has shown significant promise in enhancing student engagement, comprehension, and retention(Al-Modafar, 2025), also to develop students capable of meeting today's world challenges

(Sasferi Yendra, Hesti Rosita Dwi Putri, 2024). Vebrianto et al demonstrated that hologram-based modules effectively addressed learning loss among elementary students, with the experimental group achieving a medium-level N-Gain score, indicating substantial improvement in conceptual understanding in order to foster more innovative and effective learning environments for future generations. This aligns with the broader pedagogical shift toward immersive and visual learning environments that support active knowledge construction(Vebrianto, Yovita, Yusriadi, & Efendi, 2025).

Y. Carlian et al. (2024) describe the design and utilization of 3D hologram learning tools for elementary school students, particularly in science teaching. Their research demonstrates that with the aid of holographic technology the student engagement and visualization become more interesting and interactive, and as a result learning would be more fun(Carlian, Mir'ayatul Hayati, & Marthyane Pratiwi, 2024). This finding aligns with **A.** Hakeem et al. (2024**)**, who explore the combination of 3D holograms and gesture interaction for elementary education. The research highlights the potential of interactive holograms to increase student engagement and make learning more dynamic by incorporating both visual and physical interaction(Hakeem, Bitar, & Alfahid, 2025).

Loh and Shaharuddin further validated the effectiveness of 3D hologram animation, reporting that 72% of primary students improved their post-test scores after engaging with holographic content. Their findings highlight the cognitive benefits of dynamic visual stimuli, particularly for young learners who often struggle with abstract concepts when taught through traditional methods(Hoon & Shaharuddin, 2019). Similar to Abbas study, his findings highlight the effectiveness of holographic advertising in capturing attention and conveying messages in an innovative and engaging manner. The technology's potential for further enhancement through interactivity and integration with other immersive technologies makes it a promising tool for future educational and marketing applications(Abbas, 2025), and immersive technologies significantly boost learner engagement, improving the student learning outcomes(Oliech Owidi, K. Omieno, & Nabwire Lyanda, 2024)

Jafari (2023) explored educators' perspectives on the strategic use of 3D holograms in classrooms, revealing strong support for their potential to personalize learning and increase emotional engagement. This is particularly relevant in the context of Education 4.0, where technology is leveraged to create adaptive, student-centered learning experiences (Jafari, 2023). Based on the results of research by Hatem et al., it shows that key challenges include the high cost of holographic technology, insufficient technical support, and the lack of proper training for educators. Additionally, the technologies provide alternative modes of interaction with active content as opposed to the classical methods of teaching (Alaidaros, 2025). Despite these obstacles, teachers acknowledged that holograms could make learning more engaging, help in explaining complex concepts, and encourage active participation and creativity among students (Sasferi Yendra, Putri, & Sartika, 2024). Holograms were particularly recognized for their ability to transform theoretical knowledge into practical, interactive experiences(Saleh Eldiasty et al., 2025)

In conclusion, while the integration of holograms in primary education shows great promise, it is clear that significant efforts must be made to address the challenges that impede their implementation. These efforts should focus on reducing costs, improving technical support, and providing comprehensive training for educators. The potential of holographic technology to revolutionize education is immense, but it will require collaboration between educators, institutions, and technology providers to ensure its successful integration into the classroom(Mhlongo, Mbatha, Ramatsetse, & Dlamini, 2023). Students' lives are significantly impacted by technology. While integrating technology into the classroom has shown advantages, there are some disadvantages as well (Celik & Baturay, 2024). Technology has improved learning and increased student willingness and engagement(Carstens, Mallon, Bataineh, & Al-Bataineh, 2021). For these reasons, hologram technology can support the learning process even though it is not a "one size fits all" solution(Khan, Mavers, & Osborne, 2020).

Future research should explore the long-term effects of holographic technology on student learning outcomes, particularly in diverse educational contexts and across various age groups. Additionally,

further studies could investigate the impact of combining holograms with other emerging technologies, such as virtual and augmented reality, to create a more immersive and engaging learning environment. This would allow educators to better understand how to leverage these tools for maximum educational impact.

Conclusion

These findings contribute significantly to an understanding of primary school students' preferences towards their learning materials for English, indicating that a mix of conventional and technological approaches can greatly improve student engagement, motivation and achievement. Related Research This research reveals that the younger students are more interested in interactive and visual learning methods than older students, who prefer a balance between traditional styles of teaching and digital augmented ones. The use of innovative educational technologies, including holograms and interactive characters can also been seen but implementation is hampered by issues like cost, lack of technical support and inadequate teacher training. These issues need to be solved so that the promise of these technologies for the primary education can be completely exploited. The study recommends for future studies to investigate the impact of these tools on learning success in long period infusing virtual and augmented reality with holograms, intersected together while tutoring session (lesson) had been done which might increase the student's understand ability. Implications The results of the survey point to a pressing need for ongoing teacher training and renewed investment in digital tools that provide more engaging, effective instruction for all students.

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