Research Article

Screen to Speech: Examining the Influence of YouTube Exposure on Preschoolers' Language Development

Dr. Fr. Biju J. Nellissery[1], Moitrayee Barman[2]

[1]Member, Board of Studies, Kannur University and former HOD, Journalism and Mass Communication, Don Bosco College, Angadikadavu,Emial Id: bijujnellissery@donbosco.ac.in
[2]Research Scholar, H. No. 11, Nizara Path, Hengerabari, Guwahati 781036, Assam, India. Emial Id: moitrayee.barman@outlook.com

Abstract

All media are social, but only particular subsets are fundamentally defined as social media because they have the capacity to support user generated content in the form of images, text or video, and provides a mean to connect with one another like Facebook, Instagram, X, YouTube etc. Social media usage has become a new norm for many including children.

Children are the future of this world and it is important to understand how social media is influencing their language development. Language plays an important part in building this relationship. And children language learning ability is impacted by social media especially YouTube.

The age between 1 to 6 years in a child's life is said to be formative years as 50 % of the brain development takes place during this period. Since this is a critical age to learn to communicate and live gregariously in a society, this research will try to understand the impact of YouTube has on the language development. A quantitative study is conducted on children between the age of 2 to 6 years in Guwahati city, Assam with a sample size of 421. The objective of the study is to understand the relationship between the content and duration of watching YouTube videos on preschool children's language development.

Tools for data collection include questionnaires and Language Development Tests which will be filled up by parents and the researcher. The data collected were further statistically analyzed. As a result of this study, it has been found out that the certain content watched in YouTube has statistically significant but weak correlation with the language development of preschool children. However the duration of time spent in watching YouTube has no impact on the language development of preschool children.

Keywords: YouTube, preschool children, Language development, Guwahati city

Introduction

The age between 1 to 6 years in a human life is said to be formative years. Being a key development stage, a stimulating and a conducive environment helps in the child's overall cognitive, physical and social development.

Previous researches have shown considerable increase in the screen time of preschool children. Several factors contribute to this fact like introduction of smart phones and less number of children in our families now and reduction of available play area (Lee et al., 2015) . As per the last Ofcom report 2025, 85per cent of preschool children watches YouTube.

Covid 19 and the resulting lockdown which transformed physical classroom style of teaching to online platform is the major contributor to this increase in screen time(John J J et al., 2020) . From 51% in 2019, watching videos on YouTube increased to 89% among children in 2021 (Ofcom report 2022).

Since this is a critical age to learn to communicate and live gregariously in a society, this research had tried to find the impact that watching videos in YouTube have on the language development among preschool children between the age of 2 to 6 years.

2. Statement of the problem

Impact of YouTube on Preschool children' Language development.

2.1 Objective of the study

To study the relationship between content and duration of watching YouTube videos and language development among preschool children.

2.3 Hypothesis

H_0 The content and duration of watching YouTube videos cannot predict the development of language among preschool children.

2.4 Significance of the study.

The purpose of the study is to understand the situation of YouTube usage by preschool children in Guwahati and

also to understand the impact of watching YouTube videos on the language development of preschool children of Guwahati city. This study will be helpful to parents to regulate and channelize this habit in a positive way for the overall development of the children. Such a study will also help schools and educators to guide the parents and also influence the students. Lastly this study will guide the policy makers in making recommendations on the proper way of using this platform by children for their overall development.

3. Literature Review

Methodical review of literature is done for this study and includes study of articles in books, journals, online periodicals, reports, etc., on all the variables of the topic under study and chronologically arranged.

A study was conducted to understand the effects of shared reading on oral (expressive) and comprehension (receptive) language. The study examined 21 studies which involved 1275 children. The results showed that relating books content to child's own experience and positive parent feedback are strongly related to the total language score (Trivette et al., 2010) .

Children learn less from a pre-recorded video than a person talking to them and this phenomenon is called 'video deficit'. Language development rest on positive and nurturing language-based interaction with the adults who care for them which also involves educators (Allen & Kelly, 2015) .

A study conducted by Ndlovu Brightness in 2016 'Child Development', found that young babies pay more attention to human speech than structurally similar non speech words. This research says that girls acquire verbal skills earlier than boys.

Troseth et al., 2019 opined that where a study found that children of different socioeconomic backgrounds exhibit early differences in the efficiency of their language learning. By 24 months, children from fewer resources are already 6 months behind than their more advantaged peers in the processing skills needed for language development.

Some studies have showed that language acquisition is faster among preschool children when they watch animated videos in YouTube. One such research was conducted by a research scholar from Aligarh University, Shaheen Parween. She wrote that children can enrich their vocabulary by watching animated movies in a very short time. According to her research children can take difficult words also easily watching animated videos.

The preschools where storytelling and reading aloud is continuously practiced plays an important role to develop language among children. The result of the study conducted in Sweden showed children could learn language faster and their imagination and knowledge widened which was evident from their play (Brodin & Renbald, 2019) .

One study found that children acquire vocabulary between 2 to 4 years watching YouTube videos created specifically for children who use English language. The number of vocabulary mastered by a child varies depending on the factors of attraction that he/ she sees with the inputs he/she receives (Auliya et al., 2019)

Y. Farahsani et al. (2020) proved that children learn unconsciously from YouTube since they are good imitators. When they watch YouTube they imitate the songs, words and slowly start learning the language.

Similar result was found in another study, at Ihya Al-Ulum Kindergarten, carried out in Makasaar city in 2022. It was found that the mean score of preschool children in posttest is greater than their mean score in prestest. The researcher concluded that YouTube kids can foster vocabulary mastery among preschool children (Imran et al., 2022)

Building up on the above research, in 2023 another study in Indonesia, tried to find out the impact of YouTube on English vocabulary recognition for preschool children between the age of 5 to 6 years. This research concludes that there is a strong correlation between English vocabulary recognition and YouTube viewing for preschool children between the age of 5 to 6 years (Mahardhika F et al., 2023) .

Contrary to the above findings, a research done in 2024 in Pringgowirawan Village, found negative correlation between language development and the content and duration of time spent on watching YouTube. This study found that higher YouTube watching intensity among preschool children is negatively associated with lower language development score (Ahdaniyad & Yudha, 2024) .

However another study done in 2024 in Indonesia itself, states that YouTube can play an active role in developing communication and imagination among preschool children. In this study, according to parents perspective, YouTube watched by preschool children have significant influence on their communication and imagination. This makes

learning for children enjoyable (Yuliastanti et al., 2024).

Supporting previous researches, which stated that YouTube watching by preschool children help in developing English vocabulary, a recent study in 2025 in Malaysia, finds out that preschool children watching YouTube improves their English vocabulary. This research found that most preschool children watch YouTube between 1 to 3 hours and mostly watch in English language like nursery rhymes, art and craft, educational, gaming, cartoons. Parents reported that by watching YouTube preschool children have improved their English vocabulary, listening comprehension also. The researcher finds that repetition and engaging content in YouTube are perceived as helpful by parents of preschool children (Kusin & Salleh, 2025)

Thus the above studies reveal a mixed result to understand how YouTube videos influence language development among preschool children. While predetermined genetic disposition, storytelling, joint reading of books support preschool children to learn language, most studies finds that limited duration and appropriate content in YouTube can help preschool children to acquire language knowledge. However several studies also noted that YouTube viewing is negatively correlated with language development of preschool children.

3.1 Research Gap

The above elaborate Literature Review have given an idea about the number of researches done on the impact of YouTube on preschool children and their language development. Limited research on this topic is conducted in India. Not single research is done on the impact of YouTube on preschool children in Assam. Assam is the gateway of Northeast India and Guwahati is its main city. The use of smart phones and watching videos in YouTube is also rampant in this part of India. Hence such a study will add to the knowledge pool.

4. Methodology

Descriptive cum Normative survey method is undertaken for this study. The researcher uses the technique of exploration also known as Survey. This design is cross sectional in nature ie., one time field work.

The approach will be quantitative. In this survey method, two questionnaires are used. Since preschool children cannot read and write, these questionnaires are filled up by parents (ICMR, 2017) .

4.1 Area of the study

This study is conducted in Guwahati city, Assam because:

- Guwahati is the capital city and gateway to North East India, an emerging digital hub.
- Maximum number of preschools are situated in Guwahati with highest number of preschool going children.

4.2. Sample selection

An RTI was filed with Guwahati Municipality Corporation to find out total number of preschools operating in Guwahati. As per office memo no. GLS/DZ/2017-18/126/Pt-I dated 25/05/23, there are 91 preschools registered in Guwahati with 9682 students.

All the schools are then alphabetically arranged and 23 schools are selected using Simple Random Sampling method. The researcher approached the schools' management to explain the research objectives and obtain permission to gather information. All the schools agreed for obtaining information

The total number of students in these 23 schools are 3124. The researcher approached 20% of students' parents of the total strength of each school to request to fill up the questionnaire. The total number of questionnaires distributed among parents is 625. The total number of questionnaires returned by parents is 449. Out of 449 questionnaires collected, 421 forms are accepted after data editing and cleaning as per Table 1 of Determining sample size for Research activities (Krejcie & Morgan, 1970) .

Language Development test was filled up by the researcher with the help of their teachers. The researcher administered LDT on those students whose completed questionnaire was selected.

4.3 Data Collection

For data collection, specific date was requested from the selected schools. Parents were requested to come 1 hour prior to exit time of their ward. The researcher explained the questionnaire to the parents and asked them to note down their observation in the forms. They were requested to return the form the next day. The researcher visited the respective schools the next day to answer any query regarding the questionnaires and to receive the completed

forms. Out of 625 forms distributed, the researcher could collect 449. The rest were not returned by the parents. After careful scrutiny (data editing and cleaning) 421 questionnaires were selected for the research.
The LDT was conducted individually on the children. The students were taken individually with their class teacher to a separate room where the researcher build a rapport with them before administering the test.

4.4 Statistical analysis

The following statistical analysis is done for the research:

- Percentage
- Multiple Linear Regression Analysis

5. Results and discussion

5.01 General profile of the preschool children

This table explains the profile of the sample which consist of preschool children between the age of 2 years to 6 years

Table 1: General profile of children

l no	Category	Number	%
1	2 years	33	7.9
	3 years	116	27.5
	4 years	127	30.2
	5 years	121	28.7
	6 years	24	5.7
2	Gender		
	Male	226	53.7
	Female	195	46.3
3	Class		
	Playgroup	35	8.3
	Preparatory	115	27.3
	Nursery	129	30.7
	KG	142	33.7

Following is observed from Table 1:

- Children of 6 years of age represents the lowest age group.
- Children of age group 4 years represent the maximum in the sample.
- There are 53.7% male and 46.3% female subjects among the sample.
- KG class students dominate the highest share with 33.7%.
- Playgroup class represents the lowest share with 8.3% of the sample.

5.2: Percentage of Preschool Children who watches YouTube

This is an important table as it shows how many preschool children watch YouTube from the sample.

Table 2: Percentage of Preschool Children who watches

Sl No	Watch YouTube	N	%
1	Yes	414	98.3
2	No	7	1.6

Following can be inferred from Table 2

- Almost all the preschool students in the sample watch YouTube (97.3%).
- Only 2.6% preschool students do not watch YouTube.

5. 3: Content watched by Preschool Children in YouTube

This table shows what contents preschool children watch. It is usually more than one kind of content that preschool children watch in YouTube

Table 3: Content watched by Preschool Children in YouTube

Sl No	Options	N	Yes (%)
1	Only animated Nursery Rhymes	245	41.8
2	Art and craft DIY videos	163	38.7
3	Favourite cartoon character	280	66.5
4	Musical videos	200	47.5
5	Animated stories that teach moral values	147	34.9
6	Dance videos	169	40.1
7	Unboxing videos	30	7.1
8	Gaming videos	109	25.9
9	Cooking for kids video	66	15.7
10	Animated mythological stories	60	14.3
11	Gardening videos	22	5.2
12	Animal videos	154	36.6
13	Exercise videos	46	10.9
14	Videos with violence	11	2.6
15	Whatever recommended by YouTube	38	9.0

The researcher can observe the following from the Table 3:

- The most popular content for preschool children to watch in YouTube is Favourite Cartoon Character (66.5%).
- It is followed by Musical videos (47.5%) and Only animated Nursery rhymes (41.8%).
- The least popular content among preschool children are Unboxing video (7.1%), Gardening Videos (5.2%) and Video with violence (2.6%)

5. 4: Duration of time spent on watching YouTube by Preschool children

This is another important table that shows the amount of time preschool children spent watching YouTube each day

Table 4: Duration of time spent on watching YouTube by Preschool children

Sl No	Duration	N	%
1	Less Than 1 hr	194	46.8
2	1-2 hrs	178	42.9
3	3-4 hrs	27	6.5
4	More than 4 hrs	2	0.4
5	Not aware	13	3.1

The researcher can infer the following from Table 4

- Maximum of preschool children watch YouTube for less than 1 hr (46.8%).
- It is closely followed by 1-2 hrs (42.9%).
- Fewer preschool children watch mobile for more than 4 hrs (0.4%).
- 3.1% parents or caregiver are not aware of how much time their preschool children watch YouTube.

5.5 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Following directions score of LDT.

The following table shows if duration of watching different content in YouTube by preschool children can predict their Following directions score of Language development test

Table 5: Multiple Linear Regression analysis (MLRA) of content and duration and Following Direction skill of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration	Following direction	0.07	0.01	1.04	0.35	-0.07	-1.44	0.00	-0.04
Art and craft DIY videos			0.01	0.00	0.03	0.97	0.01	0.22	0.00	0.08
Favourite cartoon character			0.06	0.00	0.81	0.45	0.06	1.27	0.00	-0.01
Musical videos			0.08	0.01	1.41	0.25	0.08	1.68	0.01	0.13
Animated stories that teach moral values			0.06	0.00	0.83	0.44	0.06	1.29	0.00	0.02
Dance videos			0.01	0.00	0.04	0.96	0.01	0.27	0.00	0.09
Unboxing videos			0.02	0.00	0.12	0.89	0.02	0.48	0.00	0.06
Gaming videos			0.01	0.00	0.04	0.96	-0.01	-0.28	0.01	0.10
Cooking for kids video			0.04	0.00	0.29	0.75	0.04	0.75	0.00	0.04

Animated mythological stories			0.04	0.00	0.26	0.78	0.04	0.71	0.00	0.04
Gardening videos			0.02	0.00	0.09	0.92	0.02	0.41	0.00	0.07
Animal videos			0.07	0.00	0.91	0.40	0.07	1.35	0.01	0.18
Exercise videos			0.03	0.00	0.19	0.83	0.03	0.61	0.00	0.05
Videos with violence			0.02	0.00	0.05	0.96	0.01	0.29	0.01	0.09
Whatever recommended by YouTube			0.03	0.00	0.15	0.86	0.03	0.55	0.00	0.00

The following can be understood from Table 5:

1. R values are very low, between 0.01-0.08, which indicates weak correlation between independent variable of content and duration with the dependent variable of Following directions task of LDT.
2. R^2 values are between 0.00-0.01which means the model explains only 1% of the variance in following directions which is negligible.
3. P value is <0.05 which signifies that none of the models are significantly correlated.
4. F values are small which points out that none of the regression model significantly improve following directions scores.
5. For content and duration, the coefficient b is close to 0 and t values are too small to be significant at 0.05.

Thus, the researcher can conclude that any individual content type with combination of duration does not reliably predict children's following directions performance.

Based on the above table the null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of Language among preschool children.' is accepted as content and duration collectively cannot predict Following direction score of preschool children.

5.6 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Following Prepositions of LDT

The following table shows if duration of watching different content in YouTube by preschool children can predict their Following Prepositions skill score of Language development test.

Table 6: Multiple Linear Regression analysis (MLRA) of content and duration and Following Prepositions skill of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Following Prepositions	0.08	0.01	1.45	0.26	-0.08	-1.63	0.02	0.34
Art and craft DIY videos			0.04	0.00	0.30	0.74	0.03	0.60	0.02	0.49
Favourite			0.04	0.00	0.38	0.69	0.04	0.72	0.02	0.43

cartoon character										
Musical videos			0.05	0.00	0.56	0.57	0.05	0.94	0.03	0.51
Animated stories that teach moral values			0.03	0.00	0.20	0.82	0.02	0.42	0.02	0.46
Dance videos			0.03	0.00	0.18	0.84	-0.02	-0.36	0.02	0.47
Unboxing videos			0.04	0.00	0.26	0.77	0.03	0.55	0.02	0.46
Gaming videos			0.02	0.00	0.12	0.89	0.00	0.03	0.02	0.48
Cooking for kids video			0.05	0.00	0.47	0.62	0.04	0.85	0.02	0.43
Animated mythological stories			0.04	0.00	0.31	0.73	-0.03	-0.63	0.03	0.51
Gardening videos			0.03	0.00	0.22	0.80	0.02	0.46	0.02	0.47
Animal videos			0.04	0.00	0.26	0.77	0.03	0.54	0.03	0.52
Exercise videos			0.04	0.00	0.35	0.70	0.03	0.69	0.02	0.45
Videos with violence			0.03	0.00	0.18	0.84	0.02	0.36	0.03	0.50
Whatever recommended by YouTube			0.04	0.00	0.28	0.76	0.03	0.58	0.02	0.40

The following can be understood from Table 6

1. R values are very low, between 0.02-0.08, which indicates weak correlation between independent variable of content and duration with the dependent variable of Following Prepositions task of LDT.
2. R^2 values are between 0.00-0.01which means the model explains only 1% of the variance in following

prepositions which is negligible.

3. P value is <0.05 which signifies that none of the models are significantly correlated.
4. F values are small which points out that none of the regression model significantly improve following prepositions scores.
5. For content and duration, the coefficient b is close to 0 and t values are too small to be significant at 0.05.

Thus, the researcher can conclude that any individual content type with combination of duration does not reliably predict children's following prepositions performance.

Based on the above table the null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is accepted as content and duration collectively cannot predict Following Prepositions score of preschool children.

5.7 Multi Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Naming and use of objects of LDT.

The following tables show if duration of watching different content in YouTube by preschool children can predict their Naming and use of objects score of Language development test. There are two parts in this variable. The first part is Naming of objects and the second part is use of objects.

Table 7: Multiple Linear Regression analysis (MLRA) of content and duration and Naming of objects skill of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Naming of objects	0.07	0.01	1.10	0.33	-0.01	-0.18	-0.07	-1.48
Art and craft DIY videos			0.10	0.01	1.85	0.16	0.06	1.24	-0.07	-1.45
Favourite cartoon character			0.10	0.01	1.95	0.14	0.07	1.31	-0.08	-1.56
Musical videos			0.08	0.01	1.41	0.24	-0.04	-0.81	-0.07	-1.50
Animated stories that teach moral values			0.07	0.01	1.11	0.33	-0.01	-0.02	-0.07	-1.46
Dance videos			0.12	0.01	3.02	0.05	-0.10	-1.96	-0.08	-1.55
Unboxing			0.09	0.01	1.53	0.22	0.05	0.94	-	-

videos									0.05	1.50
Gaming videos			0.12	0.02	3.14	0.04	0.10	2.02	-0.08	-1.61
Cooking for kids video			0.07	0.01	1.12	0.33	-0.01	-0.27	-0.07	-1.46
Animated mythological stories			0.17	0.03	6.20	0.00	-0.16	-3.19	-0.06	-1.32
Gardening videos			0.08	0.01	1.28	0.28	-0.03	-0.62	-0.07	-1.45
Animal videos			0.09	0.01	1.62	0.20	0.05	1.03	-0.07	-1.40
Exercise videos			0.08	0.01	1.44	0.24	-0.04	-0.85	-0.07	-1.44
Videos with violence			0.08	0.01	1.19	0.31	0.02	0.46	-0.07	-1.45
Whatever recommended by YouTube			0.09	0.01	1.59	0.21	-0.05	-1.01	-0.07	-1.32

The following can be explained from Table 7

1. The p value of Dance videos, gaming videos and animated mythological stories is >0.05 which signifies that the combination of these content type with duration is significantly correlated to the naming of objects score of preschool children.
2. The R value of the above mentioned content type ranges from 0.12-0.17 which is weak but statistically significant.
3. R^2 value is between 0.01-0.03 which points out that the model explains only 1% -3% of the variance in naming of objects which is negligible.
4. F value ranges from 3.02 to 6.20 which points out that the above mentioned predictors marginally predict naming of objects score.
5. The negative b and t value of dance and animated mythological videos points out that such contents if watched for longer duration leads to less score in naming objects.
6. However, b and t value of gaming content is positive which points that watching gaming videos can marginally improve naming of objects score but if watched for longer duration leads to less score in the same as the b and t of duration is negative.
7. The p value of rest of the content type is <0.05 which signifies that the models are not statistically significant.

Thus, the researcher can conclude that certain individual content type with combination of duration can predict

children's Naming of objects performance.

Based on the above table the global null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is rejected as certain content and duration collectively predict Naming of objects score of preschool children.

However, for relationship between the remaining content types and duration with their ability to name objects which are statistically not significant, the null hypothesis cannot be rejected.

5.8 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Identification and naming of objects of LDT.

The following tables show if duration of watching different content in YouTube by preschool children can predict their Identification and naming of objects score of Language Development Test. There are two parts in this variable. The first part is Identification of objects and the second part is Naming of objects.

Table 8: Multiple Linear Regression analysis (MLRA) of content and duration and Identification of objects skill of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Identification of object	0.03	0.00	0.14	0.87	-0.03	-0.51	0.00	0.02
Art and craft DIY videos			0.01	0.00	0.04	0.97	0.01	0.26	0.00	0.07
Favourite cartoon character			0.12	0.02	3.16	0.04	-0.12	-2.51	0.01	0.24
Musical videos			0.03	0.00	0.14	0.87	0.03	0.52	0.00	0.08
Animated stories that teach moral values			0.13	0.02	3.70	0.03	-0.13	-2.72	0.01	0.20
Dance videos			0.07	0.01	0.98	0.38	0.07	1.40	0.01	0.12
Unboxing videos			0.06	0.00	0.78	0.46	0.06	1.24	0.00	0.98
Gaming videos			0.06	0.00	0.65	0.52	-0.06	-1.14	0.01	0.14
Cooking for kids video			0.02	0.00	0.07	0.94	0.02	0.36	0.00	0.05

Animated mythological stories			0.05	0.00	0.42	0.66	-0.05	-0.91	0.01	0.12
Gardening videos			0.06	0.00	0.66	0.52	0.06	1.15	0.00	0.03
Animal videos			0.08	0.01	1.18	0.31	0.08	1.53	0.01	0.18
Exercise videos			0.06	0.00	0.84	0.43	-0.06	-1.29	0.01	0.12
Videos with violence			0.08	0.01	1.17	0.31	-0.08	-1.53	0.00	-0.01
Whatever recommended by YouTube			0.03	0.00	0.14	0.87	-0.03	-0.53	0.01	0.14

The following can be explained from Table 8:

1. The p value of favourite cartoon character and animated stories that teaches moral values is >0.05 which signifies that the combination of these content type with duration is significantly correlated to the identification of objects score of preschool children.
2. The R value of the above mentioned content type ranges from 0.12-0.13 which is weak but statistically significant.
3. R^2 value is between 0.02 which points out that the model explains only 2% of the variance in identification of objects which is negligible.
4. F value ranges from 3.16 to 3.17 which points out that the above mentioned predictors marginally predict identification of objects score.
5. The negative b and t value of the above mentioned content points out that watching such contents leads to less score in identifying objects.
6. However, b and t value of duration of watching such content is positive which points that watching favourite cartons and animated stories that teaches moral values videos can marginally improve identification of objects score.
7. The p value of rest of the content type is <0.05 which signifies that the models are not statistically significant.

Thus, the researcher can conclude that certain individual content type with combination of duration can predict children's Identification of objects performance.

Based on the above table the global null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is rejected as certain content and duration collectively predict Identification of objects score of preschool children.

However, for relationship between the remaining content types and duration with their ability to identify objects which are statistically not significant, the null hypothesis cannot be rejected.

5.9 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Action Agent Test of LDT.

The following table shows if duration of watching different content in YouTube by preschool children can predict their Action Agent Test score of Language Development Test.

Table 9: Multiple Linear Regression analysis (MLRA) of content and duration and Action Agent Test of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Action Agent test	0.03	0.00	0.15	0.86	-0.02	-0.48	-0.02	-0.30
Art and craft DIY videos			0.09	0.01	1.56	0.21	0.09	1.75	-0.01	-0.22
Favourite cartoon character			0.11	0.01	2.57	0.08	0.11	2.25	-0.02	-0.41
Musical videos			0.06	0.00	0.68	0.51	-0.06	-1.14	-0.01	-0.29
Animated stories that teach moral values			0.04	0.00	0.40	0.67	0.04	0.85	-0.02	-0.30
Dance videos			0.05	0.00	0.45	0.64	-0.05	-0.92	-0.01	-0.29
Unboxing videos			0.04	0.00	0.40	0.67	0.04	0.85	-0.01	-0.28
Gaming videos			0.09	0.01	1.18	0.18	0.09	1.84	-0.02	-0.38
Cooking for kids video			0.07	0.00	0.93	0.40	0.07	1.34	-0.02	-0.33
Animated mythological stories			0.03	0.00	0.25	0.78	-0.03	-0.65	-0.01	-0.22
Gardening videos			0.04	0.00	0.30	0.74	0.04	0.73	-0.01	-0.28
Animal videos			0.08	0.01	1.35	0.26	0.08	1.62	-0.01	-0.14
Exercise videos			0.06	0.00	0.62	0.54	0.05	1.08	-0.02	-0.30

Videos with violence			0.03	0.00	0.15	0.86	0.02	0.49	-0.01	-0.23
Whatever recommended by YouTube			0.07	0.01	0.94	0.39	-0.07	-1.35	0.00	-0.07

The following can be understood from Table 9:

1. R values are very low, between 0.03-0.11, which indicates weak correlation between independent variable of content and duration with the dependent variable of Action Agent Test of LDT.
2. R^2 values are between 0.00-0.01which means the model explains only 1% of the variance in Action Agent Test score which is negligible.
3. P value is <0.05 which signifies that none of the models are significantly correlated.
4. F values are small which points out that none of the regression model significantly improve Action Agent Test scores.
5. For content and duration, the coefficient b is close to 0 and t values are too small to be significant at 0.05.

Thus, the researcher can conclude that any individual content type with combination of duration does not reliably predict children's Action Agent Test performance.

Based on the above table the null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is accepted as content and duration collectively cannot predict Action Agent Test score of preschool children.

5.10 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Comprehension Test of LDT.

The following table shows if duration of watching different content in YouTube by preschool children can predict their Comprehension Test score of Language Development Test.

Table 10: Multiple Linear Regression analysis (MLRA) of content and duration and Comprehension Test of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Comprehension test	0.09	0.01	1.73	0.18	-0.09	-1.86	0.00	-0.08
Art and craft DIY videos			0.07	0.01	0.93	0.40	0.07	1.36	0.01	0.11
Favourite cartoon character			0.08	0.01	1.21	0.30	0.08	1.56	0.00	-0.03
Musical			0.08	0.01	1.30	0.27	0.08	1.61	0.01	0.13

videos										
Animated stories that teach moral values			0.07	0.01	1.00	0.37	0.07	1.41	0.00	0.01
Dance videos			0.01	0.00	0.01	0.99	0.01	0.09	0.00	0.08
Unboxing videos			0.02	0.00	0.05	0.95	0.02	0.32	0.00	0.07
Gaming videos			0.10	0.01	2.06	0.13	0.10	2.03	0.00	-0.05
Cooking for kids video			0.06	0.00	0.80	0.45	0.06	1.26	0.00	0.01
Animated mythological stories			0.04	0.00	0.28	0.76	0.04	0.74	0.00	0.04
Gardening videos			0.03	0.00	0.19	0.83	0.03	0.61	0.00	0.06
Animal videos			0.03	0.00	0.18	0.84	-0.03	-0.59	0.00	0.03
Exercise videos			0.09	0.01	1.83	0.16	0.09	1.91	0.00	0.00
Videos with violence			0.05	0.00	0.54	0.59	0.05	1.03	0.01	0.13
Whatever recommended by YouTube			0.05	0.00	0.44	0.47	0.05	0.93	0.00	-0.05

The following can be understood from Table 10:

1. R values are very low, between 0.01-0.10, which indicates weak correlation between independent variable of content and duration with the dependent variable of Comprehension Test of LDT.
2. R^2 values are between 0.00-0.01which means the model explains only 1% of the variance in Comprehension Test score which is negligible.
3. P value is <0.05 which signifies that none of the models are significantly correlated.
4. F values are small which points out that none of the regression model significantly improve Comprehension Test scores.

5. For content and duration, the coefficient b are close to 0 and t values are too small to be significant at 0.05.

Thus, the researcher can conclude that any individual content type with combination of duration does not reliably predict children's Comprehension Test performance.

Based on the above table the null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is accepted as content and duration collectively cannot predict Comprehension Test score of preschool children.

5.11 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Test showing ability to give one's name, age, sex and address of LDT.

The following table shows if duration of watching different content in YouTube by preschool children can predict their Test showing ability to give one's name, age, sex and address score of Language Development Test.

Table 11: Multiple Linear Regression analysis (MLRA) of content and duration and Test showing ability to give one's name, age, sex and address of preschool children

Content	Duration	LDT	R	R^2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Test showing ability to give one's name, age, sex and address	0.03	0.00	0.23	0.80	-0.02	-0.42	0.02	0.49
Art and craft DIY videos			0.09	0.01	1.70	0.18	0.09	1.77	0.03	0.57
Favourite cartoon character			0.11	0.01	2.56	0.08	0.11	2.20	0.02	0.38
Musical videos			0.03	0.00	0.24	0.79	-0.02	-0.44	0.03	0.52
Animated stories that teach moral values			0.03	0.00	0.15	0.86	0.01	0.11	0.03	0.52
Dance videos			0.08	0.01	1.38	0.25	-0.08	-1.58	0.02	0.47
Unboxing videos			0.05	0.00	0.48	0.62	0.04	0.83	0.03	0.50
Gaming videos			0.06	0.00	0.65	0.52	0.05	1.01	0.02	0.46

Cooking for kids video			0.07	0.01	0.97	0.38	0.06	1.29	0.02	0.45
Animated mythological stories			0.04	0.00	0.38	0.68	-0.03	-0.69	0.03	0.57
Gardening videos			0.04	0.00	0.39	0.68	0.04	0.70	0.03	0.51
Animal videos			0.06	0.00	0.62	0.54	0.05	0.98	0.03	0.60
Exercise videos			0.06	0.00	0.69	0.50	0.05	1.05	0.02	0.49
Videos with violence			0.04	0.00	0.28	0.76	0.03	0.53	0.03	0.55
Whatever recommended by YouTube			0.08	0.01	1.20	0.30	-0.07	-1.46	0.04	0.73

The following can be understood from Table 11:

1. R values are very low, between 0.03-0.11, which indicates weak correlation between independent variable of content and duration with the dependent variable of Test showing ability to give one's name, age, sex and address of LDT.
2. R^2 values are between 0.00-0.01which means the model explains only 1% of the variance in Test showing ability to give one's name, age, sex and address score which is negligible.
3. P value is <0.05 which signifies that none of the models are significantly correlated.
4. F values are small which points out that none of the regression model significantly improve Test showing ability to give one's name, age, sex and address scores.
5. For content and duration, the coefficient b are close to 0 and t values are too small to be significant at 0.05.

Thus, the researcher can conclude that any individual content type with combination of duration does not reliably predict children's Test showing ability to give one's name, age, sex and address performance.

Based on the above table the null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is accepted as content and duration collectively cannot predict Test showing ability to give one's name, age, sex and address score of preschool children.

5.12 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Test showing ability to distinguish AM, PM, right and left concept of LDT.

The following table shows if duration of watching different content in YouTube by preschool children can predict their Test showing ability to distinguish between AM, PM, right and left concept score of Language Development Test.

Table 12: Multiple Linear Regression analysis (MLRA) of content and duration and Test showing ability to distinguish between AM, PM, right and left concept of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Test showing ability to distinguish A.M, P.M, right and left concept	0.02	0.00	0.07	0.93	0.02	0.36	0.01	0.15
Art and craft DIY videos			0.05	0.00	0.49	0.62	0.05	0.98	0.01	0.14
Favourite cartoon character			0.15	0.02	4.59	0.01	0.15	3.03	0.00	-0.09
Musical videos			0.03	0.00	0.14	0.87	0.03	0.51	0.01	0.14
Animated stories that teach moral values			0.06	0.00	0.84	0.44	0.06	1.29	0.00	0.06
Dance videos			0.04	0.00	0.27	0.77	-0.04	-0.72	0.01	0.10
Unboxing videos			0.05	0.00	0.44	0.64	0.05	0.93	0.01	0.09
Gaming videos			0.09	0.01	1.71	0.18	0.09	1.86	0.00	0.00
Cooking for kids video			0.01	0.00	0.01	0.99	0.00	0.04	0.01	0.12
Animated mythological stories			0.04	0.00	0.27	0.77	-0.04	-0.72	0.01	0.16
Gardening videos			0.03	0.00	0.17	0.84	0.03	0.57	0.01	0.10
Animal videos			0.04	0.00	0.28	0.76	0.04	0.73	0.01	0.18
Exercise videos			0.01	0.00	0.04	0.96	-0.01	-0.27	0.01	0.13
Videos with violence			0.05	0.00	0.49	0.62	0.05	0.98	0.01	0.17
Whatever recommended by YouTube			0.07	0.00	0.91	0.40	-0.07	-1.34	0.02	0.31

The following can be explained from Table 12:

1. The p value of favourite cartoon character is >0.05 which signifies that the combination of this content type with duration is significantly correlated to the Test showing ability to distinguish AM, PM, right and left concept score of preschool children.
2. The R value of the above mentioned content type is 0.15 which is weak but statistically significant.
3. R^2 value is between 0.02 which points out that the model explains only 2% of the variance in Test showing ability to distinguish AM, PM, right and left concept which is negligible.
4. F value is 4.59 which points out that the above mentioned predictor marginally predict Test showing ability to distinguish AM, PM, right and left concept score.
5. The b and t value of Favourite cartoon character is 0.15 and 3.03 respectively which means controlling the duration, one unit increase in the content score is associated with 0.15 increase in the above mentioned test score.
6. However, b and t value of duration of watching such content is 0.00 and 0.09 which points out that there is no linear effect on the above mentioned test score.
7. The p value of rest of the content type is <0.05 which signifies that the models are not statistically significant.

Thus, the researcher can conclude that certain individual content type with combination of duration predict children's Test showing ability to distinguish AM, PM, right and left concept performance.

Based on the above table the global null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is rejected as certain content and duration can collectively predict Test showing ability to distinguish AM, PM, right and left concepts score of Preschool children.

However, for relationship between the remaining content types and duration with their ability to distinguish AM, PM, right, left concept which are statistically not significant, the null hypothesis cannot be rejected.

5.13 Multiple Linear Regression analysis (MLRA) of content and duration of watching YouTube by preschool children and Indicating parts of body of LDT.

The following table shows if duration of watching different content in YouTube by preschool children can predict their Indicating parts of body score of Language Development Test.

Table 13: Multiple Linear Regression analysis (MLRA) of content and duration and Indicating parts of body of preschool children

Content	Duration	LDT	R	R2	F	Sig (p)	Content		Duration	
							B	t	B	t
Only animated Nursery Rhymes	Duration between less than 1 hour to 4 hours	Indicating the parts of the body	0.05	0.00	0.44	0.47	-0.04	-0.90	0.01	0.19
Art and craft DIY videos			0.08	0.01	1.28	0.28	0.08	1.58	0.02	0.30
Favourite cartoon character			0.09	0.01	1.70	0.18	0.09	1.83	0.01	0.14
Musical videos			0.01	0.00	0.04	0.96	-0.01	-0.10	0.01	0.26

Animated stories that teach moral values			0.02	0.00	0.04	0.96	-0.01	-0.13	0.01	0.27
Dance videos			0.03	0.00	0.17	0.84	-0.03	-0.52	0.01	0.25
Unboxing videos			0.04	0.00	0.35	0.71	0.04	0.79	0.01	0.24
Gaming videos			0.08	0.01	1.41	0.23	0.08	1.65	0.01	0.16
Cooking for kids video			0.06	0.00	0.79	0.45	0.06	1.23	0.01	0.20
Animated mythological stories			0.05	0.00	0.41	0.66	-0.04	-0.87	0.02	0.31
Gardening videos			0.04	0.00	0.26	0.77	0.03	0.67	0.01	0.25
Animal videos			0.04	0.00	0.31	0.73	0.04	0.74	0.02	0.32
Exercise videos			0.05	0.00	0.53	0.59	0.05	1.00	0.01	0.23
Videos with violence			0.03	0.00	0.15	0.86	0.02	0.48	0.01	0.29
Whatever recommended by YouTube			0.14	0.02	4.20	0.02	-0.14	-2.89	0.03	0.67

Following can be understood from Table 13:

1. The p value of Whatever recommended by YouTube videos is >0.05 which signifies that the combination of this content type with duration is significantly correlated to the Indicating parts of body score of preschool children.
2. The R value of the above mentioned content type is 0.14 which is weak but statistically significant.
3. R^2 value is between 0.00-0.02 which points out that the model explains only 2% of the variance in Indicating parts of body which is negligible.
4. F value is 4.20 which points out that the above mentioned predictor marginally predict Indicating parts of body score.
5. The b and t value of Whatever recommended by YouTube is -0.14 and -2.89 respectively which means controlling the duration, one unit increase in the content score is associated with 0.14 decrease in the above mentioned test score.
6. However, b and t value of duration of watching such content is only 0.03 and 0.67 respectively which points out that there is no linear effect on the above mentioned test score.
7. The p value of rest of the content type is <0.05 which signifies that the models are not statistically significant.

Thus, the researcher can conclude that certain individual content type with combination of duration predict children's Indicating body parts performance.
Based on the above table the global null hypothesis, 'The content and duration of watching YouTube videos cannot individually or collectively predict the development of language among preschool children.' is rejected as certain content and duration can collectively predict Indicating parts of body score of preschool children.
However, for relationship between the remaining content types and duration with their ability to identify body parts which are statistically not significant, the null hypothesis cannot be rejected.
Hence the researcher can conclude that any content type watched for any duration of time cannot predict language development among preschool children. Only a handful of content type when watched for longer duration can impact language development but the correlations are very weak.

6. Discussion of the result

6.1: Implication of the study

The following are the implications that this research findings will have on the stakeholders.
Parents and caregivers
Certain contents in YouTube can positively predict language skill development in preschool children. Such contents can be used by parents to teach preschool children language and social skill.
Content creators
Content creators can use nursery rhymes, favourite and popular cartoon characters to make content for preschool children which will entertain and teach preschool children language skill.
Preschools
YouTube is a good medium to teach preschool children when watched in moderation and choice of content is appropriate. Preschools can recommend and teach the proper usage of this medium to take the best benefit out of it.

7. Limitation of the study

1. The present study is limited only to the language development skill aspect of preschool children. Further study can be extended to development of social skills and problem behaviour of preschool children.
2. The study is only about the impact of YouTube on preschool children behaviour. There are many social media platforms which can be studied to understand their influence on preschool children.
3. The study is confined to the impact of YouTube on preschool children. This study can further spread out to understand the impact in adolescents also.
4. Social desirability bias had a minor impact on parents, encouraging them to underreport in certain cases.

8. Conclusion

This study aimed to examine the impact of preschool children watching YouTube on their language skills. Based on the data analyzed, there is a statistically significant but weak correlation between preschool children's habit of watching YouTube and their language skills. The researcher can conclude that YouTube is not yet a strong medium for learning language skills. Traditional methods like face-to-face interaction, play-based activities, and storytelling cannot yet be replaced by YouTube to develop language skills.
However, YouTube can add a new dimension to learning language skills alongside traditional methods.

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