

“Learning Phonics by Young ESL Learners – Leapfrog Cartoon Vs Teacher-Centered Teaching”

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Abstract

Since it is very hard to learn the phonic sounds of the alphabetic letters for a second language learner, and as a kid, which is essential for their learning skill in English, this research may be helpful to compare an easier and a quicker way to acquire the sounds. In Sri Lanka, the teaching process is predominantly teacher-centered and at times it is done through educational videos. This research shows how effective and interesting the cartoons are in helping to learn phonics with ease in a very short term. This is a research conducted to compare how quick and effective the learning process is through the Leapfrog cartoon than teacher-centered teaching. The sample student groups are from a kindergarten school in Colombo, Sri Lanka. 8 students were taken for the research, the age ranged from 2-3. The students were divided into two groups, four in each. The duration of the study was for 10 sessions with one and a half hour each. In each session, Group A was taught phonics by their teacher through chalk and board system, posters etc. other than videos. Group B was taught only through leapfrog cartoon. Limitations were, teaching alphabet phonics was conducted once a week twice at each session, and was taught in the morning just after their prayers so that the kids will be fresh and ready to learn and not distracted. The performance of the two student groups was evaluated using CBM: Curriculum-based measure is a norm-based tool for measuring an aspect of literacy, CBM-LSF: Curriculum-based measure for collecting data on a student's ability to match a letter to its sound given to them at the end of each session. The results were used to determine whether the intervention, the use of the Leapfrog cartoon, is effective in improving the learning of phonics. The classroom observations indicated that the students in Group B were more motivated and interact more in the class than the other group.

Keywords: Second language learner, teacher-centered, intervention, motivated, interact

Introduction

In Sri Lanka, teaching is predominantly taught by teachers and there is a negative thought behind all the teachers and parents that the television has a negative benefit for the children. But some busy parents let their children to watch television so that they won't be troubling them at their work. When you look into television there are two types: one is entertainment television and the other is educational television (EdTV). This research is concerned on to EdTV whereas this is underutilized resource among parents as well as in schools.

Many recent researches consider that there is a valid construct to measure the benefits of watching TV, as “this topic is based on total television viewing time to content-specific studies” (Breslin, 2006, p.109) to differentiate educational and entertainment viewing (Kirkorian, et al., 2008). And also EdTV has shown development in literacy skills (Penuel, et al., 2012). Since televisions are found nearly in all Sri Lankan houses and audio equipment are given by the government to schools, educational programs should be used as an instrument for teaching that would be interesting for the students. Most of the educational programs are designed for children at their early learning age which is from 3 to six years.

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Griffith and Olson (1992) says that “insight that words are composed of smaller units (i.e., phonemes) may be difficult for some children to grasp because phonemes are very abstract units of language” (p.516) as phonemic learning skills are the base for reading success (Hulme, et al., 2002), they are essential concepts that need to be learned as early as possible in a child’s reading development process. Moreover the acquisition of reading has positive relation with a child’s outcome in its academic future (Cunningham & Stanovich, 1997). Castles and Coltheart (2004) says that letter-sounds and letter-names “will be at least as good, or better predictor of subsequent reading and spelling achievement than phonemic on its own” (p.105). As in the modern world, the educational programming targets specific skills lead to successful reading abilities. The EdTV’s role has increased by giving importance to learning skills. This would help to increase learning skills of the children with active participation.

Purpose of the Study

Schools are the base for student learning; effective learned skills should be taught and implemented. Since this is a study made in Sri Lanka, there is a huge barrier to academic success in English, as the English Language Learner (ELL) students have difficulty learning to read as most of the children speak their mother tongue which is not English, and even though they speak in English, that is not their mother tongue. Students with a home language other than English are less likely to learn early language skills. As to overcome this problem the need is to teach the basic skills to children when they are young as possible.

The purpose of this research is to compare the effectiveness of learning phonics through the “**Leapfrog**” cartoon and “**Teacher centered teaching**”. Students of the experimental group watched the Leapfrog “Letter Factory” to see if the video helped the skills to identify letter-sound correspondence, while the other controlled group was taught by the teacher. The independent variable was the number of cartoon sessions that was viewed and taught. The dependent variable was defined as positive improvement in naming the sound of the letters.

Research question

Is there a significant difference in the experimenting group students’ letter-sound correspondence skills exposure to the cartoon video compared to the controlled group of students?

In this study, both the groups’ results were monitored.

Hypothesis of this research

At the end of the 10th session the target group which is the experimenting group’s letter-sound correspondence will be higher than the control group.

Limitations

Factors such as teaching styles, ethnicity, English proficiency, are not measured even though each they would have an impact, this is the limitation in this study. Another crucial limitation of this study is measuring the degree to which the video is properly implemented in participating schools. Availability of staff motivation and supervision and an environment without distractions are possible confounding variables.

Definitions

CBM: Curriculum-based measure is a norm-based tool for measuring an aspect of literacy.

CBM-LSF: Curriculum-based measure for collecting data on a student’s ability to match a letter to its sound.

EdTV: Educational television is a specific format of television that is designed using empirical evidence to create programs that merge an interesting narrative with educational content to maximize learning for children between ages 3 to 6 years old. Other programming exists, but these defined criteria are the scope of this review.

Literature Review

Educational television (EdTV) helps children to acquire reading skills (Linebarger, et al., 2004). Ages between three and five associates with positive effects in learning when associated with exposure to EdTV (Zimmermann & Christakis). This is the age span when children develop “ability to accurately perceive and interpret televised presentations [and this] appears to be a function of experience and cognitive development” (Corder-Bolz, 1982, p. 92).

More than 30 years of research shows that EdTV helps children over three years old may facilitate learning and predict positive future academic outcomes (Fisch & Truglio, 2001). Panuel et al., (2012) in their research had found that supplementing preschool curriculum with clips of well-designed EdTV programs had a positive effect on children's' learning skill development. Many researches show that EdTV helps in gaining cognitive benefits. Anderson & Hanson (2009) regard the content and type of media as that is more important than the amount of time that is viewed. This is an important element in studies which indicates that viewing "educational TV is linked positively with academic achievement; [while] viewing entertainment TV is linked negatively with achievement" (Schmidt & Vandewater, p. 63, 2008). Most people misunderstand EdTV to entertainment television. The Ed TV should have positive components for the academic outcomes and it should stimulate viewers to interact and absorb content. To learn, a student must be motivated to interact with a subject to construct knowledge (Kuhn, 2007) and this principle applies to EdTV as well (Linebarger & Piotrowski, 2010).

The narrative structure of EdTV helps, the characters interact positively with reading material in the form of letters and words, (Penuel et al., 2012) making literacy skills more readily accessible (Linebarger & Piotrowski, 2010). This positive interaction with letters and words by the characters reinforces the value of reading for viewers. Replaying episodes or segments increases both the frequency and opportunity to engage with learning content (Kirkorian, Wartella, & Anderson, 2008). EdTV lets the viewers to continue to have positive reading messages reinforced while learning or practicing reading skills.

Theories Related to Television Learning

There are many theories developed to state the potential of television programming. But only the following theories will be used for this study.

1. **Social cognitive theory** is used to explain how television helps in learning. Children learn easily from both observation and interesting characters on television when programming involves skills that student-viewers want to emulate (Bandura, 2001). Moreover, children need to see aspects of them in an educational program. Smith (2002) in his research outlined traits of Bandura's model that have been successful in educational programming in different countries. An educational program will be successful if the needs are incorporated a broad or specific societal traits that are recognizable to the viewer. In addition to that characters have to be developed from one of three templates: characters whose behavior shows positive results; a negative character whose actions have adverse consequences; or a transitional character that sees the value of changing his or her behavior. These characters have been seen in almost all the EdTV programs that facilitate the learning potential.

2. **Capacity Model Theory** posits that an educational program needs to combine with narration as well as with the educational content as much as possible to decrease the strain on working memory (Fisch, 2004). Working memory may be impacted by the amount of visual and auditory stimuli the viewer needs to process. This model has two other important constructs: the processing of narrative, and the processing of educational content. Any distance between the narrative and content decreases the educational effectiveness of the program. In other words, a program whose educational message is unrelated to the story will have a high cognitive load since the viewer has to expend more processing energy making the necessary connections between the narrative and content. Moreover, children must learn to interpret the formal features (i.e., camera zoom) of television that "maintain attention, mark important content, and transmit meaning" (Van Evra, 2004, p. 38).

3. **Other Learning Theories** Dual Coding Theory, developed initially by Allan Paivio while researching bilingual processing (Ryu, Lai, Colaric, Cowley and Aldag, 2000) has been described as "one of the most influential theories of cognition this century" (Marks, 1997, p. 432). While this theory was not developed to explain the learning potential of EdTV, its premises may help explain the cognitive underpinnings that facilitate memory and learning when language and images are combined educationally. The verbal coding system deals with the different form of language, while the nonverbal imagery code renders, "nonlinguistic objects and events in the form of mental images"(Sadoski, 2009, para3). A Sadoski (2009) report that verbally encoded information, which strongly relates to mental imagery, is easier to remember than more abstract concepts. Thus the concept "steaming coffee" is easier to remember than the concept "truth." Therefore, the combining of the verbal code in the form of letters, sounds and words with mental imagery in the form of EdTV should facilitate better memory and learning in viewers.

Methods

Participants

Participants were students from a kindergarten in Colombo 6, Sri Lanka, who have just started to learn English. The students' primary language was Tamil and between the ages of two & three. Group A & B were equally divided with one two year old student and three, three years old students. The students were grouped into two named as A & B. The students were named in the alphabetical order.

Group A (control group) – A, B, C & D

Group B (experimental group) – E, F, G & H

Design

SPS (Statistical Package for the Social Sciences) design was used for this study to compare the effectiveness of acquiring the letter- sound.

The independent variable was the number of Leapfrog video viewings for Group B & number of teacher-centered lessons for Group A. The depended measures included the student's scores on CBM and CBM-LNF.

Instruments

Curriculum based measure used as the CBM's from AIMS Web were used for this study. SPS was used for analysis of the comparison of the effectiveness of letter sound correspondence acquisition. Leapfrog Video was used and it is a thirty-five minute, animated cartoon in which characters explore the names and sounds of the English alphabet. The video uses many elements found to generate learning in educational programming. The learning content (alphabet sounds) is a key aspect of the story's narrative. The main character is a little boy named "Tad" who young viewers will identify with because he wants to learn his letters and sounds. The video also introduces the alphabet incrementally, and then repeats exposure to the letters for review and as a check for understanding. Specifically, after a set of five to six letters, the letter names and sounds are reviewed using song and humor. At the end of the video, all of the letter names and sounds are reviewed with a song. The letters talk and each one have a unique mnemonic device to assist the viewer in remembering the letter sound. Teacher-centered teaching was used by introducing the alphabet sounds from A-Z and was repeated in every session.

Procedures

This experiment was conducted in a kindergarten school in Colombo 6, Sri Lanka. Almost same age students were taken and they were not introduced alphabets before so that the learning effectiveness results will be reliable. To pursue this research a consent letter from the director of the school and from the parents were taken. Groups were divided as four students in each. The sessions were in morning just after their prayers for one and a half hour, where Group A was taught by the teacher only once using chalk and boards, wooden alphabet coloured letters, bristle board & alphabet name cards. Whereas group B was shown only Leapfrog cartoon once during each session. After they were taught and watched the video, each student was administered individually using CBM. The results were taken down.

Data Collection

Each student's mastery in the letter-sound correspondence was taken down individually. Each session's data was collected and saved.

Data Analysis

The data sets were the types of CBM mastery: Letter-sound fluency, the data was taken down in a chart. And then the data was analyzed using SPS to find the effectiveness of the teaching method to be used. Below given is the initial data chart that was taken.

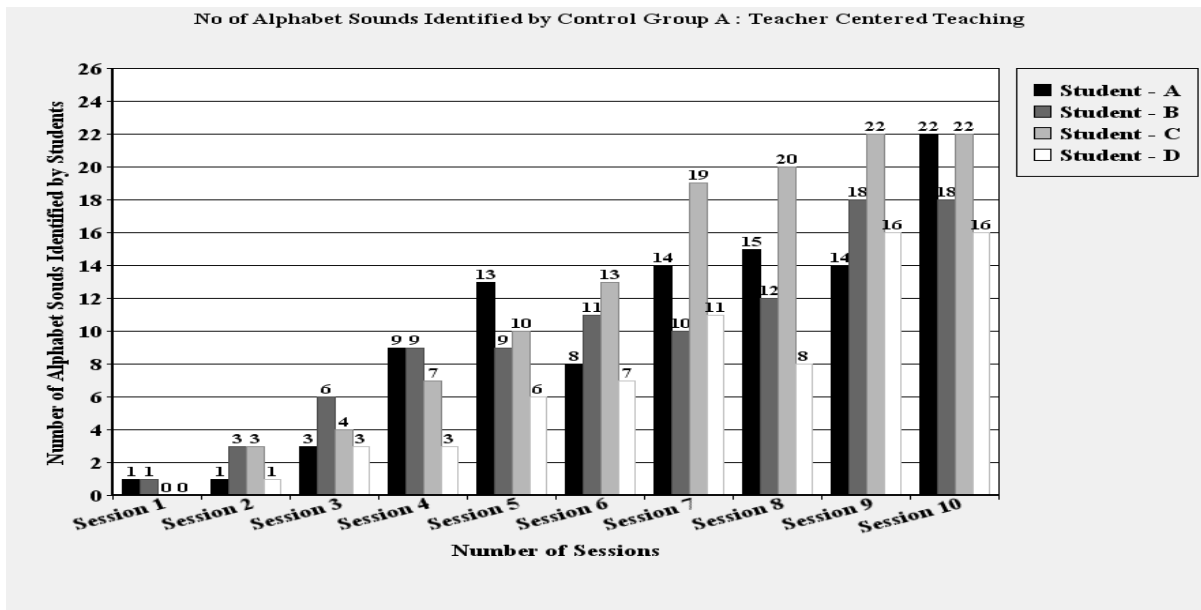
No of sessions	No of alphabet sounds identified	Control Group A				Experimental Group B			
		Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H
1		1	1	-	-	-	2	-	-
2		1	3	3	1	2	3	1	2
3		3	6	4	3	7	9	8	7
4		9	9	7	3	10	13	13	10
5		13	9	10	6	13	16	14	13
6		8	11	13	7	15	17	17	19
7		14	10	19	11	18	22	23	20
8		15	12	20	8	20	25	20	23
9		14	18	22	16	23	24	21	25
10	20	18	22	16	23	24	21	25	
Highest No of sounds Acquired by each student	20/26	18/26	22/26	16/26	23/26	25/26	21/26	25/26	

Results

This study was to compare the effectiveness of learning through teacher-centered teaching and the Leapfrog video with the use of SPS method. After the 10th which was the last session, data was analyzed first group by group and then both the groups were compared by listing the highest number of letter-sound correspondence identification by the students acquired from all ten sessions to find the effective method for learning.

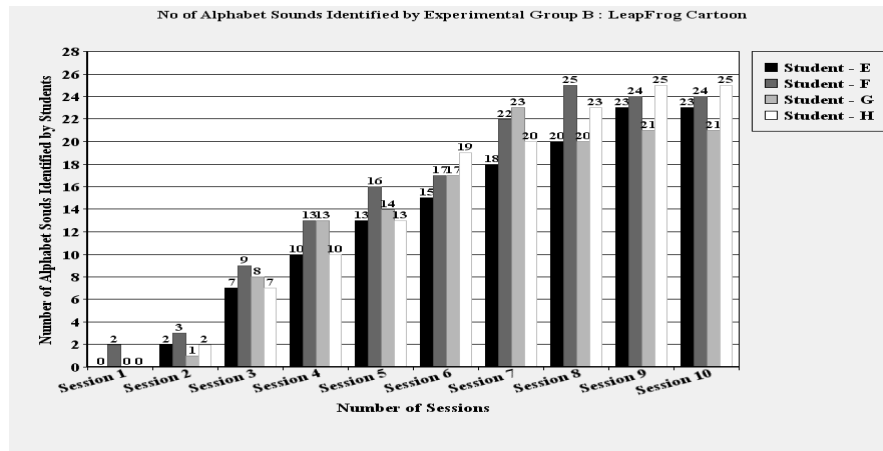
Below charts shows the number of letter-sound acquired by each student in each session.

Chart 1



The above bar chart shows each student's acquisition of alphabetical sounds in session from Group A. The first session shows that only two students were able to achieve only one sound each and the achievement is developed throughout till the at the end of the session as they were able to achieve 22 sounds of the alphabets.

Chart 2



The above bar chart shows each student’s acquisition of alphabetical sounds of Group B’s all ten session. The first session shows that only one student was able to achieve only two sounds and the achievement is developed suddenly from the 3rd session almost achieved the target during their from the 7th session onwards. It is clearly shown that the minimum number of sounds that is 20 has been achieved by two students and the others with more.

Table below shows the highest number of sounds identified by each student from both groups to compare the efficiency of learning phonics.

Table 1: Comparative Analysis of Achievement of the Highest Number of Sounds Acquired by each Students from Group – A and Group – B

Control Students	Group	Highest Number of Sounds Acquired by each Students*	Experimental Group	Highest Number of Sounds Acquired by each Students*
A		20	E	25
B		18	F	25
C		22	G	21
D		16	H	25

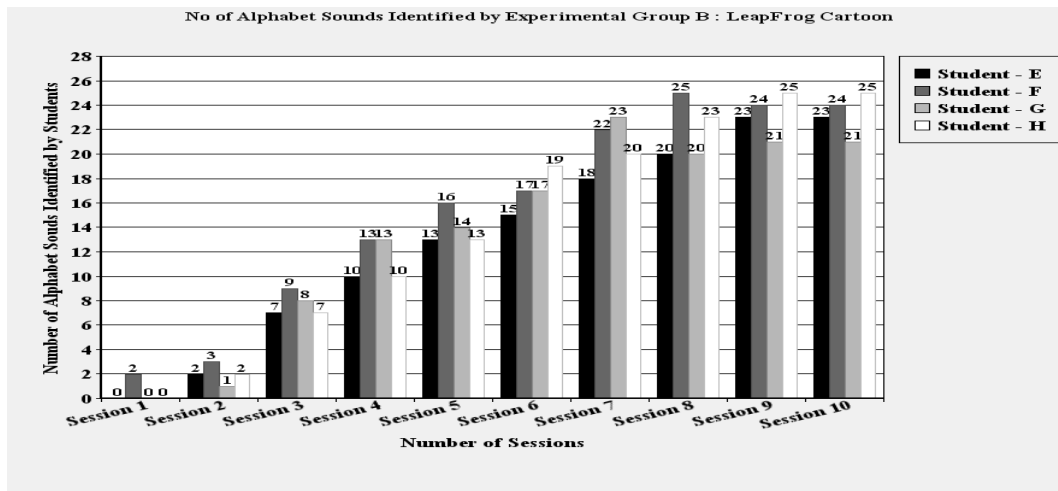
Source: Collected Data

*: Out of 26 Alphabets

The table above shows that the experimental group shows more positive learning of phonics through the video as the highest number of achievement of acquiring 25 sounds by three students and the least was 21 sounds by one student from all the ten sessions. The control group’s achievement level is lower than the experimental group as the highest number of sounds acquired is 22 by only one student and the lowest of 16 sounds which is also achieved by one student.

Conclusion

When looking at the data findings it is clear that even though they are exposed to the video once a week, learning through Leapfrog cartoon has showed more effective way of learning phonics than teacher-centered teaching. Not only that the experience while experimenting showed that students were more interactive while learning through the video. This research is carried out to compare the teaching method and the finding shows that the children are much interested and are positive in learning through modern technology too.



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