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Impact of Amateur Educational Video Viewing on Language Acquisition of Preschool Children

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Impact of Amateur Educational Video Viewing

on Language Acquisition of Preschool Children
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BY

Jennifer L. Radcliffe

THESIS

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Impact of Amateur Educational Video Viewing on

Language Acquisition of Preschool Children

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ABSTRACT

Child language-learning is a complex process that varies for each individual child. Researchers have found that children learn from viewing professional television programs specifically designed for children, such as *Sesame Street*. Professional television programming principles can be adopted to produce amateur educational videos. Video may also be a viable option to provide repetitive models to improve vocabulary acquisition within speech-language pathology. The purpose of this study was to measure the effect of direct stimulation with amateur educational videos on a child's general and specific vocabulary acquisition.

A six-week experiment included an initial two-week control period, a two-week experimental period involving amateur educational video viewing, and finally, a second two-week control period. During the experimental period, the children were separated into two groups, a one-time viewing group and a repeated viewing group. At the end of each two-week period, general and specific vocabulary skills were assessed. The children were tested individually for general vocabulary skills using the Peabody Picture Vocabulary Test - Revised (PPVT-R), Forms L and M. Specific vocabulary knowledge was assessed individually using a clinician-designed twenty-five word receptive language assessment based on vocabulary presented in the video.

Analysis of variance repeated measures yielded significant results for specific vocabulary skills at a .005 level of significance. There were no significant differences between the subjects' scores for any of the testing sessions. Results for general vocabulary knowledge were not significant.

These findings support the conclusion that amateur educational video viewing can positively impact specific vocabulary knowledge. The increase in specific vocabulary knowledge following video viewing may be, in part, promoted by these experiences. The results have some implications for speech-language pathology.

1) Video can provide the same stimulation over and over again.

2) Amateur video viewing can increase specific vocabulary acquisition.

3) Amateur video may give clinicians an opportunity to develop their own videos to provide stimulation.

4) Video therapy may be more time and cost effective for both clients and professionals.

DEDICATION

Careful the things you say,

Children will listen.

Careful the things you do,

Children will see.

And learn.

Children may not obey,

But children will listen.

Children will look to you

For which way to turn,

To learn what to be.

Careful before you say,

"Listen to me."

Children will listen.

Stephen Sondheim

from the musical Into the Woods

"Song Finale: Children Will Listen"

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CHAPTER I

Literature Review

Child language acquisition is a complex process that begins the moment a child is born. This process continues through adulthood, as an individual learns new word meanings and complex structures. Language acquisition involves many different stages. According to Sachs (1989), by the end of a child's first year, he/she begins to "behave in ways that seem intentionally communicative" (p. 51). Children achieve this milestone through changes in underlying cognitive abilities and through experiences with others (Sachs, 1989).

By twenty-four months, children engage in spontaneous conversation and topic maintenance (Owens, 1988). According to Rice (1989), children first talk about things they know, such as favorite things, people and activities. Throughout the preschool years, children learn to comprehend more than 14,000 words. These new words are not learned by explicit tutoring, but by encountering new meanings in conversational interactions (Rice, 1989).

Within language-learning, environment plays an important role. There may be some individual differences between children as a result of their linguistic environment (Ingram, 1989). According to Nelson (1995), children learn language in situations. Fostering language in situations such as "getting dressed" or "eating lunch" seems to be an effective naturalistic strategy (Nelson, 1995). When children are deprived of environmental stimulation, the result may be immature or delayed language (Owens,

1988). Language consists of complex skills that emerge from a "child's explorations of the world in a rich social setting" (Rice, 1989).

According to Bohannon and Warren-Leubecker (1989), children are born with a number of linguistic predispositions for learning language. Although every child is born with this language base, the environment must supply each child with the "types of language experience necessary for development" (Bohannon & Warren-Leubecker, 1989, p. 191). Environmental influences and language acquisition work together to promote normal acquisition of language and social interaction. "Language development is viewed as an orderly, although complex, interactive process in which social interaction assists language acquisition and the acquisition of language allows more mature social interaction" (Bohannon & Warren-Leubecker, 1989, p. 191).

Stimulation is a vital part of brain development and language acquisition. Through experience and maturation, brain development is encouraged (Locke, 1993). Neural structures develop in response to experience (Locke, 1993). During the first six or seven years of life, children acquire their native language through linguistic stimulation. This is the period of time when many of the neural pathways are formed for language learning (Locke, 1993).

According to Owens (1988), infants learn best from repeated presentation of the stimulus. "Although a direct conditioning explanation of language development is inadequate, there is a strong indication that modeling, imitation and reinforcement are very central to the learning process" (Owens, 1988, p. 250). Elements of maternal speech that "change to reflect the child's overall language level seem to be the most significant for

later language development" (Owens, 1988, p. 250). Parental interaction with an infant may be the basis of later linguistic developments (Bruner, 1975).

"Children are not limited to direct language input" (Owens, 1988, p. 250). They may be able to learn language from indirect means, such as conversational exchanges between other individuals or television with systematic viewing (Schiff, 1979; Lemish & Rice, 1986). "As children acquire the system of language-based knowledge..., they draw upon the totality of their experiences" (Rice, 1984, p. 178). The order of acquisition for language forms in a preschool child reflects the patterns of underlying cognitive and social growth, as well as learning strategies (Owens, 1988). According to Nelson (1995), children learn language through repeated stimulation, practice and reinforcement. Repeated stimulation provides children with an opportunity to learn novel language.

As a result of research completed by Rice and Woodsmall (1988), findings indicate that children are able to learn something about novel object, action and attribute words in a viewing situation. Preschoolers are able to learn new words when given an appropriate script (Rice & Woodsmall, 1988). Within a study conducted by Rice and Woodsmall (1988), 61 preschoolers, ages 3 and 5 were assigned to either an experimental or control group. The preschoolers viewed a "15-minute television program, featuring 20 different novel words, 5 each in the 4 categories of object, action, attribute, and affective-state words" (p. 420). Using the Peabody Picture Vocabulary Test - Revised (Dunn & Dunn, 1981), vocabulary comprehension was tested before and after viewing (Rice and Woodsmall, 1988). "The experimental group performed better than the controls for object, action, and attribute words" (Rice & Woodsmall, 1988, p. 420). According to Rice

and Woodsmall (1988), broadcast programming or special tutorial cassettes may be able to incorporate features important to language learning. Although these findings substantiate the idea that viewing has a positive impact on language, it does not provide information about a sustained impact on language acquisition or if repeated viewing proves more beneficial. In order to substantiate this impact, a time variable must be introduced.

Children may be able to learn language from various mediums, such as television. Within child development, television may be an important environmental factor. According to Signorielli (1991), television viewing may stimulate children's interests in specific topics on which a program is based. "Television offers children a unique opportunity to see the world as perceived by others" (Berry & Asamen, 1993). "Rice noted that children are active viewers who learn at least some linguistic skills while watching television; direct one-on-one interaction is not necessary for such learning to occur" (Van Evra, 1990, p. 46). According to Walker (1995), children two to five years of age spend about 26 hours per week watching television.

Although television may have some negative effects, there are also positive effects of television. According to Burkart, Rockman and Ittelson (1992), news and current events designed for young viewers can lead to an increase in awareness of important issues. Television transcends the boundaries of space and time, making children's television a "special medium for a special audience" (Dorr, 1986).

Television viewing habits play an important role in the positive effects of television on children. A hypothesis involving age-related cognitive changes revealed that changes

in viewing habits were consistent with "an a priori ordering of programs for cognitive demands using the criteria of intended audience, program type, redundancy, and temporal integration requirements" (Huston, Wright, Rice, Kerkman & St. Peters, 1990, p. 418). A study completed by Huston et al. (1990), involved a 2-year longitudinal study of children from ages 3 to 5 and 5 to 7, which investigated age changes and environmental influences on TV viewing. Viewing diaries were kept by family members on each child's viewing habits. A viewer of television was defined as "anyone who was present for more than one half of a 15-minute interval in which the television was turned on" (Huston et al., 1990, p. 411). The conclusions of the study stated that "cognitive and developmental changes are less important determinants of TV use than are family patterns and external variables affecting the opportunity to view" (Huston et al., 1990, p. 411).

Another positive aspect of television is involved when programming variables are changed in order to produce an effective teaching medium. For example, within educational programs designed for children, such as *Mister Rogers*, linguistic features are very much like adjustments mothers make in their live interactions with young children (Rice, 1984). In a study completed by Rice (1984), the dialogue and nonverbal formal features of six television programs were analyzed. The programs chosen were directed toward, or popular with, young children. Areas addressed in this study included communication flow, language structures and meaning/content. The findings of this study revealed that some "television programs designed for young children do provide dialogue well-suited to children's linguistic competencies" (Rice, 1984, p. 457). Rice (1984) also

found that all children's programming contains particular attention-getting features, such as background music, new scenes, scene cuts and repetitions.

In a pilot project involving the analysis of programming variables for children's educational programs, Radcliffe (1996) found that the majority of program variables within *Sesame Street*, *Mister Rogers' Neighborhood* and *Barney & Friends* were very similar. These programs were most similar in the variables of background music, amount of time new vocabulary was introduced, number of scene cuts, number of songs and various interactions. Within this project, 12 ten minute segments were analyzed, four from each program. An average of six minutes of background music, eight scene cuts, two songs, three minutes of new vocabulary, one interaction of puppets with puppets, puppets with non-human characters (e.g., interaction of *Sesame Street*'s Elmo with Big Bird), and puppets with people, and two interactions of non-human characters with people, people with people, and people with puppets with non-human characters were discovered within each ten minute segment. These results were used to design an educational video to test the hypothesis of this study.

Although many children's programs contain characteristics such as, repetitions, background music, new scenes and cuts, *Sesame Street* seemed to be the most effective for learning language. According to Cook and Curtin (1986), "*Sesame Street* involved not only cognitive needs, but also needs in social, moral, and affective domains". *Sesame Street* was also named an excellent program for children under 5 years of age by Signorielli (1991). Among regular viewers of *Sesame Street* including "black and white children; urban, suburban, and rural children; and children of both sexes", learning

occurred (Comstock & Paik, 1991, p. 97). The programming variables of professional children's programs may provide an excellent basis for amateur video production used to stimulate child language.

Within the Rice, Huston, Truglio and Wright (1990) study, the researchers attempted to determine whether *Sesame Street* viewing predicted vocabulary development. The Peabody Picture Vocabulary Test (PPVT-R, Dunn, 1965) was used to measure general vocabulary skills. Five 1-week diaries of television viewing were collected over two years from two groups of children; one group was followed from ages 3 to 5 and another from ages 5 to 7. "Viewing" was defined as being present for more than one half of a 15-minute interval in which the television was turned on (Rice et al., 1990). Rice et al. (1990) found their study supported the prediction that *Sesame Street* viewing contributes to preschool children's vocabulary development, and the "vocabulary enriching effects of *Sesame Street* are apparently independent of parent education, family size, child gender and parental attitudes" (p. 426). According to Rice et al. (1990), a major consideration to keep in mind is the development of age appropriate video materials and corresponding scientific literature exploring the medium's effects. These findings provide support for a positive impact of repeated viewing of a professional children's program over a period of time on vocabulary development. However, the use of amateur video was not a component of this research.

Although no specific negative effects of television were identified concerning language acquisition within the research, television is often thought of as having negative effects such as, conditioning children to believe that "if they have parents who live in the

right house, buy the most expensive cars, and stock their closets with brand name clothes, all their problems will be solved" (Walker, 1995). According to Walker (1995), it has also led youngsters to believe that complex problems can be solved in a 30-minute space of time.

Another strong negative effect of television, according to Bandura, Ross and Ross (1961), is the effect of violence on children. The main conclusion of their study was that media violence could lead to some short-term changes in aggressive behavior and attitudes on the part of children. According to Comstock and Paik (1991), although the amount of aggressive and antisocial behavior involved is small, it is enough to qualify for social significance.

Television may be identified as a "hindrance to education in the sense that television viewing is an activity that may 'steal' time from other activities more directly related to success in school" (Berry & Asamen, 1993, p. 17). It may also interfere with learning in certain circumstances. For example, according to Anderson and Collins (1988), "the comprehension skills developed through television viewing are initially irrelevant to reading or may even interfere with reading" (p. 64).

Even though the majority of children master language relatively easily through various types of stimulation, including television, some children may experience language delays or fail to acquire normal adult-like language abilities. These children may require the assistance of professionals, including a speech language pathologist, to assist in developing effective communication skills. This may be costly and time consuming for both the parent and child.

According to Montgomery and Herer (1994), with limited resources due to expense of services, changes have been made in speech and language services. "The shortages of specially trained personnel have made it impossible to provide all the discrete services outlined in federal law for children in rural areas, geographically remote areas, or inner cities" (Montgomery & Herer, 1994, p. 133). Speech and language services are not only costly for everyone, but time consuming as well.

With cost and time effective strategies in mind, the use of video to promote language development may be beneficial for children with or without language delays. It may provide a way for more cost and time effective services while maintaining adequate quality. Using video may also be beneficial because while a teacher or clinician can only provide the same exact stimulation once, video can provide the same exact stimulation over and over again. Also, it can be expensive to produce professional videos to provide children with language stimulation. However, teachers and clinicians may be able to provide children with language stimulation through amateur videos based on professional programming principles. These may be important ideas to keep in mind while looking at the effects of amateur educational video viewing on language acquisition.

Overall, researchers have found that child language-learning is a complex process that varies for each individual child. Children are born with linguistic predispositions for language learning (Bohannon & Warren-Leubecker, 1989), but stimulation is a vital part of brain development and language acquisition (Locke, 1993). This stimulation may include parent-child interactions, sibling or peer interactions and stimulation through mediums such as radio, newspapers, magazines and television. Rice and Woodsmall

(1988) found that children are able to learn something about novel object, action and attribute words in a viewing situation.

Television may offer children with a "unique opportunity to see the world as perceived by others" (Berry & Asamen, 1993) through news and current events, as well as a teaching modality (Burkart, Rockman & Ittelson, 1992) (Huston, Wright, Kerkman & St. Peters, 1990). This teaching modality has been identified in several children's programs such as, *Sesame Street* and *Mister Rogers' Neighborhood*. Although television may provide children with many unique experiences, it is often thought to have several negative effects as well. These effects may include the negative effect of violence on children, conditioning children to believe that complex problems can be solved in a 30-minute space of time and the most expensive clothes, cars and houses will solve all problems (Comstock & Paik, 1991) (Walker, 1995). Television may also be thought of as an activity that steals time from school-related activities.

Within a more positive aspect of television, programming variables of television are often able to maintain a child's attention and provide language stimulation. Programs such as *Sesame Street* and *Mister Rogers' Neighborhood* provide language experiences for children that may help predict vocabulary development (Rice, Huston, Truglio & Wright, 1990). Programming variables of professional children's programs may be beneficial to provide a basis for designing amateur videos for child language stimulation.

These findings suggest that the use of video can positively affect language acquisition. In addition, the use of video may provide stimulation that is efficient and less expensive for children with or without language delays and/or disorders. Although

research has been completed involving the effects of professional children's programming on language, such as Sesame Street on vocabulary, no research has been completed involving the use of amateur video to positively affect language acquisition either immediately or over a period of time. Therefore, the present study is designed to investigate the positive effects of amateur educational videos on vocabulary acquisition. The following research questions will be addressed:

1. Does the use of an amateur educational video positively affect vocabulary acquisition?
2. Does repeated viewing of an amateur educational video prove more effective for vocabulary acquisition than one-time viewing?
3. Does viewing of an amateur educational video provide a sustained impact on language acquisition?

The following null hypotheses will be tested to address the above research questions:

1. There will be no significant increases in any of the subjects' scores within the three testing sessions.
2. There will be no significant differences between (1) the repeated viewing group and (2) the one-time viewing group's general or specific vocabulary knowledge scores after the experimental period.
3. There will be no sustained impact on language acquisition after viewing an amateur educational video.

CHAPTER II

Methods

The purpose of this study was to measure the effects of direct stimulation with amateur educational video on a child's general vocabulary acquisition. The independent variables for the study were one-time and repeated viewing of an amateur educational video. The dependent variable was vocabulary acquisition. Measurements of each subject's vocabulary skills were measured using 1) the Peabody Picture Vocabulary Test - Revised, Forms M and L (PPVT-R, Dunn & Dunn, 1981) and 2) a clinician designed twenty-five word receptive language assessment based on vocabulary presented in the video.

Subject Selection

The criteria for subject selection were age, general vocabulary knowledge and signed parental permission. Subjects for this study were twelve children, six males and six females. Nine of the children were currently enrolled at Stepping Stones Developmental Center and two children were enrolled at the Mattoon Day Care Center for a full day of preschool. Both facilities are located in Mattoon, Illinois. One child attended Michelle's Mini Friends in Charleston, Illinois for child care services. Ten preschools and day care centers were contacted in the Charleston/Mattoon area, with the resulting three programs agreeing to participate. Some programs who declined felt there were too many responsibilities for the parents and preschool teachers, while others gave no explanation as to why they chose not to participate. Within an overall group of sixty-five children

enrolled in three different programs, twenty-three children returned permission slips. Within these twenty-three children, fifteen were eligible following the initial administration of the Peabody Picture Vocabulary Test - Revised (PPVT-R), Form L. Although fifteen children were eligible after the first control period, two more children discontinued attendance at their preschool programs, and one child was absent for an extended period of time.

All subjects were between 3.0 and 4.8 years of age. Individuals who had or were currently receiving speech-language therapy were excluded. General vocabulary knowledge was obtained using the Peabody Picture Vocabulary Test - Revised (PPVT-R), Form L. Only subjects who scored within one standard deviation of the mean were accepted. A specific receptive language assessment based on vocabulary introduced in the video was also administered to obtain a baseline for specific vocabulary knowledge before viewing the video. The subjects were paired as closely as possible based on age, PPVT-R score and specific vocabulary test score. Examples of letters explaining the experiment to the parents and requests for permission are provided in Appendix A.

Table 1 summarizes the subjects' chronological ages and standard scores, as evaluated using the Peabody Picture Vocabulary Test - R (PPVT-R) Form L.

Table 1 - Chronological Ages, PPVT-R standard score for subjects in study.

Subject	Gender	Chronological Age	PPVT-R standard score
1	M	3-0	97
2	F	4-8	96
3	M	4-7	99
4	M	4-9	96
5	F	3-3	98
6	M	3-11	102
7	F	3-9	87
8	M	4-6	91
9	F	3-7	106
10	F	4-7	92
11	M	3-3	87
12	F	3-7	97

Table 2 illustrates three evaluation points in the experimental design and the time periods involved.

Table 2 - Illustration of Experimental Design and Measurement Intervals

| - measurement

A - Initial control period B_1 - One-time viewing group C - Final control period

B_2 - Repeated viewing group

Control	Experimental	Control
A ----------|	B_1 ----------|	C ----------|
	B_2 ----------|	
2 weeks	2 weeks	2 weeks

During the experimental period, subjects were divided into two groups - one-time viewing group or repeated viewing group. The one-time viewing group watched an educational video of eight minutes one time within the preschool setting. A script of the educational video is provided in Appendix B. The video content was based on research regarding program variables for children's educational television programming. The repeated viewing group watched the same educational video with the one-time viewing group, but also took a copy of the video home to watch at least seven more times, but not more than ten times, during the next two weeks . Parents were required to maintain a tally of how many times their child watched the video at home. Table 3 illustrates the responsibilities of the preschool, as well as the parents during the experiment.

Table 3 - Responsibilities of the preschool and parents

Preschool Responsibilities	Parent Responsibilities
1) Show the video once in the classroom	1) Let the child watch the video between 7 and 10 times during the two week period
2) Let an examiner test each child on three dates	2) Chart how many times the child watches the video
3) Collect the videos and forms at the end of the two week period	3) Return the form and the video at the end of the two week period

Experimental Design

The design used in this study was a Single-Group Time-Series Design (Hegde, 1987). The experiment was divided into 3 two-week time periods: (1) an initial control period; (2) an experimental period; and (3) a final control period. Three measurements of general vocabulary and specific vocabulary were administered during the six week period. The experimental design and measurement intervals are diagrammed in Table 2.

Procedures

Approval was granted for the use of human subjects in research by the Office of Grants and Research at Eastern Illinois University (Appendix C).

I. At the end of the first two-week control period, the examiner administered the Peabody Picture Vocabulary Test - Revised, Form L (PPVT-R, Dunn & Dunn, 1981), according to instructions stated in the PPVT-R manual. Another examiner administered the specific vocabulary assessment. The twenty-five word receptive vocabulary

assessment was based on target words from the amateur educational video used in this study. An example of the score sheet for this assessment is provided in Appendix D.

II. On the Monday of the two week experimental period, all twelve subjects viewed the same educational video within a group setting in each preschool. A script of this educational video is provided in Appendix B. The children were seated on a carpeted floor in their regular classroom. On that same day, six of the twelve subjects received a copy of the video to take home accompanied by a letter for the parents, as well as a chart to tally how many times the video was watched. Copies of this letter and chart are provided in Appendix E.

III. During the two weeks following the initial viewing, the family of each of the repeated viewing subjects were asked to maintain a record of how many times their child watched the video at home. "Watching", for the purpose of this study, was defined as sitting for five minutes or more while the video was playing on the television. The videotape lasted approximately eight minutes. So, the children were required to watch at least 50% of the video. Upon completion of the two week experimental period, the PPVT-R, Form L and the specific vocabulary assessment were re-administered to each of the twelve subjects by the same examiner.

IV. At the end of the second control period, the PPVT-R, Form M was administered to each of the twelve subjects by the same examiner. Form M was used to substantiate if the experiment contributed to a sustained overall increase in general vocabulary knowledge. The specific vocabulary assessment was administered to measure each subject's specific target word knowledge.

CHAPTER III

Results

The purpose of this study was to measure the effects of direct stimulation with amateur educational video on a child's general and specific vocabulary acquisition. An interval level of measurement was used for data collection in this study to test hypotheses involving a time variable, such as repeated viewing, and sustained impact. For this reason, parametric statistics were applied for the purpose of testing the hypotheses. Analysis of variance - repeated measures (ANOVA, Hegde, 1987) was used to test for significance within groups.

Table 4 shows the overall design of the study and specifies the intervals for assessment of general and specific vocabulary knowledge. It can be seen that three sessions of testing were completed within the six week design, with equal intervals of time between assessments.

Table 4 - Illustration of Experimental Design and Measurement Intervals

| - measurement

A - Initial control period B_1 - One-time viewing group C - Final control period

B_2 - Repeated viewing group

Control	Experimental	Control
A ----------|	B_1 ----------|	C ----------|
	B_2 ----------|	
2 weeks	2 weeks	2 weeks

Table 5 summarizes PPVT-R scores and specific vocabulary knowledge scores for each of the twelve subjects. These scores provide the data base for all subsequent statistical analyses that were performed to test the null hypotheses. The following null hypotheses were tested:

1. There will be no significant increases in any of the subjects' scores within three testing sessions.
2. There will be no significant differences between (1) the repeated viewing group and (2) the one-time viewing group's general or specific vocabulary knowledge scores after the experimental period.
3. There will be no sustained impact on language acquisition after viewing an amateur educational video.

For the purposes of this study, results significant at the .05 level of confidence were sufficient for rejection of the null hypotheses.

Table 5 - Summary of PPVT-R and specific vocabulary assessment scores for each subject obtained during three independent testing trials * = group 1/ repeated-viewing group

Trial	Trial 1		Trial 2		Trial 3	
Subject # / Test	PPVT-R, SS	Specific - %	PPVT-R, SS	Specific -%	PPVT-R, SS	Specific -%
1*	97	44	87	64	102	76
2	96	96	96	88	96	96
3	99	96	99	92	102	96
4	96	80	93	84	105	84
5*	98	72	109	84	110	92
6*	102	68	107	72	91	92
7	87	84	95	84	92	84
8*	91	84	113	88	112	88
9*	106	80	108	92	102	88
10*	92	76	92	92	98	92
11	87	72	105	84	104	80
12	97	80	99	80	103	80

Figure 1 illustrates the number of times the subjects from the repeated viewing group watched the video tape at home.

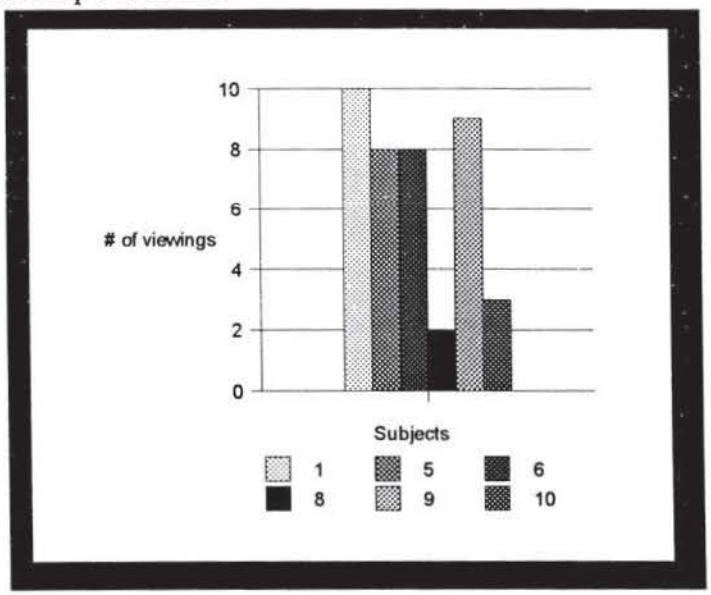

Figure 1 - Number of Times Video was Viewed at Home

Table 6 summarizes group averages of standard scores from the Peabody Picture Vocabulary Test - Revised, Forms L and M. Table 8 summarizes group averages of percentages for the specific vocabulary knowledge assessment.

Table 6 - Group means of standard scores for the PPVT-R, Forms L and M

Group/PPVT-R Mean	Trial 1 - before video	Trial 2 - after video	Trial 3 - after control
Group 1	98	103	103
Group 2	94	98	100

Table 7 - Group means of percentages for the specific vocabulary knowledge assessment

Group/Specific Mean	Trial 1 - before video	Trial 2 - after video	Trial 3 - after control
Group 1	71	82	88
Group 2	85	85	87

Tables 8 and 9 illustrate the analysis of variance and within-subject effects for the Peabody Picture Vocabulary Test - Revised (PPVT-R) scores and the specific vocabulary assessment scores, respectively.

Table 8 - ANOVA - Within-Subject Effects (PPVT-R)

Source of variance	SS	degrees of freedom (df)	MS	F ratio	probability (p)
PPVT-R	221.72	2	110.86	2.78	.086
Group by PPVT-R	11.17	2	5.58	.14	.870

Table 8 reveals data which is not statistically significant at the .005 level of confidence for general vocabulary knowledge.

Table 9 - ANOVA - Within-Subject Effects (Specific Assessment)

Source of variance	SS	degrees of freedom (df)	MS	F ratio	probability (p)
Specific	571.56	2	285.78	11.24	.001
Group by Specific	370.67	2	185.33	7.29	.004

. Table 9 indicates a statistically significant difference within the specific vocabulary knowledge assessment at a level of confidence below .005.

CHAPTER IV

Discussion

Although previous research has substantiated the idea that video viewing has a positive impact on language acquisition, research does not provide any information regarding a sustained impact on language acquisition or if repeated viewing is more beneficial than one-time viewing. Rice, Huston, Truglio, and Wright (1990) found repeated viewing of a professional children's program had a positive impact on vocabulary development. However, their study did not explore the possibility of a positive impact from amateur educational video. Therefore, the present study investigated the impact of amateur educational video on general and specific vocabulary acquisition.

The major research hypotheses proposed at the onset of this study were:

1. There will be no significant increases in any of the subjects' scores within three testing sessions.
2. There will be no significant differences between (1) the repeated viewing group and (2) the one-time viewing group's general or specific vocabulary knowledge scores after the experimental period.
3. There will be no sustained impact on language acquisition after viewing an amateur educational video.

Hypothesis #1 was rejected by the results summarized in Chapter Three, tables 6, 8 and statistical data in table 10. In table 6, 66% of the total number of subjects increased in specific vocabulary scores, indicating a positive effect from amateur educational video on

specific vocabulary acquisition. In table 10, analysis of variance - repeated measures revealed statistically significant data for specific vocabulary knowledge for the groups ($p = .001$) and for the groups within each testing session ($p = .004$).

Hypothesis #2 was rejected. As seen in table 8, the repeated viewing group's scores for specific vocabulary knowledge increased following the experimental period, whereas the one-time viewing group's scores remained very similar. In table 6, the data for each individual subject indicates 100% of the scores for the individuals in the repeated viewing group increased after the experimental period, while only 33% of scores for the one-time viewing group increased. This data indicates that repeated viewing of an amateur educational video may be more effective for specific vocabulary knowledge than one-time viewing.

Hypothesis #3 was rejected. In table 8, the mean scores of each group during the final testing session did not return to the scores obtained during the initial testing session, remaining higher than the initial score. This data indicates a sustained impact on specific vocabulary knowledge after viewing an amateur educational video.

Hypotheses #1, #2 and #3 were accepted for general vocabulary knowledge, as evaluated using the Peabody Picture Vocabulary Test-Revised. The data in table 9 summarized results which were not significant at the .005 level of confidence. Tables 6 and 7 illustrate the individual scores and group mean scores, respectively. All scores increased, with the exception of the final mean score for group 1, during the six week study. Although an increase in scores was demonstrated, the increase was not statistically significant.

The results of this study provide evidence to suggest that amateur educational video designed for three and four year olds can positively affect specific vocabulary acquisition when stimulation is repeated over a period of time. This information could be important for professionals, as well as parents. The results of the present study agree with the ideas of Lemish and Rice (1986), Nelson (1993), Rice and Woodsmall (1988), and Rice, Huston, Truglio and Wright (1990), which indicated that children are able to learn novel language from indirect means, such as television, through repeated viewing over a period of time.

Amateur educational video may open new horizons for speech-language pathologists. With pressure from various sources to make therapy more time and cost effective while maintaining adequate quality, videos present a beneficial option. Since it is not feasible for a teacher or clinician to provide the same exact stimulation repeatedly, video may be a useful tool to duplicate stimulation repetitively. While producing professional videos can be very expensive, teachers and clinicians may be able to provide children with language stimulation in amateur produced videos, based on professional programming variables. The results of this study provide evidence to suggest that amateur video can have a positive impact on "normal" language acquisition.

Although the results of this particular study did not indicate that the children's overall vocabulary skills increased during the six week period of the experiment, the researcher did not anticipate this change. Six weeks is a minimal period of time for general vocabulary to be significantly influenced.

Even though the impact of viewing an amateur educational video was not statistically significant for general vocabulary knowledge, anecdotal information from a subject's mother indicated some overall learning. This subject's mother commented, "We were watching a t.v. program and one of the people said something about an esophagus. Her child commented, "They said esophagus, Mommy." Even though this subject was unable to identify the esophagus on the specific vocabulary assessment, the child recognized a word which she was unable to recognize before, as reported by her mother.

Two subjects (8 and 10) did not watch the video the required minimal number of times (see Figure 1). The subjects' parents reported that the children "refused" to watch the video any more. Subject 8 viewed the video twice, and subject 10 watched the video three times. These two subjects demonstrated the least amount of progress during the study within the repeated viewing group, as evidenced in their testing scores (Table 6).

Limitations of the study

Within this study, there were a few limitations that may have interfered with results. First, a small number of subjects was used. This problem was not anticipated by the researcher, due to the large number of resources. However, obtaining subjects for the study was not an easy task, primarily resulting from complications involving preschools not willing to participate in the study for various reasons. Second, the subjects included were not within a one year age range, preventing more distinct stages of language development. This may have impacted how quickly the subjects acquired the vocabulary and the type of information they may have been exposed to previously. The subjects were

paired as closely as possible for age, but due to the small number of subjects, this was very difficult without further decreasing the overall number of subjects. Finally, although the repeated viewing group's scores (group 1) significantly increased during the experiment for specific vocabulary, the two groups' scores did not differ significantly within each testing session. The groups were most different before the experimental period began. This can be seen in Table 8. However, general vocabulary knowledge scores were very similar. Again, this limitation can be accounted for within the small number of subjects.

Implications for Future Research

The design of the present study appears to be appropriate for replication with a larger, subject population, as well as a subject population with a more restricted age range.

Also, the children in this study were not language impaired. Therefore, future research is required to reveal if amateur educational video would be beneficial for individuals with speech and language difficulties. It may also be interesting to investigate if amateur educational video is more effective for specific speech and language deficits (e.g., fluency, language, articulation).

CHAPTER V

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APPENDIX A

Dear Parents and/or Guardians:

My name is Jennifer Radcliffe, and I am a graduate student in Communication Disorders and Sciences at Eastern Illinois University. I am writing my Master's thesis on the effect of amateur educational video on preschool children's vocabulary development.

This is where I need your help. For a project such as this, I need preschoolers to watch my video. Let me explain what I'd need you to do.

All of the children will watch an amateur educational video once at the preschool. This video has been based on children's programs such as *Sesame Street* and *Mister Rogers' Neighborhood*. Half of the students in the classroom will be provided with the same amateur educational video to take home with them. They need to watch the video at least seven times, but not more than ten times over a two week time period. I will also provide you with a form to mark every time your child watches the video.

Although all of the children will watch the video, only half of the children within the experiment will receive a copy of it to take home and watch. I would appreciate your participation, as well as your child's. A permission slip is attached. Please fill out the required information and return it to your child's classroom teacher at the (preschool) by (requested date).

If you have any questions about my study or would like to further discuss the experiment, you can contact me at (phone #) or my advisor, Dr. Gail J. Richard at (phone #). Thank you very much for your cooperation.

Sincerely,

Jennifer L. Radcliffe, B. S.

APPENDIX A - p. 2

Permission Slip

I/We give permission for my/our son/daughter_____,

(Birthdate:_____), to take part in Jennifer Radcliffe's Master's thesis project at Eastern Illinois University involving amateur educational video. I/We do do not (please circle) have a VCR in my/our home. My/Our son/daughter has had has not had (please circle) speech and language services.

_____ Parent/Guardian Signature

_____ Parent/Guardian Signature

_____ Date Signed

APPENDIX B

THEME: NUTRITION AND YOUR BODY

Scene 1

Narrator (standing behind table of healthy foods): Hi boys and girls! My name is Jennifer, and this is Annette, and we are your nutrition friends. Today, we are going to be talking to you about how certain foods and exercise can help you grow healthy and strong.

Scene 2

Annette (walking in): Hey Jen! How are you doing? I am so full of energy!
Jennifer (sitting in front of cookies, chips and candy): Oh Annette. I feel so sick. I've been eating so much junk food, all this pizza, cookies and candy! I just have no energy.
Annette: That's too bad. I was really hoping you would go to the park and exercise with me today.
Jennifer: I'm sorry, Annette. I'm just too tired.
Annette: Well, Jen, maybe you outta try to eat foods that are healthier for you, instead of all this junk food, maybe foods that give you more energy like fruits and vegetables.
Jennifer: You know Annette, maybe you're right.

Scene 3

Jennifer: (behind table of fruits and vegetables) Hi boys and girls! Remember us? We're your nutrition friends, and now we are going to talk to you about the different fruits and vegetables that give your body energy. These are the vegetables, and these are the fruits.
Jennifer: (table of only fruits) These are the fruits.
Jennifer: (grapes only) These are grapes. They come in red, purple or green colors. Some have seeds but some don't.
Jennifer: (peaches only) These are peaches. They have a fuzzy outside.
Annette: (apples only) These are apples. They come in different colors.
Annette: (watermelon only) This is watermelon. It so juicy and good in the summertime.
Jennifer: (bananas only) These are bananas. They give us potassium.
Jennifer: (plums only) These are plums. They can be red or purple.
Jennifer: (oranges only) These are oranges. They give us Vitamin C.
Annette: (pineapple only) This is pineapple. It's juicy.
Jennifer: (vegetables only) These are the vegetables.
Annette: (celery only) This is celery. It makes a great snack.
Jennifer: (potatoes only) These are potatoes. They grow under ground.
Annette: (onion only) This is an onion. It can really spice up your food.
Annette: (green pepper only) This is a green pepper. It goes good on pizza.
Jennifer: (broccoli only) This is broccoli. It's so green.
Jennifer: (cucumber only) This is a cucumber. It has a lot of little seeds.
Jennifer: (lettuce only) This is lettuce. It makes a great salad.

APPENDIX B - p. 2

Annette: (carrots only) These are carrots. They help you see better at night.
Jennifer: (corn only) This is corn. It grows on a farm.

Scene 4
Puppets singing "Healthy Food" behind the fruits and vegetables.

Scene 5
Jennifer (standing next to diagram of the digestive system): Now boys and girls, we're going to learn about how the foods we eat give us energy. (Pointing to mouth and tongue) When you take a bite of food, it goes into your mouth. Inside your mouth, you chew up the food, and your tongue pushes the food back into your esophagus . (Pointing to esophagus) This is your esophagus right here. As the food moves down your esophagus, it goes into the stomach. (Pointing to stomach) This is your stomach right there. In your stomach, there are little, bitty particles that break up the food into small pieces. These small pieces move into your intestines. (Pointing to intestines) These are your intestines, right here. In the intestines our bodies take in the nutrients that we need to give us energy. The things that we don't need go right out of our body. This is how the food we eat gives us energy.

Scene 6
(At a park with pond in the background)
Jennifer: There are many exercises you can do to keep your body healthy and strong, such as walking (Annette walking), jogging (Annette jogging), doing jumping jacks (Jennifer and Annette doing jumping jacks) or playing ball with your friends (same - playing ball).

Scene 7
Jennifer: (standing by a lilac bush) Remember boys and girls, it is important to exercise and each good foods in order to keep your bodies healthy and strong.

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September 30, 1996

Ms. Jennifer Radcliffe
1911 10th Street, Apt. 6
Charleston, IL 61920

Dear Ms. Radcliffe:

Per your request, the use of live subjects for your thesis project has been reviewed and approved.

Good luck with your project.

Sincerely,

Edwin May
Director of Grants and Research

ct

Name:_____ D.O.B._____

APPENDIX D - Score Sheet

Target Words	Trial 1	Trial 2	Trial 3
1) mouth			
2) strong			
3) vegetables			
4) healthy			
5) walk			
6) esophagus			
7) stomach			
8) intestines			
9) apple			
10) corn			
11) banana			
12) orange			
13) onion			
14) broccoli			
15) watermelon			
16) jumping jacks			
17) running			
18) fruit			
19) celery			
20) pineapple			
21) peach			
22) potato			
23) ball			
24) carrot			
25) lettuce			
Total Correct/Incorrect			
Percentage Correct			

APPENDIX E

Dear Parents and/or Guardians:

This is just a reminder letter to accompany the amateur educational video that I briefly described in an initial letter.

Please mark how many times your child watches the video on the attached form. If your child sits for five minutes or more while the video is playing on the television, it is considered "watching" for the purpose of this project. Also, please have your child watch the video at least seven times and not more than ten times during the next two weeks. I greatly appreciate your cooperation.

On (requested date), please send the video with the attached form to preschool with your child so I can collect them at the conclusion of the experiment.

Thank you again.

Sincerely,

Jennifer L. Radcliffe, B. S.

APPENDIX E - p. 2

Number of times your child watches the amateur educational video

Child's Name: _____ Age: _____ Date of Birth:_____

Date the child watched the video	Number of times the video was watched
1)	
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	