

# THE EFFECTIVENESS OF CLASSROOM-BASED SUPPLEMENTARY VIDEO PRESENTATIONS IN SUPPORTING EMERGENT LITERACY DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

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### ABSTRACT

*This study investigated the impact of supplementary video presentations in supporting young children's emergent literacy development. Videos were produced by teachers using prototype software developed specifically for the purpose of this study. The software obtains media content from a variety of resources and devices, including webcam, microphone, PowerPoint slides, drawing board, and typing board in a simplified manner. Videos were supplemented to children who were identified as at risk to be viewed at home individually or with their parents. Participants were teachers and children in a full-day kindergarten in the Sultanate of Oman. Teacher Rating of Oral Language and Literacy (TROLL) scale and parent interviews were administered to measure the literacy skills and development of children in early childhood classrooms, and to understand children's reactions to the use of classroom video presentations respectively. The results of TROLL indicated that no improvement had happened in the total score of oral language and literacy of the treatment group children (12) compared to the control group children. However, the treatment group children's language use was improved significantly. Results from interviews showed that children liked video presentations prepared by their teachers, and parents found these videos useful for their children's literacy development.*

*Keywords: Early Childhood Education, Emergent Literacy, Video Presentation, Multimedia.*

### INTRODUCTION

Although literacy development occurs throughout a lifetime, the early childhood years are crucial for laying a foundation for language learning and later school success (Invernizzi, Landrum, Teichman, & Townsend, 2010; Whitehurst & Lonigan, 2002). Therefore, experiences in early childhood classrooms and at home contribute significantly to a child's language and emergent literacy abilities. Researchers in the field agree that emergent literacy is made up of several key skills. These skills of emergent literacy are phonemic awareness, word recognition, concepts about print, alphabetic principle, and comprehension. Phonemic awareness, for example, is recognized as an understanding that speech is composed of units, and the ability to perceive and manipulate the units of speech (Gunn, Simmons, & Kameenui, 2000).

The rapid development in educational computer

applications has offered new and efficient tools in teaching emergent literacy (Parette, Hourcade, Dinelli and Boeckmann, 2009). Multimedia in particular is being used with increasing frequency in early childhood education to develop children's literacy skills. Presentation software, for example, are increasing in popularity and providing powerful tools for the creation of learning materials and accessible information in several formats. When used appropriately in early childhood education, these tools can support and extend traditional literacy classes in valuable ways (National Association for the Education of Young Children, 1996).

Microsoft PowerPoint, as a multimedia authoring and presentation tool, has become the dominant presentation tool in early childhood settings because it is both readily available and easy-to-use by teachers (Grabe & Grabe 2007). PowerPoint allows teachers to create and manipulate presentations in a wide variety of contexts that can enhance a child's interest and

engagement (Mills & Roblyer 2006). It helps teachers to clearly identify the main points of a lesson or activity while still providing the details through presentation (Loisel & Galer, 2004). In addition, teachers can incorporate multiple types of media formats (e.g., clipart, photo, drawing, sound, and video) that cannot be easily integrated together into one single medium. Young learners are also attracted to PowerPoint because of the graphical, transactional, aesthetic, and interactive features it provides. Chiasson & Gutwin (2005) believe that children's goals while learning with computers are typically education or entertainment rather than productivity.

### ***PowerPoint and emergent literacy development***

In a series of studies on using PowerPoint to support the development of learners in early childhood education, Parette and his colleagues at Illinois State University tell us that well-designed and teacher-guided PowerPoint presentations help young children, particularly those at risk for reading difficulties, to build confidence and to work and feel comfortable with the lesson format the teacher has designed for them (Parette, Blum, Boeckmann & Watts, 2009; Parette, Quesenberry & Blum, 2010). Parette and his colleagues also conducted a series of studies focused on the use of PowerPoint in teaching emergent literacy skills for young children. They found that the popularity of PowerPoint and availability of LCD digital projectors greatly enhance the group teaching potential of PowerPoint presentations. They engage children in various learning activities that contribute to the development of their vocabulary meaning skills, phonological awareness, comprehension of stories, alphabet and print awareness, and story sense (Parette, Wojcik, Stoner & Watts, 2007; Parette, Hourcade, Boeckmann & Blum, 2008).

For example, the teacher might use the animation features to make slides more engaging for children, and control the appearance of each letter in a word so that it is isolated and can be linked with the sound that corresponds to it. In addition, a single letter could appear on the slide, followed by the sequential appearance of other letters, until an entire word is created, illustrating left-

to-right sequencing in the construction of words and the reading process (Parette, Blum & Watts, 2009).

However, although there is interest in the utility of PowerPoint to teach emergent literacy skills for young learners, it is only used by the teacher inside classrooms, and it needs to be paired with the use of an LCD projector and large screen. In other words, PowerPoint slide content and visual features are not a substitute for the guidance a teacher should deliver. If young learners are not seeing and listening to the teacher, then learning from the slides at home or in isolation will be less valuable or impossible. Research indicated that self-regulation plays a role in young learner interaction with learning materials which requires considerable knowledge, skill, and motivation.

According to Zimmerman (1990, 2002), the key emphasis of self-regulation (self-control, self-satisfaction, self-observation, self-judgment, and self-evaluation) is on how learners manage their time and control the environment in which they engage in learning. Boekaerts (1995) indicated that learners not only have to self-regulate their cognitive activities, but may also have to self-regulate their emotional and motivational states. Overall, there is empirical evidence that young learners are not able to use multimedia or presentation programs which give them the opportunity to control the type, sequence, length, and amount of information (Young, 1996).

### ***Benefits of classroom-based PowerPoint video presentations***

Parette, Blum, Boeckmann & Watts (2009) suggested that regardless of such concerns and problems related to the use of PowerPoint with young learners, it is no longer an issue of whether to use PowerPoint or not. Instead, teachers must focus on how they can best use it inside and outside the classroom (Parette, Blum, Boeckmann & Watts, 2009). Parette and his colleagues provided valuable suggestions to further benefit from PowerPoint in enhancing children's learning. They recommended that teachers may work with families to produce and share learning materials for home use. These materials should be made from class slides and in an easy to use and follow format.

There is increasing interest in providing children with classroom-based audio-visual materials, and video is demonstrated to be an expanding channel for young children learning (Sturmey, 2003). It is believed that children who have more literacy video materials available to them in the home will have higher language outcomes compared to children with fewer or no materials available (Halle, Calkins, Berry & Johnson, 2003). The literature emphasizes the importance of considering the potential unique possibilities that a video presents when deciding how to support young learner development (Cunningham & Friedman, 2009). Martin (1990) found that watching video is considered as a basis for mental activity, because children already have considerable practice with it in non-school settings. In addition, it is socially acceptable and widely used and supported by multimedia cell phones and portable media players, and therefore it can be a powerful link between the classroom and home.

Moreover, Schwartz and Hartman (2007) argued that video is a more forgiving and powerful learning medium when it is embedded within a larger context of use. It does not have to be stand-alone, like a television program. Children can start, rewind, forward, and pause the video to address their specific needs. It can be used in many ways to encourage learning interactions and create engagement, even though the video itself may not contain the new information children are supposed to learn. In addition, Close (2004) believes that children's vocabulary could be enhanced by age-appropriate and quality video content, including exposure to new and familiar words, frequent exposure, possibilities for interaction, and some adult co-viewing. Close concluded that co-viewing with adults is not necessary for vocabulary development when children are viewing high-quality and age-appropriate video content and are confronted with familiar words and their meanings.

The Professional Development in Autism Center (2006) reviewed research carried out to investigate the effectiveness of video lessons and concluded that there is strong evidence for the use of video in developing a wide variety of skills to a large number of young learners,

including social interaction behaviors, academic skills, communication skills, and daily living skills. For example, a study by Kinney and colleagues which examined the use of computer video models to teach generative spelling to children with autism revealed that viewing video models of the teacher writing and spelling words helps children to rapidly learn how to spell words (Kinney, Vedora & Stromer, 2003).

## 1. Problem of the study

Although early childhood education teachers use multimedia presentations inside their classrooms to engage children and enhance their literacy skills, children who are at-risk or have lower literacy skills require more home intervention to acquire emergent literacy skills using more supportive and individualized multimedia content. However, despite the fact that technology has put digital video equipment and applications in the hands of teachers, producing classroom-based video materials for home intervention requires more skill and know-how than just having the right equipment (Longman & Hughes, 2006). Therefore, the need was emphasized to assist teachers to produce and supplement their children with quality classroom-based video content. This video should be effective in improving children's emergent literacy skills and appropriate for their needs and desires.

## 2. Research questions

This study seeks to answer the following two questions:

- Do supplementary classroom-based video presentations support children's emergent literacy development?
- How are children's reactions toward video presentations produced by their teachers?

## 3. Purpose of the Study

The main purpose of this study was to examine the effectiveness of video presentations prepared by the classroom teachers in supporting early literacy development in childhood education. Therefore, the need was emphasized to assist teachers to produce, use, and assess the effectiveness of their classroom-based video presentations. To achieve this purpose, a presentation recording system for early childhood

classrooms was developed. This system accommodates the requirements of producing video materials for young learners, and allows the children to re-experience the content they learned in the classroom.

#### **4. Significance of the study**

Producing and supplementing video content for young children to access outside the classroom has received considerable endorsement from parents and early childhood educators. Developing and evaluating classroom-based video presentations allows children the ability to review class material at their own pace at home, in surroundings in which they are comfortable, as many times as required and in the format that suits their interests. In addition, another group of children who are thought to derive learning support from the availability of video recordings are those with disabilities or medical conditions. This study sought to gain a better understanding of the development, use, and evaluation of classroom-based video presentations from both a practical and pedagogical perspective.

#### **5. Methodology**

##### **5.1. Participants**

The participants were teachers and children in a full-day kindergarten in the Sultanate of Oman, with 52 children (4-6 years) enrolled. There were three classrooms in the kindergarten with 15-18 students per class. The teachers were all female and had an average of 4 years of teaching experience. The kindergarten curriculum focused intensively on early Arabic and English reading skills, such as concepts of print, phonemic awareness, alphabetic principle, comprehension, and the interpretation of text. Literacy instruction occurred for approximately two hours per day. Classroom lessons included instructional materials and activities that covered alphabetic instruction, phonological awareness activities, and word reading. Each lesson included at least one alphabetic activity and one phonological awareness activity.

##### **5.2. The Solution**

###### **5.2.1. Motivation**

The review of the literature and existing classroom

technologies revealed that choosing an appropriate system for producing video presentations is not easy. There is a wide range of what is known as "conversion", "presentation recording", or "lesson capture" technologies available and used today. These technologies range from very simple converter software (convert PowerPoint presentation to standard video or Flash video) to highly sophisticated capture stations with multiple cameras and dedicated computers. The majority of these solutions are sophisticated applications designed for university settings and intended for large-scale distribution. None of these solutions (e.g., Camtasia Studio, authorPoint, Wimba, etc.) has been developed specifically with early childhood teachers' and children's needs in mind.

Therefore, early childhood teachers will not be able to integrate any of these technologies into their classroom practices. Wilson (2010) agreed that "even when a basic level of sophistication has been decided on, there are many offerings with very similar feature sets that make choosing one somewhat difficult" (p. 1). This situation has placed an emphasis on the need to develop a simple but usable solution specifically for producing effective video materials for young children. The solution should leverage existing technology that can be directly administered by teachers without the need of significant support services and accommodate the technical differences among teachers along with the pedagogical and psychological principles of multimedia design for young children.

###### **5.2.2. Assumptions and principles of design**

The general design principles of the system are derived from the authors' experiences and grounded in results from the literature in early childhood education, multimedia learning, and software design. In addition, many existing solutions, as mentioned above, are reviewed and analyzed to learn from their characteristics in the design of the proposed solution. The review revealed many important principles, guidelines, and features for consideration in designing the proposed solution. Examples of these findings are below.

The first finding from this body of research is that overcoming the limits of a child's working memory

(cognitive load theory) requires presenting part of the information being taught in a visual mode and part of it in a verbal mode (Homer, Plass, & Blake, 2008; Mayer, 2001). Presenting lesson information in both visual and verbal formats helps children to construct their own knowledge and retrieve information more easily in the future. Mayer (2001) provided a practical set of research-based principles that can help reduce cognitive load in PowerPoint-based video materials. These principles are the Signaling Principle, the Segmenting Principle, the Modality Principle, the Multimedia Principle, and the Coherence Principle. For example, Mayer argued that learners understand a multimedia explanation better when the words are presented as narration rather than on-screen text (the Modality Principle). These guidelines and principles were considered in the design of the video presentation.

A second finding emphasized the concept of video presence and personalized narration within multimedia environments. Research indicated that although displaying the video of the teacher along with the slides creates a visual distraction, taking children's attention away from the visual information in the slides, the presence of the in teacher view is important to give children a sense of interacting with the teacher (sense of social presence) while watching the video lesson and may improve learning outcomes for children, even though it adds to the cognitive load (Homer, Plass, & Blake, 2008; Mayer & Moreno, 1998). Gunawardena (1995) found that social presence is necessary to improve, support, and personalize children in technology-based learning environments. Therefore, the video of the teacher, along with the visual presentation of slides were combined together in the video presentation layout.

A third finding highlighted many issues related to the technical design of video production solutions. Zhu & Bergom (2010) indicated that the skill level required to produce videos and make them available should be fairly minimal without the need for significant support services. In addition, the solution should make videos available as soon as possible after a class without further manipulation or editing before they are available for viewing, since

most children need to watch the video for a few hours of a given lesson (Wilson 2010). Copley (2007) and Dey, Burn & Gerdes (2009) emphasized that the system must combine audio, video (via digital camera or webcam), and slides simultaneously into a single video frame (Copley, 2007; Dey, Burn & Gerdes, 2009). Overall, the solution should combine PowerPoint slides, freehand drawing and typing, and the teacher's audio and video into a single video frame that children can view outside of class. The output should be produced in a standard and high-quality output format capable of running on any computer, mobile device, or standard home DVD player.

With the above principles and requirements in mind, the authors have carefully designed the architecture of the system. Consequently, the main intention of the development phase was to find and build the appropriate recording technique that acquires and synchronizes the PowerPoint slides and teacher's video presence simultaneously. The primary output of this phase was a complete code, a fully functional beta version of the entire software (called RealShow). To determine whether the prototype met the needs and expectations of teachers, and in order to collect user-performance and satisfaction data, a series of tryouts were conducted using one-to-one and small groups of teachers (5) at different local kindergartens. The computer experience of the volunteers varied. During tryouts, the researcher collected and recorded the problems, comments, and suggestions of the teachers.

### *5.2.3. Description of the solution*

The software obtains media content from a variety of resources and devices, including webcam, microphone, PowerPoint slides, drawing board, and typing board in a simplified manner. The technique involves opening regular PowerPoint slides in a window and capturing the presentation in real time while the teacher describes and explains the content. This window shows and manipulates the presentation the same way as if it was opened and treated in the full-screen mode. The teacher can navigate forward and back through slides, and employ other features, including slide transitions, text and graphic animation, slide timing, mouse movement, audio effects,

embedded video, and pen annotation (Figure 1).

The same window is used as a camera viewer to show the teacher's view using a digital camera or laptop built-in webcam and microphone. More than one camera might be connected to give views of other objects or toys. The teacher can generate professional-looking videos by switching between multiple camera views, which is important for creating attractive video materials. A window, which works as a whiteboard, was integrated to help teachers write and draw using a graphic tablet and digital pen with a USB interface instead of a mouse. This window allows the teacher to toggle between slides, whiteboard, and different webcams while recording, which simplifies the capture process. Figure 1 shows the architecture diagram of the system when capturing a lesson. Recording the presentation captures what the teacher is displaying in the window synchronously. As soon as the teacher loads the presentation into the window, she can start the recording process with a single click of a button, allowing her to immediately share the record with children and parents (Figure 2).

### 5.3. Evaluation instruments

#### 5.3.1. Teacher Rating of Oral Language and Literacy (TROLL) scale

In this study, the need was emphasized to use an instrument to identify children who are most in need of rich language and literacy support in order to catch up to their

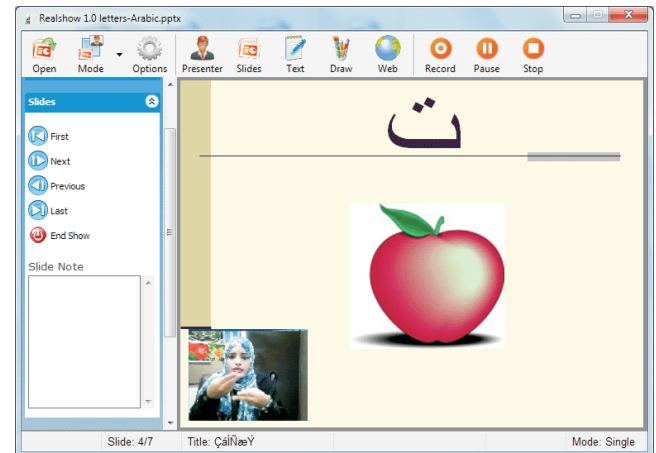


Figure 2. The main user interface of RealShow with PowerPoint presentation

peers in this regard. The same instrument would be implemented to detect changes that occurred as a result of the intervention effort and keep track of children's literacy growth. This instrument should rely on a teacher's professional judgment of a child's development. In addition, it should allow teachers to track a child's interests in various English and Arabic language and literacy activities, which is difficult to capture using direct assessment tools.

The review of the literature revealed that the Teacher Rating of Oral Language and Literacy (TROLL) is one of the optimal tools in this regard. TROLL is a rating scale developed by Dickinson (1997). TROLL was developed to provide teachers with a way to measure the literacy skills and development of children in early childhood classrooms. No training is required for using TROLL. It is designed so that classroom teachers can easily track the language and literacy development of their students. Based on the results of the instrument field testing, it requires 5–10 minutes for each child and, with a little planning, can be completed without disrupting classroom activities. Skills assessed include language, reading, and writing abilities.

TROLL covers many of the early reading and writing skills. It contains three subscales: (i) language use, (ii) reading, and (iii) writing. Introductory questions determine the language the child speaks and his or her comprehension and production abilities. The tool has 25 items, each measured on a scale that varies slightly by item. Total

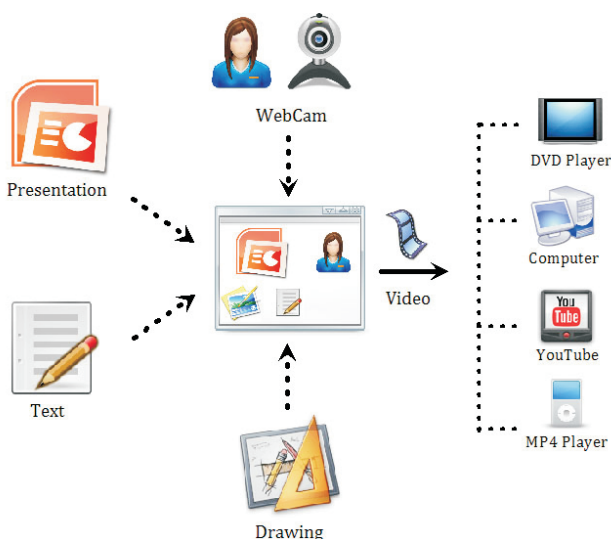


Figure 1. Media capture and acquisition technique in RealShow

scores are calculated simply by adding individual scores on these 25 scales; total scores vary from a minimum of 24 to a maximum of 98. These total scores provide teachers with both an indication of an individual child's development relative to other children and a means to chart an individual child's growth.

The psychometric properties of the instrument were examined at the Center for the Improvement of Early Reading Achievement, University of Michigan, by Dickinson, McCabe & Sprague (2001). The instrument was found reliable and has strong internal consistency. The alphas for separate language, reading, and writing subscales by age ranged from .77 to .92, representing strong internal consistency. Its validity has been established in numerous ways; TROLL correlates significantly with scores on the Peabody Picture Vocabulary Test and the Early Phonemic Awareness Profile given to the same children by trained researchers.

To make TROLL available to the intended Arabic-speaking teachers, the instrument was translated into Arabic by a bilingual university instructor and then independently re-translated back into English by a second bilingual instructor to confirm the accuracy of the translation.

### **5.3.2. Parents' interview**

To understand children's reactions to the use of classroom video presentations and parents' perception of the importance of videos to their young children, telephone interviews were carried out with parents during and at the end of the implementation, since children are regarded as being limited informants. The main intention of interviewing parents during the implementation was to increase their awareness, observation, and interaction with children. Although many parents did not like to be involved, interviews led to more parental investment in the process and provided valuable information, particularly with those who had the ability to supervise their children.

The interviews with parents addressed the following questions related to children's home use of classroom video presentations.

1. How many videos does your child watch each week?
2. How many times does he/she watch each video?

3. Does he/she talk about video presentations to you?
4. What is the overall reaction of your child towards the videos?
5. To what extent does he/she like the videos?
6. To what extent is he/she stimulated by the videos?
7. Does he/she find the videos easy to understand?
8. Do you believe that the videos are useful?
9. Do you find the videos supportive?
10. Do you believe that the videos improve your child's overall learning?
11. What kinds of skills do you think he/she learns from videos, if anything?

### **5.4. Procedure and Implementation**

The kindergarten administration was contacted and was supportive of the study, and provided access to the teachers and children. Firstly, teachers were interviewed to gain information on their educational philosophy, computer experiences, and beliefs in relation to computer use in early childhood education. In addition, teachers were trained for one week to produce effective PowerPoint presentations, using MS PowerPoint 2003/2007, or to modify their own slides for the purpose of promoting children's oral language and literacy skills. Person-level orientation and group workshops were found to be appropriate approaches to train teachers on how to use RealShow and prepare 10-minute video presentations. Based on research on multimedia (Mayer, 2001; Close, 2004), teachers were advised to prepare and record PowerPoint presentations that include the following: minimal visual or auditory stimuli, a balance between new and familiar words, interesting material for adults to encourage co-viewing, use of some sophisticated language, content that offers possibilities for interaction and participation through songs and questions, simple narratives, language-rich content, and the age-appropriateness of the presentation (Figure 3).

In addition, the use of supplementary video materials was based on what is known as "home literacy programs", which focus on parent-child interaction and co-viewing as a means of enhancing the literacy and language

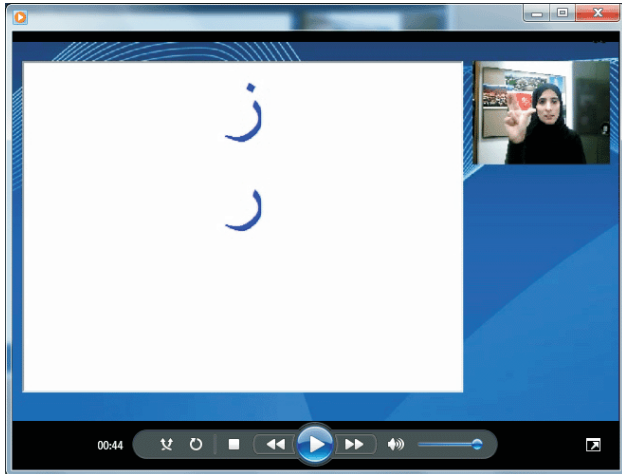


Figure 3. Sample video presentation produced by the teacher

development of the child. These kinds of programs assume that the same techniques used in classroom-based settings would be as successful in home-based settings and generally have positive results for participants (Saint-Laurent & Giasson, 2005). A variety of techniques can be successful at promoting children's literacy skills; these include engaging in book reading and providing parents with literacy development materials, which have been proven to have long-lasting effects on children's cognitive and literacy skills (Halle, Calkins, Berry & Johnson, 2003).

In this study, parents were contacted by phone and advised to encourage their children to view the videos at home, and that co-viewing the videos with parents is necessary for the purpose of the study. These videos were coupled with further video-based activity sheets that systematically encouraged children to apply what they are viewing or just viewed in the video. Activities required children, for example, to listen to words spoken aloud by the teacher while looking at letters and pictures representing those words and making judgments about whether they had a common onset or rhyme. Other word activities required children to combine and recombine onsets and rhymes to make real words.

RealShow was installed on teachers' portable computers. These computers were equipped with built-in webcams and graphic tablets for hand drawing and writing. Secondly, prior to the implementation, the teachers of the two classes (n=52) were asked to rate their children's

native language competence. Total scores were calculated simply by adding individual scores on the 25 items. These total scores provided the teachers with both an indication of an individual child's level relative to other children, along with a means to chart an individual child's level. Table 1 displays what different scores on TROLL indicate about a child's overall level.

For example, a score of 47 indicates that the child is making progress that is average for four-year-olds. A TROLL total score that corresponds to particular percentiles was computed by converting the raw scores of the total sample to percentiles. Therefore, children who scored 38 and below (n=12) were considered as they need extra involvement in literacy activities. Only those children (treatment group) were provided with video presentations for further involvement and home use.

The teachers and children of the treatment group were monitored for 16 weeks (Spring 2011) to guide the teachers and researchers to ascertain data in relation to children learning and their reactions to video presentations. Classes were taught by the same teachers using the same curriculum. The teachers reported following the same daily routine for their two classes. The only difference was that treatment group children received recorded PowerPoint-based video presentations prepared by the teacher, allowing them to spend extra time engaged in language-related demonstrations. This type of design eliminates many potential threats to internal validity related to teacher and group variables which are often seen in field studies assessing the effectiveness of supplementary materials (Troia, 1999).

Relative standing on the TROLL	TROLL scores	Recommendations/Meaning
10 th percentile	29	Child is scoring very poorly relative to his/her peers. Discuss concerns with parents.
25th percentile	38	Extra involvement in extended conversations and other literacy activities.
50th percentile	47	Child is performing at an average level.
75th percentile	59	Child is performing above average.
90th percentile	63	Child should be encouraged to read and write at advanced levels in school and at home.

Table 1. Teacher ratings of children on TROLL and its meaning



## 6. Results

### 6.1. TROLL

Examination of pre-test mean scores revealed that there were significant differences between the children at-risk (treatment group) and the remaining children (control group) in the three TROLL sub-scales and the TROLL total score (Table 2). Children at-risk had a mean score of 36.80 (SD = 2.31), a score that falls at or below the 25th percentile. The remaining children (not at-risk) received a mean score of 46.32 (SD = 4.38). The T-test revealed a significant difference between the scores of the children of the two groups in the total score and the language use, reading, and writing sub-scales.

Teachers administered the TROLL four months later at the end of the year to 57 children aged 3-5 years. All children (n=52) were rated by their teachers using TROLL to compare the literacy development of the treatment group children (n=12) to their control group classmates (40). The post-median scores of the treatment and control groups indicated that, overall, there were significant differences still between the two groups in the total TROLL score, indicating that no improvement had occurred in the oral language and literacy of the treatment group children compared to the control group children.

Further examination of the mean differences in the three sub-scales revealed that the post-median for the treatment group in the language use subscale was improved to 11.65 and there was no significant difference between the two groups ( $p > 0.05$ ), indicating that the children of the treatment group were beginning to be involved with video presentations and start conversations, communicate their experiences, and asking questions.

Scale/Sub-scale	Treatment Group (n=12)		Control Group (n=40)		Mean difference	t
	Mean	SD	Mean	SD		
Language use (out of 24)	8.91	1.3789	11.25	1.9578	2.34	3.84*
Reading (out of 32)	12.25	1.0552	15.45	1.5843	3.20	6.55*
Writing (out of 42)	14.91	0.7929	19.62	2.6572	4.70	6.02*
Total (out of 98)	36.8	2.3143	46.32	4.3875	10.24	7.73*

Table 2. Pre-test mean scores of treatment and controls groups in TROLL

However, significant differences were noticed in the other two sub-scales. The mean scores were significantly lower for the treatment group than the control group, indicating that no improvement was made in the treatment group children's reading and writing abilities. Table 3 presents the post-test language use, reading, writing, and total mean scores on TROLL for the children in the treatment and control groups.

### 6.2. Parents' interview

In order to understand the impact of pre-recorded video presentations on young children's literacy development, eight (father or mother) out of twelve families of the treatment group children were interviewed. Data were collected through open ended interviews which were conducted to obtain information about the children's reactions toward the videos and the families' perceptions of their children's acquisition of early literacy skills. The researchers helped family members by asking about specific experiences, such as the number of videos the child watches each week, number of times the child watches each video, reaction of the child towards the videos, the extent to which the child likes the videos, and whether parents believe that the videos improve the child's literacy or not. The responses to the interview questions are organized, analyzed, and coded to address the second research question. However, since many responses contained multiple beliefs, the number of codes assigned to each passage varied. Responses are categorized into three groups: frequency of watching the videos (questions 1 & 2), reactions toward the videos (questions 3, 4, 5, 6 & 7), and usefulness of video presentations (questions 8, 9, 10 & 11), and according to the type of feedback (general or distinctive), as shown in

Scale/Sub-scale	Treatment Group (n=12)		Control Group (n=40)		Mean difference	t
	Mean	SD	Mean	SD		
Language use (out of 24)	11.65	1.8257	11.66	1.9942	.0166	.026
Reading (out of 32)	12.91	1.2401	15.82	1.5994	2.9083	5.784*
Writing (out of 42)	15.16	0.9374	20.00	2.7174	4.8333	6.018*
Total (out of 98)	39.75	2.4908	47.47	4.5741	7.7250	5.581*

Table 3. Post-test mean scores of treatment and controls groups in TROLL

Table 4.

Overall, feedback from interviewees showed that children liked to watch video presentations prepared by their teachers every day and more than one time for each video. In addition, they found videos interesting enough to talk about with their parents. Responses from parents also indicated that children felt the video presence of the teacher attractive and simulating. Parents believe that video presentations were useful and affected their children's language development and curiosity positively. In addition, parents highlighted many viewpoints related to their own perception toward the usefulness of videos to their children, along with their children's reactions toward the videos. One parent addressed that "my child was able to benefit from watching the video lessons better than other video movies seen on the TV". In addition, two parents noticed that videos increased their children's vocabularies. One parent indicated that "I think that videos have really helped to increase my child's vocabulary". Another parent added that "These videos are helpful if my child views the video with me to interact with him while the video is running".

At the same time, many concerns were highlighted by parents regarding the time spent in watching video presentations in front of the computer or TV screen compared to other types of activities. A parent argued

that "My child can watch these video shows for a long time but he seems to have trouble paying attention to other activities like reading or speaking with me". Another parent argued that the number of video presentations her child should watch every week is too much. She argued that "it was better if the teacher could provide the child with one video presentation at the end of each week to revise the lessons he learned". In terms children's reactions toward the videos, one parent commented that although her child liked to view video materials prepared by his own teacher, she did not like her child to look at the TV or computer screen most of the time.

## 7. Discussion, Implication & Conclusion

Although very little has been published in the literature about the use of supplementary video lessons prepared by the teacher in early childhood education, findings from this preliminary study point to its effectiveness. This study examined the effectiveness of a new approach of video presentations prepared by the class teacher to supplement children who had low early literacy and language skills on children with emergent literacy development. The aim of these video presentations was to support young learner's emergent literacy development and develop their knowledge of letters and sounds, along with knowledge of narrative and storytelling. These videos were prepared using a tool

Results	General patterns (frequency)	Distinctive viewpoints (frequency)
1. Frequency of watching the videos	<ol style="list-style-type: none"> <li>1. Child watched videos 3-4 times a week (8).</li> <li>2. Child liked to watch each video presentation 1-2 times a week (8).</li> </ol>	<ol style="list-style-type: none"> <li>1. These videos increased my child's use of the TV screen (1).</li> <li>2. Too much watching time can interfere with physical activities (1).</li> <li>3. My child is too young to watch all these videos (1).</li> </ol>
2. Reactions toward the videos	<ol style="list-style-type: none"> <li>1. Child liked to talk about video presentations with parents (3).</li> <li>2. Child has a positive reaction towards the videos (3).</li> <li>3. Child liked to watch the videos (4).</li> <li>4. Child was attracted by the videos (5).</li> <li>5. Child found the videos easy to understand (5).</li> </ol>	<ol style="list-style-type: none"> <li>1. My child liked to watch the same video presentation repeatedly (2).</li> <li>2. My child was reciting bits of dialogue or singing the songs while viewing (1).</li> <li>3. My child liked the content and construction of the show (2).</li> <li>4. I do not like my child to look directly at the television screen (1).</li> </ol>
3. Usefulness of video	<ol style="list-style-type: none"> <li>1. The presentation videos are useful to my child (8).</li> <li>2. The videos support my child's literacy development (7).</li> <li>3. The videos improve my child's overall learning (8).</li> <li>4. My child was taught how to listen and read from the video (3).</li> <li>5. My child learned how to talk about what he/she learned in the class (4).</li> </ol>	<ol style="list-style-type: none"> <li>1. My child understood the video content better than other videos (1).</li> <li>2. These videos increased my child's vocabularies (2).</li> <li>3. The video was more beneficial when my child viewed it with me (2).</li> </ol>

Table 4. Analysis of interview results (n=8)

called RealShow, developed by the authors specifically for the purpose of this study. The kindergarten classes available for this study provided an opportunity to investigate the effectiveness of video presentations in closely matched treatment and control settings.

Comparisons were made between the treatment group, who received the supplemental video presentations, and a control group, without further support. Two groups were used to provide assurances that group differences were due to the use of teachers' video presentations with the treatment group children, and not down to other potentially confounding variables. The differences between the treatment group and the control group on the post-test total score indicated that the treatment group children did not benefit from the supplementary video presentations. However, a closer look at the mean scores of the language use subscale revealed that the treatment group children's language use was encouraged by the quality content offered by the videos. Better scores for the treatment group on the language use sub-scale indicated that viewing supplementary video presentations prepared by the teacher encouraged children to ask questions about topics that interest them, begin conversation with either parents or the teacher, tell parents about events that happened in the classroom, or recognize and produce rhymes. In emergent literacy instruction, the results of this study indicate that producing video presentations using RealShow holds promise for the development and enhancement of emergent literacy skills.

This result suggests that when children were exposed to video content at home, they might benefit from parent co-viewing. Interviewees confirmed that co-viewing the videos with their children promoted their talk and made verbal responses more frequent. The literature also indicates that co-viewing of informative videos with children is encouraging and useful to children. It was found to enhance children's ability to ask questions and talk with adults, which contributed significantly to children's level in language use (Roberts and Howard, 2004). These findings are consistent with the extant literature describing the importance of using multimedia

presentations in early literacy development (Parette, Blum, and Watts, 2009; Parette, Quesenberry, and Blum, 2010).

Although young children who are at-risk may require intervention to acquire emergent literacy skills, the findings indicate that learning from supplementary video presentations may be beneficial not only for children who are struggling, but also for typically developing children. Therefore, it is essential to continue examinations into how it can be used as an effective tool for emergent literacy development. For example, video presentations could be produced by teachers to target specific emergent literacy skills, or utilized to individualize learning and engage children using strategies, such as questions and songs. This use can support a wide range of literacy skills in early childhood education, such as vocabulary development, comprehension, and phonological awareness skills in young children (Zucker, Moody, and McKenna, 2009).

Overall, the findings are very encouraging and warrant additional research aimed at determining the potential contribution that the classroom-based video presentations may have on early literacy skills in young children. Although the study had several limitations that must be considered in light of the results, including the lack of an adequate number of children in the treatment group and possible interpretation problems resulting from home-based treatment, instructional decisions about producing and supplementing young children with video presentations must be made on the face validity of the technology (Parette et al., 2009).

While having a video can provide children with the experience of viewing their teacher present material, this can become a static pedagogical method. The challenge for teachers is to push the tool to its limits, providing more than a static form of video information to children and creating interactive videos through which children will be engaged and challenged to learn. Therefore, teachers should consider the interactive possibilities that a PowerPoint video lesson presents when deciding how to package, deliver, and present video presentations to children (Osborn, 2010).

Since successful technology integration is dependent on the teachers' acceptance and knowledge of technology, training teachers to produce and supplement children with remedial video materials should be encouraged to make them feel comfortable with the use of technology and to further investigate the long-term effects of video presentations on children's expressive language. In addition, further investigations are needed to observe children's use of video presentations at home, and encourage the use of interactive video features in literacy development.

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