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Text2Teach Educational Media: Implementer's Feedback and Learner's Academic Performance

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Abstract

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Keywords: *(maximum of 5 keywords separated by semi colon) (TNR10 italics)*

Introduction

The 21st century is an age of media and technology. Technological innovation is an inevitable change in any fields of society. As technology develops, it affects peoples' way of living. The society has to keep up with this change. The 21st-century education is merely associated with new inventions, which are more interactive with the enriched learning experience. As observed, children of today's generation are influenced by the unstoppable gadgets, technologies or electronic gears that probably have positive effects. With this, Text2teach mobile program is implemented in the year 2003. It was adopted from Brazil where they develop the Nokia Data Gathering (NDG) server, so data could easily be sent and captured. It makes gathering data in even remote areas quicker, more accurate and cost-effective that is why the idea through BridgeIT to promote equality education even too far-flung schools and communities in the country was conceived.

Philippine-based text2teach is the pilot of the BridgeIT Program. The country was chosen as one of the pilot areas because the Philippines has been acclaimed as the text capital of the world as cited by (Catangay, 2011). Text2teach is an educational initiative of Nokia, the International Youth Foundation, Pearson and the United Nations Development Programme. The project is led in the Philippines by Ayala Foundation and is managed and implemented by SEAMEO INNOTECH in cooperation with the Department of Education. Text2teach basically uses mobile phones to download educational videos in Math, English, Science and Character Education for grades 5 and 6 pupils. These videos, however, serve only as launching points for the topic to be discussed. Derequito (2010) points out that these videos are only meant to introduce the topic and not to replace teachers. He further emphasizes that there is a need to assess the program to improve the tools used in education (Estopace, 2010).

The Department of Education Regional Memorandum No. 66 series of 2012, "Text2Teach Program" states the expansion of the program to 850 public elementary schools nationwide. Thus, participation in the program entitles the schools to use the text2teach materials and training for teachers and school administrators and sustainable mechanism during the expansion period. This project aims to present interactive, multimedia educational videos that the remote communities would be benefited and improve the performance of the pupils (Gonzales, 2010). It was also emphasized during the launching of text2teach in Region XII by the Department of Education Regional Director, Ma. Rosa Gutierrez. She pointed out that this program seeks to raise the quality of public elementary education through mobile technology and helps improve the performance of pupils as well as the implementation of School-Based Management (SBM) practices. Thus, text2teach would be a leeway for the pupils to prepare them with lifelong skills and be ready for the 21st-century education (Montelibano, 2013). It has been proven that the program is effective as pupils learning becomes easy, informative and entertaining and it reduces the rate of absenteeism and dropouts among pupils (Catangay, 2013).

The overall goal of the text2teach project, implemented between July 2003 and March 2004, was to raise the quality of education in the Philippines in order to strengthen the competencies of the country's youth and to properly prepare them for the challenges of the 21st century. However, as observed in some schools using the text2teach educational media do not make the teaching-learning process fun, entertaining, and easy to understand. This is particularly happening in Maguindanao where there is a negative effect on predicted learning gains. It is also noticed that pupils have a hard time in understanding the concepts in NORTH I District schools namely: Macabalan Elementary School, North City Central School, Consolacion Elementary School, Corrales Elementary School and St. John Elementary, Division of Cagayan de Oro City. It is in this context that the study will focus on analyzing what makes the text2teach educational media ineffective towards achieving good academic achievement of grade six pupils of NORTH I District, Division of Cagayan de Oro City.

Theoretical and Conceptual Framework

This study was anchored on Mayer (2010) cognitive theory of multimedia learning which is also known as a multimedia principle that states "people learn more deeply from words and images than from words alone". However, simply adding words to images is not an effective way to achieve multimedia learning. Thus, the researcher uses this theory to help pupils learn efficiently with a goal of having an instructional media in the light of how human mind works. Furthermore, cognitive researchers also argue that multimedia supports the way that the human brain learns. They define multimedia indeed as the combination of text and images; and suggest that multimedia learning occurs when we build mental representations from these words and images (Mayer, 2005b). The words can be spoken or written, and the images can be any form of graphical imagery including illustrations, photos, animation, or video.

Additionally, Mayer's (2010) cognitive theory of multimedia learning has three main assumptions: First, there are two separate channels (auditory and visual) for processing information (sometimes referred to as Dual-Coding theory) which means several information stores (memory) that are governed by processes that convert stimuli to information. Second, by each channel has a limited (finite) capacity (similar to Sweller's notion of Cognitive Load) which means each subsystem of working memory has a limited capacity. Lastly, learning is an active process of filtering, selecting, organizing, and integrating information based on prior knowledge. Humans can only process a finite amount of information in a channel at a time, and they make sense of incoming information by actively creating mental representations. Mayer also discusses the role of three memory stores: sensory (which receives stimuli and stores it for a very short time), working (where we actively process information to create mental constructs (or 'schema'), and long-term (the repository of all things learned). Mayer's cognitive theory of multimedia learning presents the idea that the brain does not interpret a multimedia presentation of words, pictures, and auditory information in a mutually exclusive fashion; rather, these elements are selected and organized dynamically to produce logical mental constructs. Furthermore, Mayer underscores the importance of learning (based upon the testing of content and demonstrating the successful transfer of knowledge) when new information is integrated with prior knowledge.

Then, this multimedia learning enables pupils to be engaged in active processing. This is also supported by Eison (2010) as he says that multimedia encourages active pupil's involvement and engagement in classes. A meaningful learning occurs when students select suitable words and pictures, organize them into coherent pictorial and verbal models, and integrate them with each other with appropriate prior knowledge. As noticed, pupils are more attentive if the visual representation is clearly viewed on screen. Pupils learn better when corresponding words and pictures are presented near, rather than far from each other on the page or screen.

Moreover, Mayer (2010) also states that active learning processes can occur when corresponding verbal and pictorial representations are in working memory at the same time. Baddeley (2003) indicates that through audio and images, the pupil will be able to hold and process information and has the opportunity to be stored as representations in long-term memory. He stipulates that when information presented is similar to cognitive processes which occur inside the learner, the learner will learn better and that helps him to gain information retention and storage in the long-term memory. He argues that meaningful learning from words and pictures happens when the learner engages in five cognitive processes as selecting relevant words for processing in verbal working memory, selecting relevant images for processing in visual working memory, organizing selected words into a verbal model, organizing selected images into a pictorial model and integrating the verbal and pictorial representations with each other and with prior knowledge. This approach improves student's ability to retain and transfer new knowledge from animations and increase student engagement.

In connection, Ibrahim (2012) affirms that the use of on-screen text or symbols to highlight important information, a change in color or contrast and by highlighting the key information will help direct learner's attention. He also mentioned that targeting particular element of the video for processing in the working memory have shown

an improvement on student's ability to retain and transfer new knowledge from animations, and the effects certainly are extended to video. Videos increase students engagement and may improve students' performance on subsequent quizzes. [Hsin & Cigas \(2013\)](#) also emphasize the use of short videos to enhance student satisfaction and motivation. Pupils achieved a significantly higher percentage of involvement and their average grades increased.

Lastly, Multimedia resources help increase students' awareness of learning concerns, enhance their understanding of the topic, and foster the depth of their understanding and had positive effects on academic achievement [Narzoles \(2013\)](#). Thus, multimedia help improves educational productivity and aids the instructors to eliminate barriers to active learning and maximizes learning effectiveness as confirmed by [\(Eison, 2010\)](#).

Literature Review

In this 21st century, students are exposed to broad information where they need to evaluate critically the data and be able to arrive at appropriate solutions on the concerned matter. It came to a point where mobile computers have been introduced into educational contexts to aid students to improve academically for over the past two decades. Mobile technology brought vital effects to people to the point they have been using exceptional computing power, such as laptops, personal digital assistants (PDAs), tablet, personal computers (PCs), cell phones, and e-book readers. This huge amount of computing power and portability, combined with the wireless communication and context sensitivity tools, makes learning tool of great potential in both traditional classrooms and informal learning. However, despite of the advantages of using mobile computing devices for increasing computer accessibility, adverse teaching styles, and academic performance, researchers found mixed results on the effects of mobile devices and few studies addressed how best to use mobile devices and the effectiveness of doing so as mentioned by [Sung, chang & Liu, \(2016\)](#).

[Guemide & Benachaiba \(2012\)](#) of National Council for Accreditation of Teacher Education (NCATE) emphasizes that the current issues are not about using technology in education or ignoring it, but it is about how to employ this technology in the teaching and learning process in a proper way. The fact that the use of technology has become a reality that cannot be ignored but continuously stimulating students mind. National Integration Center (ICT) revealed that due to lack of data in Kenya, the use of digital content in their schools is slowly being adopted, a lot of effort by stakeholders is being geared towards the capacity building as quoted by [\(Sang, 2012\)](#).

Mobile phone ownership and use saturate the developing world. Teachers could use their mobile phones to receive teacher training as distance education [\(West & Chew, 2014\)](#). However, the challenge remains that the vast majority of mobile phones used in developing countries lack Internet connectivity [\(Horton, 2012\)](#), requiring creative solutions for how best to deliver teacher training content to offline mobile phones. With a broad range of mobile technology users worldwide including students from all levels, it has become a more famous tool in learning. Although the impact of mobile technology has been extensively studied, less is known about teachers' perception of how mobile technology impacts learning and its relation to Application (Apps) use in the classroom [\(Domingo & Gargante, 2016\)](#).

In connection, [Sharma \(2013\)](#) suggests that interactive multimedia is more suitable than the conventional direct method of teaching in relation to students' achievement and retention. One of the studies illustrated by [American Publisher \(2011\)](#) on digital materials distribution system can influence delivery in education through mobile learning is also geared towards finding the current limitations in the distribution of essential learning materials like topical learning materials and past papers. This encourage lecturers, teachers, and students in adapting digital content sharing in an economically viable way. Smartphones, as one of the mobile devices, allow learners to be connected to the world, literally, at their fingertips. In which mobile devices help engage and motivate students in their learning. However, it must be supported by sound pedagogy for truly be effective as past studies on mobile technology is a concern since it is imperative to note that the use of electronic readers is growing each day as cited by [Chua \(2016\)](#).

[Pooja \(2015\)](#) tells about gone are the days when teaching was restricted to all that the teacher had to say to the learners, a situation which made learners inactive in the teaching-learning situation. Today, the time has come for teachers to focus on technology for mobilizing the students' initiative, arousing the students' learning interest. Multimedia instruction fulfills this target by utilizing modern education technology reasonably. It can be utilized by teachers to enhance teaching and learning situations. These are used to make learning more interesting, motivating, stimulating and meaningful to the students. Therefore, multimedia has become an indispensable tool inside the classrooms to find the best ways for both students to learn effectively and teachers to teach efficiently.

[Gilakjani \(2012\)](#) also highlights the significant role of using multimedia in classes, particularly in motivating learners' interest. Showing entertainment videos is also a method to engage and to motivate students if shown within an entertainment context at the beginning of the class can also increase the positive mood of the students [Steffes & Duverger \(2012\)](#). On the view of [Joshi \(2012\)](#), multimedia provides an opportunity for interacting with various texts

that give students a solid background in the tasks and content of the course. [Nwaocha \(2010\)](#) also states that multimedia presentations can improve students' understanding, enthusiasm, class attendance, and satisfaction. For teachers, using multimedia in the instruction it creates learner-centeredness and helps students become active learners. This allows them to learn language according to their abilities, needs, and preferences [Lu & Liu \(2011\)](#).

[Satyaprakasha & Sudhanshu \(2014\)](#) find that Multimedia significantly promotes achievement with respect to knowledge, understanding, application and total achievement. Mostly these writings unequivocally accept that multimedia technology plays a positive role in promoting activities and initiatives of student and teaching effect in the content taught. It is supported by [Kumar & Patil, \(2013\)](#) who studied the effectiveness of multimedia presentation for teaching English Grammar and indicated that the students exposed to Multimedia presentation, gained much higher scores in their particular topics taken than students of the control group. Therefore Multimedia presentation is an innovative approach to teaching-learning process endless drill and practice without repetition, and provides immediate feedback to the learner on his/her progress.

However, [Flangan \(2008\)](#) states the positive findings that students in technology-rich environment experienced positive effects on achievement in all major subject areas, student attendance improves and dropout rates decline, with higher level of comprehension and a greater likelihood of using what they learn later in their lives and they showed increased achievement, decrease absenteeism, lower dropout rates, and motivate more students to continue on college for both regular and special needs children.

The researcher recognizes the essentiality of this foreign literature and emphasizes that the ideal goal of educators is to use an educational media in a classroom and see definite effects on achievement. Thus, components of text2teach educational media as to text, image, audios, and videos have relevance to learning the outcome. And that, educational media helps pupil learn more effectively, and also improves their desire to learn. Hence, it is also a tool that enhances both pupil learning and academic achievement. Specifically, the foreign setting helps the current study substantiate insights on the text2teach educational media in enhancing the student's performance.

The Department of Education (DepEd) has committed to using Text2Teach, a mobile learning program that uses Microsoft phones to deliver educational video materials, in public schools. Since 2003, Text2Teach has been implemented in 1,103 schools. It has provided training to more than 4,000 teachers and benefited over 3,000 students. Ayala Foundation Education leads Irene Demecais Jr. Said Text2Teach aims to reach all 38,000 public elementary schools in over two hundred (200) DepEd Divisions by the year 2016. Thus, during the celebration of the 10th Year Anniversary of Text2Teach in the Philippines, the Ayala Foundation signed agreements with the Department of Education and the Department of the Interior and Local Government (DILG) to mainstream the project in all public schools and it will not be mandatory.

[Department of Education Undersecretary for Programs and Projects Dina Ocampo \(2015\)](#) said that the Text2Teach complements the new K to 12 curriculum. It is considered the longest running BridgeIT program from among eleven (11) countries in the world. And that, Department Education will be adopting the content of the program and upload it to the website so more teachers can have better access to it. Teachers will be able to make their own decisions when teaching. With the intention to provide multimedia connectivity and those who are at the far-flung areas would not have to be left behind. This is indeed one of the many objectives that "Text2Teach/Bridge-IT" Philippines intent to pursue the use of offline mobile phones to train English teachers in developing countries.

[Guevara \(2015\)](#) points out the four recommended variations for using offline mobile phones to train teachers in developing countries, namely by using text messages and teachers' own phones, text messages and provided phones, training material stored on SD cards in teachers' own phones, or training material stored on SD cards in provided phones. The most cost-effective variation seems to be text messages delivered to teachers' own phones. No matter the choice of delivery modes, any project using offline mobile phones to train teachers in developing countries will require three main strengths: a diverse network of project partners to include local government backing, a low or no-cost price point for participants, and a robust project monitoring and evaluation plan based on quality data gathering. The U.S. government could have tremendous potential global reach if it were to adopt teacher training policy for using offline mobile phones to train English teachers in developing countries through organizations like the U.S. Peace Corps and English Language Fellows Program.

Since the start of Text2Teach implementation, two independent studies have been conducted. It pointed out the increase in learning gains of the students, decrease in absenteeism and drop-out rates, and enhanced teacher confidence and competence were visible. The evaluation also made learning and teaching more engaging and has enhanced teacher-student and student-student interaction, Ayala Foundation affirms.

Additionally, [Mark Francis B. Natividad \(2014\)](#) a 5th grade English teacher and a recipient of the Global BridgeIT Award of Excellence in Teaching who has fully embraced the technology and is seeing quantifiable results, feels strongly about the program's benefits to the country. Teachers can now visit homes of our learners to see their real conditions, which is a great factor in the learners' achievement. It has fostered positive attitudes towards learning

and the use of technology for teaching is an arousing strategy. He also mentioned that we must be thankful that more and more private companies are willing to support programs most especially to help the poor but deserving children in the country. He has seen exactly and how text2teach supports students from encouraging attendance and engagement to raising test scores and 21st-century skill competencies.

Natividad (2014) also specifies that, with this K-12 program, Filipinos are looking forward to a positive ripple to the economic status of the country and we need more skills will be highlighted that will arm and help many Filipinos to compete with the rest of the world. He discusses that the holistic reform initiatives like Text2Teach are successful because they bring to bear the resources of multiple partners, seeing how these efforts are playing out day-to-day in communities that need them most proves beyond a doubt that they're making a difference in the lives of students and the future health of their countries. He points out some of the benefits of the mobile technology and isn't limited to students only. The creative videos and games enabled by Text2Teach mean less time creating audio-visual tools to aid classroom instruction. With the time savings, Natividad (2014) has been able to spend much more of his time working with students, even visiting their homes to better understand how conditions there impact learning and that technology has brought a different dimension to the classroom environment. It also awakens and caters to many senses of the learners — from visual to hearing to motor senses.

Although, Bayona (2011) says that some teachers using text2teach technology also experienced technical problems but these problems have been resolved by the developers themselves. It was also found out that teachers of CELTEX possess a trait of good users that they were able to teach effectively with the aid of this educational media. The text2teach technology was already part of their curriculum as a positive integration of new media and technology. Lastly, Natividad (2014) greatly emphasizes that Text2Teach videos make the work easier and more enjoyable. It has shown improvements in student performance in National Achievement Test scores in the Philippines.

A study by Natividad (2006) from Cotabato City informs that exposure to text2teach as an intervention leads to significantly higher learning gains in English, Math, and Science at Grades level 6 and 5. The gains are very impressive for English and Science but less so in Math although still highly significant. Although exposure to the intervention leads to learning gains in general, the magnitude of the gain is modified by the province where the school is situated.

Nevertheless, the researcher supports the idea that educational media was being introduced a long time ago adopted in the context of education with the intention of improving the quality of education. It is on this aspect that Text2Teach as educational media was being implemented and adopted by Department of Education knowing its positive effects on academic achievement and its use to further enhance the skills of the 21st Century learners. It was observed that multimedia itself has relevance to learning acquisition and contributed much to the improved academic achievement of an individual.

The review above helps the current study in understanding better the intention of the text2teach as educational media, which is to enhance the learning process skills of the pupils. It inspires the researcher to make this study a tool to communicate the significant role of text2teach education media in making the learning process of the pupils effective and meaningful for them.

Research Methods

Design and Setting

This study utilized the descriptive research method. This method involves description, recording, analysis, and interpretation of condition that would exist at the time that the research was conducted. Under this method of research, description of the components of the Text2Teach educational media as to texts, images, videos and audios and pupils' academic achievement in three (3) learning areas like Mathematics, English, and Science was tested.

This study was conducted at NORTH I District, Division of Cagayan de Oro City which includes Macabalan Elementary School, North City Central School, Consolacion Elementary School, Corrales Elementary School and St. John Elementary. Cagayan de Oro is also known as the City of Golden Friendship and a first class highly-urbanized city in the Province of Misamis Oriental. It serves as the regional center and business hubs for Northern Mindanao (Region X), and part of a growing Metropolitan of Cagayan de Oro. The confluence factors such as: rapid population increase, rich agricultural and forest lands, minerals, scenic tourist spots, bodies of water, good infrastructures and utilities, the concentration of health, educational and research centers, typhoon-free climate and favorable peace and order condition makes the City of Cagayan de Oro a favorite investment and tourist haven and one of the fastest growing cities in the country.

Instruments, Validation and Statistical Treatment

The research instruments that were used in gathering the necessary data for this study were a personal interview, focus group discussion, desk research and a researcher-made questionnaire. Problem number 1 was answered through personal interview, a face-to-face contact with the researcher and the respondent and desk research wherein the researcher collected readily available information from the internet. Problem number 2 used a researcher-made questionnaire anchored from [Brame \(2015\)](#) on Effective Educational Videos. The first part of the researcher-made questionnaire was the background information of the teacher respondents. The second part required answering the component of text2teach educational media as to its usage in terms of text, image, video, and audio were answered by teacher respondents. Problem number 3 was answered through group discussion in which group of people was asked about their perceptions and opinions and the researcher listed the vital points and also personal interview and desk research a very standard, low cost and convenient method to clarify the research focus was part of this study.

Before the questionnaires were administered to the pupils, the copies of the questionnaires were shown to the teacher adviser for comments and suggestions. The comments and suggestions were the basis for the initial revision of the questionnaires. After this, the questionnaires were tried with pupils were not involved in this study. This step was made to spot the vaguely stated questions and was rephrased by the researcher in order to get the appropriate data. Also, the questionnaire was tested for validity and reliability. The interview and focus group discussion questions were presented to the adviser for guidance.

All the gathered data were tabulated and analyzed using statistical procedures. Descriptive measures such as frequency, percentage, mean, standard deviation correlation and regression analysis were utilized.

Results and Analysis

Table 1
Distribution Table Showing the Relationship of the Text2Teach Educational Media and the Pupil's Academic Performance using Pearson Correlation Coefficient (r) Value (n=599)

Text2Teach Domains	English $\bar{x} = 80.14$ sd = 3.919		Mathematics $\bar{x} = 79.06$ sd = 3.655		Science $\bar{x} = 80.39$ sd = 3.716		Overall Academic Performance		
	R	Verbal Desc	r	Verbal Desc	r	Verbal Desc	r	Verbal Desc	
Text	0.675	MPR	0.905	SPR	0.678	MPR	0.748	SPR	
Image	0.544	MPR	0.756	SPR	0.497	MPR	0.591	SPR	
Video	0.785	SPR	0.884	SPR	0.731	SPR	0.809	SPR	
Audio	0.946	SPR	0.826	SPR	0.875	SPR	0.916	SPR	
<i>Pearson Correlation Coefficient (r) Value</i>					<i>Description</i>				
0.00 – 0.09					No Linear Relationship (NLR)				
0.10 – 0.49					Weak Positive Relationship (WPR)				
0.50 – 0.69					Moderately Positive Relationship (MPR)				
0.70 – 0.99					Strong Positive Relationship (SPR)				
1.00					Perfect Linear Relationship (PLR)				

Table 1 shows the distribution table showing the relationship of the text2teach educational media in terms of the image, text, video and audio presentation to the pupils' academic performance in the tool subjects English, Mathematics, and Science. The result showed that in terms of academic performance of the pupils, they showed only a satisfactory performance in Science (mean = 80.39, sd = 3.716) and English (mean = 80.14, sd = 3.919) while they had a fairly satisfactory performance in Mathematics (mean = 79.06, sd = 3.655). [Natividad \(2006\)](#) supported this result, he claimed in his study that exposure to text2teach as an intervention leads to significantly higher learning gains in English, Math, and Science among Grades 5 and 6 pupils. The gains were very impressive for English and Science but less so in Math although still highly significant. Although exposure to the intervention leads to learning gains in general, the magnitude of the gain is modified by the province where the school is situated.

In terms of the relationship of the text2teach educational media on the pupils' academic performance, the text of the text2teach educational media showed a strong positive relationship to Mathematics while showed a moderate positive relationship to English and Science. This supports the fact that Mathematics was best learned through text. It

should be noted that mathematics equations or formula should be written by the pupils to ensure better retention. This also supports the result of the study of [Natividad \(2006\)](#) that pupils performed in the least in Mathematics when exposed to the text2teach educational media. According to his study, the pupils had significant higher learnings in Science and English but less in Mathematics although still significant. This supports the fact that since the text2teach educational media was presented as a video, then as expected pupils may have the least learning gains in Mathematics since it should be best learned through writing and constant practice. On the other hand, in terms of text2teach image presentation, it showed a strong positive relationship to Mathematics and moderately related to English and Science. This result was similar to the result of the relationship between text and the tool subjects, English, Science and Mathematics. In mathematics, images showed the very relevant connection between students' performance.

In terms of the text2teach educational media videos, result showed strong positive linear relationship to the pupils' academic performance in English, Mathematics, and Science. This result implies that the videos showed a strong association, which means that excellent videos would result in excellent pupils' academic performance most especially in mathematics. In fact, during the one-on-one interview with the teacher-respondents', they suggested that the video makers may consider revising the videos, localized the materials and enhanced the videos so it may have a strong effect on pupils' academic performance. This supports the claim that technology effectively enhanced students' academic performance which corroborates the study of [Flangan \(2008\)](#) which showed positive findings that students in technology-rich environment experienced positive effects on achievement in all major subject areas, student attendance improves and dropout rates decline, with higher level of comprehension and a greater likelihood of using what they learn later in their lives and they showed increased achievement, decrease absenteeism, lower dropout rates, and motivate more students to continue on college for both regular and special needs children.

The audio presentation of the text2teach educational media also showed strong association on the pupils' academic performance in English, Mathematics, and Science. These results indicate that an improvement of the audio presentation of the text2teach educational media would mean an improvement of the academic performance of the pupils especially in English, followed by Science and lastly Mathematics. The other way around would mean that bad audio would result to the underwhelming academic performance of the pupils. Because of this result, there is really a need to improve the quality of the audio of the text2teach educational media as suggested by the teacher-respondents.

Overall, the result showed that when taken jointly, the manner which the texts, images, videos, and audio of the text2teach educational media showed strong positive relationship on pupils' academic performance. The audio performance showed the greater relationship among the four aspects which means that the makers of the text2teach educational media need to improve the audio presentation in order to significantly improve the pupils' academic performance. The Ayala Foundation confirms that the text2teach educational media helped increase in learning gains of the pupils', a decrease in absenteeism and drop-out rates, and enhanced teacher confidence and competence. The evaluation also made learning and teaching more engaging and has enhanced teacher-student and student-student interaction. This also supports that multimedia significantly promotes achievement on students. [Satyaprakasha & Sudhanshu \(2014\)](#) found that multimedia significantly promotes achievement with respect to knowledge, understanding, application and total achievement. Mostly these writings unequivocally accept that multimedia technology plays a positive role in promoting activities and initiatives of student and teaching effect in the content taught. It was also supported by [Kumar & Patil, \(2013\)](#) who studied the effectiveness of multimedia presentation for teaching English Grammar and indicated that the students exposed to Multimedia presentation, gained much higher scores in their particular topics taken than students of the control group. Therefore Multimedia presentation is an innovative approach to teaching-learning process endless drill and practice without repetition, and provides immediate feedback to the learner on his/her progress.

Table 2
Distribution Table Showing the Impact of Text2Teach on Pupil's Academic Performance (N=396)

Txt2Teach Domains	Subjects			Overall Academic Performance
	English	Mathematics	Science	
Text	1.58	3.69	1.60	1.95
	0.211	0.034*	0.208	0.146
	(Not Significant)	(Significant)	(Not Significant)	(Not Significant)

Image	1.12	2.00	0.99	1.27
	0.343 (Not Significant)	0.140 (Not Significant)	0.394 (Not Significant)	0.294 (Not Significant)
Video	2.19	3.28	1.85	2.39
	0.116 (Not Significant)	0.046* (Significant)	0.161 (Not Significant)	0.097 (Not Significant)
Audio	5.05	2.54	3.13	3.97
	0.015* (Significant)	0.085 (Not Significant)	0.052 (Not Significant)	0.029* (Significant)

*significant at $p < 0.05$ alpha level

Table 2 shows the extent of which the text2teach educational media affect the pupils' academic performance. Result showed text (p-value = 0.034) and video (p-value = 0.046) showed significant impact on pupils' performance in Mathematics while audio (p-value = 0.015) showed significant impact on pupils' academic performance in English as well as their overall performance (p-value = 0.029) in English, Mathematics and Science. These results indicate that the text2teach educational media text and video were significant predictors of the pupils' academic performance and the audio presentation was a predictor of pupils' combined academic performance in English, Mathematics, and Science. With this, there is really a call for the founders of this text2teach educational media to focus on the improvement of the text, video as well as the audio presentations of the text2teach educational media. There is also a need to revise the videos in such a way that it was localized and presented not very fast so pupils can capture the lessons well. The need to prolong a bit the videos since teachers commented that it was really short and hard to capture relevant ideas. As [Gilakjani \(2012\)](#); [Joshi \(2012\)](#); [Steffes & Duverger \(2012\)](#); [Nwaocha \(2010\)](#) and [Lu & Liu \(2011\)](#) said in their research studies that the use of multimedia in the classroom motivates the learners' interest, increase the positive mood of the students, provides opportunity for interacting with various texts that give students a solid background in the tasks and content of the course and can improve students' understanding, enthusiasm, class attendance, and satisfaction. And for the teachers, using multimedia in the instruction it creates learner-centeredness and helps students become active learners. This allows them to learn language according to their abilities, needs, and preferences.

The importance of audio in any video material like the text2teach educational media needs to be taken seriously for it is really a vital element of the media. It follows that audio production has to take into account (from the design phase to the final production of the material) that sound cannot just be added in, it has to be thought of in conjunction with the graphic elements. When the product is evaluated, this should include its aesthetic look, not just its technical aspects. Always bear in mind that the quality and the type of audio will be responsible for the final product's interactivity and attractiveness ([de Silva, 2014](#)). Technology blessed the teachers with multimedia such as this text2teach educational media with the aim of stimulating students' interest as well as enhancing pupils' academic performance.

Table 3
Teacher-Respondents Focus Group Discussion (FGD) Result (n=10)

Questions	Teacher Responses
1. Describe how text2teach educational media be used on lesson presentation.	<p>a) 4 or 40% of them noted that Text2Teach was used as a springboard or motivation for the lesson.</p> <p>b) 2 or 20% of them reported that Text2Teach was supposed to be updated for the current curriculum.</p> <p>c) 2 or 20% of them stated that it is used as an instructional material for further elaboration and discussion of the lessons.</p> <p>d) 2 or 20% of them said that it is used as an interactive teaching in the classroom by connecting the phone to a classroom viewing.</p>
2. What can you say about the image, text, audio, and video on text2teach educational media?	<p>a) 6 or 60% of them said that the images were clear as well as the texts. There were some problems with the audio and video and most of the time the actors are talking too fast and inaudible.</p> <p>b) 1 or 10% said it is informative and readable.</p> <p>c) 1 or 10% commented that it is interesting.</p> <p>d) 1 or 10% said that the image, text, and videos were foreign to our</p>

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- children.
- e) 1 or 10% noted that the images used were clear though some were not presented per learning competency, rather they were made per topic.
3. In what ways could the text2teach enhance pupil's achievement?
- a) 1 or 10% said that the images can help pupils understand the lesson.
- b) 1 or 10% said that the materials and videos should be interesting.
- c) 1 or 10% noted that the videos should be localized so the pupils can easily understand.
- d) 1 or 10% commented that through discovering new things it enhances pupil's achievement.
- e) 1 or 10% said that it enhances pupil's imagination and shows exact illustration.
- f) 1 or 10% commented that with Text2Teach, pupils can relate, enrich their learning and educate them.
- g) 1 or 10 % said that pupils can see the reality or actual situations of the activity, experiment and incidents or calamities.
- h) 2 or 20% of them said that it increases pupil's interest and they can listen attentively.
- i) 1 or 10% said that pupil's achievement could be enhanced if teachers used a wide range of exciting materials to teach the concepts. And Text2Teach educational media is ready.
4. What are the challenges you have encountered in delivering your lesson using the text2teach media?
- a) 2 or 20% of the FGD participants said that the text2teach video clips were too short. Some clips don't have examples and some words are inaudible. The students should pay more attention to view, watch and listen carefully to grasp and understood the presentation well if not they could not get it.
- b) 2 or 20% of them said that it is time-consuming in operating the media player and going to the text2teach room.
- c) 2 or 20% of them commented that the elaboration of the text was unclear or the language used are quite difficult to understand by the pupils.
- d) 2 or 20% of them reported that the children were not that interested to watch because most of the objects are unfamiliar or not found in the Philippines.
- e) 2 or 20% of them noted that some of the topics were not found in the videos.
5. How did you address these challenges to make your instruction effective and meaningful for the students?
- a) 2 or 20% of them said that translating or explaining again to the pupils the statements of the text2teach videos.
- b) Downloaded other video materials from the internet.
- c) Text2teach should be revised based on the changes of the new curriculum and must be localized.
- d) Study first the video ahead before presenting it to the pupils or log on to other sites such as YouTube.
- e) The audio problem is beyond their capacity.
- f) Made preparations for the room and the player.
- g) Allowing the pupils to view the clips in 2 or 3 times and have video paused while explaining to them what is in the video. Asking also more questions so that all parts of the video are clarified.
- h) Before using the text2teach, the teacher should say some reminders to consider for the pupils to do so. To make it effective, clarify and simplify the things to do before presenting and manipulating the
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text2teach instructional media. After this, interaction happened between the pupil and teacher.

Table 3 above shows the result of the Focus Group Discussion (FGD) of the teacher-respondents and the researcher. The teachers who participated the discussion were first oriented about how the discussion will go about, the purpose of the discussion and the discussion revolve around five (5) questions about the implementation of the text2teach educational media in their classes.

On the first question, teachers were asked to describe how the text2teach educational media was used for their lesson presentation. Result showed that 4 or 40% of them noted that text2teach was used as a springboard or motivation of the lesson, 2 or 20% of them reported that text2teach was supposed to be updated for the current curriculum, 2 or 20% of them stated that it is used as an instructional material for further elaboration and discussion of the lessons and 2 or 20% of them said that it is used as an interactive teaching in classroom by connecting the phone to a classroom viewing. This result implies that they perceived the text2teach educational media as an interactive instructional material which aims to stimulate pupils' interest in discussing their lessons and the ultimate goal was to improve pupils' academic performance.

Secondly, the teacher-participants of the FGD were asked on their comments about the text2teach educational media in terms of texts, images, videos and audio presentations. The result showed that six (6) or 60% of them said that the images were clear as well as the texts. There were some problems with the audio and video and most of the time the actors are talking too fast and inaudible, one (1) or 10% said it is informative and readable, commented that it is interesting, the image, text, and videos were foreign to our children, the images used were clear though some were not presented per learning competency, rather they were made per topic.

Thirdly, the teacher-participants were asked the ways in which the text2teach enhance pupil's achievement. In response, one (1) or 10% said that the images can help pupils understand the lesson, the materials and videos should be interesting, the videos should be localized so the pupils can easily understand, enhances pupil's achievement and imagination and shows exact illustration, pupils can relate, enrich their learning and educate themselves, they can see the reality or actual situations of the activity, experiment and incidents or calamities and lastly pupil's achievement could be enhanced if teachers used a wide range of exciting materials to teach the concepts. Two (2) or 20% of the participants said it increases pupil's interest and they can listen attentively in the classroom discussion as they were hooked to the video they are watching.

In the fourth question, the teacher-participants of the FGD were asked to discuss challenges they have encountered in delivering your lesson using the text2teach media. The result showed that two (2) or 20% of the FGD participants said that the text2teach video clips were too short. Some clips don't have examples and some words are inaudible. The students should pay more attention to view, watch and listen carefully to grasp and understood the presentation well if not they could not get it, it is time-consuming in operating the media player and going to the text2teach room, the elaboration of the text was unclear or the language used are quite difficult to understand by the pupils, the children were not that interested to watch because most of the objects are unfamiliar or not found in the Philippines and some of the topics were not found in the videos.

Finally, the teacher-participants of the FGD were asked about how they addressed the challenges to make their instruction effective and meaningful for the pupils. The result of the discussion showed that two (2) or 20% of them said that they tried translating or explaining again to the pupils the statements of the text2teach videos. One (1) or 10% said that they personally downloaded other video materials from the internet. They also commented that the text2teach should be revised based on the changes of the new curriculum and must be localized, study first the video ahead before presenting it to the pupils or log on to other sites such as YouTube, the audio problem is beyond their capacity, that is why they made prior preparations for the room and the player. They allowed the pupils to view the clips in 2 or 3 times and have video paused while explaining to them what is in the video. Asking also more questions so that all parts of the video were clarified and lastly they suggested that before using the text2teach, the teacher should say some reminders to consider for the pupils to do so. To make it effective, clarify and simplify the things to do before presenting and manipulating the text2teach instructional media. After this, interaction happened between the pupil and teacher.

The results of the FGD showed that the teacher who was able to utilize the text2teach educational media clamor for the improvement of the videos. These claims need to be addressed and this research would attempt to provide suggestions based on the data presented and the FGD results. These improvements of the text2teach educational media would somehow enhance further the academic achievement of the pupils as well as the drop-out rate of the public schools in the country. If this would be achieved hopefully, the recipients of this educational media would become very proficient not only in their academics but as well as to their workplace in the future.

Conclusion

On the basis of the results and findings, the researchers conclude that the teacher-implementers were not so satisfied with the manner which the text2teach educational media was presented in terms of its text, images, video, and audio. The texts, images, videos and the audio presentation of the text2teach educational media showed strong positive relationship on pupils' academic performance in English, Mathematics, and Science. Although the texts, images, videos, and audio showed a significant relationship, the audio showed the greater significant impact on pupils' academic performance. Finally, the teachers and students wanted to have a localized version of the text2teach educational media to have a stronger effect on their academic achievement in English, Mathematics, and Science. They also suggested that all the learning competencies must be covered in the text2teach educational media and the presentation should be clear, accurate and not boring.

Recommendations

In light of the findings and conclusions presented, the researchers recommended that the text2teach educational media producers/makers may consider improving the text, image, video, and audio presentation and if ever create a localized version to ensure the stronger impact on pupils' academic performance in English, Mathematics, and Science. Secondly, the text2teach educational media producers/makers may consider the proposed localized version of the media and compare the impact between the old and the proposed localized version of the researcher. Furthermore, the text2teach educational media producers/makers may consider making educational videos for the rest of the subjects not only English, Mathematics, and Science. Also, the teacher-implementers of the text2teach educational media may consider finding other alternative videos to supplement the limitations of the available videos of the text2teach. Finally, further studies can be made as to the impact of the text2teach educational media on pupils' study habits, anxiety, learning styles, self-efficacy and attitude towards the subject in a much bigger population.

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