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LED TV IN THE CLASSROOM: IT'S ACCEPTABILITY AND EFFECTIVENESS IN THE PHILIPPINES

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Abstract

This study intends to surface the effects of using LED TV in the classroom utilizing a mixed method of quantitative to analyze teachers' acceptability; and qualitative through phenomenology to describe the essence of the live-experienced of teachers; and phenomenography to structure the effect of LED TV in the learning of the students. Through validated researcher acceptability survey questionnaire, semi-structured interview guide, focus group discussion anchored in the Unified Theory of Acceptance and Use of Technology and Technology Acceptances Model (Kolog et al., 2015), and the richness of the data gathered, this study surfaced that the use of LED TV in the classroom is an effective and useful educational-

technological tool, for it creates various effects both to teachers and students. With the use of LED TV, teachers became competent, confident, and effective teachers.

Keywords

LED TV, Acceptability, Technology, Quantitative, Qualitative, Phenomenology, Phenomenography

1. Introduction

Educational organizations and schools are increasingly recognizing the potential of new technologies in improving educational outcomes so they are constantly searching the best pieces of technologies which can deliver that promise (Abuhmaid, 2014). It has a big factor in teaching and learning process (Groove, 2014). According to Michigan Health System (2010), Light-emitting diodes (LED) television (TV) as part of technology and an audio-visual media became one of the common learning resources or tool used inside the classroom to disseminate the lesson.

According to Pandey (2013), in-classroom and out-of-classroom instructional TV (Abuhmaid, 2014) has been considered as an effective instructional technology (Brown & Green, 2010), wherein, teachers can present their lesson in various forms at the same time anchored in today's students' characteristics as visually literate (Berk, 2010). Away from the traditional approach, wherein, chalk and board are the primary tool in imparting knowledge in Philippine classroom, television in the classroom are increasingly gaining its popularity (Demecais, 2014). In the Philippines, Batas Pambansa 2032 or also known as Educational Act of 1982, suggested to strengthen the technology in the classroom. As to this date, instructional technology such as TV has been a practice in the classroom in some areas in the Philippines. According to Venkatesh et al. (2003, cited by Kolog, 2015) there are factors affecting the use of technology, in line with this, the purpose of this study is to find out teachers' and learners' experiences using the LED TV as instructional tool. Specifically, this study sought to find the acceptability of LED TV in the classroom and the lived-experiences of teachers in utilizing LED TV in their teaching; and structured the effects of LED TV in the learning of students in Benjamin B. Esguerra Memorial National High School.

1.1. Literature Review

Historically, TV utilized in distance education, the content is delivered via audio or video tape, satellite TV, and CD-ROM that is used in self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio (Pandey, 2013). Nowadays, television as one of the technology being used by educators to disseminate knowledge (Louise, 2018); facilitates learning to the students (Kayalar, 2016). It has the ability to present information to the student and effective tool in expressing abstract concepts or ideas (Saglik & Ozturk, 2001) and can potentially improve academic skills when used intentionally for the specific purpose (Louise, 2018).

In the Philippines, in the full implementation of the K to 12 curriculums in 2016, UNESCO (2008) envisioned that K to 12 offers students more opportunities to experience technology-supported learning that is interactive, interdisciplinary, collaborative and authentic. In this reason, there are traces that educators and companies are in adherence and in help to materialize the rationale of the K to 12 programs as technology oriented classroom. Some evidences that TV is being used in the classroom are in the study of Jaucian (2017) wherein he related that educators bring the technology inside the classroom. Another, the articles in newspapers and online news on the effort of the companies to support the implementation of the K to 12 donating a learning tool package (SMART Communications, 2016); Samsung has been active in promoting its innovations to help in improving educational procedures in Philippine schools (Fernandez, Pante & Seng, 2014).

Moreover, new teachers are considered millennial who were efficient and effective in using instructional technology because they are exposed to modern trends, equipped and exposed in ICT knowledge and skills (Daling, 2016).

Though this kind of technology exists, chalk and board are still widely use in the Philippines. Traditionally, the government provides classroom teachers with an annual chalk allowance for buying chalk, eraser and other materials for visual aids. Today, chalk allowance is known as cash allowance. This cash allowance amounted to seven hundred pesos in School Year 2011, (Tinio & Castro, 2016). Since this amount is not enough to cover the needs of the teachers especially in K to 12 programs, this allowance increases to three thousand and five hundred pesos at the present time per teacher a year school year (Cabico, 2018).

1.2. Theoretical Perspective

The Technology Acceptance Model helps managers and decision makers to assess the success of the introduction of technology to the organization, and motivate users to accept the systems (Alqudah, 2015). The newest amongst them is the Unified theory of adoption and use of technology (UT AUT) by Venkatesh et al. (2003, cited by Taiwo & Downe, 2013), which has been applied and empirically tested in different domains. The model is believed to be more robust than other Technology acceptance model in evaluating and predicting technology acceptance (Venkatesh et al., 2003, cited by Taiwo & Downe, 2013).

In the study of Kolog (2015) the four constructs on technology acceptance are described as: Performance expectancy (PE) is the degree to which an individual believes that using a particular system would improve his or her job performance. Effort expectancy (EE) is the degree of simplicity associated with the use of a particular system. Social influence (EE) is the degree to which an individual perceives that others believe that he or she should use a particular system. Facilitation condition (FC) is the degree to which an individual believes that an organizational and technical and Behavioral intention (BI) is the degree to which individual's behaves to accept and use of a system (Kolog, 2015).

The above model has been used to investigate acceptability rating, determine the factors that affect the use of the LED TV in the classroom among selected teachers and to structure the effect of LED TV in the learning of the students. Hence; the constructs of the survey questionnaire, the questions in interview guide, and the focus group discussion are anchored on the above technology acceptance model and served as a priori of this study. Specifically, the following research questions were posted below:

1.3. Research Questions

1. What is the acceptability rating of the LED TV according to Unified Theory of Acceptance and Use of Technology and Technology Acceptance Model?
2. What factors are significant to teachers and students?
3. What is the essence of the experiences of teachers using the LED TV in the classroom?
4. What is the structure of the effects of the LED TV in the learning of the students?

1.4. Significance of the Study

Findings from this study is significant to the school administrators, instructional designers, and policy makers in planning a curriculum, ICT integration, training program, budget

appropriation to schools, and compensations of teachers in terms of comparing the value of "chalk allowance" and the value of using gadgets that is related to the use of LED TV in the classroom as instructional innovation.

2. Research Methodology

2.1. Research Design

Utilizing a mixed method, quantitative research approach is to analyze teachers' acceptability on the LED TV in the classroom, utilizing the descriptive survey that analyze, interpret, compare, identify the trends and relationships of the determinants (Salaria, 2012) which in this study we used the Unified Theory of Acceptance and Use of Technology and Technology Acceptance Model (Kolog et al., 2015); and qualitatively research approach through phenomenology (Wojnar & Swanson, 2007) to describe the essence of the live-experienced of teachers and phenomenography Marton,1981,cited by Varvarigou, Hallam, Creech & McQueen,2013) to structure the effect of LED TV in the learning of the students.

Phenomenography is a distinct approach to qualitative research and should not be confused with phenomenology, even though they both aim to reveal human experiences and awareness as an object of research. Phenomenography focus on effects of the certain phenomenon experienced by a specific group of people in a specific context (Magayon & Tan, 2016) and less interested in individual experience it emphasizes on reflective rather than pre-reflective experience. Meanwhile, phenomenology is used by the researchers to surface the essence of the experiences of the respondents to a certain phenomenon (Castillo-Magayon & Tan, 2018) to develop ideas or hypotheses or to uncover trends in thoughts and opinions and dive deeper into the problem in the study (DeFranzo, 2011).

2.2. Setting of the Study

This study was conducted at Benjamin B. Esguerra Memorial National High School, one of the public high schools in the Department of Education, Division of Rizal, and Philippines.

2.3. Subject of the Study

The respondents of the survey questionnaire and interview were classroom teachers of Benjamin B. Esguerra Memorial National High School, while the Focus Group Discussion (FGD) were selected students of the same school represented by different year levels.

2.4. Data Gathering

The data were gathered through a researcher made survey questionnaire and interview using semi-structured interview guide questions.

2.4.1 Instrumentation

The researcher designed structured questionnaires and semi-structured interviews to describe the acceptability of the use of LED TV in the classroom. Triangulation is used to generate confirmatory results despite differences in methods of data collection, analysis, and interpretation (Harris & Brown, 2010).

a. The survey-questionnaire has divided into two major parts, part I is the profile of the respondents, part II is the survey questionnaire. The survey questionnaire consists of five categories which anchored on the UTAUT-TAM theory in a 5-Likert Scale where "5" interpreted as strongly agree; "4", as agree; "3", as neutral; "2", as disagree; and "1" as strongly disagree.

The survey questionnaire underwent series of validation. Content validation through an expert and item analysis through Smart PLS, and Cronbach Alpha through IBM-SPSS, hence, Table 1 shows Cronbach's alpha provides a measure of the internal consistency of a test or scale; it is expressed in number between 0 and 1. Column 4 reveals that all the questions in survey questionnaire were excellent in terms of consistency. The table also shows the validity and reliability test of the study.

Table 1: *Cronbach's Alpha Analysis*

Determinant	$\bar{x}$	Sd	Cronbach's Alpha
PER1	4.8158	0.39286	0.939
PER2	4.8684	0.34257	0.939
PER3	4.8421	0.36954	0.939
PER4	4.7895	0.41315	0.941
EFF1	4.7105	0.45961	0.942
EFF2	4.6579	0.48078	0.94
EFF3	4.6316	0.48885	0.941
EFF4	4.7105	0.45961	0.94
SOC1	4.5263	0.72548	0.941
SOC2	4.3947	0.67941	0.943

SOC3	4.4211	0.64228	0.94
SOC4	4.7632	0.63392	0.941
FAC1	4.1842	0.80052	0.94
FAC2	4.4474	0.64504	0.936
FAC3	4.5789	0.64228	0.936
FAC4	4.6053	0.63839	0.938
BEH1	4.6579	0.58246	0.937
BEH2	4.7368	0.55432	0.936
BEH3	4.7632	0.54198	0.937
BEH4	4.7368	0.55431	0.937

Interpretation: α≥0.9 Excellent, 0.9>α≥0.8 Good, 0.8>α≥0.7 Acceptable, 0.7>α≥0.6 Questionable, 0.6>α≥0.5 Poor, 0.5>α Unacceptable

b. The semi-structured interview guide anchored in the Unified Theory of Acceptance and Use of Technology and Technology Acceptance Model (Kolog et al., 2015) were developed and validated. It has a set of probing questions to surface the essence of the lived experiences of the teachers in using LED TV in the classroom while focus group discussion interview guide was also developed and validated. The questions were written in Filipino and in English to freely express their real emotions. Using the Interview Guide, each focus interview was done for about 20-35 minutes.

Students were oriented to share only situations and/or experiences that were true to one and not what one observed to others.

2.5. Ethical Considerations

The respondents' identity shall be kept with confidentiality, "Data Privacy Act of 2012" (Official Gazette of the Philippines, 2012). Hence, they were only presented in the findings and discussion with codes. The respondents were willing to answer the survey questionnaire and the interview during their vacant time. In this reason, this study adheres to the 'time on task' memorandum by the DepEd (Abad, F. B. (2005). Lastly, consent from the interviewees were asked before the audio-recorded interview and focus group discussion to adhere to the anti-wiretapping law (Pozon, 2011).

2.6. Data Analysis

Quantitatively, the numerical data were analyzed using descriptive statistics through mean difference to find out the acceptability of rating of the program; frequency and percentage as the basis of the interpretation of the data; and parametric statistics using Analysis-of-Variance (ANOVA) to know which factors among the variables were significant, utilizing the IBM-SPSS version 24.

Qualitatively, the transcribed interviews of the teachers and focus group discussion of the students were analyzed through word co-occurrence, word for word; then through cue words and related phrases (Atay & Danju, 2012). These words, phrases, and sentences within texts (Shahmohammadi, 2013) were confer to UTUAT-TAM principles and if adhered these become significant statements. After which, the significant statements were analyzed utilizing the Colaizzi's Method (Wojnar & Swanson, 2007) using cool analysis (with-in and cross-case analysis) through a matrix table for text reduction technique (Catacutan & de Guzman, 2015) and warm analysis (utilizing a dendrogram) for categorization and thematization of data to surface the themes (Magayon & Tan, 2016).

3. Results & Findings

To answer research questions: "What is the profile of the teacher-respondents? What is the acceptability rating of the use of LED TV according to Unified Theory of Acceptance and Use of Technology and Technology Acceptances Model? What factors are significant to teachers? What is the essence of the experiences of teachers using the LED TV in the classroom? And what is the structure of the effects of the LED TV in the learning of the students?", the survey-questionnaire on the acceptability test of using the LED TV in the classroom and the transcribed data from interview of the teachers and focus group of the students were analyzed respectively. Hence, findings were presented as follows:

The demographic profile of the teachers is presented in table 2 wherein it shows the age, gender, status of employment, position, years in service, highest degree obtained, specialization, subject taught and LED TV user.

Table 2: *Demographical Profile*

Variable	Category	Frequency	Percentage	Ranked
Age	20-30	19	48%	1
	31-40	15	38%	2
	41-50	5	13%	3
	51-60	1	3%	4
	60	0	0%	5
Gender	Male	10	25%	2
	Female	30	75%	1
Status of Employment	Regular/ Permanent	40	100%	1
Position	Teacher 1	29	73%	1
	Teacher 2	8	20%	2
	Teacher	3	8%	3
Years In Service	Less Than One Year	14	35%	1
		4	10%	4
	1-2 Yrs	8	20%	3
	3-5 Yrs	10	25%	2
	6-10 Yrs	4	10%	4
	11-15 Yrs	0	0%	
	More Than 15 Yrs			
Highest Degree Obtained	Bachelor's Degree	27	68%	1
	Master's Degree	13	33%	2
Specialization	English	9	23%	1
	Math	4	10%	5
	Science	7	18%	2
	Filipino	6	15%	4
	Mapeh	2	5%	7
	TLE	5	13%	3
	Values Education	3	8%	6
	Araling Panlipunan	4	10%	5

Subject Being Taught	English	9	23%	1
	Math	5	13%	3
	Science	3	8%	6
	Filipino	4	10%	4
	Mapeh	7	18%	2
	TLE	5	13%	3
	Values Education	4	10%	5
	Araling Panlipunan	3	8%	6
Grade Level Currently Teaching	Grade 7	11	28%	2
	Grade 8	12	30%	1
	Grade 9	7	18%	4
	Grade 10	10	25%	3
Led TV User Status	Yes	40	100%	1
	No	0	0%	

While, the acceptability rating of using the LED TV in the classroom is presented in the next page (Figure 1). Figure 1 shows that through computed mean, Performance Expectancy (PE) ranked as the highest acceptability rating with 4.8. While, Effort Expectancy (EE) and Behavioral Intention (BI) got the same rate of 4.6, wherein the respondents have perceived the ease of use of LED TV and show the desire or purpose to continue the use of LED TV. Lastly, with the same rate of 4.3, Social Influence (SI) and Facilitating Conditions (FI) recommended the use of the LED TV and upgrade a person's image or social status.

The rating of each construct is presented in Table 3, where construct number 2 under Performance Expectancy, *"I use the LED TV to show/ present visual aids artistically"* got the highest rating of 4.86 points; while, construct number 1 under Facilitating Condition, *"I use the LED TV to give the students more vivid examples of the topic and colorful visuals"* get the lowest rate of 4.1842.

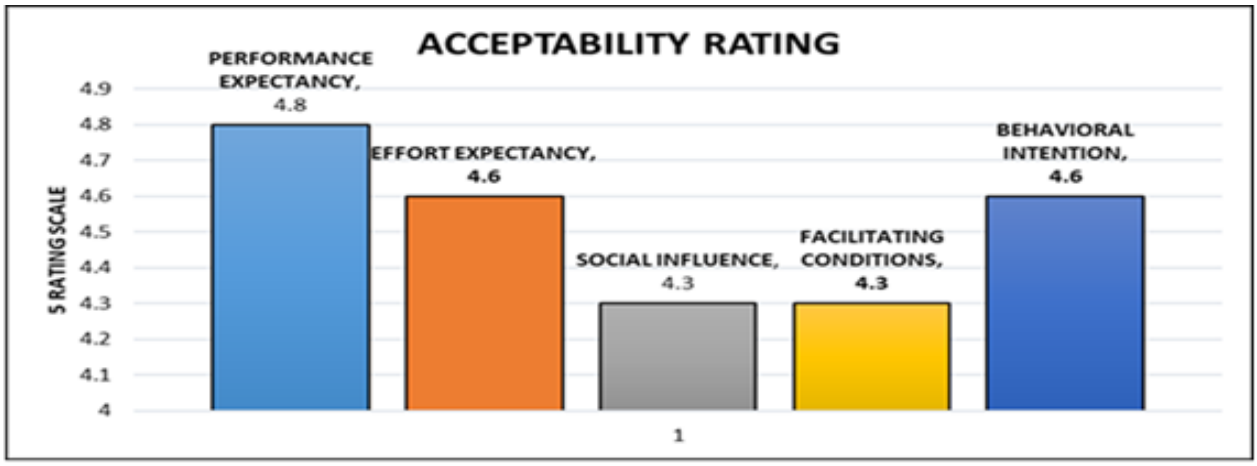

Figure 1: *Summary Graph of Acceptability Rating of Using Led TV in the Classroom Verbal Interpretation of Acceptability Rating (5- Strongly Agree, 4- Agree, 3-Neutral, 2-Disagree, 1-Strongly Disagree)*

Table 3: *Acceptability Rating*

Determinants		**$\bar{x}$**	**Interpretation**
Performance Expectancy	1. I use the LED TV because this instructional tool catered multi-sensory teaching-learning process.	4.8158	Strongly Agree
	2. I use the LED TV to show/ present visual aids artistically.	4.8684	Strongly Agree
	3. I used the LED TV to integrate multimedia with instruction.	4.8421	Strongly Agree
	4. I use the LED TV as an integral part to teaching.	4.7895	Strongly Agree
Effort Expectancy	1. It saves time and energy when using LED TV.	4.7105	Strongly Agree
	2. It is easy for me to use the LED TV to increased Student Attention/ Interactivity.	4.6579	Strongly Agree
	3. I find the LED TV easy to use in the most possible way.	4.6316	Strongly Agree
	4. I learned how to operate the LED TV to	4.7105	Strongly Agree

	shows Real Time Demonstrations/ Complicated Visuals.		
Social Influence	1. People in my environment have influenced me to use the LED TV to have a better teaching style and strategy in disseminating the lesson in classroom.	4.5263	Agree
	2. People in my environment have guided me in using the LED TV to provide the lesson/ topic in class easily.	4.3947	Agree
	3. People in my environment who used the LED TV think that I should use it to provide flexibility of time and space in teaching.	4.4211	Agree
	4. My colleagues used LED TV to show different strategies like game shows, video clips, etc.	4.7632	Strongly Agree
Facilitating Conditions	1. I use the LED TV to give the students more vivid examples of the topic and colorful visuals.	4.1842	Agree
	2. I use the LED TV to provide mass education opportunities.	4.4474	Agree
	3. I use the LED TV to increase the students' motivation and enthusiasm.	4.5789	Agree
	4. I use different strategies like game shows, video clips, presentation, student's report, etc.	4.6053	Strongly Agree
Behavioral Intentions	1. I intend to use the LED TV in the future.	4.6579	Strongly Agree
	2. I predict that by using LED TV in the future, it will benefit the teachers and	4.7368	Strongly Agree

	the students in learning.		
	3. I plan to continue using the LED TV in the future for classroom instruction.	4.7632	Strongly Agree
	4. I plan to share the advantages of using LED TV.	4.7368	Strongly Agree

Interpretation: Strongly Agree 4.6-5.00; Agree 3.6-4.5; Neutral 2.6-3.5; Disagree 1.6-2.5; Strongly Disagree 1.00-1.5

To support the findings of the acceptability rating, the transcribed data were analyzed through unit analysis via word occurrences based on the theory used the Technology Acceptance Model such as Unified Theory of Acceptance Use of Technology (UTAUT). These theories assess whether the user will be able to accept the new technologies and user's ability to deal with it.

To answer research question, what factors are significant to teachers in relation to their acceptability rating? Using the IBM-SPSS v 24, summary of factor analysis is presented in Table 4 in the next page. Among the factors only three variables are significant to the determinants namely: age, highest degree earned, and subject level currently teaching, and among the significant factors, not all determinants are significant to the three significant factors, in terms of age, determinants PER1, EFF1, SOC 2, SOC4, FAC2, FAC3, AND FAC4 are significant; while in terms of highest degree obtained, determinants EFF1, SOC2, and all determinants in behaviour intention; lastly, in the level grade currently teaching, only FAC4 is determinant.

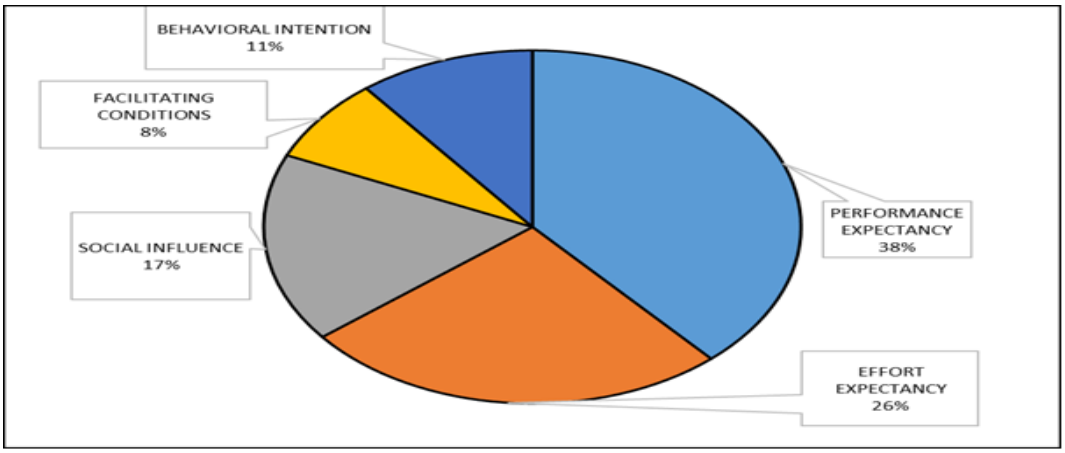

Figure 2: *Unit Analysis through Word Occurrence According To Unified Theory of Acceptance and Use of Technology*

Table 4: *Summary of Factors Affecting the Rating of the Teachers*

Demographic Profile	**Determinant**		**F**
Gender	PER1	I used LED TV because this instructional tool catered multi-sensory teaching learning process	0.045
	EFF1	It saves time and energy when using LED TV.	0.036
	SOC2	People in my environment have guided me in using the LED TV to provide the lesson/ topic in class easily.	0.018
	SOC4	My colleagues used LED TV to show different strategies like game shows, video clips, etc.	0.021
	FAC2	I use the LED TV to provide mass education opportunities.	0.016
	FAC3	I use the LED TV to increase the students' motivation and enthusiasm.	0.000
	FAC4	I use different strategies like game shows, video clips, presentation, student's report, etc.	0.016
Highest Degree Obtained	EFF1	It saves time and energy when using LED TV.	0.025
	SOC2	People in my environment have guided me in using the LED TV to provide the lesson/ topic in class easily.	0.004
	BEH1	I intend to use the LED TV in the future.	0.005
	BEH2	I predict that by using LED TV in the future, it will benefit the teachers and the students in learning.	0.024

	BEH3	I plan to continue using the LED TV in the future for classroom instruction.	0.002
	BEH4	I plan to share the advantages of using LED TV.	0.024
Grade Level Currently Teaching	FAC4	I use different strategies like game shows, video clips, presentation, student's report, etc.	0.020

3.1. Voices of the Students on LED TV in the Classroom

Through Phenomenographical study, surfaced the structure of the voices of the students on the use of LED TV in the classroom.

a.) Activate the Sense to Learn

The meaningful statements from the focus group discussion surfaced that using LED TV in the classroom make students activate their sense to learn. This has been the voices of the students, *"It is easy for us to learn and we as students understand the discussion of our teachers in all subjects (GA 1.)"; because all of them are using LED TV. It helps us understand the lesson and we listen to our teachers attentively. (GA 1.8)";* and *"It is clear and understandable and teacher no longer use the board to write the lesson. (GA 4.7)."*

To support the theme, table 5 below shows that when teachers utilized LED TV in their classroom, it helps them easily and clearly understands the lesson. Hence, the senses to learn of the students were activated.

Table 5: *Frequency of Word Occurrence Related to Activate the Sense to Learn*

Understanding	**Frequency**	**Percentage**
Easy To Understand	47	51%
Helps Me Understand	16	17%
Easy To Learn	9	10%
Clearly Understand	9	10%
Understand The Lesson/Discussion	7	8%
Helps Me In Learning	3	3%
Fully/Completely Understand	2	2%

Total:	**93**	**100%**

b.) Activate to Engage in Learning

Transcend from the meaningful statement from the focus group discussion of the students are the voices of making the students engaged in learning when the LED TV is used in their classroom. One student says. *"The LED TV helps me in studying because it has a picture, and it is easy for me to visualize the lessons that I am studying. (GA 3.7)"; "LED TV helps me to study well because with it, I can see the lesson and it is easier for me to know it because of the vivid and colorful examples (GA 6.1)"* and other student shared that *"I can easily read the letters on TV and I hear the sounds of the videos too (GA 5.10)"*

The claim is supported by table 6, which shows that LED TV helps engaged students in learning because the text, images, and videos are easy to read and study.

Table 6: *Frequency of Word Occurrence Related to Activate the Sense to Learn*

Tool In Learning	**Frequency**	**Percentage**
Helps To Study/Easy To Study	7	39%
Readable/Visualize The Text	6	33%
Easy To Copy	4	22%
Improve Learning Ability	1	6%
Total:	**18**	**100%**

c.) Activate to Study More

Another meaningful theme emerged from the focus group discussion is that LED TV drives students study more. Narration from the students such as: *"It shows pictures and the real objects that we are studying. It helps us to be more interested in studying (GA 5.8, "The LED TV gave us a good knowledge by putting the teacher PowerPoint presentation and if we forgot our notebook, LED TV guides us to learn. (GA 2.2*); and *"When reporting the lesson, it is quick and easy (GA 4.9),"*

Table 7 shows that LED TV activates students' interest in the lesson as a result, they were motivated eventually and they study their lessons well.

Table 7: *Frequency of Word Occurrence Related to Activate the Sense to Learn*

Encourage	**Frequency**	**Percentage**

Interest	4	67%
Give Knowledge	1	17%
Report	1	17%
Total:	**6**	**100%**

On the extent which subject areas are most effective if the LED TV is used in the classroom is presented in Table 8. The table shows that Mathematics and Science were the most mentioned by the students when asked in what subject the LED TV are most helpful. Social Science (Araling Panlipunan) was the second most mentioned, while English and EsP were the least mentioned.

Table 8: *Learning Areas the LED TV Most Appreciated*

Subjects	**Frequency**	**Percentage**
Math	26	17%
Science	26	17%
Araling Panlipunan (Social Science)	24	15%
Mapeh	17	11%
Filipino	16	10%
Tle	16	10%
English	15	10%
Esp (Values Education)	15	10%
Total:	**155**	**100%**

Through Phenomenological reduction, via thematic analysis and dendrogram emanate the following essences are the essences of the live-experiences of teachers using LED TV in the classroom:

a. No More Confusion, but Vivid Presentations

The theme encapsulates each of the participants' experiences in using the LED TV wherein this tool helps them to show clear and vivid presentations like images and video clips, as one teacher narrated, *"It helps me show better visuals of my lessons especially topics with figures, pictures and illustrations (TQ 1.1)."* Another has specified, *"It gives them more vivid examples of the topic and colorful visuals that can help them understand and remember the*

lessons (TQ 1.1).” And in the statement of one respondent, *“The lessons become more realistic because I can use videos to present my lesson and I can be able to show verbal symbolism clearly (TQ 17.1).”*

b. No Time-Delay, it’s just One Click Away

This theme captured participants’ experiences in using the LED TV as an effective and useful tool because it helps them disseminate their daily lesson easily and conveniently through graphs, charts, pictures, videos, and other presentations with complicated ideas. According to one respondent, *“I finished the lesson on time; it prevents me to consume the time of the next teacher (TQ 19.3).”* In fact, another respondent’ reaction has proven that, *“Visual aids are one click away, no need of posting it one by one on the board (TQ 7.3).* And as stated by another respondent, *“It saves time, energy and less effort to make instructional materials (TQ 5.1).* With regards to these statements, using LED TV as an instructional tool proved that it takes less time, energy, and effort in preparing teaching materials.

c. No More Abstract Presentation, but a More Detailed One

Most of the participants have a positive experience with regards to the theme. Most of them believed that using LED TV helps them execute and present complicated ideas such as pictures, PowerPoint slides, graphs and tables, video presentation and movies related to the subject. In view of one respondent, *“I can present pictures/illustrations, situations, scenarios in our activities easily unlike before I needed to print pictures and post/show it to the class (TQ 29.1).* As particularized by one respondent: *“Provides lesson/topic to the class by using PPT, pictures and videos (TQ 2.3).* Also, as stated by a respondent, *“It can be used in watching films and showing examples related to the lesson (TQ 8.3).*

d. No More Passive Learners, but More to Active One

This theme expressed the participants’ observation about the use of LED TV. Several of them stated that it could actually enhance the quality of education. As one respondent described, *“It also enhances the quality of education for you can show a lot more things to the students (TQ 2.1).”* Another respondent believed, *“By showing difficult but understandable illustrations, figures, drawings, and even videos/movies it improves my teaching skills and performance because the students are attentive when I used the LED TV in presenting my lesson (TQ 5.1*. In fact, one respondent mentioned, *“They are focus in the lesson; very attentive in class whenever I show them video presentations/PowerPoint presentations (TQ 27.1).* Truly, as stated by another

respondent, *"Everyone is involved in my class; topics are delivered in broader way using LED TV (TQ 24.4)."*

e. No of Using Traditional Visual Aids, Yes to a More Technology-Teaching Strategy

The essential point from this theme is that most of the teachers are no longer using traditional approach or using the visual aids instead they are in a more advance way of teaching. As a proof, one respondent expressed, *"They don't need to post traditional visual aids on the blackboard (TQ 8.3)."* Another one respondent stated, *"No need to use traditional visual aids (TQ 11.3)."* And one respondent admits, *"that showing complicated presentations cannot be done using traditional way of teaching (TQ 23.1).* Therefore, it is true that participants are getting its way to be more innovative in today's teaching.

f. More on Instructional Technology Usage, Less on Chalk Talk

When the teachers are asked on the question: Do you think, there is no need to have a Chalk Allowance from the government since you are using LED TV? Why? Noticeably and remarkably, majority of the teachers expressed that there is still a need for the chalk allowance, but it is no longer intended for the chalk per se but for instructional technology materials, while some answer the question as to the use of chalk per se. As one respondent stated, *"No, I still need that allowance, no longer for chalk but for other supplies related to technology (TQ 6.5)."* Another teacher says, *"There should be a chalk allowance and additional allowance for TV, laptop maintenance; printer, paper, etc. (TQ 29.5).*" This is also supported by the statement of another respondent, *"Teachers still need allowance to buy things needed in their everyday lessons e.g. usb, cord, etc (TQ 1.5).*

While some teachers answered on chalk as to usage of chalk in the teaching learning process, wherein they related that chalk still needed in some learning areas and activities. One math teacher expressed that, *"There is still a need of chalk for there are instances that we still use it especially for board works, problem solving, etc. (TQ 13.5)."* Another teacher says, *"There are instances that we need to analyze student's answer and need to write it on the board, so we still need a chalk (TQ 16.5)."*; and lastly, one teacher reiterated that *"We still use chalk for drill and discussions (TQ 22.5).*

g. Yes, to Students' Active Learning Engagement

The theme emphasizes the strong involvement or interaction between the teachers and the students. In fact, during the interview one respondent related his/her experiences in class, *"It can*

be observed with students' participation in the class (TQ 1.3)." And Classes became alive *as one respondent stated, "Using LED TV, my lessons are more interesting and this led the students to be more attentive during discussions (TQ 1.2)." another respondent narrated, "All students were able to express what they saw and heard about the lesson (TQ 1.4)."*

4. Discussion of Results

As shown in Table 4, there are significant factors that affect the acceptability rating of the use of LED TV in the classroom. Factors such as gender, educational attainment and subject handled. In terms of acceptability rating of LED TV for both teachers and students, quantitatively and qualitatively show that the use of LED TV in the classroom is fully accepted by both teachers and students because of its usefulness and effectiveness in the teaching-learning process.

While in the narration of teachers' experiences in using LED TV in the classroom states that it takes less time and effort in preparing teaching materials. This result is in concurrent with the study of Abuhmaid (2014), related that instructional technology affect thinking skills, encoding and retention of information, and interaction of students. Further, LED TV helps the teacher respondents in delivering their lessons effectively especially topics with figures, pictures and illustrations. Lastly, because of LED TV in the classroom, teachers find it easy to execute their lessons artistically.

While, on students' voice in using LED TV in the classroom they say that they are more engaged in learning because the text, images and videos are displayed in real time. Further, they say that they are more participative in the classroom discussion and activities. Moreover, results proved that majority of the students are eager or interested and motivated to study and attain good grades. According to them, they find it easy to learn and understand lessons whenever their teachers use LED TV as instructional tool of which this is true to the study of Abuhmaid, (2014), wherein he claimed that technology motivates students' learning.

On top of the positive effects of using LED TV in the classroom are technical problems occurred during preparation in using the LED TV, such as incompatibility of Laptop to HDMI or VGA is one of the factors that negate the effectiveness and usefulness of LED TV in the classroom.

5. Conclusion

Through the empirical findings on the acceptability rating and the meaningful narrative of the teachers and students, this study concludes that the use of LED TV in the classroom is an effective and useful educational-technological tool inside the classroom for it creates various effects both to teachers and students. With the use of LED TV, teachers became competent, confident, and effective, yet they did ignore the fact that chalk talk is still needed in some learning activities like drill and mathematical solution. In addition, teachers posited that the chalk allowance intended before for chalk per se will be used in purchasing instructional tool to support the use of LED TV in the classroom. Many teachers suggested that it should be used more on instructional technology. Further, teachers should bear in mind that while students are more motivated, interested, and engaged in learning, they are disturbed or distracted whenever technical problems occur.

6. Recommendations/Advocacy Plans

As suggested by Benwari, 2015, television is a sophisticated technology and to be useful it has to be properly integrated within the educational system and based on the findings and results, researchers would like to recommend the following:

First, based on the narration of the respondents, the term "chalk allowance" is no longer relevant to the technology-supported classroom. This paper suggests that the teacher should use the term cash allowance instead of chalk allowance as it is already stated in the DepEd memos.

Second, school administrators, policy makers, local governments and the Department of Education should appropriate substantial funds for purchasing and installing LED TV monitor in the classroom.

Third, those who adopt the LED TV monitor in the classroom should conduct a research on how to maximize the use of the LED TV in the classroom.

Lastly, administrators should conduct LAC session on the technical aspect needed by the teachers.

REFERENCES

Abad, F. B. (2005). Instituting Measures to Increase Engaged Time-on-Task and Ensuring Compliance Therewith. Retrieved October 25, 2018, from

http://www.deped.gov.ph/2005/03/02/do-9-s-2005-instituting-measures-to-increase-engaged-time-on-task-and-ensuring-compliance-therewith/

Abuhmaid, A. (2014). Teachers' Perspectives on Interactive Whiteboards as Instructional Tools in Four Jordanian Schools. *Contemporary Educational Technology*, 5(1), 73-89. https://doi.org/10.30935/cedtech/6116

Atay M. & Danju, I. (2012). Analysis of 1st grade and 5th grade textbooks and primary school students' views about personal traits in gender role in society. *Procedia - Social and Behavioral Sciences*, 47, 64-73. https://doi.org/10.1016/j.sbspro.2012.06.614

Alqudah, A. A. (2015). Unified Theory of Acceptance and Use of Technology (UTAUT). Retrieved November 13, 2018, from https://www.linkedin.com/pulse/unified-theory-acceptance-use-technology-utaut-ayman-alqudah

Benwari, N. N. (2015). Television as an Instructional Tool for Concept Analysis. *World Journal of Education, 5*, 1-7. https://doi.org/10.5430/wje.v5n1p124

Berk, R. A. (2010). How do you leverage the latest technologies, including web 2.0 tools, in your classroom? *International Journal of Technology in Teaching & Learning*, *6*(1).

Brown, A., & Green, T. (2010). *Issues and trends in instructional technology: Growth and maturation of web-based tools in a challenging climate; social networks gain educators' attention.* In Educational media and technology yearbook (pp. 29-43). Springer, Boston, MA. https://doi.org/10.1007/978-1-4419-1516-0_3

Cabico, G. (2018). Teachers receive higher salaries, allowances in 2018. *Teachers Receive Higher Salaries, Allowances in 2018*. Retrieved November 12, 2018, from https://www.philstar.com/headlines/2018/01/05/1774929/teachers-receive-higher-salaries-allowances-2018

Castillo-Magayon, V & Beyaoju Tan, E. (2018). A Picture Paints A Thousand Words: A Phenomenological Study Of Misconceptions Of Grade 7 Mathematics Teachers On Differentiated Instruction In The Philippines. *People: International Journal Of Social Sciences, 3*(3), 990- 1009. https://doi.org/10.20319/pijss.2018.33.9901009

Catacutan M. & de Guzman, A. (2015). Bridge Over Troubled Water: Phenomenologizing Filipino College Dean's Ethical Dilemmas in Academic Administration. Educational Management Administration and Leadership, 1-20. https://doi.org/10.1177/1741143214558579

Daling, R. F. (2018). International Journal of Education and Research. *Accepting ICT Integration: A Challenge to School and Curriculum*, *6*, 1-18. doi: ISSN: 2411-5681

DeFranzo, S. E. (2011). SnapSurveys. Retrieved from https://www.snapsurveys.com/qualitative-quantitative-research/:

Demecais, J. (2014, February). Retrieved July 18, 2018, from https://www.gsma.com/iot/wp-content/uploads/2014/03/Text2Teach-case-study-final.pdf.

Harris, L. R., & Brown, G. T. (2010, January 1). Mixing interview and questionnaire methods: Practical problems in aligning data. Retrieved from https://pareonline.net/pdf/v15n1.pdf

Jaucian, D. (2017). Teachers in these remote barangays now lead 'digital classrooms'. *CNN Philippines*. Retrieved October 7, 2018, from http://cnnphilippines.com/life/culture/tech/2017/04/25/smart-school-in-a-bag.html

Fernandez, Jr, N. D., Pante Y. V., & Seng, N.C. (2014, February 14). Samsung Inaugurates First SMART Classroom in Philippine Science High School. Retrieved October 25, 2018, from https://www.hardwarezone.com.ph/tech-news-samsung-inaugurates-first-smart-classroom-philippine-science-high-school

Kayalar, F. (2016). Cross-Cultural Comparison of Teachers' Views upon Integration and Use of Technology in Classroom. Turkish Online Journal of Educational Technology-TOJET, 15(2), 11-19.

Kolog, E. A. (2015). I.J. Modern Education and Computer Science, 2015, 11, 1-11 [Abstract]. Using Unified Theory of Acceptance and Use of Technology Model to Predict Students' Behavioral Intention to Adopt and Use E-Counseling in Ghana, 1-11. https://doi.org/10.5815/ijmecs.2015.11.01

Louise, C. (2018, September 17). Exhibit Tech. Retrieved 21 2018, October, from Exhibit Tech Organization: http://www.exhibit-tech.org/

Magayon, V. C., & Tan, E. B. (2016). Learning Mathematics and Differentiated Instruction in the Philippines: A Phenomenographical Study on Struggles and Successes of Grade 7 Students. International Journal of Educational Studies in Mathematics, 1-14.

Marton, F. (1981). Phenomenography? Describing conceptions of the world around us. *Instructional Science, 10*(2), 177-200. https://doi.org/10.1007/BF00132516

Pandey, D. (2013). History Development and Present of Distance Education in India. International Journal of Trends in Economics Management & Technology (IJTEMT), 2(1).

Pozon, G. S. (2011, October 13). RA 4200: The Anti-Wire Tapping Law. Retrieved October 23, 2018, from http://philcritic.blogspot.com/2011/10/ra-4200-anti-wire-tapping-law.html

Republic Act No. 10173 | GOVPH. (2012, August 15). Retrieved October 12, 2018, from http://www.officialgazette.gov.ph/2012/08/15/republic-act-no-10173/

Saglik, M., & Ozturk, S. (2001). Television As An Educational Technology: Using Television At Open Education Faculty, Anadolu University. *Turkish Online Journal of Distance Education-TOJDE,2*(1), 6th ser., 1-9. Retrieved October 25, 2018, from http://dergipark.gov.tr/download/article-file/156651

Salaria, N. (2012). Meaning of the Term-Descriptive Survey Research Method. International Journal of Transformations in Business Management.

Smart Communications, Inc. (2016, August 31). Retrieved October 24, 2018, from https://smart.com.ph/About/newsroom/full-news/2016/08/31/school-in-a-bag-project-of-smart-brings-digital-learning-to-remote-communities

Shahmohammadi, N. (2013). Content Analysis of Elementary Science Text Books Based on the Achievement Motivation Constructs. Procedia - Social and Behavioral Sciences, 84, 426 – 430. https://doi.org/10.1016/j.sbspro.2013.06.579

Taiwo, A. & Downe, A. (2013) The theory of user acceptance and the use of technology (UTAUT): A Meta- analytic Review of Empirical Findings. *Journal of Theoretical and Applied Information Technology*, 49(1), 48-58.

Tinio, A. L., & Castro, F. L. (2016). *Teaching Supplies Act of 2016*(pp. 1-4) (Philippines, House of Representatives). Quezon City. Retrieved November 12, 2018, from http://www.congress.gov.ph/legisdocs/basic_17/HB00474.pdf

Wojnar, D. M., & Swanson, K. M. (2007). Phenomenology. *Journal of Holistic Nursing, 25*(3), 172-180. https://doi.org/10.1177/0898010106295172

Varvarigou, M., Hallam, S., Creech, A., & Mcqueen, H. (2013). Different ways of experiencing music-making in later life: Creative music sessions for older learners in East London. *Research Studies in Music Education, 35*(1), 103-118. https://doi.org/10.1177/1321103X13478863