

# Workshop Assisted by Interactive Touch Screen Television and Its Effect on Students' Skills in Crafting a Research Proposal

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**Abstract:** This study was conducted to test the impact of a workshop assisted by an interactive touch screen television on the writing skill of college students in crafting a research proposal. Quasi-experimental design in a time-series mode was employed. The respondents of the study were students from the two sections handled by the researcher, namely: BSED Filipino with 25 pairs of students for experimental A and BSED English with 27 pairs of students for experimental B, from College of Teacher Education, Sultan Kudarat State University, ACCESS Campus. Complete enumeration and purposive sampling were applied to maximize the participation of the whole classes. Statistical tools like mean, standard deviation, mean gain difference and t-test of independent samples were employed to analyze the data. The workshop was based on Bennett's (2007) model, which includes presentation of mini-lessons, followed by the actual workshop, then debriefing or presentation of outputs for sharing and critiquing purposes. The interactive touch screen television was used during the presentation of mini-lessons as the basis of workshop and also during presentation of students' outputs for sharing and critiquing purposes. The written outputs of students in the form of a research proposal were evaluated using a validated rubric. The results of the study showed significant improvement in the writing skills of students from both groups. The findings implied the effectiveness of workshop assisted by interactive touch screen television in enhancing students' skills in crafting a research proposal. Therefore, innovative ways of teaching significantly produce a meaningful learning.

## 1 INTRODUCTION

As time passed by, methods of teaching and even instructional materials kept changing. Despite the fact that there is no such thing as the best method or instructional material, teachers have become resourceful, creative, and innovative in their way of teaching. One of the modern methods of instruction is a workshop. A workshop in its pedagogical context is a type of educational program commonly designed for a group of people, in which the content is practical, and specific to the needs, interests and affinities of the group, which empowers teamwork and mutual support among participants [1]. In workshops, there are series of interactive activities performed by the participants as a form of training which differs in content and length.

Workshop as a teaching method is recognized around the globe because of its capability to make the teaching-learning process active, creative, and socially interactive. For instance, a study on Readers' Writers' Workshop (RWW) in the secondary

English classroom, and its findings showed that RWW is an effective tool for engaging students and assisting them in developing positive attitudes toward reading practice [2]. Meanwhile, another study explored the points of view of teachers handling mathematics who applied workshop method in classroom settings. The results showed that participants appreciated the math workshop as an effective instructional method to enhance teaching and learning in mathematics [3]. However, some teachers implementing workshop method experienced discomfort and worries since workshop approach involves a deep understanding of personal, curricular, instructional and epistemological foundations [4]. Thus, it encouraged school leaders to consider the teachers' need of time and space to take risks and reflect on their responsibilities.

On the other hand, technology has turned out to be an essential part of our usual life [5]; hence, many countries consider technology as one of the keystones of educational reform as to integration in teaching because of its capability to make teaching-learning

process easy, active, creative, innovative and interactive. For instance, a study on the role of technology-based instructional design and its effect on the instructors' professional advancement in English as a foreign language and proved effective [6]. At the same time, the effectiveness of interactive educational software in developing instructional design skills among teachers at Al Baha University was demonstrated [7]. Modern technology is integrated in teaching on a huge scale to aid learning across different disciplines [8]. Based on the above-mentioned facts, it clearly manifests that technology plays a great role in today's educational system.

In the Philippines, educators and scholars also emphasize educational reform [9]. As times change, educational policy also changes, which implies a great effect on the teaching and learning methods. Indeed, it is a major challenge for teachers to become resourceful and innovative in teaching and designing instructional materials. At the same time, it has been stressed that today's world is a territory of continuous changes, which pushes teachers to undergo intensive training on modern teaching methods [10]. At the tertiary level, the Commission on Higher Education (CHED) focuses on Outcomes-Based Education (OBE). According to Liwanag (2023) [11], the teaching method in OBE is learner-centered, which aims to assess the outcomes of students' learning. It is based on the constructivist view of John Piaget, which focuses on students, not teachers. Indeed, implementing the workshop method in teaching college students, assisted by technology like interactive television, is learner-centered.

In the university where the researcher is teaching, innovation is also given attention by administrators and teachers. However, some innovations in teaching are limited. For instance, the College of Teacher Education Research Office has organized a yearly workshop for third-year students enrolled in the Research Subject. However, only the group leaders in every section are invited to join because of a budget scarcity. This could not address the concerns of the whole class in a research subject. Many students experience difficulty in writing academic papers because of lack of skills in writing and critical thinking [12]. At the same time, the inputs of the teachers are the only basis in crafting a research paper. So, they emphasized that employing effective teaching strategies will result to a meaningful learning. Moreover, it was found out that language proficiency and writing skill are some of the main factors that affect students' ability in writing a research paper [13]. They recommended that teachers should employ practical teaching approaches and

techniques which encourage students to appreciate research. Also, it was recommended by Auddya (2023) [14] that teachers are encouraged to have enough knowledge in doing and teaching research. Hence, the researcher was motivated to use workshop as a teaching method in writing a research proposal. This initiative would prepare the students for the real world of thesis writing during their third year level.

In 2024, the school administration provided ten units of interactive touch screen televisions in the College of Teacher Education where the researcher is employed as a college teacher. This is new in the college since the usual audio-visual aid in the classrooms is smart televisions. It was emphasized that using technology and software is important in research to achieve authentic and effective results [15]. Fortunately, the researcher was assigned to classrooms with interactive touch screen televisions, which paved the way for her to use such modern technology during workshops in the classroom. It was found out that workshops deliver a platform that assist researchers to identify and explore essential issues in a certain realm by giving ways for comprehending multifaceted work and knowledge processes that are reinforced by technology [16].

Some studies have already been conducted that focused on workshops, such as effectiveness of a workshop in teaching accounting subject [2], and the evaluation and effectiveness of a teacher training workshop to improve teaching competencies and outcomes [17] - [23]. There is still a gap since no studies have been conducted that employed workshop as a teaching method to provide 'hands-on' experiences to college students in crafting a research proposal. On the other hand, studies about integrating technology in the educational field are already conducted [6], [24], [25], focusing on the integration of technology in teaching and learning English as a foreign language and proving effective. Additionally, the use of smartphones with free mobile software applications for tertiary education and manifested positive effect [26]. Specifically, few recent studies on the instructional use of media platform like televisions were conducted and revealed positive impact [27] - [30]. There are no conducted studies assisted by technology like interactive touch screen television in presenting mini-lessons and outputs in workshops for crafting a research proposal.

The above-mentioned gaps and issues are the reasons which motivated the researcher to conduct this study to test the effectiveness of workshop in the classroom as a teaching method, aided by the interactive touch screen television as an audio-visual

material. Statistical treatments such as arithmetic mean, standard deviation, mean gain difference and t-test of independent samples were utilized to analyze the data objectively.

## 2 OBJECTIVES

Generally, this study was conducted to test the impact of the workshop with interactive touch screen television on the tertiary students' skill in writing a research proposal.

Specifically, it sought to answer the following questions:

- 1) What is the level of skills of students in writing a research proposal from experimental A and experimental B based on the result of:
  - pre-writing,
  - post writing
- 2) Is there a significant difference in students' level of skill in writing a research proposal before and after the intervention?
- 3) Is there a significant difference in the mean gain score of students based on the result of pre-writing and post-writing?

## 3 METHODOLOGY

This study employed a quantitative method, particularly a quasi-experimental design. The researcher utilized the respondents' research proposal outputs during pre-writing and post-writing activities for experimental A and B in a time-series approach. This is to test the effect of the workshop method with interactive touch screen television on tertiary students' level of skills in writing a research proposal. The interactive touch screen television was used to assist the researcher in presenting the mini-lessons as basis of the workshop. The workshop was based on model [31], which includes the presentation of mini-lessons, followed by the worktime or actual workshop, then debriefing for sharing and critiquing purposes.

The respondents of this study were first year college students from the College of Teacher Education, Sultan Kudarat State University – ACCESS Campus, ECJ Montilla, Tacurong City enrolled in Purposive Communication subject, in which writing an academic paper like research proposal was a part of the final term period. This requirement prepared the students to write a thesis during their third-year level. The respondents were 25 pairs from the Bachelor of Secondary Education

major in Filipino and 27 pairs from the Bachelor of Secondary Education major in English, who were chosen through purposive sampling. The pairing was done to exercise collaborative effort and learning. This is supported by findings [32] that formative peer feedback has a positive impact in the quality of the academic paper.

The instrument used in evaluating students' outputs in the form of a research proposal was an adopted rubric from the university utilized by the College of Teacher Education in evaluating research proposals. The rubric was slightly modified by the researcher to meet the specific objectives of the study, which was then validated by three professors holding doctoral degrees. Then, Confirmatory Factor Analysis (CFA) was done to statistically test if the observed data from the rubric used fit a pre-specified theoretical model of what the rubric is intended to measure. Five professors with doctoral degrees evaluated the students' outputs using the rubric from experimental A and B in the form of a research proposal.

To assess the average of the scores of the pre-writing and post-writing test, mean and standard deviation was used. To calculate the mean, the observed values were added and divided by the number of respondents. This process is conveniently expressed by the symbol:

The standard deviation was calculated after

$$\bar{x} = \frac{(\sum x)}{n}$$

finding the mean of the set of data. Next, the mean was subtracted from each data point to find the deviations. Then, each deviation was squared, and summed up these squared values and then divided the sum by the number of data points minus one to find the variance. Finally, the square root of the variance was taken to get the standard deviation.

$$SD = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

To find out the difference between the skills of students of both pre-writing and post writing, mean gain scores were utilized. It was done simply by subtracting the mean of the pre –writing from the mean of the post- writing.

Paired-Sample t-test was also used to match the pairs of data, such as the pre-writing and post-writing scores for the same group of participants. It determines if the mean scores changed significantly after the treatment.

To calculate the paired t-test, the difference (d) for each paired observation was computed first, then

followed by finding the mean and standard deviation (sd) of these differences. The t-statistics was then calculated as  $t = (\bar{x}_d - \mu_d) / (sd / \sqrt{n})$ , where n is the number of pairs.

This study emphasized ethical considerations by warranting students' permission to become respondents. The researcher ensured that students' outputs were treated with confidentiality. The researcher properly recognized the citations and references used.

#### 4 RESULTS AND DISCUSSION

Table 1 shows the results of pre-writing and post writing activities. In the pre-writing activity, the E)perimental A obtained a mean of 2.11 (SD=.12) with a description of “disagree” based on the evaluation and an interpretation of “unsatisfactory” while experimental B obtained a mean of 2.61 (SD=.89) with a description of “slightly agree” and an interpretation of “satisfactory”. The data implies that the writing skill of students from experimental A is low while experimental B slightly knows how to craft a research proposal before the intervention. Many students find it difficult to write an academic paper because of lack of skills in writing and critical thinking [12]. At the same time, the inputs of the teachers in class are the only basis in crafting a research paper. So, they emphasized that applying an effective teaching strategy would result to meaningful learning.

In the post-writing activity, the students from experimental A has a mean of 4.54 (SD=.02) with a description of “strongly agree” from the evaluators with an interpretation of “very satisfactory” while experimental B obtained a mean of 4.52 (SD=.03)

with a description of “strongly agree”, with an interpretation of “Very Satisfactory”. The data reveals that employing workshop in the classroom assisted by interactive touch screen television was effective to enhance students’ skill in crafting a research proposal. The findings are similar to a study [2] where Readers' Writers’ Workshop was found out as an effective tool for engaging students and assisting them in developing positive attitudes toward reading. In terms of technology, study on the instructional use of interactive television conducted in a special education course had revealed a positive impact [26]. Indeed, workshops aided by the interactive touch screen television gained a fruitful learning.

Table 2 reveals that there is a significant difference between the level of skill in writing a research proposal of students from experimental A before and after the intervention since the t-computed value (3.46) is higher than the T-tabulated (.019) at .05 level of significance. It indicates that the workshop method assisted by interactive touch screen television improved the skills of students in writing a research proposal. This finding is reinforced by a study [3] which showed that participants appreciated the math workshop as an effective instructional method to acquire a meaningful teaching-learning in mathematics. Although the study focused on enhancing mathematics skill and not on the writing skill in crafting a research proposal but workshop was employed and proved effective. As to technology-based teaching-learning, it was recommended [30] based on the study results that the utilization of television shall be a recognized innovation and shall be encouraged to maximize its use for learning activities in the academe.

Table 1: Results of writing skill of students in crafting a research proposal from Experimental A (BSED-Filipino) and Experimental B (BSED-English) during pre-writing and post-writing.

Test	Group	N	Mean	SD	Description	Interpretation
Pre-writing	A	25	2.11	.12	Disagree	Unsatisfactory
	B	27	2.61	.89	Slightly Agree	Satisfactory
Post-writing	A	25	4.54	.02	Strongly Agree	Very Satisfactory
	B	27	4.52	.03	Strongly Agree	Very Satisfactory

Table 2: Results of T-test in the level of skill of students from experimental a in writing a research proposal before and after the intervention.

Intervention	N	Mean	SD	T-computed	T-tabular	Interpretation
Before	25	2.11	.12	3.46	.019	Significant
After	25	4.54	.02			
@=.05 level of significance						

Table 3: Results of T-test in the level of skill of students from experimental b in writing a research proposal before and after the intervention.

Intervention	N	Mean	SD	T-computed	T-tabular	Interpretation
Before	27	2.61	.89	3.68	.021	Significant
After	27	4.52	.03			
@=.05 level of significance						

Table 4: Results of T-test in the mean gain score of students based on the result of pre-writing and post-writing.

Variable	N	Mean Gain	SD	T-computed	T-tabular	Interpretation
Experimental Group A	25	2.43	.32	3.23	.03	Significant
Experimental Group B	27	1.91	.52			
@=.05 level of significance						

Table 3 manifests that there is a significant difference between the level of skill in writing a research proposal of students from experimental B before and after the intervention since the T-computed value (3.68) is higher than the T-tabulated (.021). The data reveals that the workshop as teaching intervention, aided by the interactive touch screen television, was effective in enhancing the students’ skill in crafting a research proposal. In a study, it was found out that workshops were effective in teaching accounting [33]. Another study focused on the use of smartphones with free mobile software applications for tertiary education and manifested a positive effect [26]. In addition, it was emphasized that media platforms like television, radio, and internet have extended the accessibility of instruction beyond the borders of traditional classrooms [27]. Indeed, media has transformed teaching-learning from passive to active engagement. Thus, it personalizes learning, tailors content and addresses individual needs and interests.

Table 4 shows a significant difference between the mean gain score of students from experimental A and B based on the result of pre-writing and post-writing since the t-computed value (3.23) is higher than the t-tabulated (.03). It reveals the clear manifestation of the effectiveness of workshops in the classroom assisted by the use of interactive touch screen television as an innovative teaching method and instructional material for writing a research proposal. This is supported by a study [6] on the role of technology-based instructional design and its effect on teachers’ professional advancement in English as a foreign language and proved effective. Another study found that workshops provide a platform that assist researchers to identify and explore essential factors in a given domain by providing ways for understanding multifaceted work and knowledge processes that are reinforced by technology [16].

## 5 CONCLUSIONS

Modern teaching methods such as workshops provide hands-on activities for students that result in meaningful learning, as revealed by the findings obtained through statistical tools such as the arithmetic mean, standard deviation, mean gain difference, and the t-test of independent samples. Moreover, the use of technology, particularly interactive touch screen television during workshops, has demonstrated great potential in enhancing students’ learning outcomes in crafting a research proposal because of its ability to make the teaching-learning process easier, more active, and more interactive.

In general, conducting classroom workshops supported by interactive touch screen television provides accessible, socially interactive, and practical learning experiences for students, which promotes the core principles of outcomes-based education.

## 6 RECOMMENDATIONS

Based on the findings of the study, teachers are encouraged to continue exploring practical and innovative approaches in teaching research in order to sustain and further improve meaningful teaching-learning experiences. Integrating modern technologies such as interactive touch screen television during workshops may help facilitate more engaging and effective instruction.

However, certain limitations should be considered, including the availability of technological resources and the level of teachers’ skills in conducting workshops and utilizing modern technologies. Therefore, educational institutions should also support teachers by providing adequate training and access to necessary technological tools.

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