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Piloting Web-Integrated Primal For Beginning Qualitative Researchers through Multidimensional Research Paradigm

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ABSTRACT

Educational technologies are powerful digital tools that teachers can harness to improve instructional productivity and efficiency to achieve maximum student learning development. This study utilised a multi-dimensional mixed-method research design to validate the researchers' developed Web-integrated Primal for Beginning Qualitative Researchers. The three phases of this study require two different sets of participants selected through purposive sampling. Senior high school teachers who are fully immersed in teaching Practical Research 1 and 150 students from the two classes of Technical, Vocational, and Livelihood track in Dolores National High School, S.Y. 2021–2022. The data collected were analysed using weighted mean and qualitative response description for phase 1, t-test for independent samples for phase 2, and Colaizzi's descriptive phenomenological data analysis method for phase 3. The data reveals that the web-integrated primal is highly acceptable in terms of content and relevance and highly acceptable in terms of mechanics. Furthermore, a significant difference in the learning gain scores was manifested between the two groups. This also means that web-integrated primal is more effective in improving the students' research competence. Lastly, misleading reviews, the unreviewed bulk of manuscripts, and difficulty crafting research topics led the respondents to suggest screen-

ing feedback from reviewers, working in groups, and creating pre-identified research categories. Thus, this study concludes that the innovation is acceptable and effective, though there is a need to revisit the guidelines of the web-integrated primal.

Keywords: Web-integrated primal; Beginning Qualitative Researchers; Peer-review, Dolores National High School.

INTRODUCTION

Technology advancements have dramatically affected the education system in the Philippines, as teaching strategies and processes need to be aligned with the learners and the advancing technology. Educators worldwide are expected to be equipped with the necessary skills and competence to meet the demands of 21st-century education. The Philippine educational system was revised from the K–12 basic education programmes after the former president, Benigno S. Aquino III, signed Republic Act No. 10533 (also known as the Enhanced Basic Education Act of 2013) to build a curriculum consistent with 21st-century learning and quality education similar to other nations. In the Philippines, the education department is implementing several initiatives to promote, inculcate, and sustain the research culture in elementary and secondary education (DepEd, 2017). The department recognises the importance of research within the academy and even in different walks of life, where research plays a crucial role. Students gain analytical and critical thinking skills through research and strong communication skills that are important in the global arena.

Research is the foundation of knowledge and innovation. To provide quality education, the Department of Education pushed for implementing the Senior High School programme in 2016. The programme directs the inclusion of two more grade levels in primary education, Grades 11 and 12—thereby offering several subjects, including practical research 1 and 2, and inquiries, investigation, and immersion, which are all research-focused courses (DepEd, 2017 as cited by Roxas, 2020). Practical Research 1 is a preparatory research subject for senior high school students that requires the conduct and preparation of qualitative research related to learners' expertise and daily experiences. According to Murtonen, Olkinuora, Tynjälä and Lehtinen (2008), academic education should prepare learners to understand the importance of research skills in society and their future working lives. Acar (2017) believes that the introduction of the K-12 Senior High School model will increase the compatibility of Filipino students and professionals throughout the globe. In addition, Roxas's (2020) qualitative investigation of senior high school students' opinions found that completing research in SHS would prepare them for future research endeavours, such as in college since they will have learned relevant information through research. Hence, teaching research drives learners to a better future.

Undoubtedly, the ability to write in numerous contexts in life is invaluable. Senior high school students are required to produce scientific research technique compositions, draught experiments, business proposals, marketing concepts, essays on contemporary social issues, critical articles, project plans, and other summative assessments, according to Paurillo (2019). However, many students still have difficulties with academic writing, despite the efforts of the education sector to scaffold and enhance students' writing skills. Therefore, there is a need to fill the gap and advance an in-depth understanding of the students' academic writing difficulties (Roxas, 2020). Several studies have mentioned

learners' difficulties in writing manuscripts, including Megaiab (2014), who noted the difficulty in applying proper tenses, articles, singular and plural, verbs, prepositions, spelling, punctuation, and capitalisation due to mother tongue influence. Ghabool, Mariadass, and Kashef (2012) cited language use and punctuation as significant factors influencing learners' ability to write manuscripts. Hence, Al Seyabi and Tuzlukova (2014) recommend aligning the school writing curriculum with an emphasis on ideas' development, content knowledge, and critical and creative thinking.

Similarly, in the researchers' school, they observed several students who found difficulty framing statements and even grammar and other language structures. In addition, findings in the study of Lassoued, Alhendawi, and Bashitialshaaer (2020) mentioned pedagogical, technical, and financial or organisational obstacles teachers face in delivering quality education. Also, Al Fadda (2012) argued that for most native speakers, and more so with second language speakers like most Filipino senior high school students, academic writing in English at advanced levels is a challenge and difficult. Thus, focus on understanding the importance of writing (Gallagher, 2016). This pushed the conduct of action research, specifically focusing on guiding beginning researchers through primal in Practical Research 1.

According to Farombi (as cited by Tety, 2016), instructional materials include books, audio-visual, software, and hardware related to educational technology. He further opines that the availability, adequacy, and relevance of instructional materials in classrooms can influence quality teaching, positively affecting students' learning and academic performance. Aldevera et al. (2019) and Ulla (2018) agreed that the difficulties faced by senior high school students were the scarcity of facilities and the absence of learning materials and tools. Technology integration in the educational setting has gained wide acceptance and practise since it makes it easy and quickens students' learning. The worldwide pandemic calls for the conduct of online instructions and the utilisation of electronic materials such as learning management systems (Irfan, Kusumaningrum, Yulia & Widodo, 2020; & Reich, Buttimer, Fang, Hillaire, Hirsch, Larke, and Slama, 2020), and the use of learning websites (Dhawan, 2020; Wargadinata, Maimunah, Eva, and Rofiq, 2020) are all effective in improving distance education delivery.

Two-thirds of the global internet population have visited a social networking or blogging site, and the time spent on these sites is growing at three times the rate of the internet as a whole (Briones et al., 2011). This strongly suggests that the exchange of information is the most crucial aspect of social activities in virtual communities. A wider variety of online forums are used in community media, such as blogs, business discussion forums, chat rooms, emails, consumer product review sites and forums, general internet conversations, mobile blogs, and social networking sites (Mangold & Faulds, 2009). Kaplan and Haenlein (2012) further classified social media by utilising studies related to media and theories of social evolution. In this regard, the researchers aim to integrate the teacher-made Primal in Practical Research with 21st-century skills such as collaboration, critical inquiry, and research skills and practises through learning websites.

Different research skills such as problem-solving, critical thinking, analysis, and dissemination are just a few strategies and tools that can be acquired and needed to take on research (Meerah & Arsad, 2010). As interactive forms of education are highly encouraged in today's school year to supplement the student's learning, a comprehensive instructional material would be of great help to assist our learners in research. Hence, this action research primarily aims to validate the researcher's developed web-integrated

primal in terms of its content, relevance, and mechanics in learning delivery. Moreover, this investigation aims to determine the impact of the innovation in terms of the Grade 11 learners' research competence in the Dolores National High School during the school year 2021–2022.

STATEMENT OF THE PROBLEM

This investigation validates the researchers' developed Web-integrated Primal for Beginning Qualitative Researchers among two Grade 11 TVL classes at the Dolores National High School during 2021-2022. Specifically, the study sought to answer the following research questions:

1. What is the level of acceptability of the web-integrated Primal for Beginning Qualitative Researchers in terms of contents, relevance, and mechanics as evaluated by teachers in Practical Research 1? content
2. What is the effect of the web-integrated Primal for Beginning Qualitative Researchers on the experimental group's competence in comparison with the control group?
3. What are the suggestions of the participants to improve the over-all aspects of the web-integrated Primal for Beginning Qualitative Researchers?

RESEARCH METHODS

This study's participants are beginning qualitative researchers in the Dolores National High School during the school year 2021-2022. Beginning researchers are learners who have not undergone any research classes in their junior high school.

This study used a multi-dimensional mixed-method research design specifically, (1) a quantitative evaluative research design to validate the knowledge-sharing website cum Primal for Beginning Qualitative Researchers in terms of the identified constructs, (2) a quasi-experimental research design to measure the effect of the said innovation on the research competence of the respondents, and a (3) Phenomenological Research for it seeks to describe the lived experience of Grade 11 TVL students in the utilisation of knowledge-sharing website cum Primal for Beginning Qualitative Researchers. The three phases of this study required two different sets of participants. For phase 1, the researchers used purposive sampling in evaluating the acceptability of a knowledge-sharing website cum Primal for Beginning Qualitative Researchers in terms of content, relevance, and mechanics of the innovation. Specifically, the researchers chose senior high school teachers who are fully immersed in teaching Practical Research 1 for Grade 11 students in Dolores National High School. For Phase 2, the researchers picked two classes from the Technical, Vocational, and Livelihood track in the Dolores National High School, comparable in terms of their maturity and performance, to serve as the experimental and control groups. A Levene's test for equality of groups will be conducted to assure the comparability of the selected classes. Thus, 70 Grade 11 TVL students were chosen as the experimental group, and another 70 students of the same strand and grade level were chosen as part of the controlled group. And for the third and last phase, the researchers picked learners among the experimental group to share their learning experiences and suggestions for improving the entire innovation.

The researchers used three (3) instruments for this study. First, an acceptability/Likert-based questionnaire primarily focuses on validating certain constructs of a knowledge-sharing website cum Primal for Beginning Qualitative Researchers. Secondly, the researchers developed a 50-item pre/post-test instrument to

measure respondents' level of competence in the identified learning competencies. Lastly, the researchers employed Focus Group Discussion to select respondents to air out their experiences, challenges, and suggestions for improving the entire innovation, which has a 2-hour time allotment. These research instruments passed through content validation of a panel of experts such as master teachers, professors, language teachers, and education program supervisors who are experts in the field of research. Moreover, the test instrument has undergone a test-retest type of reliability measure, with an outcome of a Cronbach alpha.

This study's data gathering procedures commenced after receiving necessary requisites from the higher authorities, such as the Eastern Samar Division Superintendent, Schools District Supervisor, and the School Principal. The researchers submitted a copy of this study's proposal manuscript and a letter asking permission for its conduct. Once approved, the researcher sought permission for the innovation to be presented for content validation by the same set of authorities with experts from the schools' division of Eastern Samar. Afterwards, the researchers implemented the innovation in one experimental group, while the other group remained under the modular print instruction. Then, researchers conducted a 2-hour Focus Group Discussion to collect recommendations of instructional material features that can be added to the innovation. After which, the recommendations were analysed and integrated into the material. The researchers obtained consent from the respondents of this study by first explaining the purpose and methods of the study, ensuring the confidentiality of the responses collected by using only pseudonyms in the presentation of data, allowing the respondents to review the interpreted data prior to its presentation, and destroying the transcripts after the data was interpreted.

Since this study employed qualitative investigation of respondents' lived experiences on the use of web-integrated primal for beginning qualitative researchers, the researchers were strictly following exhaustive approaches of credibility, dependability, confirmability, and transferability to achieve trustworthiness of results, which will add rigor and strength to data gathering, and thickness of descriptions (Speziale & Carpenter, 2007). Specifically, "member checking" was employed to build an agreement between the respondents and the researcher regarding the meanings and subsequent themes to be formulated (Froilan, 2018). The outcome of this process, transcript reports, translated phrases/statements, and derived themes were scrutinised by identified researchers with experience and publication regarding Qualitative Research in the province, including the division research coordinator of the schools' division of Eastern Samar.

Data analysis for this study used three methods to answer the established research questions. First is the weighted mean and qualitative description of responses, which summarises the validation made by selected teachers in Practical Research 1. Second is the t-test for independent samples to compare the experimental and control groups' levels of competence. And finally, Colaizzi's descriptive phenomenological method of data analysis is composed of seven steps.

The third approach has undergone the following steps. The first step is familiarisation, where the researcher familiarises the data by reading through the participants' accounts several times. Then, identifying significant statements with great relevance to the phenomenon will be identified through the investigation. Next is formulating meanings relevant to the phenomenon that arise from carefully considering the significant statements. This was followed by clustering themes by identifying

meanings into common themes across all accounts; then, the researcher developed a detailed inclusive description of the phenomenon, incorporating all the themes produced in the previous step. The next step was producing the fundamental structure by condensing the detailed description down to a short, dense statement that captures just those aspects deemed essential to the structure of the phenomenon. Lastly, verification of the fundamental structure was sought by returning the fundamental structure statement to all participants to determine whether it captures their experience, wherein the respondent may go back and modify earlier steps in the analysis in the light of this feedback (Murrow et al., 2015).

Table 1. Arbitrary scale and verbal interpretation of data

Response	Arbitrary Scale	Verbal Interpretation
5	4.21 – 5.00	Excellent-Very Highly Acceptable
4	3.41 – 4.20	Very Good – Highly Acceptable
3	2.61-3.40	Good-Acceptable
2	1.81-2.60	Fair – Less Acceptable
1	1.00-1.80	Poor-Not Acceptable

RESULTS AND DISCUSSION

Level of acceptability of the web-integrated Primal for Beginning Qualitative Researchers in terms of contents, relevance, and mechanics as evaluated by teachers in Practical Research 1

The first objective aimed to determine the level of acceptability of the Web-integrated primal for beginning qualitative researchers in terms of contents, relevance and mechanics, which Practical Research 1 teachers evaluated. Table 2 shows the mean scores of each three-component with corresponding interpretation. It reveals that the web-integrated primal is “very highly acceptable” in content and relevance with a mean score of 4.24 and 4.51, respectively, whereas mechanics has a “highly acceptable” rate of 4.13. The overall mean score of the web-based material in all categories is 4.34, with a qualitative description of “very highly acceptable” that supported the respondent’s claim of innovation satisfaction.

Respondents’ were highly pleased with the content of the web-based material. Teacher A stated, “*the material covered all competencies based on the curriculum guide of Practical Research 1, which was presented more clearly and interactively, surely the students will enjoy learning from this*” (p.1, line 20). Regarding relevance, Teacher B stated, “*the samples, lectures and worksheets were all aligned and were coherent and the feedbacks given by other researchers to students output were truly informative. It was very easy to comprehend*” (p.4 line 15). Though the mechanics of material showed the least mean score, it was still highly acceptable. As Teacher A also stated, “*the website is creative and performed its required functions including data storing, sorting, and finalising output, and I can recognise how to use the system easily*” (p.1 line 30).

Table 2. Web-Integrated Primal's level of acceptability for beginning qualitative researchers in terms of content, relevance and mechanics.

Indicators	Mean	Interpretation
Content	4.21	Very highly acceptable
Relevance	4.51	Very highly acceptable
Mechanics	4.13	Highly Acceptable
Over-all	4.28	Very highly acceptable

The findings of this study are coherent with Olawale (2013) claims that properly prepared instructional materials are effective in enhancing, facilitating and easing the teaching process, creating livelier and concrete learning and therefore cannot be over-emphasised. Similarly, Nardo (2017) pointed out that learning material should elicit the students' independence that would enable the child to self-progress at his rate, giving him the satisfaction of fulfilling the job on his own. These studies support the conduct of the web-based material, which offers peer-review, enabling students to reflect on the reviewer's comments and allowing them to revisit their work for further improvement. The innovative means of teaching qualitative research through the web-integrated primal was left with satisfying reviews from the teachers who rated its acceptability and referred to the material as creative, interactive and informative. Hence, reimagining the delivery of necessary educational capstones is vital and urgent in the dynamic teaching and learning process.

Effect of the web-integrated Primal for Beginning Qualitative Researchers on the experimental group's competence in comparison with the control group

To have a better grasp of the quality and effect of the web-based learning material, an evaluation of the students' competence was done through a pre-test and post-test method Test of significant difference in learning gains of the comparison and experimental groups. Table 1 depicts the test result of significant difference in learnings using t-test analysis assuming unequal variances at a 5% significance level. The result shows the experimental group bearing a higher learning score of 23.72% over the comparison group with 18.04%. Also, a minor standard deviation of 0.06 was seen in the experimental group, which entails the researcher's capacity to offer intervention to lessen learning gaps among extreme learners. Furthermore, the t-test analysis resulted in a computed p-value of 1%, which is smaller than the alpha value. Hence, there is ample evidence to reject the null hypothesis and declare a significant difference in the learning gain scores between the two groups. This also means that the use of web-integrated primal is more effective in improving students' research competence.

Table 2. Test of significant difference of learning gains of the comparison and experimental groups

Groups	Learning gain score	SD	t-value	p-value	Decision
Comparison	18.04%	0.08	2.02	0.01	Reject H ₀
Experimental	23.72%	0.06			

These results adhere to the findings of Nardo (2017), stating that experiential learning is needed and that learner receives a more prolonged effect of what is done when the learners are involved in initiating and evaluating wherein the learning material elicits the independence of the students that would enable the child to self-progress at his own rate, giving the satisfaction of fulfilling the job on his own. Considering the changes in the new normal set-up and the pressure set by distance learning, e-learning opens a more significant opportunity for the continuity of education, which is supported by Firat (2016) that by proliferating and integrating e-learning technology in the Philippine education system, the transformation of teaching and learning process increases the academic achievements of Filipino students. The overall findings imply that integrating new concepts that the students can relate to and developing the learners' social being through constructive brainstorming offers a significant impact on the delivery of learning.

Suggestions of the participants to improve the overall aspects of the web-integrated Primal for Beginning Qualitative Researchers

Screening Feedback from Reviewers

Respondents were gathered for a Focus Group Discussion about their suggestions to improve the overall aspects of the web-integrated primal for beginning qualitative researchers. Most suggestions would focus on screening peer-review of the student's output through comments and feedback. According to the respondents, the majority of the reviews were accurate and helpful. However, some would leave a wrong or misleading input which often leads to students' confusion. Student A (p.6, line 2) appreciated the innovation stating that "the feedbacks were informative and helped them gain beneficial insights needed in crafting research papers". Another respondent also stated that "comparing different viewpoints were beneficial in improving manuscripts though some peer-reviewers left a confusing comment without further explanation, most of this comment were about choosing the right qualitative design". Student C also added that some reviewers would only leave a remark stating "that's a wrong research design" without leaving an explanation. They suggested screening options should be before the comments are posted. They also added that questions and follow-ups should be asked to strengthen the reliability and content validity of the comments of the reviewer. It was also suggested that, if possible, there should be an option where teachers can review the feedback.

The students' remarks showed the great importance of a guided peer review system where learners and developed researchers can have a meaningful exchange of outputs. Kelly, Sadeghieh, and Adeli (2014) also emphasised that the peer review process has become critical in assisting editors in selecting plausible, high quality, novel, and promising research papers; however, it still has flaws and deficiencies, and a more suited screening method for scientific papers has yet to be proposed.

Organising Research Groups

The responses from the Focus Group Discussion revealed that respondents could better collaborate with their peers, suggesting that instead of drafting research papers individually, students' output is more substantial when working with their classmates or groupmates. One of the respondents said, "it would be more efficient and manageable for us to work in groups instead". Another respondent explained that crafting research papers in groups "would help them draft the paper better as there are more people who can contribute ideas" to the research topic. Student C also expanded that working with peers in drafting their research provides enough time since the submitted outputs will be lessened "the more outputs submitted the more outputs to be given feedback thus the limited time to evaluate each research output". Respondents implied that by working with peers, their research outputs could be initially evaluated within the group, giving the evaluators a lesser chance of corrections.

The responses thus suggest that drafting the research paper in groups would be more beneficial to the researcher, thereby improving the quality of the paper since it would be more manageable to work on. Parallel to such suggestion is the assertions of Odom, Glen, Sanner and Cannella (2009) explained that drafting the research paper in groups would lessen its preparation time, make the process more manageable, and promote collaboration among researchers.

Providing pre-identified research categories

The students also noted that the duration of developing a research topic from nowhere takes longer and consumes the allocated time for other research tasks. Student D stated that "there were plenty of sample research papers presented in the web and still I find it hard to choose a topic due to broad variety of choices, it would cut that time short if there were fewer pre-identified categories that we could choose from".

Student A said that "it was hard to begin a paper when I don't know where to start. There are varied choices that I spent so much time deciding what area I should focus on, especially since I was just starting to learn research. She suggested giving her coresearchers areas to focus on where they can start crafting drafts. Respondents lamented that as a beginner in the research field, one of the most challenging choices is choosing a topic. Thus, they suggested crafting at least five themes to focus on. These findings are supported by Praharaaj, Samir & Ameen, Shahul (2020), claiming that seasoned researchers choose a research topic easier due to their awareness on the gaps of knowledge in a specific field than novice researchers who commonly have difficulty in identifying an area to do research.

The qualitative analysis of the respondents' suggestions through Colaizzi's descriptive phenomenological method of data analysis showed coherence with the works of Odom, Glen, Sanner and Cannella (2009), stating that peer-review is beneficial and allowed comparison of viewpoints. However, it was time-consuming, and topics were not motivating and required lots of work. Thus, it was suggested that groups should be smaller yet not individual to allow more time for quality evaluation.

CONCLUSIONS

Based on the findings of this study, the researchers conclude that the Web integrated primal for beginning qualitative research is very highly acceptable as assessed by Practical

Research 1 teachers. The significant difference between the learning gain scores of the two groups in favour of the experimental group shows that using the web-integrated primal in teaching Practical Research 1 is adequate. Lastly, the respondents were satisfied with the results of the innovation. However, they suggested screening comments and feedback from reviewers, creating research groups rather than crafting manuscripts individually; and assigning pre-identified research categories.

From the derived conclusions of this study, the researchers recommend that the concept of the web-integrated primal on peer-reviewing be used in other subjects requiring performance-based outputs from the students, especially in senior high school research-related subjects. The innovation may also be introduced for use in other schools of the Schools Division of Eastern Samar and its acceptance and efficacy in the said institution to test the reliability of its results.

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