A Review of a Dissertation on the Topic of "Exploring the Effects of an Asynchronous Professional Development with the SAMR integration Model on High school Teachers' Technology integration in the Classroom: An Action Research Study"

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Abstract

The purpose of the review has critically analyzed the dissertation for the partial fulfillment of those who are interested in studying and makes fully activated along with participation for critical interpretation of different levels of various conceptions and components of the dissertation. Not only this, it helps to develop a critical lens and provide visions, building up wider perspectives on different burning issues but also increases the ontological and methodological interpretation regarding the side emic and etic perspectives of researchers in the field of research. In this review, I have used different relevant articles and document analysis methods in applying critical ways. I have critically analyzed all the contents of the dissertation and put them into five themes. They are introduction, Critical analysis of summary, context analysis, organization of writing, and conclusion. The basic elements and their evidence are included in it. I have examined the linking of the topic with its research questions with objectives, methodology, literature, discussions, and findings with a conclusion. In the review, the major problems appear to be inadequate technology for teacher training, lack of time for implementation of technology and professional development course, and improper utilization of the teachers. I have concluded that professional development is a wider topic that spans multiple disciplines for students helping them to improve via programming and computing devices and focusing on cycles of action and reflection.

Keywords: critically analyzed, dissertation, professional development, technology, computing devices, emic and etic, asynchronous, SAMR integration

Introduction

The review dissertation title is "Exploring the Effects ……An Action Research Study " written by Taylor J. Bradley and published in Spring 2020 in the Journal of the University of South Carolina, Scholar Commons, and taken from https://scholarcommons.sc.edu/etd via email. The dissertation submitted to the University was the Partial Fulfillment of the requirements of the Ph.D. in Curriculum and Instruction. Among five academicians, Anna C. Clifford, Michael M. Grant, and Ismahan Arslan-Ari were the Committee Members while Cheryl L. Addy was the Vice Provost and Dean of the Graduate School who contributed to conceiving, designing, interpreting, and executing the whole study writing in guidance and supervision. Before approval for the viva-voice, Fatih Ari, Major Professor recommended and provided feedback while editing the dissertation (Bradley, 2020). The central concern of the dissertation was to evaluate the effects of asynchronous professional development on teacher technology integration as measured by the SAMR integration model. TPD and ICT education are highly significant components for students to use technology in the classroom (Murthy et al., 2018). Therefore, my concern is to critically analyze the different elements, issues and there various perspectives of the dissertation and judgments about the mutual co-relation between literature, discussion, and findings of it.

Pragmatism was considered as the paradigm of this action research because it implemented digital instruments for learners via mobile, Chromebook, iPads, laptops, etc. For example: developing quizzes & texts, creating flips and videos, videos mixing, sorting and visualizing Google forms, etc. It incorporated an online professional development (PD) module in the classroom to prepare teachers to use specific technology-related materials, concepts, and ideas for technology integration (Ormerod, 2006).

Here, the mixed method design was employed by using inductive analysis and descriptive statistics that covered both approaches for analyzing the data. It explored the three research questions (RQ). They were related to asynchronous teacher PD on the SAMR model that impacts the planning process, how it impacts teachers' classroom technology integration, and teachers' perceptions about the effectiveness of asynchronous

teacher PD. The dissertation took five teachers as participants to select a convenience sampling method. Pre and post-survey, gauging teachers' current levels of technology in the classroom, classroom observations, and semi-structured interviews, individual interviews were employed for mixed data collection. Moreover, for the Quantitative measures, data were scrutinized through descriptive statistics and draw exact conclusions through the different methods of computation, and for qualitative measures, data were analyzed through interpretative inductive analysis, literal transcription through the verbal and non-verbal ways, and pause of words using Delve and in-vivo coding (Mertler, 2017).

The research found a digital divide between teachers' PD and teachers' non-PD using digital devices in classroom instruction (Zilka, 2016). Different modules like SAMR, RAT, TIM, SEM, and TPACK measured the knowledge, skills, pedagogy, andragogy, contents, magnitude, and attitude of ICT database and their uses in the daily life phenomenon of teacher technology and PD course through the ICT integration. Its conclusion emphasized a blend of knowledge rather than a series of actions. Therefore, it explores the epistemological instant in the field of Asynchronous Professional Development with the SAMR integration Model on High school Teachers' Technology integration in the Classroom. My aim of this review is to fulfill the partial requirement of the emerging researchers' hunger for studying and learning area of the field of ICT in the era of 21st century and critically analyzed the ICT-centered classroom's burning issues in instruction and contemporary classroom through the ways of critical interpretation

Download the Report based on epistemological and ontological points of view. Knowingly or unknowingly, it helps to build up the reading habits of the individuals, critical review and analyzing the concepts, and writing skills of the researchers in the competitive field of academic institutions.

Content Analysis

Content is the trepidation of the dissertation that makes the research a thick rich account. I considered reviewing at first as a quantitative form of studying dissertation data and information. In fact, the whole document of the dissertation covered 32,443 words, and its title and ab-

stract were written in 26 and 339 words respectively. There 164 citations were mentioned in references that were taken from books, journal articles and research articles, and parts of different texts and magazines. All contents, purposes, RQ, and tools were illustrated within 5 chapters and 7 appendices respectively which made the dissertation more adorable and sensible in manner. In the preliminary part of the dissertation, acknowledgment, and dedication along with 13 lists of a table, 6 lists of figures were mentioned explicitly as like a sketch in figures. While computing the information and facts in numbers or figures such as the topic as the introduction, the Statement of problems, the literature, the Methodology, the findings and interpretations, and the discussion, implications, and limitations covered 3.78 %, 0.46%, 21.2%, 16.34%, 22.13%, and 14.6% respectively. The remaining percentage figures were covered by the preface, references, and appendices.

Secondly, for analyzing the qualitative ways, the main themes and sub-themes were rigorously described based on participants' views and responses. Two themes were centered on the content such as (i) teachers' opinions of the courses and (ii) Transfer of learning experiences to participants through the PD. From the first theme, there were illustrated sub-themes of ICT education and PD teachers' integration such as the approach to the courses, self-pace, structured with schedule, positive outcomes, recommendations to others, collaboration with others, suggestions for change, deeper discussion, and more opportunities for collaboration (Vygotsky, 1997). Similarly, in the second theme, current transfer of LE, teachers' utilization of applications discussed in arranging, and changing lessons, increased technology use in lessons, increase in confidence, the benefit to planning, and ideas for future use were the sub-themes of contents. Likewise, so many related elements could be included, that were missing or shifting or merging.

Critical Analysis of the Summary of the Dissertation

The Title and Abstracts

The title of the dissertation "Exploring ……An Action Research Study" seems too long and does not cover the implicit and wider content as it is limited within the SAMR approach only. However, other different ICT models such as TPACK, RAT, TIM, SEM, and PD were deployed

but not sufficiently interpretation on it. The literature appraised other different models but the title exemplified only one model. Mixed different concepts of models on this topic of the dissertation but analyzed only based on the SAMR approach without rigor. The title should be limited to twelve words. Moreover, the title is not appealing. The dissertation title should depict the broad contents (What?), typical paradigm and methodology (How?), and the site of research (Where?) and involve etic or emic researcher (Who?). It gives the portrayed research for the researchers through the emic or etic perspective that helps to increase the response of audiences (Creswell, 2003). Similarly, the abstract should be enough to monograph the requirements of five illustrative elements in brief. It should be covered within 250 words but there were more than 339 words. The citation should not be enlisted, to indicate the evoked contents. In this abstract, components were implicated, coherent, and well-structured but the numbers of words were more than 330 which was adequate or not? Correspondingly, 4 citations were done inappropriately (Bradley, 2020). And others are seeming to missing some words and their doi numbers and their auxiliaries' components. Keywords were taken within limitations of 3 to 5 words, somewhere, 5 to 7 as required. However, the representative words may not be included in there for server the googles and related sites for finding impact factors and others search.

The Literature Review

The researcher has mentioned the content on local, national, and international levels of different books, journals, and conference papers. It was related to different models of ICT and technological integration with teachers' PD. However, unnecessary journal names, Scholar citations, and redundant content were postulated which made the thesis lengthy and giddy. However, technology integration and PD framework were mentioned and made contextualized over RQ which helped to generate themes for the analyzing process. Illustrating keywords and phrases was quoted enough.

Similarly, the SAMR and TPACK modules clarify the ICT integration, Teacher PD, and many articles relevant to research (Kimmons et al., 2015). The literature conducted the flow of content smoothly in a theme-based context. Lack of time for the teacher to prepare a lesson and

make lesson plans for confident instruction does not seem to be productive to instruct the classroom for proper implementation of technology. The teacher experiences a lack of time both doing and demonstrating materials in the classroom activities and in the preparation of lessons for effective teaching and learning activities. While, it simply takes to log in, distribute, manipulate, and navigate through the ICT and PD-based software, and devices in the classroom (Mavinkurve & Patil, 2017).

Moreover, in the context of Nepal, the Government policy for ICT in education should amplify, not only for the pandemic period of COVID-19 or other circumstances but also for the sustainability of education and government activities in the field of learning, conferences, meeting, seminar, and coverage the remote areas of Nepal through the distance education as a mode of long life education.

Although, it is a better time to implement distance education strategies through IT in educational institutions (Koçoğlu & Tekdal, 2020). The government should strike in rural, and urban schools or colleges to provide ICT labs, in-service and out-service teacher training, resources, and internet access, and should establish the durability of the resources of ICT infrastructures (Rana, 2018). Transformation, substitution, redefinition, integration, and augmentation are used, not only year- to year but longitudinally in ICT integration and technological level (Puentedura, 2006). Instead of the SAMR approach, other modules such as RAT, TPACK, TIM, and school-based PD were included in the literature review explicitly. These models are extremely fruitful, and applicable for the ICT field's students and teachers because of their practical-based activities, and help to use more resources, and these models' theories were useful for learning activities. However, the Systematic equation module (SEM) was not enlisted throughout the literature (Cabero & Barroso, 2016). Even though, such models make research-rich, transformative, useful, and consistent for the audience or respondents.

The RQ and Methodology

Here, three RQs were exclaimed for one purpose of the dissertation. The RQ first was written for quantitative data analysis by taking a survey. Critically, 24 items, TTQ was employed in 5 certified teachers. The collecting data were less than 30. Due to the small size of the data,

parametric testing was not conducted. However, a non-parametric test was employed through the descriptive statistics that implemented the exploration of the TTQ scores from pre-to post-test. TTQ tools and Likert scales were taken as piloted testing items. They were already calculated for the reliability and validity test. The values of reliability were indicated implicitly in the dissertation.

Similarly, the 2nd and 3rd RQ was created for qualitative analysis. Through observation, semi-structured interviews, and teachers' PD instruction impact was measured. Critically exclaimed that the 3rd RQ could be used as a quantitative approach because it was related to the teachers' perceptions by using the Linkert scale through the survey (Dalton, 2014).

No sampling procedure was employed while selecting the schools in this dissertation. Whether, the researcher could not decide, on an emic or etic perspective. I censured that the researcher evoked, sometimes, insider and outsider lenses, especially in the PD course. However, he had followed rigorously the ethical consideration based on informed consent, the intervention of test, scrutiny, translation, peer debriefing, and member checking (Creswell, 2014). He felt confused and wrote hodgepodge themes about technological integration and the PD course. While some sentences were redundant to the intervention of the data and information interpretation and views of respondents.

The Critical Interpretation of Findings and the References

Discussion and findings are the more significant component of dissertation. The discussion developed research gravity and steer to right conclusions. Most of the writing are stereotype reflections were present. Researchers interpreted in discussions with each issue by adjoining the different scholars' views and opinions (Korzeniecka-bondar et al., 2019). After that, he created themes and sub-themes that were concerning their participants' views per se. Supporting literature explained that educational technology has some drawbacks because it reduces hand-writing skills and notes keeping, also it is not easy to use it for the concentration of learners. The literature described the key components of ICT teachers' beliefs, readiness, and overall support.

Findings can be analyzed through the five respondents who gave different back and forth ideas. They did not collaborate with co-teachers that they have had in other ICT online PD classes'. Although the PD classes were voluntary, collaborative, and cooperative while participants were not engaged in the full-time course of PD (Kimmons et al., 2015). Thus, the deeper discussion may not exist, mentioning that, the better transfer of learning experience might not occur through the PD in the classroom due to the lack of motivation, well facilitated classroom management, preparation, communication, and increases digital literacy and built up skills, and ICT resources (Zilka, 2019). ICT and PD courses may increase self-confidence, smiling their faces, easily take part in share and pair activities, energetic, self-reported, over uses of instruments, knowledge, and technology awareness, to take lessons deeper, fruitful presentation of instruction, however, it reduces the intuition of the mind. It makes slow the thinking ability of intelligence and mostly it reduces the independency of individuals.

In the quantitative analysis of TTQ, the subsection was volatile in reaction to high SD in classroom activities. "Technology integration efforts have transformed classroom instruction in a very positive way" (Inan & Lowther, 2010 p.49). Similarly, the qualitative analysis explores that the confidence will be increased and new knowledge will be established through technology in classroom integration.

There was a citation on the content related to journals and authorized publication books. Most of them were recently published journals and books ranging from 2000 to 2018. But, few of them cited were before 1999. I have found that more than five citation references were fake, doi was not downloaded that accorded textbook and journals properly. It was published in the latest dissertation and was written as a good APA 6th format. Likewise, some citations are to be revised, otherwise, it creates the authentic confusions to the audiences.

Organization of Writing

In this dissertation, the researcher used appropriate phrasal verbs, semantics, and metaphors. The audiences could be attracted to study by the appropriate syntax, the simple and formal structure of sentences, and colloquialism (Bradley, 2020). The mutual relationship was attuned

among the different components of the dissertation. Discussions and findings were highly consistent, coherent that fulfilled the purposes of RQ. However, adjoining scholars' research, some terms have iterated that makes sentences unintelligible as well as contradictory. Even though, the flow of ideas, connection of argument, pertinent conjunctions, and claims are complement in each paragraph to others.

Strengths and Limitations

In thematic ways, it covers the needs and aspirations of students and ICT educators. It makes the instruction more behavioral, fruitful, child-friendly, and practical-based. ICT is used in institutions for attending parent conferences, teacher's training, and meetings, maintaining students' portfolios and their mobile attendance, and many other initiatives (Chen, 2010). Nowadays, official records and machine attendance, and teacher portfolios are being made with the help of ICT tools. ICT and PD courses are highly employed in the field of assessment and testing area of evaluation in academic institutions and others too. Accounting and office management apps and their circumstances are determined and campus administration has set up the appropriate program package of ICT. Therefore, it was more consistent with a longitudinal study and area of statistical research which helped to find conclusions through the intervention of the test of ICT and PD course (Rana, 2018).

Similarly, the limitation is that all of the teachers may not be able to deploy the high-purchasing ICT instrument and uses them appropriately for the classroom used. Someone is feeling dizziness and lethargy about applying ICT in the classroom for instruction. Those who are unable to properly use ICT and untrained PD teachers may have felt the burden of devices in instruction. They have no introspection taught in class for use for the motivation of learners and for the development of their PD. Sometimes, by way of carelessness, some teachers and students are misused in a classroom or individually for viewing pornos hub or opening bad blogs on the internet through ICT.

Reflections

This is the epoch of the swift of science and technology paving the modernism and post-modernism world." … [d]igital technology is

beginning to offer an array of multimedia and multimodal devices and applications that promise to help struggling readers and teachers" (Dalton, 2014, p.38). So, ICT helps to apply pre and post-PD courses of a teacher in classroom integration. Moreover, the SAMR integration model on High school teachers' technology integration is implemented properly in the classroom through one-to-one correspondence, traditional methods of laptops use, iPods, and mobile accessories for developing videos, programs, etc.

The eBooks, Chromebooks, iPods, Intel, internet access and accessories, and Google' has been made more aware of technology the administrators for solving instructional problems and ensure innovative use of ICT in education through the structural equation modeling (SEM) that increases the productivity and efficiency of the teachers (Chen, 2010). However, ICT and PD are innovative techniques that are developed for the use of science and technology in the classroom. These are not employed in the classroom as a methodology by instructors but also transferred to it as technology. Therefore, methodology is an art and technology is a device of artists for instruction. Both of them are also employed in the field of education and classroom instruction. However, both make the classroom more effective and achievable by the ways of consolidation of changing behaviors of learners.

The ICT and PD are the valid and reliable tools of this modern era for the teachers and learners through which they become trained and compatible in their behavior. ICT is an inevitable device which are multiple purposes in academic and non-academic institutions and the life of an individual's career (Puentedura, 2006). For those who are engaged in the field of teaching and training profession, PD courses are necessary for their intuitive, positive attitude, and professional development. It helps to conclude the reliability and validity of participants' views giving different perceptions with the reflection that consolidates the set of skills in the teachers' PD and their attitude related to ICT education.

One reliable theme from participants was a future transfer of LE from participation in the PD. When evaluating the statement, "I customarily integrate the use of technology into my instruction" from the TTQ (Lowther et al., 2008). There was a pre-test mean score of 3.6 and a post-

test mean score of 4.4. This concludes that teachers were planning to, and more readily apply ICTs in their classrooms after the PD.

The dissertation has more significant because it covered emergent issues of Science and Technology concerning teachers' PD and ICT. Mutual co-relation, the flow of format structure with a summary of the end of each chapter, and the topic-wise association were set up systematically. Its findings were deliberated as more usable, valid, and relevant to distance education in the current scenario of the COVID-19 pandemic world and other same like circumstances pandemic issues (Koçoğlu & Tekdal, 2020). The research study may be replicating with a large population of individuals were the implications of the dissertation.

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