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The Impact of Technology Integration in Teaching Performance

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Abstract

With the implementation of the K to 12 Education program in the Philippines, it necessitates the use of technology in teaching. Technology integration in teaching helps and assists Social Studies teachers to fill the gap and aid the weakness of traditional teaching methods with technology-based teaching and learning tools and facilities. Hence, this research tries to look into a way to understand the impact of technology integration in the teaching performance of Social Studies teachers in public high schools in the Division of City Schools – Valenzuela City. Using a descriptive-correlation survey method, the researcher believes in finding a link between and among variables. The respondents of this study consist of one-hundred (100) Social Studies teachers. The result indicates that the six dimensions of technology integration were described in a great extent by Social Studies teachers. More so, findings reveal that for all the seven indicators of teaching performance measured, Social Studies teachers were described as very satisfactory. Using regression analysis, the results of the study proved that technology integration exerts a significant impact on teaching performance. And among the six dimensions of technology integration, the best predictor was productivity and professional practice. It is recommended that the Department of Education should not stop providing programs, seminars, training-workshops on technology integration to improve further the performance of Social Studies teachers.

Keywords: Technology Integration;Teaching Performance; Social Studies Teachers.

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1. Introduction

Over a decade, there is a significant change that happens in the classroom, especially in teaching the lessons in the most comfortable way. This is the reason why many of the educators have become innovative in how they will deliver the experience effectively and efficiently. Until such time, that educator uses technology, due to its fastest growth in society. The emergence of technology integration provides new opportunities for teaching and learning, especially in the Social Studies classroom [52]. Moreover, it opens another door on how learning process become more conducive, interactive, and fruitful on both teachers and students. Reason for the National Council for the Social Studies to urges the educators to design technology-enhanced experiences that address the content of the curriculum and enhance teaching performance [24]. In response, a growing number of educators are now exposing themselves in the technological infusion that can support their performance in teaching Social Studies. Moreover, technology integration in teaching plays a vital role in attaining a significant improvement in productivity and performance of teachers inside the classroom. The findings revealed that teachers and also students constitute as competent members of the class through their equipment with innovative pedagogical routines, which is putting the technology in the teaching and learning experience [24]. Moreover, the teaching of Social Studies with technology can produce optimal results on the performance of teachers [60]. This reflect that technology integration succeed on its mission to give a positive response in the field of education especially in innovating the present education. Unfortunately, numerous studies question the benefits of technology integration inside the classroom. Findings indicate that the teachers viewed technology integration as beneficial for their student's success; however, their practices and performance did not reflect this progressed importance. For the study to suggest that a single-cause explanation for why teachers do or do not integrate technology into their teaching is insufficient [55]. Another findings revealed that no significant difference in teaching Social Studies in their use of technology to promote National Educational Technology Standard for Teachers (NETS-T). There was also no significant difference in training to develop National Educational Technology Standards for Teachers (NETS-T) in middle or secondary schools. At this case, the researcher recommends that preparation of program and policy for professional development, including NETS-T in support of technology integration [22]. In the same vein, faculty members' lack of technological proficiency needed to take advantage of these new technologies, making them unable to bring these technologies into the classroom and leading to many standing unused in the school. This is proven based on the findings indicate that faculty members need not only to learn how to use technology at the primary level but also to learn how to integrate technology into their curricula. Besides, the newest teachers from digital generations maybe taught how they acquired skills can be used to incorporate into the classroom curriculum to provide complex engage for their students [67]. In this view, there were few studies found that technology integration is not yet substantial as a contributing factor of teacher’s performance. Still, there were findings, just like the presented findings above that were looking forward for concrete evidence with regards to the impact of technology integration on teacher’s performance and productivity. Currently, the country continuously implements the K to 12 Education program in which technology integration in teaching is highlighted as one of its salient features in improving the performance and productivity of teachers, especially the Social Studies teachers in public high schools and also how technology can be applied in the learning process. It is, therefore, the intention of this study to assess and evaluate the impact of technology integration in teaching performance of Social Studies teachers, as well as to determine the

correlation of technology integration in teaching and the production of teachers. For the further enrichment of this study, the researcher seeks to raise management implications based on the findings. Also, this study aims to help those Social Studies teachers in the teaching profession to apply and to deliver their lesson effectively with the use of technology to attain the complete satisfaction of learning that the teacher expects to his students.

2. Methods

2.1 Research Design

This study essentially made use of descriptive-correlation design where it attempted to determine the impact of technology integration in teaching Social Studies on the teaching performance of Social Studies teachers. Correlational research is a systematic investigation that aimed to determine the existence of relationship between two or more variables and to determine the nature and degree of relationship [48]. More so, the study made used of a quantitative research approach in analyzing and understanding the predictor and criterion variables. Standardized questionnaire on educational technology scale standard for teachers and set of indicators posted by the Department of Education (DepEd) were adopted as the primary data gathering tools.

2.2 Respondents of the Study

The respondents of the study were the all Social Studies teachers in the fourteen (14) public high schools in Congressional I, Division of City Schools - Valenzuela City in the school year 2018-2019, chosen through universal sampling. A total of one-hundred (100) Social Studies teachers were the respondents of the study.

2.3 Research Instrument

Questionnaire was the primary tool for data gathering. It utilized the National Educational Technology Standard for Teachers (NETS-T) which is internationally approved by International Society for Technology in Education (ISTE). The NETS-T was used for determining what proficiencies teachers should have for the use of education technologies. The standardized questionnaire, which is NETS-T, was used by authors in [15] in their study and from NETS-T it was modified to Educational Technology Standard Scale (ETSS). The instrument is a 5-point Likert scale questionnaire ranges from 1 (none at all integrated) to 5 (very great extent of integration). It is reliable as evidence with the values of Cronbach alpha for the six factors in the scale were between .801 and .919. The value of Cronbach alpha calculated as a whole scale was .957. Meanwhile, teachers' performance was assessed in terms of the RPMS parameters set by the DepEd based on DepEd Order No. 42, s. 2017 and from Results-based Performance Management System Manual for Teachers and School Heads.

2.4 Data Analysis

The data collected from the questionnaires was tabulated and processed using both descriptive and inferential statistics. In order to analyze and interpret the data, Statistical Packages for Social Sciences software (SPSS 21) was used. Technology integration, as the independent variable of the study, and teaching performance, as the dependent variable in the study, were quantified using descriptive statistics such as weighted mean procedures.

On the other hand, to determine the impact of technology integration in teaching performance, correlation and regression analysis was used.

3. Results

3.1 How may the technology integration in teaching Social Studies be described in terms of the following dimensions?

Table 1: Technology Integration in Teaching

Technology Integration in Teaching	Average	Interpretation	Rank
1. Technology Operations and Concepts	4.12	Great Extent	2nd
2. Planning and Designing Learning Environments and Experiences	4.08	Great Extent	3rd
3. Assessment and Evaluation	3.88	Great Extent	5th
4. Productivity and Professional Practices	4.14	Great Extent	1st
5. Social, Ethical, Legal, and Human Issues	3.68	Great Extent	6th
6. Planning of Teaching According to Individual Differences and Special Needs	4.01	Great Extent	4th
General Average	**3.99**	**Great Extent**	

Table1 shows the perceptions of Social Studies teachers with regards to technology integration in teaching as a whole were described in a great extent of integration as evidenced by the general weighted mean value of 3.99. Technology integration dimensions were described in a great extent of integration in terms technology operations and concepts, planning and designing learning environments and experiences, assessment and evaluation, productivity and professional practices, social, ethical, legal, human issues, and planning of teaching according to individual differences and special needs as evidenced by the weighted mean values of 4.12, 4.08, 3.88, 4.14, 3.68, and 4.01 respectively. From the table, the results revealed that the following sets of dimensions of technology integration in teaching Social Studies were described in a great extent of integration. Social Studies teachers were greatly equipped with regards technological-pedagogical skills needed in technology-based teaching and Internet-based technologies. The findings call for further programs and trainings that will increase and hone teachers' technological-pedagogical skills and proficiency with regards to technology-based teaching.

3.2 How may the teaching performance of Social Studies teachers be described in terms of the following?

Table 2: Teaching Performance of Social Studies Teachers

Teaching Performance	Average	Interpretation	Rank
1. Content Knowledge and Pedagogy	4.07	Very Satisfactory	7th
2. Learning Environment	4.13	Very Satisfactory	5.5th
3. Diversity of Learners	4.14	Very Satisfactory	4th
4. Curriculum and Planning	4.16	Very Satisfactory	2nd
5. Assessment and Reporting	4.15	Very Satisfactory	3rd
6. Community Linkages and Professional Engagement	4.13	Very Satisfactory	5.5th
7. Personal Growth and Professional Development	4.17	Very Satisfactory	1st
General Average	**4.14**	**Very Satisfactory**	

Table 2 shows that the teaching performance of Social Studies teachers as a whole was described very satisfactory as evidenced by the general weighted mean of 4.14. The teaching performance key indicators were "very satisfactory" in terms of content knowledge and pedagogy, learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development as evidenced by the weighted mean values of 4.07, 4.13, 4.14, 4.16, 4.15, 4.13, and 4.17 respectively. From the table, the teaching performance of Social Studies teachers as a whole was reported as very satisfactory as evidenced by the general weighted average of 4.14. This means that Social Studies teachers were doing their task in order to produce globally competitive leaners, as well as, it connotes that Social Studies teachers were complying very well on the quality and standard of 21st century education, proving that Social Studies teachers were versatile and flexible on the changes in educational reforms.

3.3 Does the technology integration in teaching has a significant impact on the performance of Social Studies teachers?

Results of the regression analysis in Table 3 revealed that all the six dimensions of technology integration are correlated with the teaching performance of the Social Studies teachers in a varying extent as shown by the non-zero B coefficients. The nature of relationship is positive as can be gleaned on the B coefficients, which means that in general the better that Social Studies teacher integrate technology in teaching, the better teaching performance. Conversely, the lower those teachers integrate technology in teaching, the lower performance. A closer look at the obtained coefficients, one could glean that of the six dimension of technology integration, one dimension which is productivity and professional practice recorded a B coefficient with associated probability less than the significance level set at .05. This means that productivity and professional practice with B coefficients of .533 correlate significantly with the teaching performance of the Social Studies teachers. The five other dimensions of technology integration such as technology operations and concepts, planning and designing learning environments and experiences, assessment and evaluation, social, ethical, legal, and human issues, and planning of teaching according to individual differences and special needs with B coefficients of .019, .087, .063, .088, and .17 respectively correlated with teaching performance but not to a significant extent, since the associated probability exceeds the .05 alpha set. Further analysis of regression indicated that for every unit

increase in technology operations and concepts, planning and designing learning environments and experiences, assessment and evaluation, productivity and professional practice, social ethical, legal, and human issues, and planning of teaching according individual differences and special needs, teaching performance could generate an increase of .022, .103, .074, .569, .12 and .203, respectively. Analysis of the obtained Beta coefficients would indicate that of the six dimensions of technology integration, productivity and professional practice appeared to be the best predictor of teaching performance (.569). The results of the analysis of variance of the regression of technology integration dimensions in teaching performance of the Social Studies teachers revealed an F-value of 8.813 with the associated p-value of .000. Since the associated probability does not exceed .05 alpha, this means that the six technology integration dimensions jointly affect the teaching performance of Social Studies teachers, but the best predictor of technology integration was productivity and professional practice. Hence, the decision is to reject the null hypothesis which states that technology integration in teaching Social Studies does not have a significant impact on the teaching performance of Social Studies teachers. This implies that Social Studies teachers were technological savvy wherein they can fully use and utilized technology in teaching. More so, technology integration can aid the gaps of the performance of Social Studies teachers needed to be more effective and efficient teachers. This reflects that the higher that they integrate technology in teaching, the higher teaching effectiveness it may result. Also, the findings proved that technology integration in teaching have a positive response on their teaching performance, as well as it benefitted more on their effectiveness and efficiency. All aspects in teaching performance may improve with the help of technology integration, depends on how they would integrate it.

Table 3: Regression Results

Variables	**Unstandardized Coefficients**		**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	1.76	0.374		4.708	0
Technology Operations and Concepts	0.019	0.105	0.022	0.18	0.857
Planning and Designing Learning Environments and Experiences	0.087	0.13	0.103	0.669	0.505
Assessment and Evaluation	0.063	0.124	0.074	0.508	0.613
Productivity and Professional Practice	0.533	0.129	0.569	4.116	0
Social, Ethical, Legal, and Human Issues	0.088	0.082	0.12	1.071	0.287
Planning of Teaching According to Individual Differences and Special Needs	0.17	0.094	0.203	1.816	0.073
R-squared = .365					
F-value = 8.813					
p-value = .000					
alpha = 0.05					

3.4 Based on the findings of the study, what management implications may be drawn to further improve and enhance the technology integration in teaching in enhancing the performance of Social Studies teachers?

The following were the implications drawn based on the findings of the study:

1. The knowledge and understanding of Social Studies teachers with regards to technology integration is considering an innovation in education paradigm. Orientation on the benefits of technology integration through programs, seminars, and even an additional discussion in school learning action cell sessions at the school level may provide a full awareness on how they will fully utilized and integrated technology in the teaching process.
2. This study suggest that technology integration can be supported by a professional development program that features: self-assessment analysis in educational technology; navigation on computer software as a tool information sharing; building a strong communication to students, parents, and stakeholders through social media and the likes.
3. Understanding teacher's performance helps the institution to fully address the weaknesses of teachers during the teaching period. Providing them a program and other activities that can be held during summer training may boost on how they will further enhance their teaching that focused on the content of the curriculum and to help them more in delivering the lessons effectively, and become an efficient and remarkable teacher.
4. The perceptions of Social Studies teachers in their abilities in technology integration are the reflections of their very satisfactory performance. Such awareness adds to conceptualization of an individual to his educational pursuits. Conversely, their positive perception with regard to their technology integration invites confidence and certainty on their teaching performance.
5. The impact of technology integration on teaching performance underscores the attention of teachers to the endorsed outlets of teaching in the classroom. Since technology integration use depends on the teaching styles and preferences, it is must to be more sensitive and responsible to the facets of individuality they possess. Programs, seminars, school learning action cell sessions are essential avenues to address the demand s of education in the present time. Providing them this activities and programs may help them more to become flexible and versatile in teaching with technology.

4. Conclusions

In the light of the findings of the study, the following conclusions were drawn:

The study sought to evaluate the impact of technology integration in teaching performance. The findings show that Social Studies teachers have a great extent of technology integration in teaching. With regards to their performance, it is rated very satisfactory. Technology integration in teaching had a combined significant impact on the teaching performance of Social Studies teachers. Moreover, productivity and professional practice was the significant predictor of technology integration. The technology integration in teaching Social Studies was in a great extent of integration as perceived by teachers. Social Studies teachers show proficiency on how they infuse technology in teaching inside the classroom. Hence, infusing technology in the classroom was not just

compliance as what the DepEd mandates but infusing technology was considered as pedagogical innovation in the education paradigm. Moreover, A very satisfactory performance shows that teachers were optimistic and confident of their teaching capabilities in Social Studies. Also, it shows that they were joining the current standards of 21st century education. The null hypothesis that technology integration in teaching Social Studies does not have a significant impact on the teaching performance of Social Studies teachers has been rejected. Therefore, technology integration exerts significantly to improve and enhance the teaching performance of Social Studies teachers. The findings drew several implications that may help Social Studies teachers to realize that there are needs of programs, seminar-workshops, faculty development plan, and even additional time for school learning action cell sessions to help them to be more aware on how they will fully utilize and integrate technology in teaching Social Studies.

5. Recommendations

Based on the findings and conclusion of the study, the following recommendations are hereby offered:

1. That the teachers should be more aware on how they state issues about technology such as legal issues, health-related issues on excessive use of technology and its safety precautions. In order for the teachers to be more aware on the issues of technology, this topic should be included in the in-service training and semestral training program, or even in their school learning action cell sessions.
2. That the teachers should be more aware about intellectual property law and copyright law of any technological system. That the school should include these matters of interest in their summer training, in-service training and other ICT seminar-workshop to deeply internalize and understand the nature of this dimension.
3. That the teachers should ensure to themselves and to the mind of the learners the positive use of technology inside the classroom, that inside the classroom they will use technology in a way that they will learn from it. In a way that in everyday teaching they should integrate the values of technology integration.
4. That the teachers should use a research-based knowledge and principles to enhance professional practices provided that they are following the standards of international copyright law. Enrichments trainings and discussion, or even in their SLAC session should be conducted by the school to fully address the weakness of teachers regarding the use of research-based knowledge and principles to improve their professional practices.
5. The Department of Education should continue to implement the PPST as the year-end performance evaluation to ensure the quality of education of the Philippines, as well as in improving the productivity and performance of teachers inside the classroom.
6. That future researcher, who may be interested in the same parameter of the study, may undertake similar study utilizing other variables which are not included in the study like teaching styles and preferences, job satisfaction, commitment, teachers' acceptance on the use of technology, social awareness, and other related variables.

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