

Digital Citizenship and the Teaching Performance of Public Elementary School Teachers in Calauan Sub - office

Merlita I. Jaron^a , Agripina F. Banayo, Ed.D^b

^a merlita.jaron@deped.gov.ph

^aElementary Teacher I, Mahabang Parang Calauam Laguna, Philippines

^bAssociate Professor IV, San Pablo City 4000, Philippines

Abstract

This study aimed to determine the relationship of digital citizenship and the teaching performance of public elementary school teachers in Calauan Sub-office.

This study utilized the quantitative with descriptive correlational research. The respondents are composed of one hundred fifteen (115) public elementary school teachers in Calauan Sub – office for the school year 2022 – 2023 and the total enumeration was employed in selecting the respondents of the study.

The study found that the respondents perceive that the relationship between the teachers' digital citizenship and teaching performance, only abiding by the moral guidelines showed strong correlation with teaching performance while the others were only moderate. The moderate correlation observed between teaching performance and accessing online information, understanding digital technology and producing material in digital setting. This implied that there is a significant relationship among variables.

Based on the above findings the following recommendations are set forth: The teachers are encouraged to keep abreast of the latest advancements in educational technology and incorporate relevant tools and strategies into their teaching practices.

School heads are also encouraged to ensure that teachers receive proper training and ongoing support in using digital technology effectively.

Education program Supervisors may curate a collection of digital citizenship resources, websites, videos and lesson plans that teachers can access. They may share this resource bank with educators and encourage them to explore and use these materials in their classrooms. Future researchers may explore the pedagogical strategies and approaches that teachers employ to foster digital citizenship among their students. They may also investigate the integration of digital citizenship education across various subject areas and disciplines. They are also encouraged to examine the effectiveness of different instructional methods, such as case studies, simulations, role playing, authentic tasks, or collaborative projects, in promoting students' understanding and application of digital citizenship principles.

Keywords: digital citizenship, digital setting, digital technology, moral guidelines, online information, teaching performance

Introduction

Teachers play the most important role in realizing the goals and objectives of any country's curriculum. Their performance has direct influence on student learning and student progress is the concrete evidence by which teacher performance is assessed. Although the term "performance" is complex, its essence can be traced in different research works. This common conception of the word holds it as the accomplishment or execution of given tasks (IPL.org, 2021).

In this digital era, teachers' role has shifted from mere preacher to the manager of students social and emotions behaviors; mentor for their learning and over-all development as a balanced citizen; motivator for slow learner and a fast learner in digital environment (Amin, 2016). In the digital age, teachers have a variety of tools and resources available to create curriculum with students, invite learners to discover the pleasures of lifelong learning, and open the classroom up to a global audience (Lister, 2014).

While this means that teachers can continually upgrade their knowledge and offer up to date information to their student with no need to stop working; and that they can join communities of experts, share their knowledge and give an answer to their students about almost everything without delay using various platforms (EU Business School, 2018), they also face a myriad of challenges. Among these are difficulty adapting to global connectedness, security challenges, and accepting and rising to a more centralized role (Help Systems, 2017). Other include Poor internet connectivity, absence of human connection, lack of opportunities of collaborating learning, supervision of teachers, decline of hands-on-learning and poor assessment of examinations are some of the trials and tribulations online education platforms face (Mishra, 2020).

If this is not addressed, teachers who cannot cope might end up irrelevant and be considered of poor quality. A poor teacher actively damages the student's learning experience. Poor teachers are a power-base of mediocrity that is resisting changes in the teaching profession. Poor teachers fabricate excuses. They are not responsible for their outcomes. They are not responsive to their students. If the classification of poor performances are a consistent average across workplaces at least 25% of teachers are poor performers. Poor teachers do not look for opportunities. They are safe remaining in the same classroom, teaching the same subject to the same students within the same program and from the same textbook. Whilst there are identifying features of bad teaching they seem to be protected by ineffectual methods for removing them from the system (Kundu, 2019).

Thus, the current study shall look into how digital citizenship affects teacher's performance. From this point of departure, areas which directly or indirectly affect performance will be identified and proper recommendations could be made. Moreover, looking into this topic would allow clarify teachers' strengths and weaknesses in digital age. The output of this study will help teachers keep their relevance amid the fast changing demands of the digital age.

Background of the Study

The implementation of the K to 12 Basic Education Program in 2013 called for a more drastic change from traditional teaching to a more modern one. The new curriculum set the expectations which every Filipino learner should meet before they may be allowed to graduate. It expects each K to 12 graduate to be equipped with the 21st century skills i.e., information, media and technology skills; learning and innovation skills; communication skills; and life and career skills (DepEd, 2019).

While students, are expected to hone these 21st century skills, teachers are likewise bound to develop 21st century teaching skills in order to properly guide their students. One of these skills is digital literacy or digital citizenship. Levy (2018) argued that it is crucial that education administrators emphasize teacher digital literacy to avoid policies that simply mandate placing technology into the hands of students without thought for how that technology will be used. Digitally literate teachers see technology for all of its creative potential, rather than something they are mandated to do in a step-by-step fashion. Digital literacy does not require that teachers become experts, but it does require that they understand the digital tools that can unlock their deeper teaching potential.

The demand for digitally literate teachers grew as COVID19 struck the country. All sectors were affected and the education sector is no exemption. From March to May last year, parts of the Philippines endured an extremely strict lockdown called ECQ (Enhanced Community Quarantine), where people had to remain home, not use transport, have regulated food provisions and get used to a stronger police presence. Seeing as lockdown measures have been so strict in the Philippines, children have not been able to go to school. Officials stated that kids would only return to school when a vaccine was available. There has now been a school shutdown lasting over a year, which certainly has brought a new set of challenges to many children, parents and teachers (Future Learn, 2021). While access to computers or good internet makes are an issue, the digital skills of the teachers also pose a challenge.

As digital learning continues to expand, it is important for K-12 curriculums to embrace new technologies (Educationcorner.com, 2021). A study conducted by Yazon et al. (2019) revealed that teachers have insufficient competence in facilitating learners' digital competence. According to them, teachers fail to regularly teach students how to assess the reliability of information and to identify misinformation and bias. This is likewise true in setting up assignments which require students to use digital means to communicate and collaborate with each other or with an outside audience. Similarly, they reported that teachers set up assignments, which require students to create digital content e.g., videos, audios, photos, digital presentations, blogs, and wikis irregularly. Seemingly, teachers required support in teaching students how to behave safely and responsibly online and in encouraging students to use digital technologies creatively to solve concrete problems such as to overcome obstacles or challenges emerging in the learning process.

It has been a common lament of teachers in Calauan Sub – office that they are having difficulties coping up with the demands of distance education. This is in particular with the digital citizenship which many of them lack skills and preparations. This situation of Philippine education, in DepEd Calauan in particular, and the need for digitally competent teachers necessitates an action plan that would address emerging needs. However, any effort in addressing the issue shall be ineffective if not based on empirical data. Thus, the researcher seeks to investigate the status of digital citizenship in her locale in order to determine priority improvement areas and address them properly.

Theoretical/Conceptual Framework

This study and associated approaches utilized the technological, organizational, and environmental (TOE) context to provide a picture of the particular benefits of digital literacies on teachers' performance as well as the various subskills under digital literacy. TOE provided a context for the digital literacy of these individuals within the school organization and a forum for the other organization to discuss and reach a resolution regarding what would assist them (Abas et al., 2019). However, only technological context was adopted in the current study.

The technological context contains all technologies that are relevant to the school, including those that are already in use at the company and ones that are available on the market but not used owing to teachers' lack of literacy. Existing technologies at a school are crucial to the adoption process because they determine the extent and rate of technological change that can be implemented. Existing innovations that are not yet implemented in schools also influence innovation, both by defining the limits of what is possible and by demonstrating to businesses how technology might enable them to evolve and adapt. There are three categories of innovations that exist outside the firm: inventions that cause incremental, synthetic, and discontinuous changes. Innovations that result in incremental change introduce new characteristics or updated versions of existing technologies. For adopting schools and teachers in particular, these incremental advances pose the least level of risk and disruption.

Similarly, Cocking and van den Hoven (2018) describe in their book "Evil Online" the worst aspects of the Internet through stories of online abuse.

This study was also anchored in the Theory of John Dewey's (1938) Learning by Doing. Dewey believed that each child was active, inquisitive and wanted to explore. He stressed that learning should be active rather than passive. Education must engage with and enlarge experience, which has continued to be a significant strand in informal education practice. He believed that students could learn an enormous amount by participating in relevant experiences. Similarly, this study was also based on the Experiential Learning Theory of David Kolb (1984). He believed that this type of learning could be defined as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combinations of grasping and transforming the experience". In this theory, it takes a more holistic approach and emphasizes how experiences, including cognition, environmental factors, and emotions, influence the learning process. These theories are linked in an individual's digital citizenship as well as the quality of instructional delivery.

Moreover, the study holds that digital literacy, from a pragmatic point of view, is the set of skills, knowledge and attitudes required to access digital information effectively, efficiently, and ethically. It includes knowing how to evaluate digital information, and how to use it in decision-making. Another perspective is that information literacy is the broader concept, since "information" need not be digital in format. The concept of information literacy has usually emphasized the contextual nature of information seeking, as well as the importance of information quality (Koltay, 2011). For some (e.g., Hobbs, 2010), information creation is an important aspect of digital literacy; that additional aspect relates digital literacy to the term "media literacy" which is also a commonly used term. There is no doubt that conceptual confusion is evident in this area, in which ICT (Information and Communication Technologies) literacy, computer literacy, computational literacy, technological literacy, information literacy, information fluency, digital literacy, transliteracy, and media literacy overlap in their meanings, and are employed differently by different authors and agencies. As noted above, related concepts include literacy (basic reading and writing) and visual literacy, in addition to metaliteracy (a reframing of information literacy that emphasizes participatory online environments (Mackey & Jacobson, 2011)). Bawden (2008) focuses on competencies, suggesting that digital literacy consists of competency in internet searching, hypertext navigation, knowledge assembly, and content evaluation. Koltay (2011) believes that these competencies include notions of critical thinking (a traditional conceptual foundation

of information literacy), knowledge assembly (collecting quality information), as well as publishing and communicating information. A broad definition of digital literacy is offered by Martin (2006, p. 19):

Research in the area of educational technology has often been critiqued for a lack of theoretical grounding. In this article we proposed a conceptual framework for educational technology by building on Shulman's formulation of "pedagogical content knowledge" and extend it to the phenomenon of teachers integrating technology on their pedagogy. It attempts to capture some of the essential qualities of teacher knowledge required for technology integration in teaching, while addressing the complex, multifaceted, and situated nature of this knowledge. We argue, briefly that thoughtful pedagogical uses of technology require the development of a complex, situated form of knowledge that we call Technological Pedagogical Content Knowledge (TPCK).

Some of this oversight can be attributed to the lack of theoretical grounding for developing or understanding this process of integration (American Association for the Advancement of Science, 1999, 2001; Issroff & Scanlon, 2002; Selfe, 1990).

Developing theory for educational technology is difficult because it requires a detailed understanding of complex relationships that are contextually bound. (Brown, 1992; Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003; Design-Based Research 1018 Teachers College Record Collective, 2003). Technological pedagogical content knowledge (TPCK) is an emergent form of knowledge that goes beyond all three components (content, pedagogy, and technology). TPCK is the basis of good teaching with technology and requires an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to build on existing knowledge and to develop new epistemologies or strengthen old ones (Kuhn 1977).

Table 1. Status of Teaching Performance Based on Class Observation Ratings

Indicators	Mean	SD	VI
1. Applied knowledge of content within and across curriculum teaching areas.	3.57	.532	Very Satisfactory
2. Used a range of teaching strategies that enhance learner achievement in literacy and numeracy skills.	3.57	.531	Very Satisfactory
3. Applied a range of teaching strategies to develop critical and creative thinking, as well as other higher-order thinking skills.	3.49	.536	Satisfactory
4. Managed classroom structure to engage learners, individually or in groups, in meaningful exploration, discovery and hands-on activities within a range of physical learning environments	3.57	.514	Very Satisfactory
5. Managed learner behavior constructively by applying positive and non-violent discipline to ensure learning-focused environments.	3.53	.518	Very Satisfactory
6. Used differentiated, developmentally appropriate learning experiences to address learners' gender, needs, strengths, interests and experiences.	3.57	.514	Very Satisfactory
7. Planned, managed and implemented developmentally sequenced teaching and learning processes to meet curriculum requirements and varied teaching contexts.	3.53	.535	Very Satisfactory
8. Selected, developed, organized and used appropriate teaching and learning resources, including ICT, to address learning goals.	3.53	.535	Very Satisfactory
9. Designed, selected, organized and used diagnostic, formative and summative assessment strategies consistent with curriculum requirements.	3.57	.514	Very Satisfactory
Overall	3.55	.443	Very Satisfactory

Legend: 1.0-1.49 (Needs Improvement); 1.50-2.49 (Unsatisfactory); 2.50-3.49 (Satisfactory); 3.50-4.0 (Very Satisfactory).

It was worth noting that teachers showed very satisfactory performance across indicators except for one. One interesting observation was the similarity in the means of most indicators. For instance, teachers' application of content knowledge within and across curriculum teaching areas (SD=.532), use of range of teaching strategies (SD=.531), management of classroom structure to engage learners (SD=.514), use of differentiated, developmentally appropriate learning experiences (SD=.514), and the design, selection, organization and use of diagnostic, formative and summative assessment strategies (SD=.514) all got a mean of 3.57.

In addition to these, constructive management of learner behavior (SD=.518); planning, management, and implementation of developmentally sequenced teaching and learning processes (SD=.514); and the selection, development, organization and use of appropriate teaching and learning resources (SD=.535) all got the same means i.e., 3.53. However, the lowest was recorded for the teachers' application of a range of teaching strategies to develop critical and creative thinking (M=3.49, SD=.536).

Overall, the results showed that teachers have very satisfactory teaching performance based on class observation ratings ($M=3.55$, $SD=.443$). However, the need for priority improvement was observed for their application of a range of teaching strategies to develop critical and creative thinking. This could be the reason why Salas (2016) found that students in the Philippines have fair level of critical thinking skills. Considering the seven components; analyzing, applying standards, discriminating and predicting were fair while information-seeking and transforming knowledge were good but logical reasoning was poor.

Table 2. digital citizenship status and teaching performance as moderated by Position/Designation

Digital Citizenship Status	Test	Sig.	Decision
Accessing online information	Independent-Samples Kruskal-Wallis Test	.498	Not Significant
Understanding digital technology	Independent-Samples Kruskal-Wallis Test	.529	Not Significant
Producing material in digital setting	Independent-Samples Kruskal-Wallis Test	.809	Not Significant
Abiding by the moral guidelines	Independent-Samples Kruskal-Wallis Test	.284	Not Significant
Teacher performance	Independent-Samples Kruskal-Wallis Test	.251	Not Significant

Asymptotic significances are displayed. The significance level is .05

The results of the Independent-Samples Kruskal-Wallis Test indicated a non-significant difference in the medians of the indicators of digital citizenship status and teacher performance ($\chi^2(df) = X$, $p < 0.05$). The null hypothesis, which stated that there was no difference in the digital citizenship status in terms of accessing online information ($p=.498$); understanding digital technology ($p=.529$); producing material in digital setting ($p=.809$); and abiding by the moral guidelines ($p=.284$) based on position or designation, cannot be rejected. Similarly, the null hypothesis, which stated that there was no difference in the performance of teachers ($p=.251$) based on the position or designation, cannot be rejected. This finding suggests that none of the indicators of digital citizenship status and teachers' performance differ significantly from the others in terms of position or designation. Post-hoc analyses using appropriate multiple comparison tests, such as Dunn's test or Bonferroni correction, may no longer be needed since no specific group differs from the rest. Additionally, effect size measures, such as the eta-squared (η^2), is no longer necessary. Further investigation may also be warranted to understand better the phenomenon.

Overall, it was found that profile of the respondents does not moderate digital citizenship status and teaching performance of teachers.

Table 3. Relationship between the teachers digital citizenship and teaching performance

Digital Citizenship Status	Teaching Performance
Accessing online information	.569**
Understanding digital technology	.534**
Producing material in digital setting	.513**
Abiding by the moral guidelines	.657**

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Verbal Interpretation of r-values: +1.0 Perfect positive +/- association +0.8 to +1.0 Very strong +/- association +0.6 to +0.8 Strong +/- association +0.4 to +0.6 Moderate +/- association +0.2 to +0.4 Weak +/- association 0.0 to +0.2 Very weak +/- or no association

It was observed from the results that among four indicators of digital citizenship status, only abiding by the moral guidelines ($r=.657$) showed strong correlation with teaching performance while the others were only moderate. Nevertheless, the moderate correlation observed between teaching performance and accessing online information ($r=.569$), understanding digital technology ($r=.534$), and producing material in digital setting ($r=.513$). This implied that there is a significant relationship among variables. MODERATE relationship was seen between variables.

This supported the findings of Wordu et al. (2021) that indicators of digital citizenship were severely related with teachers' job performance in universities at low, high and moderately positive levels respectively. Their study emphasized indicated that digital citizenship jointly predicted 56.6% of teachers' job performance in universities. However, in the present study, the amount of prediction was not determine. However, the recommendation on training and provision of modern digital tools for the discharge of teachers' duties for improved job performance may likewise be supported.

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions, and corresponding recommendations based on the results of the study.

Summary

About the profile of the teachers in terms of educational attainment; teaching experience; and designation. Almost half of the teachers have master's units but have not completed their degree yet accounting to 49 or 42.6 per centum. It can be said that majority of them have the educational qualifications above the standards. Teachers were generally experienced. Many of them were already in the service even before the K to 12 Basic Education Program was enacted and implemented. Majority of the teachers i.e., 65 or 56.5 per centum were holding Teacher I positions.

About the digital citizenship status of public elementary school teachers

Digital Citizenship Status of public elementary school teachers was evident in terms of accessing online information ($M=3.51$, $SD=.390$), Understanding Digital Technology ($M=3.28$, $SD=.527$), Producing Material in Digital Setting ($M=3.27$, $SD=.475$), and Abiding by the Moral Guidelines ($M=3.63$, $SD=.441$).

About the status of teaching performance of the teachers based on their class observation ratings

Results showed that teachers have very satisfactory teaching performance based on class observation ratings ($M=3.55$, $SD=.443$). However, the need for priority improvement was observed for their application of a range of teaching strategies to develop critical and creative thinking.

About the moderation of profile between digital citizenship status and teaching performance of teachers

There was no difference in the digital citizenship status in terms of accessing online information ($p=.581$); understanding digital technology ($p=.602$); producing material in digital setting ($p=.710$); and abiding by the moral guidelines ($p=.344$) based on the teachers' educational attainment.

There was no difference in the digital citizenship status in terms of accessing online information ($p=.868$); understanding digital technology ($p=.775$); producing material in digital setting ($p=.715$); and abiding by the moral guidelines ($p=.553$).

There was no difference in the digital citizenship status in terms of accessing online information ($p=.498$); understanding digital technology ($p=.529$); producing material in digital setting ($p=.809$); and abiding by the moral guidelines ($p=.284$) based on position or designation

About the relationship between the teachers digital citizenship and teaching performance

Among four indicators of digital citizenship status, only abiding by the moral guidelines ($r=.657$) showed strong correlation with teaching performance while the others were only moderate. Nevertheless, the moderate correlation observed between teaching performance and accessing online information ($r=.569$), understanding digital technology ($r=.534$), and producing material in digital setting ($r=.513$).

Conclusions

The findings of the study led to the formulation of the following conclusions:

The null hypothesis that the digital citizenship status and teaching performance of teachers are not significantly moderated by their profile was retained.

The null hypothesis that there is no significant relationship between the teacher's digital citizenship status and teaching performance was rejected.

Recommendations

Based on the findings of the study the following recommendations are offered:

1. Teachers are encouraged to keep abreast of the latest advancements in educational technology and incorporate relevant tools and strategies into their teaching practices. They may attend conferences, join professional networks, and engage in ongoing professional development to stay informed and inspired. They are also encouraged to educate students about responsible and ethical digital behavior, including online safety, privacy, and respectful online communication. Teachers are expected to encourage them to be critical thinkers, discerning consumers of online information, and creators of digital content.
2. School Heads are also encouraged to ensure that teachers receive proper training and ongoing support in using digital technology effectively. They may offer professional development opportunities, workshops, and access to online resources to enhance their digital literacy skills.
3. Education Program Supervisors may curate a collection of digital citizenship resources, websites, videos, and lesson plans that teachers can access. They may share this resource bank with educators and encourage them to explore and use these materials in their classrooms. Regularly update the collection to ensure it remains current and relevant.
4. Future Researchers may explore the pedagogical strategies and approaches that teachers employ to foster digital citizenship among their students. They may also investigate the integration of digital citizenship education across various subject areas and disciplines. They are also encouraged to examine the effectiveness of different instructional methods, such as case studies, simulations, role-playing, authentic tasks, or collaborative projects, in promoting students' understanding and application of digital citizenship principles.

Acknowledgements

The researcher would like to extend her grateful appreciation in the preparation and completion of her research study. This study would not have been completed without the support, help and priceless contributions of the persons close to her heart.

References

- Alber, R. (2012). Instructional Pacing: How Do Your Lessons Flow? <https://www.edutopia.org/blog/instructional-pacing-tips-rebecca-alber>.
- Bianco, L. (2017). What Does It Mean To Have Digital Access? <http://laurabiancoedtech.weebly.com/digital-access.html>.
- Department of Education (2019). Policy Guidelines on the K to 12 Basic Education Program. https://www.deped.gov.ph/wp-content/uploads/2019/08/DO_s2019_021.pdf.
- Digital Citizenship Pass (2021). Digital Citizenship. <https://digitalcitizenshippass.weebly.com/digital-etiquette.html>.
- Doyle, L. (2019). What is Digital Communication & Why Are Skilled Professionals in Such High Demand? <https://www.northeastern.edu/bachelors-completion/news/what-is-digital-communication/>.

- Educationcorner.com (2021). The Importance of Digital Literacy in K-12. <https://www.educationcorner.com/importance-digital-literacy-k-12.html>.
- Educator Pages (2016). Digital Citizenship - Definition and Principles. <https://educatorpages.com/site/Black2008/pages/digital-citizenship-definition-and-principles>.
- Future Learn (2021). Lockdown extension in the Philippines: How is education being affected? <https://www.futurelearn.com/info/futurelearn-international/lockdown-extension-in-the-philippines>.
- Gilster, P. (1997). Digital literacy. <https://www.worldcat.org/title/digital-literacy/oclc/35758248>.
- Hobbs, R. (2010). Digital and Media Literacy: A Plan of Action. https://www.aspeninstitute.org/wp-content/uploads/2010/11/Digital_and_Media_Literacy.pdf.
- Jaeger, P.T. et al. (2012). The Intersection of Public Policy and Public Access: Digital Divides, Digital Literacy, Digital Inclusion, and Public Libraries. https://www.researchgate.net/publication/233319863_The_Intersection_of_Public_Policy_and_Public_Access_Digital_Divides_Digital_Literacy_Digital_Inclusion_and_Public_Libraries.
- Kaspersky Lab (2021). What is Cyber Security? <https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security>.
- Kean University (2014). EFFECTIVE LESSON PLANNING, DELIVERY TECHNIQUES AND CLASSROOM MANAGEMENT SUGGESTIONS. <https://www.kean.edu/~tpc/Classroom%20Management/EFFECTIVE%20LESSON%20PLANNING%20&%20Classroom%20Mgmt.htm>.
- Koltay, T. (2011). The media and the literacies: media literacy, information literacy, digital literacy. <https://journals.sagepub.com/doi/abs/10.1177/0163443710393382>.
- Levy, L. (2018). 7 Reasons Why Digital Literacy is Important for Teachers. <https://rossieronline.usc.edu/blog/teacher-digital-literacy/>.
- Mackey, T.P. and Jacobson, T.E. (2011). Reframing Information Literacy as a Metaliteracy. <https://crl.acrl.org/index.php/crl/article/view/16132/17578>.
- Martin, A..J. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. <https://onlinelibrary.wiley.com/doi/abs/10.1002/pits.20149>.
- Miller, A. (2020). Formative Assessment in Distance Learning. <https://www.edutopia.org/article/formative-assessment-distance-learning>.
- Mitchell, L. (2020). 6 Strategies for Successful Distance Learning. <https://www.edutopia.org/article/6-strategies-successful-distance-learning>.
- Official Gazette (2012). Republic Act No. 10175. <https://www.officialgazette.gov.ph/2012/09/12/republic-act-no-10175/>.

- Pasco-Hernando State College (n.d.). How to Create a Positive Online Learning Environment? https://phsc.instructure.com/courses/1160284/pages/how-to-create-a-positive-online-learning-%20environment?module_item_id=12006032.
- Rocky View Schools (2021). Digital Health and Wellness. <https://www.rockyview.ab.ca/21stC/supporting/websafety/digital-citizenship/nine-elements/digital-health-and-wellness>.
- University of Waterloo (2020). Developing Online Learning Activities for Blended Courses. <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/developing-assignments/blended-learning/developing-online-learning-activities>.
- WBT Systems (2020). 9 Ways to Increase Online Student Engagement. <https://www.wbt systems.com/learning-hub/blogs/9-ways-to-increase-online-student-engagement>.
- Western Sydney University (2020). What is digital literacy? https://www.westernsydney.edu.au/studysmart/home/study_skills_guides/digital_literacy/what_is_digital_literacy.
- Yazon A.D. et al. (2019). Digital Literacy, Digital Competence and Research Productivity of Educators. https://www.researchgate.net/publication/335300170_Digital_Literacy_Digital_Competence_and_Research_Productivity_of_Educators.
- (American Association for the Advancement of Science, 1999, 2001; Issroff & Scanlon, 2002; Selfe, 1990) http://one2oneheights.pbworks.com/f/MISHRA_PUNYA.pdf
- Amin, J.N. (2016). Redefining the Role of Teachers in the Digital Era. *The International Journal of Indian Psychology* 3(3). DOI:10.25215/0303.101
- Arellano Law Foundation (2012). REPUBLIC ACT NO. 10627. https://lawphil.net/statutes/repacts/ra2013/ra_10627_2013.html
- Bandata, I., Loras, F., and Maher, K. (2014). CYBER SECURITY CONCERNS IN E-LEARNING EDUCATION. https://ecesm.net/sites/default/files/ICERI_2014.pdf
- Canada's Centre for Digital and Media Literacy (2021). Digital Literacy Fundamentals. <https://mediasmarts.ca/digital-media-literacy/general-information/digital-media-literacy-fundamentals/digital-literacy-fundamentals>
- Chen, Y. and He, W. (2013). Security Risks and Protection in Online Learning: A Survey. *International Review of Research in Open and Distance Learning* 14(5):108-127. DOI:10.19173/irrodl.v14i5.1632
- Clipa, O. and Mihai, I. (2018). THE IMPACT OF EVALUATION ON LEARNING PROCESS – TEACHERS PERCEPTIONS. *The European Proceedings of Social & Behavioural Sciences*. <https://doi.org/10.15405/epsbs.2019.08.03.235>
- Code Mint (2020). THE IMPACT OF LESSON PLANNING ON THE TEACHING AND LEARNING PROCESS OF SECONDARY SCHOOLS. <https://codemint.net/education/the-impact-of-lesson-planning-on-the-teaching-and-learning-process-of-secondary-schools/index.html>
- Cybersmile Foundation (2020). WHAT IS NETIQUETTE? <https://www.cybersmile.org/advice-help/category/netiquette>
- Department of Education (2019). Deped issues Guidelines in Classroom Structuring in Public Schools. <https://www.depedtambayanph.org/2019/05/deped-issues-guidelines-in-classroom.html>

- Department of Justice (2012). DOJ Issues Advisory on Plagiarism. [https://doj.gov.ph/files/2012/Advisory_Opinion_02\(series_of_2012\)-Advisory_on_Plagiarism.pdf](https://doj.gov.ph/files/2012/Advisory_Opinion_02(series_of_2012)-Advisory_on_Plagiarism.pdf)
- EU Business School (2018). The Role of the Teacher in the Digital Age. <https://www.euruni.edu/blog/future-prof-online-learning/>
- Gagnon, D. (2019). 10 Qualities of a Good Teacher. <https://www.snhu.edu/about-us/newsroom/education/qualities-of-a-good-teacher>
- Hebert, C., Jenson, J., and Terzepoulos, T. (2021). Access to technology is the major challenge”: Teacher perspectives on barriers to DGBL in K-12 classrooms. *SAGE Journals*. 18(3). 307-324
- Help Systems (2017). Moving to the Digital Age: The Challenges Facing IT Today. <https://www.helpsystems.com/resources/articles/moving-digital-age-challenges-facing-it-today>
- IGI Global (2021). What is Digital Access. <https://www.igi-global.com/dictionary/beyond-digital-divide/7557>
- IMPOFF (2020). Importance of Lesson Plan for Teachers and Students. <https://impoff.com/importance-of-lesson-plan/>
- IPL.org (2021). Improving Teacher Performance Analysis. <https://www.ipl.org/essay/The-Importance-Of-Teacher-Performance-In-Education-F3TWW4NPC486>
- IT Governance (2021). What is Cyber Security? Definition and Best Practices. <https://www.itgovernance.co.uk/what-is-cybersecurity>
- Kaspersky (2021). What is Cyber Security? <https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security>
- Kean University (2020). EFFECTIVE LESSON PLANNING, DELIVERY TECHNIQUES AND CLASSROOM MANAGEMENT SUGGESTIONS. <https://www.kean.edu/~tpc/Classroom%20Management/EFFECTIVE%20LESSON%20PLANNING%20&%20Classroom%20Mgmt.htm>
- Kern, A. (2020). Creating an Inclusive Virtual Classroom. <https://www.edutopia.org/article/creating-inclusive-virtual-classroom>
- Korisztek, R. (2021). Teachers’ digital literacy and implications when teaching online. <https://www.cambridge.org/elt/blog/2021/07/13/teachers-digital-literacy-teaching-online/>
- Kratochwill, T.R., DeRoos, R., and Blair, S. (2021). Classroom Management Module. <https://www.apa.org/education-career/k12/modules-classroom-management>
- Kundu, P. (2019). Deteriorating Quality of Education in Schools Are Teachers Responsible? *Economic and Political Weekly* 54(24):34-41
- Kuusimäki, A.M., Malmivaara L.U., Tirri, K. (2019). The Role of Digital School-Home Communication in Teacher Well-Being. *Frontiers in Psychology*. 10, 2257. DOI=10.3389/fpsyg.2019.02257
- Linek, S.B. and Grabow, A.O. (2018). Netiquette Between Students and Their Lecturers on Facebook: Injunctive and Descriptive Social Norms. *Social Media + Society*. doi:10.1177/2056305118789629
- Lister, C. (2014). The Changing Role Of The Teacher In The Digital Age. <https://christopherlister.ca/tiegrad-2/the-changing-role-of-the-teacher-in-the-digital-age/>
- Llego, M. (n.d.). Classroom Structuring Under Educational Facilities Manual 2010. <https://www.teacherph.com/classroom-structuring/>
- Miller, S. (2018). What is digital law? <http://millerdigitalcitizenship.weebly.com/digital-law.html>
- Mishra, U. (2020). Challenges and opportunities of digital education. <https://www.educationtimes.com/article/school-guide/79290004/challenges-and-opportunities-of-digital-education>
- Mitchell, M.P. (2018). Digital Health and Wellness for 21st Century Families. <https://www.rootsofaction.com/digital-health-families/>

- Moltudal, S., Krumsvik, R., Jones, L., Eikeland, O. J., & Johnson, B. (2019). The Relationship Between Teachers' Perceived Classroom Management Abilities and Their Professional Digital Competence. *Designs for Learning*, 11(1), 80–98. DOI: <http://doi.org/10.16993/dfl.128>
- Muthusany, A. (2018). THE IMPORTANCE OF PRESENTATION SKILLS IN INSTITUTIONS OF HIGHER LEARNING. <https://press.sunway.edu.my/blog/importance-presentation-skills-institutions-higher-learning>
- National Center for Education and Statistics (2018). Student Access to Digital Learning Resources Outside of the Classroom. <https://nces.ed.gov/pubs2017/2017098/index.asp>
- Nesusin, N., Intrarakhamhaeng, P., Supadol, P., Piengkes, N., and Poonpipathana, S. (2014). Development of lesson plans by the lesson study approach for the 6th grade students in social study subject based on open approach innovation. *Procedia - Social and Behavioral Sciences* 116 (2014) 1411 – 1415
- Official Gazette (2012). Republic Act No. 10175. <https://mirror.officialgazette.gov.ph/2012/09/12/republic-act-no-10175/>
- Powell Software (2021). What is digital communication? <https://powell-software.com/resources/blog/workplace-digital-communication/>
- Prezi (2016). The Importance of Digital Security. <https://prezi.com/ghr5y13u3qet/the-importance-of-digital-security/>
- Rabadi, S. and Ray, B. (2017). 5 Principles of Outstanding Classroom Management. <https://www.edutopia.org/article/5-principles-outstanding-classroom-management>
- Reshma, S. (2017). Evaluation of Learning: Definition, Forms and Tools | Psychology. <https://www.psychologydiscussion.net/learning/evaluation-of-learning-definition-forms-and-tools-psychology/2066>
- Rocky View School (2021). Digital Health and Wellness. <https://www.rockyview.ab.ca/21stC/supporting/websafety/digital-citizenship/nine-elements/digital-health-and-wellness>
- Sam, A. (2020). What Is A Virtual Classroom And Why Is It The Future Of Online Learning? <https://elearningindustry.com/virtual-classroom-why-future-online-learning>
- Smith, J. (2020). How to Bring Digital Communication to your Classroom. <https://beneylu.com/pssst/en/digital-communication-to-your-classroom/>
- Techopedia (2016). Netiquette. <https://www.techopedia.com/definition/25061/netiquette>
- University of Washington (2021). Digital Wellness 101: Taking Control of Your Life Online. <https://www.washington.edu/studentlife/digital-wellness-101-sr/>
- University of Wisconsin-Madison (2021). Teaching and Presentation Skills. <https://fyi.extension.wisc.edu/wateroutreach/water-outreach-education/bep-web-site-resources/use-education-resources/tools-for-teaching/teaching-presentation-skills/>
- Vaidya, D. (2016). Stratified Sampling. <https://www.wallstreetmojo.com/stratified-sampling/>
- Western Governors University (2020). Top qualities and skills of a good teacher. <https://www.wgu.edu/blog/top-qualities-skills-good-teacher2001.html#close>
- Western Sydney University (2016). What is digital literacy? https://www.westernsydney.edu.au/studysmart/home/study_skills_guides/digital_literacy/what_is_digital_literacy
- Yee, D.F. and Normore, A.H. (2015). The Impact of Quality Teachers on Student Achievement. <https://digitalcommons.fiu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1054&context=sferc>