



# ONLINE TEACHER COMPUTER SELF-EFFICACY AND PERFORMANCE IN THE NEW NORMAL

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## ABSTRACT

*This study utilized quantitative descriptive correlational design and examined relationship between teachers' computer self-efficacy and performance Schools Division of Calamba City. Based on the findings, there is a moderate positive relationship between teachers' computer self-efficacy and performance. Thus, suggested that as the teachers' computer self-efficacy increases, similarly, teacher performance increases. In conclusion, the result implied that teachers' computer self-efficacy is closely and have moderately positive relationship to teachers' performance in doing their task as teachers in the new paradigm shift in Department of Education through the flexible learning modality in East District of SDO Calamba City. Future researchers may conduct similar study to further investigate means of helping teachers to increase their performance through computer self-efficacy for the enhancement in learning delivery of teaching and learning process. Lastly, future researchers may investigate other factors that may be affecting performance or may look at the effect of the factors on each variable.*

**KEYWORDS:** Online Teacher, Computer Self-efficacy, Teacher Competency, COVID-19 Education

## INTRODUCTION AND RATIONALE

The development of the society does not only rely on the natural resources like landscape, natural oil reserves, fisheries, forest, and agricultural products also to the human resources. In building the nation education plays a significant role. The progression of society will not materialize without educating its sovereign people. A civilization was greatly improved from ancient to contemporary time.

The quality of education has always been put into question. The teaching and learning had always been into measures. Education is a social institution that enables the individual to have a certain knowledge that provides them the idea of what is important, the concept and fact and the skills to find a way of descent living for the young generation.

The occurrence of the COVID-19 pandemic around the globe causes the disruption of the educational system over the world. Some countries have a backup plan that they easily manage the challenges in the school stoppage due to health and safety protocols that the World Health Organization prescribed. Ancient philosopher Cicero famous quotation stated, "Solus Populi est Suprema Lex, where it means that the welfare of the people is the supreme law. The safety of the sovereign people is paramount during this COVID-19 pandemic crisis. Secretary Briones once said in the press conference that the education of the students must not stop. Consequently, the backup plan in restoring the good flow of education to the learners is somewhat not perfectly constructed. Therefore, to get back on track there

must be a development of novel and permanent systems, redesigned to meet the needs of the learner who are involved in this crisis. However, it is observable that during March and April the lockdown all over the world started after China. There is a presence of large gaps in students' learning opportunities due to the school operation stoppage (Bozkurt, 2020).

Amid COVID-19 Pandemic crisis the whole world health care institution, governance of all the government was all challenged. Most organization or institution faces challenges or crisis. The difference with a health crisis or pandemic crisis is that occurs during this time is a bigger spectrum and one effect of this is that one wrong move of one person will affect the whole community or in this subject matter, the whole department and in the bigger horizon it will be the whole country will suffer as a result the Inter-Agency Task Force (IATF) did not allow the face-to-face classes.

The activity of teacher was performed within the context of the teaching and learning process. There are different factors that affect teachers on how they perform or carry out their roles and functions. According to Mekonnen (2016) the factors that affect the performance of teachers are of two types: external factors and internal factors. External factors include facilities in the learning environment, set of procedures and standards, salary and benefits they receive. Internal factors include job satisfaction, work related pressure, family related pressure, job contentment, age, sex, civil status, length teaching experience, highest educational attainment, coaching and mentoring



exposure, motivation, and self-efficacy beliefs in doing their roles and responsibilities. Motivated teacher could result to have a high academic performance of learners this is according to Cano (2006). Additionally, to have a motivated teacher in the school will enable the learner to be fully motivated to do learning activity which yields a greater and effective teaching and learning. A competent is teacher can perform duties and responsibilities are paramount in educative process.

The concept of self-efficacy defined as been as the personal beliefs that one can of perform in an appropriate and effective manner to attain certain goals (Bandura, 1997). Consequently, it underlines the importance of self-efficacy as a critical component in teacher effectiveness. Therefore, self-efficacy operates as a key factor in generating system of human competence. The link between teacher self-efficacy and personal agency a lie in personal experience and a teacher's ability to mirror on that experience and make decisions about future courses of action. Teacher self-efficacy is an essential motivational construct that shapes teacher success in the classroom. During this time the COVID-19 pandemic crises cause the sudden shift in education.

The learning deliveries for the learners are into three modalities: modular, blended, and online learning. There are challenges in education sector during this pandemic crisis. The access to the internet may hinder some student too continue their education. With the new norm in education teachers should be given a proper training on how to leverage distance learning.

The situation of teachers during this pandemic, are new to the so-called new normal in education. As to the situation that exist in the Department of Education where different learning modalities are present. The alternative learning modalities that co-exist with the condition during this pandemic is the online learning, blended learning, and modular learning. These different learning modalities are all new to the teachers in the broader sense. However, is not new to some sort of education like Alternative Learning System where it uses partly the modular method to some situation where the learner is still working with their employees. The blended learning is where the learner with smartphone or tablet with weak internet connectivity. Finally, the online learning modality is accessible to the learners with strong or stable connectivity, laptop, or desktop with more i3 core processor to exploit the different applications in the online platforms. Teachers in online learning modalities in Department of Education are at firsthand experience. Some teachers have their Edtech trainings and yet still on the condition of "on the process of knowing and practicing" what are these online platforms could offer to the learners.

According to Todorova & Bjorn-Andeson (2011), the main lessons is to embrace e-learning technology before disaster strikes. As of today, we are forced to practice online learning; however, things would have been different if we already

mastered it. The saying goes on better to be late than never. Disasters will occur and it will the technologies will help us to cope (Meyer & Wilson, 2011). In addition, natural disasters can stimulate out motivation or internal drive for the adoption of highly innovative communication technology and e-learning tools (Tull et al., 2017)

In line with this the researchers decided to study the online teachers' computer self-efficacy and competency. The objective of the study determines where is/are the difficulty/ies of the teachers, what action plan like technological or computer-self seminar can be formulated based on the findings of the study.

## LITERATURE REVIEW

### Self-efficacy

Believing in oneself is significant in achieving a goal. According to Bandura (1997), self-efficacy is the belief of an individual that they can perform a specific task. Similarly, computer self-efficacy refers to the result of one's capability to use computers (Compeau & Higgins, 1995). According to Murphy et. al., (1989), self-efficacy refers to individual perceptions that they are capable of performing activities of tasks are concluded to have high self-efficacy and are more likely to attempt to repeat that task. Conversely, individual who perceive themselves as less capable are less likely to be successful in achieving the certain task and are less likely to attempt to do the given task again (Barling & Bettie, 1983, Bandura, 1977).

The study of Ferreira (2013) on teacher self-efficacy aims to determine the measurement of teacher self-efficacy in technology enhanced student-centered learning environments. The findings enable to create a preliminary measure of teacher efficacy in relative to the use of technology for student-centered learning. The research result can assist the teachers and educational organizations by increasing teacher efficacy in relation for the technology-enhanced student-centered learning to help the challenges from industrial age to information age.

Gardner (2014) explores the predictive relationship between the two variables, the academic performance and self-efficacy with the use of the third variable like academic entitlement, class status, ethnicity, and gender. Consequently, the result of the study is that there is no significant predictive relationship between the predictor variable of self-efficacy, academic performance ethnicity, or gender. The researcher suggested furthering the study using the variables of self-efficacy, academic performance, academic entitlement, gender, ethnicity, and class status.

Another study about the self-efficacy beliefs conducted in the Philippines is by Flores (2013) of De La Salle University. The research is to determine if there is a relationship among self-concept, writing performance, and self-efficacy of 211 freshman college students. The factors self-concept, self-



efficacy, and writing performance are all significantly related, it was noted that self-efficacy beliefs are better predictors of their writing performance. It is therefore can be concluded that self-efficacy plays important role in achieving a good performance of freshman students in their writings.

Additionally, Fives and Buehl (2010), determined the factor structure of the long and short forms of the teachers' sense of efficacy. The study's finding is that teachers with 10 or more years in service and those who teach at the elementary level reported that they have a significantly higher level of efficacy than those who are in pre-service or teaching at the middle or high school level.

### Computer Self-Efficacy

Early measures of computer self-efficacy started from the acknowledgment and accessibility of computers within the 1980s. Murphy, Coover, and Owen (1989) published one of the primary measures of computer self-efficacy, which focused on mainframe computer skills. Researchers put the scale into questions. The tools of 1980s were criticized because rather envisioning the capabilities became the measurement of skills. Other measures got to be rapidly obsolete since they contained references to obsolete program such as WordPerfect (Compeau & Higgins, 1995). Other researchers drafted computer self-efficacy and lacked psychometric properties. Consequently, Chiu and Wang (2008), studied the self-regulation and computer self-efficacy and utilizes items from different authors.

Nonetheless of the validity issues with past computer self-efficacy measurement tools, researchers envisioned theoretical applications and the future utility of such advances. Cassidy and Eachus (2002) envisioned a tool to identify students with low computer self-efficacy

Who may face motivational challenges and negative perceptions of controls in their educative environment, this measure is called computer self-efficacy. Low levels of computer self-efficacy are associated with high levels of anxiety and stress, which ultimately leads to a decline in performance (Compeau and Higgins, 1995).

In this digital educational revolution, teacher who are computer savvy intends to achieve better and go further in delivering various online learning activities to the students. According to Harris et. al., of Hechinger Newsletter in USA Today published on September 03, 2020, they stated that experts say teachers are ideally should receive several days, weeks or months of in-depth training in handling online classes. However, individuals with higher computer self-efficacy in using the computer and its applications tends to increase their interest in using the computer (Gulten et al., 2011). The integration of technology plays an important role in achieving quality education relevant to digital education in the 21st century. It is the teacher's duty to use technology in the classroom to enhance educational activities and learning

opportunities that lead to better learning experiences (Escalaw, 2020) According to He and Freeman (2010) computer self-efficacy refers to an individual's judgment on its ability to perform multiple computer applications, performed specific computer related tasks. Teachers who received extensive training before the start of online classes were very well prepared (Vilppu et. al., 2019)

Without the beliefs in one's ability to perform a task, an individual will face a difficulty in achieving such task. In some Arab countries like Iraq face a level of lacking technology (Al Batainah and Anderson, 2015). The school and universities have a problem in lacking of technology that leads most students to become unfamiliar with use of technologies (Abdullah et.al., 2015) as a result most of the Iraqis students computer self-efficacy result to a low level of CSE. Escalaw et al., (2020), conducted a study on technological pedagogy. The result of the study revealed that, when technological pedagogy innovation through collaborative reflective activity, using online collaborative application has a significant improvement of learner's engagement. Thus, resulted to increase academic achievement.

Teachers connect the students to the real-world events and guide them to be independent learners. While teacher believe that the learners only learned through teacher-led instruction will not tend to encourage the students to explore the use of technology. According to Francis (2017) teachers are open-minded about technology integration in their teaching it is expected that their adoption to technology is slow and below the required competency (UNCTAD 2018). Research studies have found that external work, attitude towards use of computer may influence the use of computer in teaching (Teo, 2010). It is crucial for instructors to use ICT in today's classrooms (Kass, 2014). Teachers influence change in their own schools through integrating technology (Vandeyar, 2017). Some educators go beyond the traditional bounds of the teaching and learning process.

### Teachers Performance

The teachers had been the focal point of education (Boudersa, 2016). Therefore, teachers are expected to be knowledgeable and competent to impart all knowledge to be transferred to the learners. Teacher must realize and recognize the diversity and complexity of the students in the classroom. Learners may vary in terms of ethnicity, gender, culture, language abilities and interests. The main responsibility of teachers is to provide the teaching and learning process using different teaching strategies. The daily responsibilities of teacher will cost a lot in terms of physiological and psychological factors of the teachers. Therefore, teachers will need to keep motivated to do their professional work. Motivated teachers will create an environment that is conducive to learning, as a result the learners also are motivated to learn.



Teachers as prime movers in implementing curriculum (Duze, 2012). In this regard, teachers' commitment is a substantial aspect for achieving quality education. Therefore, the success of education is directed on teaching professional competence and commitment basing on teachers' knowledge, skills, attitudes, and values, as well as accountability on effective teaching which can be measured in terms of school performance. Teaching and learning involves the process of transferring knowledge from the one who teach to the one who is learning. The learners are considered as the most significant participant in the teaching and learning process. Learners are considered as the primary subject or primary stakeholder of education. The knowledge that acquired by the learners will be evaluated if the teaching and learning objectives are achieved. A teacher cannot limit her roles as a dispenser or facilitator of knowledge. It is known to all that teacher serves an important role in the community and even in the broader spectrum, which is the society.

Teachers, as the core facilitators of learning, are the forefront of any academic institution (Escalaw, 2021). The first thing to be considered for learning to take place is the competencies of the teachers, more than any technological advances that a university can offer. Therefore, technology in education was being used to make the teaching and learning process enjoyable. However, it doesn't mean that the technology will replace the teacher. It only means that the teacher will become a facilitator of learning process. Nowadays, it is observable that teacher provide different strategies to let the students lively participate or engage in an experiential learning. Similarly, Bayocot (2014) expounded the role and responsibilities of teachers to achieve effective teaching and productive learning, teachers should see themselves as capable of achieving the dimensions of good teaching. Teachers should balance their teaching activity inside the classroom, different teaching strategies should be used to further the learning experience and enrich the skills and ability of the students.

In this study the teacher's competency will be measure thru the new Results-based Performance Management System (RPMS) for School Year (SY) 2020-2021. As reference to Section 10.k of "DepEd Order (DO) No. 11, s. 2020 titled Revised Guidelines on Alternative Work Arrangements in the Department of Education During the Period of State of National Emergency due to COVID-19 Pandemic". The Key result areas includes Content Knowledge and Pedagogy; Content Knowledge and Pedagogy; Diversity of Learners & Assessment and Reporting Curriculum and Planning; Community Linkages and Professional Engagement & Personal Growth and Professional Development.

The term content knowledge refers to the body of information and knowledge that teachers teach, and those students are expected to learn in a given subject or content area, such as mathematics, science, English language arts, or social

studies. With adequate content and pedagogical knowledge, teachers can respond to students productively. Teachers' understanding of the nature and purpose of the discipline strongly influences their personal pedagogical content knowledge, i.e. what they highlight as important.

Numerous researchers suggested that self-efficacy have a positive effect on the performance either by students, teachers, school heads or any person therefore in achieving the positive academic performance of the online learners, teacher should have a high computer self-efficacy.

In consistent with the challenges that teaches encountered during new normal in education, and with the literature presented above the researchers decided to have this research to materialize. While the educational digital revolution is on the verge of intensifications this digital learning even in basic education is inevitable. Educational institutions should be ready not only for this pandemic to the forthcoming of total digital rise education.

## RESEARCH QUESTIONS

This study aims to assess the online teacher computer self-efficacy and competencies at Schools Division of Calamba City during Covid-19 pandemic.

Specifically, it seeks to answer the following questions:

1. What is the level of respondents' competency in terms of;
  - 1.1 Content Knowledge and Pedagogy
  - 1.2 Content Knowledge and Pedagogy
  - 1.3 Diversity of Learners & Assessment and Reporting
  - 1.4 Curriculum and Planning
  - 1.5 Community Linkages
  - 1.6 Professional Engagement
2. What is the level of online teacher computer self-efficacy in terms of;
  - 2.1 Basic Computer Skills
  - 2.2 Media-Related Skills
  - 2.3 Web-Based Skills?
3. Is there a significant relationship between respondents' computer self-efficacy and competencies?
4. What action plan may be prepared based on the findings of the study?

## SCOPE AND LIMITATION

This study will focus on the online in Department of Education Calamba Division Junior High School department that determine the level of teaching competency and computer-self efficacy. Moreover, this study will determine if there is a significant relationship between the teachers competency and the computer self-efficacy, and explore what are the challenges faced by teachers during the new normal set-up of education.



## RESEARCH METHODOLOGY

This study will utilize quantitative research design that will employ descriptive-correlational. The research seeks to investigate whether there is a relationship between the computer self-efficacy and competency of online teachers. This study also deals with testing the hypothesis and development of theories, principles and generalizations that is universally accepted and valid.

### A. Sampling

The respondents of this study are the 169 online teachers of Division of Calamba City school year 2020-2021. This sample was taken from 300 teachers in online teaching. Proportionate random sampling will be use. Proportionate sampling is a method of sampling in which the researchers divide a finite population into subpopulations and then applies random sampling techniques to each subpopulation

### B. Data Collection

The researchers crafted a letter to be to the Schools Division Superintendent and sought permission to conduct the study after the approval, the questionnaire has been administered using Google forms. After that, the link has been sent to the teachers through their respective digital platform group. After gathering the data, data has been organized and tabulated and subjected to statistical tools and has been presented in table and charts for easy interpretation.

The research survey questionnaire to be used for this research is the Murphy Computer Self-Efficacy (CSE) to gather the respondents' computer self-efficacy while for teacher competencies is the Performance Management System (RPMS) for School Year (SY) 2020-2021. As reference to Section 10.k of "DepEd Order (DO) No. 11, s. 2020 titled Revised Guidelines on Alternative Work Arrangements in the Department of Education During the Period of State of National Emergency due to COVID-19 Pandemic".

### C. Ethical Issues

The researchers will look for the support from Schools Division Superintendent, school head, chief adviser, and online teachers. A permit letter should be sent to the school principal for the permission to conduct the study. Confidentiality of the data gathered should also be considered in line with Data Privacy Act.

### D. Plan for Data Analysis

The data gathered will be tabulated, organized in such a way that it is easy for analysis. The result of the survey questionnaires will be analyzed and interpreted. Quantitative research will be used in analyzing data. Then it will be presented in a graphs and tables for easy interpretation of the results.

## RESULT AND DISCUSSION

The following section is the result of the study.

**Table 1. Level of Teacher's Competency**

Components	Mean	SD	Interpretation
Content Knowledge and Pedagogy	4.00	0.50	Satisfactory
and Reporting	4.11	0.49	Satisfactory
Curriculum and Planning	4.10	0.59	Satisfactory
Community Linkages	4.20	0.52	Satisfactory
Professional Engagement	4.23	0.53	Satisfactory

*Legend:*  
 4.50 - 5.00 Outstanding  
 3.50 - 4.49 Very Satisfactory  
 2.50 - 3.49 Satisfactory  
 1.50 - 2.49 Fair  
 1.00 - 1.49 Low

Presented in Table 1 shows that Content Knowledge and Pedagogy was satisfactory (M=4.00, SD=.50) while Diversity of Learners & Assessment and Reporting (M=4.11, SD=.49), Curriculum and Planning (M=4.10, SD=.59), Community Linkages (M=4.20, SD=.52) and Professional Engagement (M=4.23, SD=.53) the teachers' competency could be interpreted that it has a very satisfactory level. Therefore, teachers are very satisfactorily accomplishing their duty as teachers despite the new normal education. It can also observe that community linkages as key result area of the teacher competency has a high mean score of 4.20. It is also interpreted that during this paradigm shift in education, teachers need to have a linkages to all the stakeholders in the education especially to the local government units.

**Table 2. Result Teachers Computer Self-Efficacy**

Components	Mean	SD	Descriptive Interpretation
Basic Computer Skills	3.40	0.54	Satisfactory
Media-Related Skills	3.28	0.50	Satisfactory
Web-Based Skills	3.23	0.48	Satisfactory
<b>General Assessment</b>	<b>3.30</b>	<b>0.51</b>	<b>Satisfactory</b>

*Legend:* 4.50 - 5.00 - Outstanding  
 3.50 - 4.49 - Very Satisfactory  
 2.50 - 3.49 - Satisfactory  
 1.50 - 2.49 - Fair  
 1.00 - 1.49 - Low

Table 2 shows that the teachers' computer-self-efficacy is satisfactory level. As a result, it is interpreted that teachers have fairly belief on their ability to use the computer and other technological devices likewise with different application software to be use for online classes. In summation the ability of the teacher for technological provision in teaching and learning are somewhat needs a room for improvement. The result was backed by the study of Turel (2014) states that teachers believe they have strong computer self-efficacy beliefs, that their proficiency in certain programs is high, and that they often utilize computers for a variety of purposes.

**Table 3. Result of Teachers Computer Self-Efficacy and its Relation to Performance**

Coefficient (r) =	0.48
N	218
p value	0.00



Presented in Table 3 is the result of teachers' computer self-efficacy and teachers' performance. There was a moderate positive correlation between the teachers' computer self-efficacy and teachers' performance,  $r(167) = [0.48]$ ,  $p = [0.00]$ . Therefore, there is a moderate positive relationship between the teacher's computer self-efficacy and performance.

Therefore, teachers should be subjected to trainings and seminars to improve their computer skills which is relevant to the digital education especially in this time of pandemic. The result of this findings supports the study of Turel (2014); Chen (2017) and Escalaw (2020). The result of Pearson Correlation at p-value of .00 and r values of 0.48 which was equivalent to medium positive relationship.

## CONCLUSION

It paramount to note that in the 21 digital education digital skills of teachers are significant and is relevant to the day-to-day teaching roles of the teachers. In this digital educational revolution, teacher who are computer savvy intends to achieve better and go further in delivering various online learning activities to the students. In today's education it is important to teachers to use ICT for teaching (Kass, 2014; Francis (2017) teachers are open-minded about technology integration in their teaching. It is the teacher's duty to use technology in the classroom to enhance educational activities and learning opportunities that lead to better learning experiences (Escalaw, 2020). Teachers with in-depth training before the start of the online classes were very well-prepared thus result to have a high computer self-efficacy in teaching online (Vilppu et al., 2019).

Therefore, the success of education is directed on teaching professional competence and commitment basing on teachers' knowledge, skills, attitudes, and values, as well as accountability on effective teaching which can be measured in terms of school performance. The learners are considered as the most significant participant in the teaching and learning process. The first thing to be considered for learning to take place is the competencies of the teachers, more than any technological advances that an educational institution can offer.

## Recommendation

Based on the findings of the study, the researcher recommends the strengthening of the technological trainings for teachers. While most of the trainings are redundant and overlapping in every hierarchy in the bureaucracy of the institution it is more urgent and long-term remedy to have a training department within the school or even a cluster to monitor closely the progression in digital skills of the teachers. Parallel research also was recommended to support or debunk the findings of this study.

## REFERENCES

1. Abdullah, Z.D. & Mustafa, K.I. (2019). *The underlying factors of computer self-efficacy and the relationship with students' academic achievement*. *International Journal of Research in Education and Science (IJRES)*, 5(1), 346-354.
2. Al Bataina M., Anderson S., (2015). *Jordanian Social Studies Teachers' Perceptions of Competency Needed for Implementing Technology in the Classroom*. *Contemporary Educational Technology*, 2015, 6(1), 38-61
3. *Alternative Solutions to School Closure in Arab Countries to Ensuring that Learning Never Stops*. (2020, April 30). Retrieved September 09, 2020, Retrieved from: <https://en.unesco.org/news/alternative-solutions-school-closure-arab-countries-ensuring-learning-never-stops>
4. Bandura, A. (1977). *Self-efficacy: Toward a unifying theory of behavioral change*. *Psychological Review*, 84, 191-215.
5. Bandura, A. (1982). *Self-efficacy mechanism in human agency*. *American Psychologist*, 37(2) 122-147.
6. Bandura, A. (1986). *Social foundation of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
7. Barling, J. & Beattie, R. (1983). *Self-efficacy beliefs and sales performance*. *Journal of Organizational Behavior Management*, 5, 41-51.
8. Bayocot, A. (2014) *Philippine Public School Teachers Association country report Philippines. Topic: Balancing the teaching activities in the classroom with crucial professional upgrading activities for teachers. The 30th ASEAN Council of Teachers Convention, Singapore*
9. Bigatel, P. M., Ragan, L. C., Kennan, S., May, J., & Redmond, B. F. (2012). *The Identification of Competencies for Online Teaching Success*. *Online Learning*, 16(1). Retrieved from: doi:10.24059/olj.v16i1.215
10. Bilbao, P. P., Lucido, P. I., Iringan, T. C., & Javier, R. B. (2008). *Curriculum development. Philippines: Lorimar Publishing, Inc.*
11. Bozkurt, Aras (2020). *A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis*. *Asian Journal of Distance Education*, 1-126.
12. Boudersa, N (2016). *The Importance of Teachers' Training and Professional Development Programs in the Algerian Educational Context: Toward Informed and Effective Teaching Practices* retrieved from [:https://www.researchgate.net/publication/309430087](https://www.researchgate.net/publication/309430087)
13. Bracey Harris and Neal Morton, Mader, J., Wong, A., Mongeau, L., Kolodner, M., Tara García Mathewson and Sarah Butrymowicz, L., . . . Adams, C. (2020, September 03). *USA Today Archives*. Retrieved September 09, 2020, from <https://hechingerreport.org/partners/usa-today/>
14. Cano, J. *Motivating students to learn. The agricultural magazine education* 2006. *Journal Retrieved from: https://www.naae.org/profdevelopment/magazine/archive\_issues/Volume78/v78i4.pdf#page=6*
15. Cassidy, S., & Eachus, P. (2002). *Developing the computer user self-efficacy (CUSE) scale: Investigating the relationship between computer self-efficacy, gender and experience with*



- computers. *Journal of Educational Computing Research*, 26(2), 133–153. doi:10.2190/jgjr-0kvl-hrf7-gcnv
16. Chiu, C. M., & Wang, E. T. (2008). *Understanding Web-based learning continuance intention: The role of subjective task value*. *Information & Management*, 45(3), 194–201. doi:10.1016/j.im.2008.02.003
17. Compeau, D., & Higgins, C. (1995). *Computer self-efficacy: Development of a measure and initial test*. Retrieved from: <http://www.misq.org/archivist/vol19/issue2/vol19n2art4.htm>
18. DepEd Order (DO) No. 11, s. 2020 titled *Revised Guidelines on Alternative Work Arrangements in the Department of Education During the Period of State of National Emergency due to COVID-19 Pandemic* Division of the Presidential Communications Operations Office (PCOO) (2020, July 17). Republic Act No. 11480: GOVPH. Retrieved September 09, 2020, from <https://www.officialgazette.gov.ph/2020/07/17/republic-act-no-11480/>
19. Duze, C. O. (2012). *The Changing role of School*
20. *Leadership and Teacher Capacity Building in Teaching and Learning. Journal of Emerging Trends in Educational Research and Policy Studies*. 3 (1), 111-117.
21. Escalaw, M. A.(2020) *Collaborative Reflective Activity for Online Learners: Technological Pedagogical Innovation in the New Normal Education*. [https://www.researchgate.net/publication/353429876\\_Collaborative\\_Reflective\\_Activity\\_for\\_Online\\_Learners\\_Technological\\_Pedagogical\\_Innovation\\_in\\_the\\_New\\_Normal\\_Education](https://www.researchgate.net/publication/353429876_Collaborative_Reflective_Activity_for_Online_Learners_Technological_Pedagogical_Innovation_in_the_New_Normal_Education)
22. Ferreira I. M., *managing change: The measurement of teacher self-efficacy in Technology-enhanced student-centred learning environments*.(2013) Retrieved from: <https://www.learntechlib.org/p/122282>
23. Fives, H., Buehl M., (2010). *Examining the Factor Structure of the Teachers' Sense of Efficacy Scale*. *The Journal of Experimental Education*, 2010, 78, 118–134 Retrieved from: [https://www.montclair.edu/profilepages/media/1391/user/Fives&Buehl\\_2010\\_JXE.pdf](https://www.montclair.edu/profilepages/media/1391/user/Fives&Buehl_2010_JXE.pdf)
24. Fives, H., Hamman, D., & Oliveraz, A. (2007). *Does burnout begin with student teaching? Analyzing efficacy, burnout and support during the student-teaching semester*. *Teaching and Teacher Education*, 23, 916–934.
25. Flores, E. R., (2013) *Self-concept and self-efficacy beliefs as predictors of writing performance of college freshman students*. Presented at the Research Congress 2013 De La Salle University Manila.
26. Francis, James, "The Effects Of Technology On Student Motivation And Engagement In Classroom-Based Learning" (2017). All Theses And Dissertations. 121. Retrieved from: <http://dune.une.edu/theses/121>
27. Friga, P. (2020, March 13). *Inside Higher Ed*. Retrieved September 09, 2020, from <https://www.insidehighered.com/views/2020/03/13/using-strategic-thinking-and-scenario-planning-deal-coronavirus-opinion>
28. Garancho, G.A. & Marpa E.P., *Self-Efficacy and Effectiveness of Instructors and Professors of Philippine Normal University, Negros Occidental*. Retrieved from: [https://webcache.googleusercontent.com/search?q=cache:EEsF\\_XDJiAJ:https://www.researchgate.net/profile/Eliseo\\_Marpa4/publication/260189457\\_Research\\_on\\_Self-efficacy/links/0a85e53005017b092e000000/Research-on-Self-efficacy+&cd=2&hl=en&ct=clnk&gl=ph](https://webcache.googleusercontent.com/search?q=cache:EEsF_XDJiAJ:https://www.researchgate.net/profile/Eliseo_Marpa4/publication/260189457_Research_on_Self-efficacy/links/0a85e53005017b092e000000/Research-on-Self-efficacy+&cd=2&hl=en&ct=clnk&gl=ph)
29. Gardner E. 2014 *Self-Efficacy and academic performance*. Retrieved from: <https://www.udallas.edu/udjs/departments/psychology/2014-2015/selfefficacy.php>
30. Gulten, et.al.(2011) *Investigating The Relationship Between Curiosity Level And Computer Self Efficacy Beliefs Of Elementary Teachers candidates*. Retrieved from: [https://www.researchgate.net/publication/279481405\\_Investigating\\_the\\_Relationship\\_between\\_Curiosity\\_Level\\_and\\_Computer\\_Self\\_Efficacy\\_Beliefs\\_of\\_Elementary\\_Teachers\\_Candidates](https://www.researchgate.net/publication/279481405_Investigating_the_Relationship_between_Curiosity_Level_and_Computer_Self_Efficacy_Beliefs_of_Elementary_Teachers_Candidates)
31. Kass, Kenneth D., "Computer self-efficacy: instructor and student perspectives in a university setting" (2014). *Graduate Theses and Dissertations*. 14183. <https://lib.dr.iastate.edu/etd/14183>
32. Mekonnen T., (2014) *factors affecting teachers' job performance in public secondary schools of west hararghe zone, oromia regional state* retrieved from: <http://hulirs.haramaya.edu.et/bitstream/handle/123456789/1474/Teferi20MAtheasis>
33. Murphy, C. A., Coover, D., & Owen, S. V. (1989). *Development and validation of the Computer Self-Efficacy Scale*. *Educational and Psychological Measurement*, 49(4), 893–899. doi:10.1177/001316448904900412
34. Shuo Chen (2017) *Computer self-efficacy, learning performance, and the mediating role of learning engagement* <https://doi.org/10.1016/j.chb.2017.02.059>
35. Todorova, N, Bjorn-Andersen, N (2011) *University learning in times of crisis: The role of IT*. *Accounting Education* 20(6): 597–599. doi:10.1080/09639284.2011.632913
36. Teo, T. (2009). *Modelling technology acceptance in education: A study of pre-service teachers*. *Computers & Education*, 52(2), 302–312. doi:10.1016/j.compedu.2008.08.006
37. Turel, Vehbi (2014). *Teachers' Computer Self-Efficacy and Their Use of Educational Technology*. <https://eric.ed.gov/?id=EJ1044190>
38. UNESCO. (2020). *COVID-19 Educational Disruption and Response*. Retrieved from <https://en.unesco.org/covid19/educationresponse>
39. UNCTAD. "Applying a Gender Lens to Science, Technology and Innovation." *UNCTAD Current Studies on Science, Technology and Innovation*. Geneva: UNCTAD, 2011/<http://unctad.org/en/Docs/dltsict2011d5>
40. Vandeyar, S. (2017). *The teacher as an agent of meaningful educational change*. *Educational Sciences: Theory & Practice*, 17, 373–393. Retrieved from: <http://dx.doi.org/10.12738/estp.2017.2.0314>
41. Vilppu, H., Södervik, I., Postareff, L. et al.(2019) *The effect of short online pedagogical training on university teachers' interpretations of teaching-learning situations*. *Instr Sci* 47, 679–709 <https://doi.org/10.1007/s11251-019-09496-z>



42. Li, C. H. (2020, April 29). *The COVID-19 pandemic has changed education forever. This is how. Retrieved September 09, 2020, from* <https://www.weforum.org/agenda/2020/04/coronavirus-education-globalcovid19-online-digital-learning/>