

21st Century Practices of Teachers and Their Performance

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ABSTRACT: The study examined the extent of public-school teachers' 21st Century practices, their performance and its significant relationship. Employing a correlational research design with documentary analysis, an adapted questionnaire was conducted to 109 public school teachers in Medina South District, Division of Misamis Oriental through purposive sampling. Statistical tools such as Mean, Standard Deviation, Frequency, Percentage and Pearson Product Moment Correlation Coefficient were utilized to analyze and interpret data. Results revealed that teachers highly practiced 21st Century skills. Most teachers were in the Outstanding level in their performance based on their IPCRF for School Year 2022-2023. There was no significant relationship between the teachers 21st Century practices and their performance. This can be concluded that teachers are doing their best even without the 21st Century skills' applications. However, to disprove or validate the findings of this study, a comparable investigation examining additional variables and a broader scope might be carried out.

KEYWORDS: 21st century skills, performance, practices

I. INTRODUCTION

The 21st Century is characterized by globalization for individuals who have the means, the expert and the commitment. There is a strong importance on people working together and competing with each other in a society heavily influenced by technology and information, all within a global community. The current educational setting is significantly diverse to its conventional indication. Memorizing information and teacher-centered lectures are no longer the custom. Instead, education has entered a new phase driven by technology, collaboration, and an importance on preparing students for the constantly changing needs of today's world. It examines the core of these modern teaching techniques, investigating the creative methods and advanced attitudes that are molding the future of education. The education system has profited from traditional teacher-centered methods for many years, but the 21st century requires a more flexible approach. These approaches, which frequently depend on memorization and reflexive learning, might not effectively prepare students with the essential skills of critical thinking, teamwork, and problem-solving necessary to bloom in a rapidly changing world.

Teachers should not allow themselves to be left behind by other professions as the globe continues to enter in a period of differentiated change. The teaching profession must battle to stay up with societal changes and the related technical problems. Teachers are serious agents to the success of technology integration as participants in the updated learning environment because they understand the critical nature of the teachers' work. Teachers used to be in charge, but as technology changes in schools, they are becoming more helpful. Zhao (2020) says that teachers should change the way they teach to be more adaptable, interesting, and attentive.

Because of these things, the Department of Education (DepEd) wants to make high-quality basic education easier to get and more available by using learner-centered technology solutions. With the K-12 Basic Education initiative, the Department of Education (DepEd) wants to give Filipino students the basic skills and information they need to deal with the problems of the 21st Century. Its goal is to bring the Philippines' basic education system into line with worldwide standards while making sure that it meets students' needs in an efficient, appropriate, and modern way.

In particular, the Division of Misamis Oriental has undertaken several literacy trainings to provide instructors with the requisite technical abilities. Several public elementary schools in the division received computer units, laptops, LCD projectors, internet connectivity and other technological tools as a result of governmental and private sector initiatives to improve the teaching-learning

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This section presents the theoretical foundations of the present study. It features the theories relevant to the development of ICT skills of the teachers which include Technology Acceptance Model (Lim & Lee, 2021) and Task Technology Fit (Sokhom & Mekruksavanich, 2021). People have been using information and communication technology (ICT) more frequently in their daily lives in recent years. Creativity, critical thinking, communication, and working as a team are all important skills for workers in the 21st Century. Students who learn these skills will be better prepared to deal with the challenges of modern life and work. Technology breakthroughs have made e-learning in education feasible. Online learning, sometimes referred to as e-learning, provides students with a virtual setting where they can participate in a range of activities. According to studies, students are still unable to effectively employ the features of e-learning platforms in their learning process, even with their rising use.

One of the most popular models for forecasting usage, a person's desire to perform a certain task, and individual user acceptability of technology and information systems is the Technology acceptability Model (TAM) (Nadri et al., 2018). Since its creation by Davis (1989), TAM has been applied in several studies. Of the extensive tests intended to evaluate how well a technology provides with a learner's activities, it is the most well-known (Rahmi et al., 2018). Other theoretical models for evaluating the uptake of educational technology are less effective than TAM (Al-Emran and Granic, 2021).

It is merely a tool for their support, and the lack of communication support provided by the Learning Management System (LMS) has caused them to use other platforms for communication. Despite their limited use in higher education settings, ubiquitous educational technologies like wearables, mobile devices, and RFID have been demonstrated to enhance students' learning results. The aim of this study was to examine the key factors that affect how people use IT devices because of the limitations of current teaching methods and research that focuses on the usage of ubiquitous technologies.

This investigation is based on Department of Education Memorandum No. 125, s. The 2008 report, Implementation of DepEd's Computerization Program, saw how ICT could improve the learning environment and sent computer system packages to schools along with training for classroom teachers, school administrators, and ICT coordinators. Additionally, this study was predicated on the notion that teachers' capacity to independently use the computer, and its software/components may serve as a gauge of their ICT literacy skills. Application tool capacity skills are used to evaluate teachers' proficiency.

Therefore, the theories of Task Technology Fit (TTF) and Technology Acceptance Model (TAM) will be used to achieve this. These theories are particularly relevant as they provide a framework for understanding how users interact with technology and how this interaction influences their acceptance and use of it. TAM and TTF were examined along with these skills, which included Learning and Innovation, Information, Media, Technology, as well as Life and Career Skills, were of utmost relevance.

II. METHODOLOGY

Seeking the answer, this research utilized a descriptive correlational design along with documentary analysis. The descriptive method is a fact-finding analysis with proper insights as well as data collection alone. According Mustieles et al. (2020), descriptive-correlational research is one in which the primary aim of the researcher is to describe links between variables rather than to create a cause and effect. Documentary analysis is a type of qualitative study whereby the researcher examines documents to assess an appraisal theme. For qualitative research, Morgan (2022) noted that documentary review as an underused approach. Several factors can make this approach advantageous.

For valid interpretation of the data, this study employed appropriate statistical techniques. For problem 1, Weighted Mean and Standard Deviation were used to figure out how well 21st-century skills were being used. Problem 2: Frequency, Percentage, Mean, and Standard Deviation were used to rate the teachers' performance. Problem 3: Determine whether the extent of 21st Century practices are statistically associated with the teachers' performance, Person Product Moment Correlation Coefficient was used.

III. RESULTS AND DISCUSSION

Problem 1. What is the extent of public school teachers' 21st Century practices in terms of:

- 1.1 learning and creativity skills;
- 1.2 information, media, and technology skills; and
- 1.3 job and life skills?

Table 1.

Overall Extent of Public-School Teachers' 21st Century Practices

Indicators	Mean	SD	Description	Interpretation
Learning and Innovation Skills	4.58	0.54	Strongly Agree	Highly Practiced

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Information, Media, and Technology Skills	4.50	0.67	Strongly Agree	Highly Practiced
Life and Career Skills	4.68	0.49	Strongly Agree	Highly Practiced
Overall	4.59	0.57	Strongly Agree	Highly Practiced

Note: 4:21-5.0 Highly Practiced; 3.41-4:20 Practiced; 2.61-3:40 Moderately Practiced; 1.81-2.60 Rarely Practiced; 1.0-1.80 Never Practiced

Table 1 summarizes the extent of public school teachers' 21st Century practices. It has an overall Mean of 4.59 with SD = 0.57, signifying Strongly Agree and Highly Practiced. Likely, teachers have always used the three 21st-century skills: learning and creativity, media, information, technology, and job and life skills. These days, just having good thinking skills and subject-matter knowledge is not enough for living and working. Teachers must put much effort into learning meaningful life and job skills to succeed in today's competitive information society.

There are five components that make up professional and life skills. The first attribute is adaptability and flexibility, which entails being adaptable and able to shift with the times. In addition to being able to work well in unpredictable settings with fluctuating priorities, teachers must adapt to changing roles, responsibilities, schedules, and circumstances (Praraksa & Simpol, 2018). In order to create workable solutions, particularly in cross-cultural settings, they must also be able to effectively take in feedback, handle compliments, failures, and criticism in a positive way, and understand, compromise, and balance a variety of viewpoints and ideas.

The information, media, and technology variables have the lowest Mean of 4.50 with SD = 0.67. Despite being the lowest, it is still described Strongly Agree and interpreted as Highly Practiced. This suggests that the teachers has to put the use of technology to gather, arrange, assess, and disseminate information.

According to the Partnership for 21st Century Learning (2019), people in the 21st Century live in a media-driven and technologically advanced world characterized by a number of traits, such as easy access to a wealth of information, quick advancements in technological tools, and the capacity for unprecedented individual and group contributions. 21st Century professionals and people need to be apt to determine a diversity of information, media, and technology-related useful and critical thinking abilities. The K–12 curriculum's adoption has resulted in a significant change in the learning objectives for sustainable development, claimed Care et al. (2018). They went on to say that in order to make young people globally competitive, they must be given 21st century talents like information, media, and technological skills, problem-solving, teamwork, and critical thinking abilities.

Problem 2. What is the performance of teachers based on their IPCRF for School Year 2022-2023?

Table 2.

Performance of Teachers

Rating	Frequency	Percentage	Mean	Standard Deviation	Interpretation
Outstanding	66	60.55	4.60	0.49	Outstanding
Very Satisfactory	43	39.45			
Satisfactory	-	-			
Total	109	100%			

Note: .4.50-5:00 Outstanding; 3.50-4.49 Very Satisfactory; 2.50-3.49 Satisfactory; 1.50-2.49; 1.0-1.49 Poor

The teachers' Individual Performance Commitment Review Form (IPCRF) ratings for the 2022–2023 School Year are displayed in table 2. The exceptional performance of the teachers in Medina, South District, is indicated by the Mean rating of 4.60 with SD = 0.49. Additionally, it reveals that, during the School Year 2022–2023, 60.55% of teachers received Outstanding ratings, while 39.45% received Very Satisfactory ratings. Teachers that have highly satisfactory grades are frequently seen favorably, indicating that they performed well and most likely contributed well to their role or duties. It suggests that they have met the goals and objectives set for them and have demonstrated competence in their work (Gragasin, 2023). Teachers also evaluate students' work based on their exceptional performance, commitment to time and quality, technical expertise, initiative, resourcefulness, and inventiveness. Workers at this level of performance ought to have demonstrated outstanding job mastery in every area of accountability. Employee accomplishments and contributions to businesses are outstanding. On the other hand, the

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Very Satisfactory Rating description states that the performance was above and beyond expectations. Every target, goal, and objective were achieved above and beyond the predetermined standards (Hermogeno & Dulos, 2022).

Opena (2021) claimed that an exceptional grade on the IPCRF usually suggests that teachers' great achievement in many aspects of their profession, like teaching competence, shows remarkable knowledge of subject material and teaching techniques. Their thorough understanding of the curriculum and standards is expertly transformed into dynamic and effective lessons. Teachers also have the power to create an organized, disciplined classroom atmosphere supporting the study. Preserving a hospitable and inclusive environment for every pupil, they deftly deal with behavioral problems.

Problem 3. Is there a significant relationship between the public school teachers' 21st Century practices and their performance?

The correlation study between the public school teachers' 21st Century practices and their performance as displayed in Table 3 indicates that there is no statistical relationship between the 21st Century practices and performance. Either of the three sub variables in the 21st Century practices like, teachers' performance and the skills of learning and innovation (r -value -0.046 and p -value $0.634 > 0.05$), information, media, and technology (r -value -0.041 and p -value $0.674 > 0.05$), or life and career (r -value 0.010 and p -value $0.916 > 0.05$) are the three categories.

Table 3.

Correlation Analysis between Perceived ICT Competencies and Performance

Independent Variable	R-value	P-value	Decision on Ho	Interpretation
Learning and Innovation Skills	-0.046	0.634	Accept	Not Significant
Information, Media, and Technology Skills	-0.041	0.674	Accept	Not Significant
Life and Career Skills	0.010	0.916	Accept	Not Significant

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

Langreo (2023) maintained that instructors using technology excessively could overlook several key elements of good teaching in their teaching performance. This excessive dependence might compromise their general effectiveness as teachers. Likewise, Montenegro et al. a negative correlation, they suggested in 2019, suggested that teachers who believe they lack ICT are using more conventional teaching techniques or seeking for more help. Conversely, individuals who are believed to be quite competent might not see the need for further assistance or training, so their career development could suffer.

A teacher's performance is judged using many factors, including exam scores, classroom observations, parent feedback, and so on. While some areas may not, others could profit from 21st century skills. Conventional performance measurements could not right away reveal the benefits offered by 21st Century skills. In the long run, success might show them up. The results do not take away from how important 21st century skills are. In today's world, they are still very important for good teaching. The study only makes it more likely that other things will have a bigger effect on the performance standards that are already in place. The use of 21st-century abilities might not have much effect on the extent of teachers' performance in the given problems with measurement, other influences including experience and resources, and the rate of teachers' performance evaluation. Their stated competency in 21st century skills therefore had no apparent impact on their level of experience with a given activity. Therefore, given this premise, the null assumption stands.

IV. CONCLUSIONS

Based on the findings of the study, the following conclusions were drawn.

1. Public school teachers are updating and upskilling themselves with the 21st Century practices in order to be with the trends of their students.
2. The public school teachers are doing great in their profession. They complied what were required in their IPCRF.
3. Public school teachers can still do their responsibilities, deliver at their best in their teaching and learning delivery even without the 21st Century practices.

V. RECOMMENDATIONS

The researcher made the following recommendations in light of the data and conclusions:

1. Teachers may consistently employ the three dimensions—information, media, and technology to maintain their level of 21st century abilities.
2. Teachers who perform at a very satisfactory level may work harder to reach an exceptional level. Teachers who are already at the outstanding level may mentor or peer coach them.
3. To disprove or validate the findings of this study, a comparable investigation examining additional variables and a broader scope might be carried out.

REFERENCES

- 1) Abedi, E.A. (2023) Tensions between technology integration practices of teachers and ICT in education policy expectations: implications for change in teacher knowledge, beliefs and teaching practices. *J. Comput. Educ.* <https://doi.org/10.1007/s40692-023-00296-6>
- 2) Abella, J.L. and Rosa, E.D. (2023) Digital Literacy and digital competence of selected Filipino teachers: Basis for a post-pandemic pedagogy, *IJORER: International Journal of Recent Educational Research*. Available at: <https://journal.ia-education.com/index.php/ijorer/article/view/378> (Accessed: 5 April 2024).
- 3) Abulencia, C. C., Ampo, P. H. B., Gonzales, F. M., Hyldgaard, S. E., Mangulabnan, M., Leva, E., Pizarra, M. R., Victoria, E. D.S., & Vivo, M.V. C. (2022). (PDF) Teachers' Perception of Instructional Technology Application and Integration Competence to the Teaching-Learning Process. ResearchGate. Retrieved January 4, 2024, from <https://rb.gy/xmy9c5>
- 4) Agi, I. E. and U. K. (2020). Information and Communication Technology (ICT) Skills and Efficient Management of Educational Resources in Public Secondary Schools. *JISTE*, Vol. 24, No. 1, 2020. <https://files.eric.ed.gov/fulltext/EJ1304612.pdf>.
- 5) Al-Emran, M., & Granić, A. (2021). Is it still valid or outdated? A bibliometrics analysis of the technology acceptance model and its applications from 2010 to 2020. In *Recent advances in technology acceptance models and theories*. In (pp. 1-12). Cham: Springer.
- 6) Bacangallo, L. B., Buella, R. T., Rentasan K. Y., Pentang, J. T., & Bautista, R. M. (2022). Creative thinking and problem-solving: Can preservice teachers think creatively and solve statistics problems? *Studies in Technology and Education*, 1(1), 14-27.
- 7) Battelle for Kids. (2019). Framework for 21st century learning. Retrieved from http://static.battelleforkids.org/documents/p21/P21_Framework_Brief.pdf
- 8) Bautista, Angelito. (2021). Teaching Media and Information Literacy in Philippine Senior High Schools: Strategies Used and Challenges Faced by Selected Teachers. *Asian Journal on Perspectives in Education(AJPE)* Online ISSN: 2799-1296 AJPE (2021), Volume 1, Issue 2
- 9) Capacete, Ma. P. A. (2021). Technology integration practices of secondary English teachers in the Philippines: A study towards Framework Development. *Animo Repository*. https://animorepository.dlsu.edu.ph/etdm_deal/6/.
- 10) Crawford, L., & Hares, S. (2020). Review of the decade: Ten trends in global education. Center for Global Development Commentary and Analysis (online). Retrieved from <https://www.cgdev.org/blog/review-decade-ten-trends-global-education>
- 11) Department of Education (2022). DepEd highlights digital rise program. DepEd highlights Digital Rise Program as key player in addressing challenges in education quality | Department of Education
- 12) Cruz, J. L. D., & Cruz, T. L. D. (2023, April). Employment and Employability skills of Graduate School Graduates in Tagudin Campus. *International Journal of Multidisciplinary: Applied Business and Education Research*. <https://ijmaberjournal.org/index.php/ijmaber/article/view/864>
- 13) Dela Fuente, Jayson & Biñas, Leomar. (2020). Teachers' Competence in Information and Communications Technology (ICT) as an Educational Tool in Teaching: An Empirical Analysis for Program Intervention. 5. 61-76.
- 14) Department of Information and Communications Technology (DICT), Republic of the Philippines. (n.d.). Philippine Digital Transformation Strategy 2022. Retrieved from: https://www.gov.ph/documents/820828/1076083/Philippine+Digital+Transformation+Strategy_20190208.pdf/74f4f221-2915-8136-a4c0-e6829c47dce9?t=1549932892309
- 15) Dizon R., & Errabo, D. (2022). Challenges and Opportunities of Online Learning in the Philippine Context: Thriving in the New Normal. doi: 10.1145/3514262.3514318

21st Century Practices of Teachers and Their Performance

- 16) Faith, Loraine, Aying., A., Jr., Joyce, Canillo., Allanah, Capangpangan., Angel, Sheen, Conocono. (2023). Filipino Students Experiences in Online Learning: A Meta-Synthesis. *International Journal For Science Technology And Engineering*, doi: 10.22214/ijraset.2023.49511
- 17) Flores, H. (2021) Four of 10 Filipino students lack distance learning tech, Philstar.com. Available at: <https://www.philstar.com/headlines/2021/03/03/2081545/four-10-filipino-students-lack-distance-learning-tech> (Accessed: 12 April 2024).
- 18) Gragasin, Emelyn & I., Jr & Galay- Limos, Jenny & Lazaro, Neofe. (2023). The impact of job satisfaction, anxiety, and attitude toward teaching on individual performance commitment and review form (IPCRF) rating. *International Journal of Research Studies in Management*. 11. 10.5861/ijrsm.2023.1147.
- 19) Gutiérrez-Martín, A., Pinedo-González, R. and Gil-Puente, C. (2022) ICT and Media competencies of teachers. Convergence towards an integrated MIL-ICT model, *Comunicar: Revista Científica de Comunicación y Educación*. Available at: <https://doi.org/10.3916/C70-2022-02> (Accessed: 04 January 2024).
- 20) Hazar, E., Akkutay, U., & Keser, H. (2021). Information, media and technology skills in terms of curricula, process and product in middle and high schools. *International Journal of Technology in Education and Science (IJTES)*, 5(3), 288-310. <https://doi.org/10.46328/ijtes.252>
- 21) Helleve, I., Grov Almås, A., & Bjørkelo, B. (2020). Becoming a professional digital competent teacher. *Professional Development in Education*, 46(2), 324-336.
- 22) Heretape, E. (2018). Questionnaire On the Practices of Public Elementary School Teachers on the 21st Century Skills: Basis for Intervention. <https://www.slideshare.net/ERICHERETAPE/questionnaire-for-teachers-practices-on-the-21st-century-skills>.
- 23) Hermogeno, K. J., & Dulos, C. (2022, January). Work Attitude and Performance of Elementary School Teachers in the City Division of San Carlos. *International Journal of Scientific and Management Research*. <http://doi.org/10.37502/IJSMR.2022.5102>
- 24) Hernandez, C. B., Guiang, E., & Jornales, L. C. (2021). Effectiveness using strategic intervention material (SIM) in teaching mathematics for the selected grade Five pupils of David P. Jimenez Elementary School. *Ascendens Asia Journal of Multidisciplinary Research Abstracts*. <https://ojs.aaresearchindex.com/index.php/AAJMRA/article/view/8209>
- 25) Hero, J.L. (2019). The impact of technology integration in teaching performance. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*. 48(1), 101-114.
- 26) Hero, J.L. (2020). Teachers' preparedness and acceptance towards information and communications technology (ICT) integration and its effect on their ICT integration practices. *Puissant – A Multidisciplinary Journal*, 1, 59-76.
- 27) Hero, J. L., Zulueta, M. C. E., Gloria, D. S., Tongol, J. C. L., Cruz, A. C. D., Sagun, S. A. T., Cajurao, F. G. V., & EdD, W. C. C. (2021). Mastering Innovations in the Lens of Information and Communications Technology (ICT) Competence and Practices of 21st Century Filipino Teachers: A Comparison among Thailand, Vietnam, and the Philippines. *International Journal of Multidisciplinary: Applied Business and Education Research*, 2(4), 285-295. <https://doi.org/10.11594/ijmaber.02.04.02>
- 28) Hermita, N., Ware, A, Wijaya, T., & Zhou, Y. (2021). Improving the creative thinking skills of the next generation of Mathematics teachers using dynamic mathematics software. *International Journal of Emergence Technological Learning*, 16(13), 212-226. <https://doi.org/10.3991/ijet.v16i13.21535>
- 29) Hitchcock, D. (2018). Critical thinking. *Stanford Encyclopedia of Philosophy*. Retrieved from <https://plato.stanford.edu/entries/critical-thinking/>.
- 30) Ikwuka, O.I. et al. (2021) ICT competencies needed by teachers for effective teaching of English ..., *Journal of Advances in Education and Philosophy*. Available at: https://saudijournals.com/media/articles/JAEP_58_249-254_FT.pdf (Accessed: 03 January 2024).
- 31) Kim, J., & Lee, K. (2020): Conceptual model to predict Filipino teachers 'adoption of ICT-based instruction in class: using the UTAUT model, *Asia Pacific Journal of Education*, DOI: 10.1080/02188791.2020.1776213
- 32) Kim, S., Raza, M. and Seidman, E. (2019) Improving 21st-century teaching skills: The key to effective 21st ..., *Sage Journals Home*. Available at: <https://journals.sagepub.com/doi/10.1177/1745499919829214> (Accessed: 03 January 2024).
- 33) Khampirat B. (2021). Relationships between ICT competencies related to work, self-esteem, and self-regulated learning with engineering competencies. *PloS one*, 16(12), e0260659. <https://doi.org/10.1371/journal.pone.0260659>
- 34) Kumar, R.V. and Sri, P.M. (2023) Perceived ICT competencies of female student teachers in relation to selected variables, *MIER Journal of Educational Studies Trends and Practices*. Available at: <https://www.mierjs.in/index.php/mjestp/article/view/2425> (Accessed: 04 January 2024).

21st Century Practices of Teachers and Their Performance

- 35) Kundu, A., Bej, T. and Dey, K.N. (2020), "An empirical study on the correlation between teacher efficacy and ICT infrastructure", *International Journal of Information and Learning Technology*, Vol. 37 No. 4, pp. 213-238. <https://doi.org/10.1108/IJILT-04-2020-0050>
- 36) Langreo, L. (2023, June 26). Student-teachers'™ reliance on classroom tech for Fun hurts learning. *Education Week*. <https://www.edweek.org/teaching-learning/student-teachers-reliance-on-classroom-tech-for-fun-hurts-learning/2023/06>
- 37) Libago, M. A. R. P., Jajalla, J. B., & Royo, J. C. (2024). Assessing The Digital Literacy Among Freshmen College Students-A Descriptive-Comparative Study. *EPRA International Journal of Multidisciplinary Research (IJMR)*, 10(1), 468-473.
- 38) Lim, T. L. and Lee, A. S. H. (2021). "Extended TAM and TTF Model: A Framework for the 21st Century Teaching and Learning," 2021 International Conference on Computer & Information Sciences (ICCOINS), Kuching, Malaysia, 2021, pp. 339-334, doi: 10.1109/ICCOINS49721.2021.9497216.
- 39) Luanshya / Monze (2020). Rapid Survey on Teachers' Competencies on the use of ICT in Teaching in Zambia , pp. 33-44. <https://teachertaskforce.org>.
- 40) Mahinay, R.B.D., Pañares, N. and Magnaong, M.E. (2023) Classroom Teachers' 21st Century Skills in the K to 12 Basic Education Curriculum Implementation: Basis for Policy Review to Increase NAT Scores, <https://zenodo.org/records/7831671>. Available at: <https://rb.gy/xuhd4y> (Accessed: 03 January 2024).
- 41) Maloloy-on, M. (2018, August). The National Competency Based Teacher Standard (NCBTS) Performance of the Basic Education Teacher. ORCID. <http://orcid.org/0000-0002-3492-4565>.
- 42) Manarpiis, Noel. (2020). 21st Century Assessment Tools Used by Filipino Teachers in the K to 12 Program in Selected Public and Private High Schools in Tanza, Cavite, Philippines. 11. 10.13140/RG.2.2.13067.82720
- 43) Marcial, D. E. (2017). ICT competence level in the professional development of teacher educators in Central Visayas, Philippines. *Academia.edu*. <https://rb.gy/bbqy5v>.
- 44) Marikyan, D. & Papagiannidis, S. (2023) Technology Acceptance Model: A review. In S. Papagiannidis (Ed), *TheoryHub Book*. Available at <https://open.ncl.ac.uk/> / ISBN: 9781739604400
- 45) Meador, Derrick. (2019). Why Respecting Students Is Essential for Teacher Effectiveness. <https://www.thoughtco.com/respecting-students-is-essential-for-boosting-effectiveness-3194682>
- 46) Montenegro-Rueda, Marta & Fernández Cerero, José. (2019). Main barriers to ICT teacher training and disability. *Research in Social Sciences and Technology*. 4. 96-114. 10.46303/ressat.04.02.7.
- 47) Morgan, H. (2022, January). Conducting a Qualitative Document Analysis. *The Qualitative Report*, 27(1), 64-77. <https://doi.org/10.46743/2610-3715/2022.5044>
- 48) Mustieles, V., D'Cruz, S. C., Couderq, S., Rodríguez-Carrillo, A., Fini, J. B., Hofer, T., et al. (2020). Bisphenol A and its analogues: a comprehensive review to identify and prioritize effect biomarkers for human biomonitoring. *Environ. Int.* 144:105811. doi: 10.1016/j.envint.2020.105811
- 49) Nadri, H., Rahimi, B., Afshar, H. L., Samadbeik, M., & Garavand, A. (2018). Factors affecting acceptance of hospital information systems based on extended technology acceptance model: A case study in three paraclinical departments. *Applied Clinical Informatics*, 9(02), 238-247. <https://doi.org/10.1055/s-0038-1641595>.
- 50) National ICT Planning, Policy and Standards Bureau-Department of Information and Communication Technology (NIPPSB-DICT). (2023). Institutional data.
- 51) Northup, Genevieve. (2023). 7 Life Skills for Career Success (And How To Improve Them). <https://www.indeed.com/career-advice/career-development/life-skills>
- 52) Nueva, M. G. (2019). Filipino Teachers' Attitude Towards Technology: Its Determinants and Association With Technology Integration Practice. *DSLUI*. <https://www.dlsu.edu.ph/wp-content/uploads/pdf/research/journals/apssr/2020-March-vol20-1/4-filipino-graduate-students-attitudes-toward-teaching-educated-philippine-english-a-sample-from-a-premier-teacher-education-institution.pdf>
- 53) Opena, E. R. A. (2021). Integration of Information Communication Technology (ICT) in the New Normal Learning: Its effect on teachers' individual performance commitment rating. *EPRA International Journal of Environmental Economics, Commerce and Educational Management*. <https://doi.org/10.36713/epra10784>
- 54) Pa-alisbo, Mark Anthony. (2017). *Journal of Education and Practice* www.iiste.org ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.8, No.32, 2017
- 55) Pahilanga, L. L. V., Bual, J., & Madrigal, D. V. (2023, April). Life Skills of Filipino Emerging Adults of a Catholic Higher Education Institution in Central Philippines. *Research Gate*. <https://shorturl.at/chpAD>

21st Century Practices of Teachers and Their Performance

- 56) Pama, Peter. (2023). Affecting Teachers Performance and Effectiveness in Public Secondary Schools in Agusan Del Sur Division, Philippines: Determinant Factors Inquiry. *Psych Educ*, 2023, 7: 65-71, Document ID: PEMJ518, doi:10.5281/zenodo.7607549, ISSN 2822-4353
- 57) Praraksa, P., & Simpol, W. (2018). Life and career skills of primary school students: A tentative model and an online scale. *New Trends and Issues Proceedings on Humanities and Social Sciences*. <https://doi.org/10.18844/prosoc.v5i1.3377>.
- 58) Rahmi, B., Birgoren, B., & Aktepe, A. (2018). A meta analysis of factors affecting perceived usefulness and perceived ease of use in the adoption of e-learning systems. *Turkish Online Journal of Distance Education*, 19(4), 4-42. <https://doi.org/10.17718/tojde.471649>
- 59) Saadah, N., & Ziden, A. A. (2020). Life and Career Skills amongst Technical and Vocational Education and Training (TVET) Students. <https://www.semanticscholar.org/paper/Life-and-Career-Skills-among-Technical-and-and-in-Abdullah-Sumarwati/0df433c094e9e61c8ad8db5502c9ebf9b5bc9>
- 60) Sánchez-Cruzado, C., Santiago Campión, R., & Sánchez-Compañía, M. T. (2021). Teacher digital literacy: The indisputable challenge after covid-19. *MDPI*. <https://doi.org/10.3390/su13041858>
- 61) Seidman E, Kim S, Raza M, et al. (2018) Assessment of Pedagogical Practices and Processes in Low and Middle Income Countries: Findings from secondary school classrooms in Uganda. *Teaching and Teacher Education* 71: 283–296.
- 62) Soderlund, A. (2020). Implementing 21st Century Learning and Innovation Skills in Classrooms. Home Page. <https://doi.org/10.54676/XKH14627>
- 63) Sokhom, W. and Mekruksavanich, S., (2021). "A Cooperative Education Management System using Technology Acceptance Model," 2021 Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunication Engineering, Cha-am, Thailand, pp. 297-300, doi: 10.1109/ECTIDAMTNCON51128.2021.9425690
- 64) Taran, V. N. (2018). Quality Criteria for Professional Training of Personnel in IT Industry in Proceedings of 2018 17th Russian Scientific and Practical Conference on Planning and Teaching Engineering Staff for the Industrial and Economic Complex of the Region, PTES 2018 17. 2018. C. 47-50. DOI: 10.1109/PTES.2018.8604267
- 65) Tomaro, Q.P.V. (2022) *ICT integration in the Educational System of Philippines*, Mendeley. Available at: <https://www.mendeley.com/catalogue/a01848cc-76a3-3453-bbab-e14e17970b44/> (Accessed: 04 January 2024).
- 66) Topno, I. (2020). Attitude towards development of creative thinking among prospective teachers. *International Journal of Creative Research Thoughts*, 8(3), 1684-1689. <https://ijcrt.org/papers/IJCRT2003236.pdf>
- 67) UNESCO ICT Competency Framework for Teachers (2018) Version 3, Published in 2018 by the United Nations Educational, Scientific and Cultural Organization, 7, place de Fontenoy, 75352 Paris 07 SP, Franc - URL: [https://unesdoc.unesco.org/ark:/48223/pf0000265721Zhao, Yu., Cru Sánchez-Gómez, M., Pinto-Llorente, A. M. \(2020\). Digital Competence in higher education: A case study of teachers' perception of working with technologies. In Eighth International Conference on Technological Ecosystems for Enhancing Multiculturality \(TEEM'20\). Association for Computing Machinery, New York, NY, USA, 206–210. DOI: https://doi.org/10.1145/3434780.3436561](https://unesdoc.unesco.org/ark:/48223/pf0000265721Zhao, Yu., Cru Sánchez-Gómez, M., Pinto-Llorente, A. M. (2020). Digital Competence in higher education: A case study of teachers' perception of working with technologies. In Eighth International Conference on Technological Ecosystems for Enhancing Multiculturality (TEEM'20). Association for Computing Machinery, New York, NY, USA, 206–210. DOI: https://doi.org/10.1145/3434780.3436561)



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