

Level of implementation of Learning Resources (LR) on WHEeLS as a new learning modality: Basis for an intervention program

Annah Loisa P. Benito

Teacher III

Claudio L. Lim IP School, Lumasal, Maasim Sarangani Province, Philippines

Email: annahloisa.benito001@deped.gov.ph

Abstract: This study determined the Level of Implementation of LR on WHEeLS as a new learning modality particularly among IP learners of Calay IP School in Malapatan District as basis for intervention program. This study utilized the quantitative method of research particularly the descriptive-evaluative survey design. All the data gathered was tabulated, analyzed and interpreted using the mean statistical as tool. Based on the computed over-all mean, it indicated that the level of implementation of Learning Resources on WHEeLS as a new learning modality was agreed in terms of its program content, technical aspect, presentation and organization and support component. Hence, the program has been progressing. LR on WHEeLS provided learners even the remotest communities of the province to experience e-Learning. This study will help the Department of Education the Division of Sarangani to improve the implementation of LR on WHEeLS as a new learning modality.

Keywords: educational management, level of implementation of LR on WHEeLS, proposed intervention program, descriptive-evaluative, Philippines

Date Submitted: September 18, 2024

Date Accepted: October 24, 2024

Date Published: December 31, 2024

INTRODUCTION

Even before the COVID-19 crisis hit the world, the education sector had always been keen on equipping our learners with knowledge and skills to prepare them for the ever-changing world. One of these was the integration of ICT in learning. Technology had been used only in schools in urban settings for many years, leaving those in remote areas behind. Those learners who live in far-flung areas do not know how to use the computer and have no access to the internet. They are left behind when it comes to the use of technology (Ali, and Kaur, 2020; Traxler, Scott, Smith, and Hayes, 2020).

Additionally, DepEd Sarangani, together with their partners, had been taking steps towards that direction, and fueled by their desire to make learning happens despite the pandemic. They developed their newest innovation, LR on WHEeLS or Learning Resources on WIFI Hub for Expanded e-Learning in Sarangani. The program is built on making current learning delivery methods more inclusive. The team behind the program had trusted that even learners in geographically isolated and disadvantaged areas have the right to involve the best tools in education (Navarro, Reyes, and Francisco, 2021).

The implementation of the project was simulated alongside the Dynamic Learning Program, which was developed with the help of Smart Communications and the Sulong Karunungan Program of Sarangani Province. The local government units of municipalities in Sarangani had expressed their intention to support the project and had been currently preparing the funds to be used for the project (Bagongco, 2020; Numonjonov, 2020).

Similarly, learners living in far-flung areas do not have an internet connection and no gadgets. This is one of the local issues the people are facing nowadays. Conrado and Ladislawa Alcantara Foundation, Inc. made their tablets available for the simulation. As a constant partner of SDO Sarangani, they also had served more Sarangan learners through LR on WHEeLS. LR on WHEeLS is a learner package containing an access point antenna, router, cables, portable generator set, and tri-leg pole that could cater 200–500 learners within a 500-meter radius through an e-platform. It has provided access to self-learning modules (SLMs), videos, interactive activities, and pre-and post-tests even without the internet. (Bagongco, 2020; Darby, 2019; Jena, 2020).

Likewise, as a teacher in an IP community, she wanted to know the level of implementation of LR on wheels as a new learning modality. There is a need to utilize and allocate programs for the IP learners because they live in a far-flung area, and sometimes they are left behind when using technology. The researcher was eager to conduct a study to determine the implementation of LR on WHEeLS among the IP learners as a basis for the proposed intervention program.

This study was urgent to know if the project was implemented and had reached its goal successfully. If LR on WHEeLS was successfully implemented, it would be a clear proof that anyone could make what many believed impossible to happen when all would work together. Also, to know if the program was effective and suitable to use during this time of pandemic. Findings from this research are vitally important to help the department of education realize its goals efficiently.

Objectives

This study aimed to determine the level of implementation of learning resources (LR) on WHEeLS in Calay IP School as a new learning modality as a basis for an intervention program.

Specifically, the study sought to find answers to the following questions:

1) What is the level of implementation of learning resources (LR) on WHEeLS as a new learning modality?

Theoretical Framework

This study was based on Theory-Based Approaches. These approaches used an explicit Theory of Change that drew assumptions about whether and how an intervention subsidized to observing results (Funnell and Rogers, 2011). The Theory of Change enlightens how an intervention is expected to produce its effects. At any rate, the Theory of Evolution explains an organization's intended path to impact by outlining causal linkages in an initiative (i.e., its shorter-term, intermediate, and longer-term outcomes). The identified changes are mapped in an "outcomes pathway" that shows the logical relationship and chronological flow of the developments along the path towards the desired impact utilizing the Theory of Change (Weiss, 2012).

Additionally, the Theory of Change is essentially a comprehensive description and illustration of how and why the desired change is anticipated to what happens in a particular context. It does this by first identifying the chosen long-term goals and working back from these to identify all the situations (outcomes) that must be in place (and how these are connected to one another causally) for the goals to happen. These are all plotted out in an Outcomes Framework. Thus, the Theory-Based Approaches are a "logic of inquiry" which complement and can be used in combination with most of the implementation designs and

data collection techniques outlined in Implementation program methods: Measurement and attribution of program and results (Nesi, Choukas-Bradley, and Prinstein, 2018; Weiss, 2012).

METHODOLOGY

Research Design

This study utilized the quantitative method of research, particularly the descriptive-evaluative survey design (Weiss, 2012). It was the appropriate design since the study aimed to determine the level of implementation towards this LR on WHEeLS as a new learning modality among IP learners as the basis for a proposed intervention program. A descriptive-evaluative design was used to carefully appraise the worthiness of the current study, measure the effectiveness of activities, and identify areas needing development. The researcher wished to conduct a study evaluating the implementation of LR on WhEeLS as a new learning modality. It would fit the study because it generally obtained quick information from the primary source. The researcher created a survey questionnaire and distributed it to randomly selected survey respondents.

Subjects

This study was conducted in Calay IP School in Malapatan Sarangani Province, Malapatan, officially the Municipality of Malapatan. It is a 1st class municipality in the province of Sarangani, Philippines. According to the 2015 census, it had a population of 76,914 people. Malapatan is bounded west by Sarangani Bay, east by Davao Occidental, north by Alabel, and south by Glan.

The respondents of this study were the selected parents of Calay IP School in Malapatan District. They were randomly selected using simple random sampling. Table 1 presents the distribution of the respondents of the study.

Instrument

This study had utilized a self-constructed questionnaire to attain the data on the level of implementation of LR on WHEeLS as a new learning modality among the IP learners. This self-constructed questionnaire followed the process for achieving its validity. After its construction, the researcher submitted it to her adviser for checking. After the thorough corrections of her adviser, it was introduced to the expert's subject for content validation. After the experts validated the instrument, out of ten statements, five were positively worded, and the other was negatively stated.

Sampling

This study had utilized simple random sampling since the respondents were randomly selected based on the data provided by the school. These data were based on the list of parents who received a tablet from the school and division office.

The researcher personally distributed the self-constructed questionnaires to the participants and managed their administration within one month only. Upon retrieval of the accomplished questionnaires, the data were tallied, computed, analyzed, and interpreted using mean statistical as the tool.

Data Gathering Procedure

In conducting this research, the investigator followed the following procedures: Firstly, the researcher submitted a request letter to the division office addresses to the Schools Division Superintendent of Sarangani. Secondly, after the approval of the Schools Division Superintendent, the researcher also offered the same request to the Public School District Supervisor of Malapatan. Thirdly, after the support, the researcher submitted a request letter to the school head of the school where the researcher conducted her study, after the approval request letter by the school authorities. Fourthly, she reproduced the instruments and administered them to the target respondents. The reproduction of the instruments was scheduled according to the school's decision. Fifthly, the researcher ensured that there were separated envelopes with equal instruments for the identified number of respondents per purok to avoid the mix-up of results. The instruments were self-administering. Sixthly, the researcher ensured her respondents that any data gathered would be dealt with utmost confidentiality. Also, the respondents were requested not to leave any item unanswered. Finally, after all the questionnaires were answered, the researcher immediately retrieved them on the same date. The researcher checked all the respondents' answers based on the utilized questionnaires.

Data Analysis

Upon the retrieval of the survey form, the gathered data were prepared for analyses. Below is the Data Matrix designed to facilitate the interpretation of the results. The data were tabulated, analyzed, and interpreted using appropriate statistical tools with the following scales and descriptions.

Mean Range	Description	Interpretation
4:00-5:00	Strongly Agree	The level of implementation of LR on WHEeLS is very high.
3:50-4:00	Agree	The level of implementation of LR on WHEeLS is high.
2:50-3:00	Moderately Agree	The level of implementation of LR on WHEeLS is fairly high.
1:50-2:00	Disagree	The level of implementation of LR on WHEeLS is low
.50-1.49	Strongly Disagree	The level of implementation of LR on WHEeLS is very low.

DISCUSSION

Implementation of Learning Resources (LRs) on WHEeLS as New Learning Modality

As evaluated by the parents, out of five questions, four of the questions were rated disagree with an overall mean of 2.22. It means that in terms of preparation the level of implementation of the LR on WHEeLS Program was low.

In terms of program content (3.96), technical aspect (3.98), presentation and organization (3.98) and support component (3.54), these results indicated that the level of

implementation of LR on WHEeLS program were fairly high. The grand mean of 3.54 signifies that the level of implementation of LR on WHEeLS Program was fairly high.

Furthermore, in terms of preparation, the level of implementation of LR on WHEeLS was low. Adequate preparation is not always fun, and many do not look forward to doing it. It often appears dull and uninteresting, particularly to those who love the “buzz” of spontaneity. However, this can be one of the most valued skills that can dominate in avoiding the build-up of stress and anxiety as the deadline dates approach. In addition, preparation for the program is essential, especially for the parents. Due to the COVID-19 pandemic, teachers were not allowed to have face-to-face contact with the learners, and so, the parents were the ones who would get the instructions and guide their children for this new normal education. Preparation is vital for all professionals (Spiers, 2017; McCulloch, Hollebrands, Lee, Harrison, and Mutlu, 2018).

In addition, a large part of one’s working day probably entails dealing with and managing problems as they arise— a proportion of which may be completely unexpected, leaving the accountability of reacting to them unprepared. If a problem derives along that has been unforeseen, then it may be practical to think about whether it could have been expected rather than having been caught unaware. Preparation is a skill that can be learned and improved over time with discipline and experience. For some, planning and preparation may come obviously, but for others, they always prefer to meet and deal with problems that arise (Hanna, White, and Glavovic, 2020; Spiers, 2017).

Moreover, in terms of program content, it was found that the implementation of LR on WHEeLS was high. Program content is what teachers teach, but there is also the how, where literacy instruction comes in. There are endless numbers of engaging, effective strategies to get learners to think about, write about, read about, and talk about the content to teach. The ultimate goal of literacy education is to build a learner’s comprehension, writing skills, and overall skills in communication. Like a conversation, writing helps learners make sense of what they are learning and they also influence other learners’ ideas. It could not avoid thinking when it was written (Alber, 2014; Win, and Mar, 2020).

Simplifying the instructional delivery of content could help learners adopt the content delivery strategies quickly. There are numerous ways content can be delivered to students both in and outside the classroom. Content delivery strategies are essential in design and implementation (Hodges, Moore, Lockee, Trust, and Bond 2020; Rapanta, Botturi., Goodyear, Guàrdia, & Koole, 2020).

Certainly, learner attitudes towards technology an essential aspect of using instructional technology is comparing the actual and anticipated impact on learning— instruction geared towards two fundamental goals: cognitive and mood change in the learner. Understanding attitudes is crucial in our ability to interpret our surroundings, guide behavior and organize experiences in a meaningful way (Evans, 2018; Sang, Valcke, Van Braak, and Tondeur, 2010).

Furthermore, in terms of technical aspect the implementation of LR on WHEeLS found to be high. Presentation is a fast and potentially effective method of getting things done by other people. In managing any project, presentations are a formal method for bringing people together to plan, monitor, and review its progress. Organizing is an essential means of creating and communicating among various departments. It stipulates the channel and mode of communication among different associates (Blair, 2018; Kavuri, 2021).

Moreover, video lesson is included in the technical aspect because in LR on WHEeLS, teachers have their video presentations to discuss the topics aligned with the learning competency. They established an instructional model built around self-made videos that empowered learners at all levels to acquire at their own pace and build mastery skill-by-skill. They used screencast-style videos. To replace traditional lecture-style direct instruction, they

worked directly with students. It was to give directions for another complex task and to provide remediation or helps that learners might need to practice (Kareem, and Barnett, 2019).

Furthermore, video has become an essential factor of many flipped, blended, and online classes but ensuring that videos are helping learners' involvement and taking a deeper look at video design and production. The key to designing compelling videos is, to begin with, clear instructional intentions and following research-based design principles. Instructors should consider the four general principles. They provide students with opportunities to strengthen learning by linking video viewing to events such as short quizzes, reflection, or discussion posts (Madariaga, Nussbaum, Gutiérrez, Barahona, and Meneses, 2021).

In addition, in terms of presentation and organization, the implementation of LR on WHEeLS was also high. Presentation is a fast and potentially effective method of getting things done by other people. In managing any project, presentations are a formal method for bringing people together to plan, monitor, and review their progress. Furthermore, organizing is an essential means of creating and communicating among the organization's various departments. It agrees on the channel and mode of communication among different members (Blair, 2018; Kavuri, 2021).

Further, it included interactive activities in the presentation and organization. Interactive instruction is all about instructing the learners to be actively complicated with their learning process. There are many ways to create an involvement like this. It encourages the learners to be active members of their classes, thinking independently and using their brains, resulting in long-term memory retention. Not only learners' knowledge will improve, but their interest, strength, knowledge, team spirit, and freedom of expression will increase as well (Knapen, 2018; Zydney, McKimmy, Lindberg, and Schmidt, 2019).

In the same way, the presentation of the program could be organized and planned well so that the program would run smoothly. The exhibition included the display which should be engaging, interesting, and understandable. The length of the video/presentation should be appropriate to the attention span of the target learner. There should be a logical and smooth flow of ideas (Karalis, 2020; Taylor, Grant, Hamdy, Grant, Marei, and Venkatramana, 2020).

In terms of support component the same finding revealed. The implementation of LR on WHEeLS was high. Sustainability is about creating and building momentum to maintain community-wide change by organizing and maximizing community assets and resources. It means institutionalizing policies and practices within communities and organizations. From the outset, sustainability requires an approach that emphasizes the development of community practitioners. It also involves a diversity of stakeholders who can develop long-term buy-in and support throughout the community for coalitions efforts. These factors are crucial to ensuring lasting change and making a difference in learners' lives (Butterfoss, 2015; Schulenkorf, Giannoulakis and Blom, 2019).

Furthermore, stakeholders could help educate the parents that indeed the education of their learners would still continue despite the threat of COVID-19 pandemic and that they should support the program and initiative of DepEd. Still, this learning mode could only be applicable to those who could acquire the necessary tools and materials needed for their education. As we all know, COVID-19 pandemic, teachers are not allowed to have face-to-face contact with their learners, and so, the parents were the ones who would get the instructions and guide their learners for this new normal education. (Francisco, and Nuqui, 2020; Kirimi, Muthee, and Gichuhi, 2021).

In addition, professional and social support for teachers, learners, parents is an integral part of education's response to a crisis like the COVID-19 pandemic. The support needs to be appropriate, effective, and ongoing to ensure that learning continues and that the post-crisis recovery is, in turn, as straightforward as possible. In times of crisis, it should provide

continuous support to education stakeholders. Enhance school to school collaboration initiatives. Build knowledge-sharing communities to aid collaboration and motivation among school leaders, teachers, parents, and learners (Greenhow, Lewin, and Staudt-Willet, 2021; Scher 2020; Zheng, Khan, and Hussain, 2020).

CONCLUSION AND RECOMMENDATIONS

Based on the findings, the level of implementation of Learning Resources (LR) on WHEeLS as a New Learning Modality was fairly high in general.

Concerning the findings and conclusions of the study, the following recommendations were made:

1. The Department of Education Officials should strengthen its program and giving of technical assistance towards the needs of the IP School Communities.
2. The school administrators could use this study as bases for developing intervention programs.
3. The teachers could use the result of the study as baseline data where their support was needed for the school's improvement.
4. The learners could use this study as an inspiration to continue their studies amidst this pandemic.
5. The researcher could use the findings of the study since it would provide necessary insights and knowledge about the implementation of LR on WHEeLS as a new learning modality among IP learners.
6. The future researcher could use the findings of the study as guide or add-on reference for similar study that may be related to present investigation.
7. Thus, an intervention program was designed to help improve the implementation of Learning Resources on WHEeLS.

REFERENCES

- Alber, R. (2014). Improving reading skills of students with disabilities using head sprout comprehension. *Remedial and special education* 35(6), 356-365.
- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of covid-19 pandemic. *Higher education studies*, 10(3), 16-25.
- Ali, W., & Kaur, M. (2020). Mediating educational challenges amidst covid-19 pandemic. *Asia pacific institute of advanced research (APJCECT)*, 6(2), 40-57.
- Ancheta, R., & Ancheta, H. (2020). The new normal in education: A challenge to the private basic education institutions in the Philippines. *International journal of educational management and development studies*, 1(1).
- Anduyan, D. (2021). Effectiveness of blended learning modules as correlates of self-efficacy of ALS students: basis for an action plan. In " *Online-conferences" platform* (pp. 230-262).
- Antonacci, G., Reed, J. E., Lennox, L., & Barlow, J. (2018). The use of process mapping in healthcare quality improvement projects. *Health services management research*, 31(2), 74-84.
- Asperholm, M., Högman, N., Rafi, J., & Herlitz, A. (2019). What did you do yesterday? A meta-analysis of sex differences in episodic memory. *Psychological Bulletin*, 145(8), 785.
- Bagongco, K. (2020). DepEd sarangani innovates with new learning system to reach hinterlands, Philippines

Leadership practices in enhancing teachers' growth and student success in the 21st century: a systematic review of literature

Bayod, R., & Bayod, C. (2020). Laying the groundworks for education of children in the new normal: The case of DepEd southern mindanao. *Eubios journal of asian and international bioethics*, 30(8), 443-449.

Beetham and Sharpe, (2013). Effective learning design for the individual: *A nonlinear pedagogical approach in learning effective activities*

Blair, G. M (2018). Managing corporal visual identity: *use and effects of organizational measures to support a consistent self-presentation*

Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., Lambert, S., Al-Freih, M., Pete, J., Olcott Jr, D. and Rodes, V., (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*, 15(1), pp.1-126.

Butterfoss, F.D (2014). Achieving collaboration with diverse stakeholders: *The role of strategic ambiguity in CSR communication*.

Chen, B., Fan, Y., Zhang, G., Liu, M., & Wang, Q. (2020). Teachers' networked professional learning with MOOCs. *PloS one*, 15(7), e0235170.

Cheng, L., Ritzhaupt, A. D., & Antonenko, P. (2019). Effects of the flipped classroom instructional strategy on students' learning outcomes: A meta-analysis. *Educational technology research and development*, 67(4), 793- 824.

Codamon, D. (2020). Understanding the distance learning delivery modalities, Philippines. *Instructional development for distance education amid covid-19 crisis in the Philippines*.

Datta, A., Ukidwe, M., & Way, D. (2020). Simulation-based enhancement of learning: the case of food safety. *Journal of food science education*, 19(3), 192-211.

Darby, F. (2019). How to be a better online teacher. Value of online courses or of trying yo become a better online teacher. *The chronicle of higher education*.

Darby, F., & Lang, J. (2019). *Small teaching online: Applying learning science in online classes*. John Wiley & Sons.

Delgado, N., Alaban, M., Ariz, D., & Emboltura, F. (2019, December). Multigrade team teaching: How a small progressive private school in a non-rural Philippine set-up deviated from monograde teaching to implement its age-appropriate inclusive school program. in *3rd International conference on special education (ICSE 2019)*. Atlantis Press.

Department of Education (2020a). Adoption of the basic education learning continuity plan for school year 2020-2021 in the light of the - 19 public health emergency. retrieved from (https://www.deped.gov.ph/wpcontent/uploads/2020/06/DO_s2020_012.pdf).

Department of Education (2020b). Guidelines on enrollment for school year 2020-2021 in the context of the public health emergency due to COVID-19. At: (https://www.deped.gov.ph/wp-content/uploads/2020/05/DO_s2020_008-Guidelines-on-Enrollment-for-SY-2020-2021.pdf).

Department of Education (2020c). DepEd prepares self-learning modules for education's new normal. At: (<https://www.deped.gov.ph/2020/07/02/deped-prepares-self-learning-modules-for-educations-new-normal/>).

Dierking, P (2017). Interferometric synthetic aperture ladar using code division multiple access apertures

Di Maddaloni, F., & Davis, K. (2017). The influence of local community stakeholders in megaprojects: Rethinking their inclusiveness to improve project performance. *International journal of project management*, 35(8), 1537-1556.

Dhir, S. (2019). The changing nature of work, leadership, and organizational culture in future ready organizations.

Doghonadze, N., Aliyev, A., Halawachy, H., Knodel, L., & Adedoyin, A. S. (2020). The degree of readiness to total distance learning in the face of COVID-19-teachers' view (Case of Azerbaijan, Georgia, Iraq, Nigeria, UK and Ukraine). *Journal of education in black sea region*, 5(2), 2-41.

Eaton, A., Saunders, J., Jacobson, R. & West, K. (2020). How gender and race stereotypes impact the advancement of scholars in STEM: Professors' biased evaluations of physics and biology post-doctoral candidates. *Sex Roles*, 82(3), 127-141.

Evans, P.(2018). Dependent development, socialis variant: Princeton University Press.*A cross national study*.

Faisal, P., &Kisman, Z. (2020). Information and communication technology utilization effectiveness in distance education systems. *International journal of engineering business management*, 12, 1847979020911872.

Fiorella, L., & Mayer, R. (2018). What works and doesn't work with instructional video: *Assessng the impact of inreractive video on learning effectiveness*.

Francisco, C., & Nuqui, A. (2020). Emergence of a situational leadership during COVID-19 pandemic called new normal leadership. *Online Submission*, 4(10), 15-19.

Funnell, S. & Rogers, P. (2011). *Purposeful program theory: Effective use of theories of change and logic models* (Vol. 31). John Wiley & Sons.

Ghazali, F. (2020). Challenges and opportunities of fostering learner autonomy and self-access learning during the covid-19 pandemic. *Studies in self-access learning journal*, 11(3).

Greenhow, C., Lewin, C., & Staudt Willet, K. B. (2021). The educational response to covid-19 across two countries: A critical examination of initial digital pedagogy adoption. *Technology, pedagogy and education*, 1-19.

Goi, C., Ng, P. (2020) E-learning in malaysia success factors in implementing e-learning program.

Guiamalon, T. (2021). Teachers issues and concerns on the use of modular learning modality. *IJASOS-International E-journal of advances in social sciences*, 7(20), 457-469.

Gutierrez Bernal, M., Wurie, L.,and Shojo, B.(2021) Smart goals: Application of smart goals can contribute to achievement of student learning outcomes.

Hanna, C., White, I., &Glavovic, B. (2020). The uncertainty contagion: Revealing the interrelated, cascading uncertainties of managed retreat. *Sustainability*, 12(2), 736.

Harris, B., McCarthy, P., Wright, A., Schutz, H., Boersma, K., Shepherd, S., Manning, L., Malisch, J. and Ellington, R. (2020). From panic to pedagogy: Using online active learning to promote inclusive instruction in ecology and evolutionary biology courses and beyond. *Ecology and evolution*, 10(22), pp.12581-12612.

Haskoning, R. (2021), Enhancing society together: *Enhancing the citizenship curriculum through non-formal educationprogramme*.

Hau-Kashyap (2017). Approach for student's level of expertise. *Egyptians informatics journal*, (Vol. 2 Issue 1, p. 27-32).

Heggart, K., & Yoo, J. (2018). Getting the most from google classroom: A pedagogical framework for tertiary educators. *Australian journal of teacher education*, 43(3), 140-153.

Hodges, C. Moore, S., Lockee, B. Trust, K. & Bond, M. (2020). The difference between emergency remote teaching and online learning.

Leadership practices in enhancing teachers' growth and student success in the 21st century: a systematic review of literature

- Jamal, T., & Butt, S. A. (2017). Cooperative cloudlet for pervasive networks. *Proc. of asiapacific journal of multidisciplinary research*, 5(3), 42-26.
- Jena, P. (2020). Online learning during lockdown period for covid-19 in India. *International journal of multidisciplinary educational research (IJMER)*, 9.
- Joaquin, J., Biana, H., & Dacela, M. (2020). The Philippine higher education sector in the time of covid-19. In *frontiers in education* (Vol. 5, p. 208). Frontiers.
- John-eke, E., & Bayo, P. (2021). Crisis management and corporate resilience in hotel presidential: The theoretical perspective. *International journal of economics and business management*, 7(3), 21-34.
- Karalis, T. (2020). Planning and evaluation during educational disruption: Lessons learned from covid-19 pandemic for treatment of emergencies in education. *European journal of education studies*.
- Kavuri, (2021). Organizing is an important means of crating and communication: *The role of of employee job crafting behaviors for successful organizational change*.
- Kareem. F. Barnett, R. (2019). Themiddle school modern classroom: Why a blended, self-paced, mastery-based grading classroom is ideal for middle school students
- Kirimi, F., Muthee, J., & Gichuhi, Z. (2021). Innovative approaches for promoting resilience, inclusion and access to education amidst covid-19 pandemics in kenya.
- Knapen, R. (2018). Interactive activities importance: *The practical importance of organizing special education based on interactive learning*.
- Kubota, M., Hadley, L., Schaeffner, S., Könen, T., Meaney, J., Auyeung, B., Morey, C., Karbach, J. and Chevalier, N., (2020). Consistent use of proactive control and relation with academic achievement in childhood. *Cognition*, 203, p.104329.
- Lamb, M. (2021). *Sustainability of policy, systems. and environmental (PSE) strategies to advance change and public health outcomes: A mixed methods multiple case study of we choose health in Illinois* (Doctoral dissertation, University of Illinois at Chicago).
- Lugosi, Z., & Lee, P. C. (2021). A case study exploring the use of virtual reality in the zoo context. *Animal behavior and cognition*, 8(4), 576-588.
- Madariaga, L., Nussbaum, M., Gutiérrez, I., Barahona, C., & Meneses, A. (2021). Assessment of user experience in video-based learning environments: From design guidelines to final product. *Computers & Education*, 167, 104176.
- Manz, E., & Suárez, E. (2018). Supporting teachers to negotiate uncertainty for science, students, and teaching. *Science Education*, 102(4), 771-795.
- Maseleno, A. (2018). Big data emerging technology: insights into innovative environment for online learning resources
- Mayer, (2015). Multimedia instruction is therefore defined as “presenting words and pictures that are intended to foster learning
- McCulloch, A., Hollebrands, K., Lee, H., Harrison, T., & Mutlu, A. (2018). Factors that influence secondary mathematics teachers' integration of technology in mathematics lessons. *Computers & Education*, 123, 26-40.
- Medina, L. (2018). Blended learning: Deficits and prospects in higher education. *Australasian journal of educational technology*, 34(1).

- Milton, M. (2015). Trainee practitioners' experiences of the psychodynamic supervisory relationship and supervision: A thematic analysis
- Moral, R. (2021). Value system and cultural diversity of radio soap opera listeners. *European Scholar Journal*, 2(3), 79-82.
- Nacar, C., & Camara, J. (2021). Lived experiences of teachers in implementing modular distance learning in the Philippine setting. *Isagoge-journal of humanities and social sciences*, 1(4), 29-53.
- Navarro, A., Reyes, C., & Francisco, K. (2021). UN Common country assessment update for the Philippines.
- Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2018). Transformation of adolescent peer relations in the social media context: Part 1—A theoretical framework and application to dyadic peer relationships. *Clinical child and family psychology review*, 21(3), 267-294.
- Numonjonov, S. D. (2020). Innovative methods of professional training. *ISJ Theoretical & Applied Science*, 1(81), 747-750.
- Persuad, C. (2018). Epidemiology and trends of weightlifting-related sprains and strains that presented to emergency departments in the United States.
- Prosser, H., & Trigwell, B. (2012). Myths of active learning: *Edgar Dale and cone of experience*.
- Putra, F., Nur Kholifah, I. Y., Subali, B., & Rusilowati, A. (2018). 5E-learning cycle strategy: Increasing conceptual understanding and learning motivation. *Jurnal Ilmiah Pendidikan Fisika Al-Biruni*, 7(2), 171.
- Joaquin, J., Biana, H., & Dacela, M. (2020). The Philippine higher education sector in the time of covid-19. In *Frontiers in education* (Vol. 5, p. 208). Frontiers.
- Ramos-Morcillo, A. J., Leal-Costa, C., Moral-García, J. E., & Ruzafa-Martínez, M. (2020). Experiences of nursing students during the abrupt change from face-to-face to e-learning education during the first month of confinement due to covid-19 in Spain. *International journal of environmental research and public health*, 17(15), 5519.
- Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university teaching during and after the covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital science and education*, 2(3), 923-945.
- Reich, J., Buttimer, C.J., Fang, A., Hillaire, G., Hirsch, K., Larke, L.R., Littenberg-Tobias, J., Moussapour, R.M., Napier, A., Thompson, M. and Slama, R., (2020). Remote learning guidance from state education agencies during the COVID-19 pandemic: A first look.
- Rodriguez, S., Allen, K., Harron, J., & Qadri, S. A. (2019). Making and the 5E learning cycle. *The science teacher*, 86(5), 48-55.
- Royal, Haskoning DHV, (2021). Stakeholder engagement is the key to gaining support for projects, improving communications and gathering useful information and ideas
- Sang, G., Valcke, M., Van Braak, J., & Tondeur, J. (2010). Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviors with educational technology. *Computers & Education*, 54(1), 103-112.
- Savery, JR. (2015a). Problem based learning: *An instructional model and its constructivist framework*.
- Savery, JR. (2015b). Overview of problem-based learning: *Definitions and distinctions*.
- Savery, JR (2015) Enhancing motivation and learning through collaboration and the use of problems. *Inspiring students: Case studies on teaching required courses*
- Savery, JR. (2015). Problem-based learning and storytelling: *Finding common ground as instructional strategies*, Netherlands

Leadership practices in enhancing teachers' growth and student success in the 21st century: a systematic review of literature

- Scheller, F., Doser, I., Schulte, E., Johanning, S., McKenna, R., & Bruckner, T. (2021). Stakeholder dynamics in residential solar energy adoption: findings from focus group discussions in Germany. *Energy research & social science*, 76, 102065.
- Scher, L. (2020). Learning in the midst of a pandemic: E-readiness and perception of student teachers' towards online learning in the midst of covid-19 pandemic.
- Schott, M., Chernish, W., Dooley, K. and Lindner, J. (2003) Innovations in distance learning program development and delivery. *Online journal of distance learning administration* 6 (2), 19-27, 2003
- Schulenkorf, N., Giannoulakis, C., & Blom, L. (2019). Sustaining commercial viability and community benefits: Management and leverage of a sport-for-development event. *European sport management quarterly*, 19(4), 502- 519.
- Sequeira, A.H (2012). Introduction to concepts of teaching and learning. Management information system for effective and efficient decision making: A case study.
- Setyono, B. (2018). The portrayal of women in nationally-endorsed english as a foreign language (EFL) textbooks for senior high school students in Indonesia. *Sexuality & culture*, 22(4), 1077-1093.
- Spiers, C. (2017). Framing effects on preparation intentions: distinguishing actions and outcomes. *The importance of preparation, United Kingdom*
- Spurk, D., & Straub, C. (2020). Flexible employment relationships and careers in times of the COVID-19 pandemic.
- Suartama, I., Setyosari, P., & Ulfa, S. (2019). Development of an instructional design model for mobile blended learning in higher education. *International journal of emerging technologies in learning*, 14(16).
- Sundin, A., Andersson, K., & Watt, R. (2018). Rethinking communication: integrating storytelling for increased stakeholder engagement in environmental evidence synthesis. *Environmental evidence*, 7(1), 1-6.
- Taylor, D., Grant, J., Hamdy, H., Grant, L., Marei, H., & Venkatramana, M. (2020). Transformation to learning from a distance. *MedEdPublish*, 9.
- Traxler, J., Scott, H., Smith, M., & Hayes, S. (2020). Learning through the crisis: Helping decision-makers around the world use digital technology to combat the educational challenges produced by the current COVID-19 pandemic.
- UNICEF; WHO; IFRC 2020 Guidance for covid-19 prevention and control in schools, New York: UNICEF
- Vikram B. (2017). The journey on science express, asarabhaicommunity science centre,
- Win, S., & Mar, K. K. (2020). Improving reading comprehension skills of HRD students at mandalay university of foreign languages by using reading strategies (*Doctoral dissertation, MERAL Portal*).
- Weiss, C. (2012). Understanding theory of change in international development: Evaluation of programs, *Universal journal of education research* 1 (4), 323-327.
- Wen, M., Tsai, C., Lin, H. Chuang, S. (2004) Cognitive-metacognitive and content-technical aspects of constructivist internet-based learning environments: a LISREL analysis. *Computers & Education* 43 (3), 237-248, 2004
- Whittle, C., Tiwari, S., Yan, S., & Williams, J. (2020). Emergency remote teaching environment: a conceptual framework for responsive online teaching in crises. *Information and learning sciences*.

Yen, S., Lo, Y., Lee, A., & Enriquez, J. (2018). Learning online, offline, and in-between: comparing student academic outcomes and course satisfaction in face-to-face, online, and blended teaching modalities. *Education and information technologies*, 23(5), 2141-2153.

Young, M. D., Winn, K. M., & Reedy, M. A. (2017). The every student succeeds act: Strengthening the focus on educational leadership. *Educational administration quarterly*, 53(5), 705-726.

Zheng, F., Khan, N. A., & Hussain, S. (2020). The covid-19 pandemic and digital higher education: Exploring the impact of proactive personality on social capital through internet self-efficacy and online interaction quality. *Children and youth services review*, 119, 105694.

Zydney, J., McKimmy, P., Lindberg, R., & Schmidt, M. (2019). Here or there instruction: Lessons learned in implementing innovative approaches to blended synchronous learning. *TechTrends*, 63(2), 123-132.