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Systematic Review of Research- Driven Pedagogy In New Normal Modalities

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ABSTRACT: This investigation presents a fundamental examination project intended to create a hypothesis by utilizing an inductive methodology that would clarify the marvel of instructing research in the new typical modalities in senior secondary school level for the school year 2020-2021. The analyst used the meta-union methodology through a twenty (20) survey of explores identified with the science and specialties of educating research. The means include: outlining of the inquiry for a survey, distinguishing important work, evaluating the nature of studies, summing up the proof, and deciphering the discoveries. For the subjective papers, an agenda from Basic Examination Abilities Program (CASP) was utilized to survey the nature of each paper from various information bases with its general strength of proof. From the led topical examination, the investigation yields three subjects: (1) Reflectivity on the exploration cycle; (2) Teaching with compassion; and (3) Pedagogical culture is all that matters. From the analysis of themes, three propositions were formulated: (1) Students can adapt to their learning environment with the guidance of the research teacher; (2) Students' learning styles are influenced by their research teachers openness in technology utilization; and (3) Outcomes of learning justifies the type of learning modalities employed by the research teachers. The generated theory from analyzing the propositions state: Teachers can make a difference to their students' capabilities along academic evolution and steadfast development on the basics of applied research. Finally, the constructs of the theory justifiably espouse self-learning activities specifically for Grade 11 students who will be taking up Practical Research 1 in qualitative designs.

Key words: Meta-synthesis, pedagogy, qualitative research, systematic review, theory

I. INTRODUCTION OF THE RESEARCH

The public institutions' operation in the Philippines and the whole world was severely affected by the COVID-19 pandemic which originated in December 2019. It turned into a global health issue that impacted everybody, regardless of gender, age, or social status. School openings with little notice caused significant disruption, and principals were forced to coordinate staff to teach remotely with little planning or training time (Bubb & Jones, 2020).

UNESCO (2020) in particular reported that colleges and schools have a few unfriendly outcomes on students. Like for example, imposed on realizing that brings about students and youth being denied of chances for development and improvement. Hence, online advanced learning frameworks can address this issue with effectively admittance to these frameworks and offer quick web associations. Then, it is appropriate that internet educating cannot be fruitful without the contribution of teachers, as they are the frontline workers of any educational institutions (Joshi & Vinay, 2020).

The expression "new normal" has since been utilized in different settings to imply that something which was already not normal has gotten average. This depicted as the circumstance of

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being after some serious change has happened. Furthermore, it additionally substitutes the acknowledged, ongoing, common state after a specific occasion occurred. Inside the educational measurement, there have been broad investigations examining the appropriation of online methodology in instructional delivery during emergency situation of the pandemic (Cahapay, 2020).

In the new normal, teachers must transform how they educate on line, mainly in view that online equipment and sources present numerous concordances for those instructors and students who can take benefit of and the high-quality on-line getting to know resources about the topics and create studying playlists or menus which can make the gaining knowledge of manner a personal journey for every pupil.

To be able to do these, sound pedagogy have to pressure the usage of tech and now not the other way round. Avoid leaping into the bandwagon. Instead, start first with a strong expertise of 21st century pedagogy (Empower Ed, 2020). Moreover, the shifting to online gaining knowledge of turned into too unexpected at a very quick word. However, the academic establishments need to strategize and accelerate new forms of teaching pedagogy which questions of how geared up the schools are in terms of technical infrastructure that continues to be left unanswered (Felter & Maizland, 2020).

Education can become transformative while teachers and newbies synthesize records across topics and studies, critically weigh appreciably unique views, and incorporate numerous inquiries (Sun & Chen, 2016). In the primary education degree, pre-service teachers inside the senior high schools who conducted study a good way to improve competency and bring graduates who respond to the socioeconomic improvement of the country. And compete with different graduates of the arena (Avilla, 2016). Moreover, teachers have to layout effective synchronous and asynchronous studying activities that permit sustained engagement, self-regulation, voice, and desire in college students. Teachers' effectiveness has an impact on students with respect to one of the challenging applied subject in the core curriculum- Practical Research. Education researchers should consider not only how to provide immediate support but also how to reengage when schools begin to reopen (DeMatthews, Knight, Reyes, Benedict, & Callahan, 2020).

While schools were closed for quarantine, education had to continue but this time, it should be in on varying modalities (Patrinos & Shmis, 2020). Considering the social distancing practice in this new era, group work approaches that require interactions with close physical contacts such as formal and informal cooperative learning groups, think-pair-share, peer instruction and jigsaw might just be modified or reduced, if not eliminated from the options of instructional methods of teaching (Brame & Biel, 2015).

Consequently, despite busy teaching there are job-related activities and classroom management- conducted on research is a must for teachers in facing new and more challenges and toward becoming better practitioners. In this context, the Department of Education (DepEd) seeks to strengthen research initiatives under Basic Education System Reform Agenda (BESRA) as well as the establishment of the Research, Innovation, and Policy Evaluation Secretariat which seeks to building on gains from existing research generating new knowledge on less explored but priority fields of basic education with systematically focusing on relevant education issues and maximizing available resources throughout the department (DepEd, 2016).

In this regard, the first domain in Philippine Professional Standard for Teachers (PPST) includes teachers' ability to apply developmentally appropriate and meaningful pedagogy grounded on content research (DepEd, 2017). This standard takes awareness that good teachers are vital to raising student achievement and updated on research results.

According to the survey of Boholano, Lapingcao, Soledad, & Elcullada as mentioned in Moral (2019) the prestige of studying among educational establishments is decided by using the gaining knowledge of environment, global competitiveness, improvements and research. This was emphasized considering that this factor pursuits innovation and improvement making it effective through evidenced-primarily based decisions (Dayagbil, 2018). Moreover, the decision of DepEd got here up with the Basic Education Learning Continuity Plan (BE-LCP) for academic year 2020-2021 containing two essential parts: the motivation and the operationalization home-primarily

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based learning through modular, online or flipped classroom (Ancheta & Ancheta, 2020). In addition, the mandate of BE-LCP utilized the manual of the faculty to ensure the safety of all stakeholders of the school (Lansangan & Gonzales, 2020).

Consequently, Pozilova (2020) reported that the advancement of records and verbal exchange technologies in the instructional method delivered vital means to enhance intellectual development of learners and financial improvement of society. The accumulation of educational resources on the net is an avenue to be creative and essential in integrating academic methods and techniques to turn out to be extra aggressive of their place of work. In the sector of schooling, Dullas (2020) drawn that one of the issues of cutting-edge education is schooling of innovative character. As such, academic structures must provide creative measures to remodel the research understanding and expand research capabilities among educators that allow them to convey academic innovations. More so Dullas (2000) studies utilize systematic tactics which require the skills of studying and writing in which research writing is considered as one of the hardest craft to increase.

In the local setting, at Don Sergio Osmeňa Sr. Memorial National High School, Division of Cebu City it is observed that there are inadequate studies on the same nature. More so, the overall data obtained from the mean percentage score (MPS) of Practical Research 1 taken by Grade 11 senior high school students of the second semester from the previous school year shows 56.80 and 56.69 which indicates that it did not meet expectations in a prerequisite subject in a learning area as a requirement before being allowed to enroll in the higher level of the succeeding applied research subjects. Henceforth this study examines the teaching strategies in practical research subjects through generating a theory in a new normal modality. In this review of the literature on blended learning, the writer explores factors that affect teaching and learning experiences with particular emphasis on research including spaces, learning community, student identity, subject design, and the teacher's role in the new normal.

II. LITERATURE REVIEW

Since the study uses qualitative data approaches, it is explicitly contained into three subheadings: Philosophical Underpinnings, Systematic Literature Reviews, and Learning Modalities. This type of approach confirms the researcher on his readiness to develop a coherent essay on related literature (Avilla, 2016).

Philosophical Underpinnings

The first part discusses some philosophical underpinnings that would be appropriate for the study. According to Singh (2019), comprehensive understanding of philosophical stances of research paves the path for smooth and successful completion of quality research in a lifetime.

In this study, the philosophy of Ontology clarifies about the perception of reality and how things really function. Great success in education happens since it allows formulating the representation of a learning domain by specifying all ideas that exist (Stancin, Poscic, & Jaksic, 2019). One of the best extracted ideas and difficult terms to understand are the importance in research journey which cannot be canceled since it is already a part of researcher's knowledge, intentions, goals, that are interwoven with the research undertaken (Scotland & Mack in Singh, 2019).

On the other hand, the "question of understanding" is emphasized within the philosophy of Epistemology in which the idea of the knowing thoughts as key function of the rational self-sufficient agent is on the heart of the liberal academic way of life and takes root in Descartes' cogito: "even supposing I doubt who I am, there may be an 'I' that doubts, and this 'I' is the essential feature of the self-sufficient rational agent, the completely individual" (Stables, 2019). It is accountable for information buildup and worried about developing new information inside the form of theories (Grix in Singh, 2019).

After figuring out ontological and epistemological role about fact, the philosophy of Methodology tells about the tactics of information generation. It guides researchers to choose suitable research methods (Wahyuni in Singh, 2019). However, a notable contribution with the gadgets used for the collection and evaluation of records will be of more help through the use of

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methods. Sidenko (2019) affirmed on the relationship among coaching methods and motivation activities of researchers considering: the idea of grownup schooling; works within the discipline of postgraduate pedagogical training; advanced education of instructors; and the concept of motivation. The medical novelty consists in revealing the correlation among using reproductive and research strategies via instructors and concludes the point of interest of motivation and readiness for innovation.

In addition, the methodological elements of combined-strategies on research design is a logical example that relates the facts to be accumulated and the conclusions to be interested in the initial questions on truth and principles. Furthermore, in blended learning, literature suggests a ramification of design options depending upon the selection factors which include; interaction, preference, timing, and combining (Creswell in Bashir et al. 2017).

Therefore, permitting each quantitative and qualitative records series and evaluation strategies for use to address positive research questions being explored. Evidences or records used on this have a look at are taken from different published researches which are already assumed to be valid. These published studies taken from different sites proves also the supply of a holistic view of the quality practices in the way educators and researchers are involved approximately this phenomenon of new everyday wherein the growing essential skills continue evolve and thrive in an uncertain future irrespective of what mode of work or learning are called to do or be a part of.

Systematic Literature Reviews

The second part explores on systematic review. It aims to carry out a review that is rigorous and clear in each step of the review process and updated. Rather than looking at any study in isolation, it needs to look at the body of evidence to show systematically that existing main research results which contain arguments to shape and inform practice and policies of teaching research in the new normal (Nordenbo as cited in Richter, Kerres, Bedenlier, Bond, & Buntins, 2018). The value-laden positions adopted by support groups in this study are also valuable with its resulting impossibility for further studies (Research & Evaluation in Education & Technology, n.d.).

In comparison, systematic reviews are not literature evaluations or narrative reviews but observes a selected method that helps to attract conclusions (Denyer & Tranfield as cited in Martin, Dennen, & Bonk, 2020). In addition, the preceding researches exposed a flaw on its layout, sampling, or interpretation as well as documenting an on-going educational problem and advice reading the impact of an innovative intervention to try and enhance the studying modalities amidst the COVID-19 pandemic.

In this connection, the literature assessment on the impact of virtual generation on studying and teaching became initiated with the aid of ICF Consulting Services (2015) contributed some particular educational priorities such as raising accomplishment and enhancing the performance of the training system.

Likewise, secondary review of Munabi et al. (2016) in Uganda liked the importance of getting to know studies strategies and biostatistics as a way of know-how studies problems; appropriately interpreting statistical concepts during their education and post-qualification practice; and translating the information received. In addition, Sun & Chen (2016) reviewed 47 published studies and studies on on-line teaching and studying due to the fact that 2008 in the New Jersey, United States of America (USA), basically specializing in how theories, practices, and exams practice to the web learning surroundings. Based at the findings, the authors argued that effective on-line instruction is depending on (1) properly-designed route content among the teachers; (2) advent of an experience of on-line mastering network; and (3) rapid advancement of phase.

A group of seven engineering schooling American researchers drew on their collaborative inquiry method to systematically have a look at questions of qualitative research satisfactory of their everyday studies practice. They built 5 exercise explorations spanning grounded concept, interpretative phenomenological evaluation, and diverse kinds of narrative inquiries on (1) acceptable theoretical lenses; (2) queries of implicitly infused in research exercise; (3) products of

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research to challenge the human context and neighbourhood research placing; and (4) studies on the coronary heart of introducing novices to interpretive research (Walther et al., 2017).

Another systematic database searches of Nortvig, Petersen, & Balle (2017) including the 44 peer reviewed articles and papers posted between 2014 and 2017 in Denmark, the numerous elements influencing e-gaining knowledge of and blended studying appear to dominate extra on: educators' presence in on line settings, interactions among students, teachers and content materials, and designed connections between online and offline sports in addition to among co-curricular activities.

Similarly, the reviewed online databases on trends in technology schooling research in Malaysia suggests that research has an effectiveness of teaching strategies with the intention to decorate college students' twenty first century skills. However, interpretative and mixed methods researches are on the strong support (Bunyamin, Halim, Mohtar, & Ahmad, 2017).

The article of Van Wart et al. (2019) found the principal opportunities and challenges with their literature reviews which include: (1) the significantly extraordinary perspectives associated with learning environment, student pride, college pleasure, and institutional results; (2) the rapid evolution of generation and online potential; and (3) the speedy progression of pupil, school, institutional, and accrediting frame choices and expectations of what constitutes pleasant synchronous platform.

With regards to safeguarding the scholars' fitness, some of the international locations' required hints to allow persevering with training at some point of the pandemic. A systematic overview of the literature about the effects of the COVID 19 pandemic at the lives of college kids in Jaen, Spain providing the consequences includes the authors, name, area of book, and key thoughts of the selected manuscripts. These results can be beneficial for destiny studies that seek to amplify the records consistent with the evolution of the pandemic (Zagalaz et al. 2020). Another fast systematic overview counselled that school closures did now not make a contribution to the manager of the epidemic. Social distancing interventions in colleges require similarly attention if restrictive social distancing guidelines are applied for extensive durations (Viner et al. 2020).

The systematic evaluation of Martin, Sun, & Westine (2020) of North Carolina, USA examined 619 studies articles and determined that there is still a want for greater research on enterprise degree topics which include leadership, policy, and management and get right of entry to, lifestyle, fairness, inclusion, and ethics and additionally on online trainer characteristics. In addition, a scientific literature evaluates (SLR) from 2009-2018 turned into carried out with the aid of Berrocoso, Arroyo, Videla, & Cevallos (2020) on developments in instructional studies approximately e-learning and recognized 3 predominant themes: (1) online students; (2) on-line instructors; and (3) curriculum-interactive. It determined the goals on studies subjects, maximum applicable theories, most researched modalities, and the methodologies used.

The special issue on systematic critiques on rising getting to know environments and technology were brought by Martin, Dennen, & Bonk (2020) in USA. They synthesized studies on: social media, large open online courses, unique education technology, mobile learning, sport-based totally mastering and gamification, adaptive studying, and studying analytics. Furthermore, Carillo & Flores (2020) supplied an overview of the literature in Spain and Portugal on online teaching and learning practices in total 134 empirical researches. The findings highlighted the need for a complete view of the pedagogy of on synchronous to support coaching and studying.

Finally, a review of current literature on blended learning as an approach in Philippine Basic Education Curriculum in the new normal was conducted by Tupas & Laguda (2020). The results showed flipped classroom started three decade ago, especially for higher education institutions, also used in graduate programs, and professional development.

In the current situation of the Philippines, the Department of Education (DepEd) proposed to use online learning, modular approach, radio television methods, face-to-face etc. However, the literature review also revealed that there have been few studies on the practical aspects of pedagogy in research with an application of systematic review to provide the best education in the new normal. Therefore, this study was undertaken to examine the current situation of senior high school students who are taking up practical research subjects in the Philippines, and to elicit the

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opinions of research teachers involved with looking after the students on how their needs could best be met with the available resources.

Learning Modalities

Learning platforms are the sensory preferences of the individuals to give, receive and store information. They can be classified under three directions; visual, auditory and sensory motor. The phrase "learning styles of students" refers to all the one-of-a-kind methods wherein different methods of teaching, preserve records and realized (Woolfolk as cited in Unal, 2015). The study of Guryay (2016) discovered also that there is an undoubtedly great dating among self-regulation manner and aural getting to know means using Learning Modality Inventory, while Jaleel & Thomas (2019) asserted that information of studying patterns will help the teacher in delivering effective displays to numerous newbies. Thus, mastering varieties of best teaching practices.

Main electronic-learning modalities consist of learning through digital properties according to the Computer Aided Learning (n.d) with face-to-face training or blended learning increase school performance, since students are more likely to do well if teachers use different modalities of teaching. For flipped classroom, the electronic-learning part takes place outside the school. In this way, class time is more productive, since it used to deepen the contents, clarify doubts and encourage cooperative learning. While the use of mobile applications, it allows the students to study based on their decisions and learning styles.

Soundariya, Deepika, & Kalaiselvan (2017) pointed out that successful learning result only when the teaching and assessment methods are in alignment with the student's learning preferences and this may result in greater educational satisfaction. Thus, the dialogue on teachers' competencies to enhance the teaching-learning for running instructional devices and capabilities (Selvi,2016).

Researchers and educators are facing specific and on-going demand on situations associated with pandemic. Superfine (2020) shared that there may be a need for high quality studies which could serve as a source of reliable information. Jowett (2020) also outlines numerous strategies of researchers without face-to-face contact with participants and takes time to mirror on ethical issues before re-designing their research.

As researchers are pushed to conduct more of their previously analogue research activities online, it is important to be familiar with the existing standards and best practices for internet-based research in response to the new challenges posed by the COVID-19 pandemic (University of Winnipeg, 2020). This is related to the fact on the vital role of qualitative inquiries explaining and addressing everyone to engage in hand hygiene, social distancing, and quarantine to protect themselves and others during the outbreak of corona virus disease (Teti, Schatz, & Liebenberg, 2020).

With the uncertainty right now, students and teachers can proceed with their research and capstone undertaking as to systematic assessment and meta-evaluation, focused literature review, revolutionary technique on evaluation of previously combined statistics, mathematical modelling and laptop simulation (Elmer & Durocher, 2020). Several researches also shows beneficial bearing in this cutting-edge investigation specifically: fulfilment and withdrawal quotes for face-to-face and on line courses in the new normal and rising technologies and decided that its evolution might be in detail sure to present day records communication technologies (Dziuban, Graham, Moskal, Norberg, & Sicilia, 2018). More so, Hamilton, Kaufman, & Diliberti (2020) determined that educators shifted speedy to distance learning and furnished a diffusion of era and gadgets for students and teachers in remote instruction, techniques, for motivating them which deals on mental health.

According to Swan (2017) "teaching with technology is not one size fits all in use at the time and also the curriculum content material being taught". This means that the incorporation of era provides additional elements for consideration in terms of teaching pedagogy. This is attested with the aid of the report of Adesope & Ahiakwo (2016) as they used Modular Object Oriented Dynamic Learning Environment (MOODLE) and promoted benefits to teachers to enhance their teaching capabilities.

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An investigation on revealing the learning modalities conducted by Unal (2015) found that female students preferred more visual and auditory learning than male ones and concluded that the use of learning modalities led to students to be more successful at school. In addition, the investigation of Amir et al. (2020) suggests challenges all through distance learning external elements which include unstable internet connection.

The outbreak of pandemic developed instructional strategies for online teaching based from the report of Mahmood (2020) from students, offering flexible teaching and assessment, recording online lectures, and getting support from teaching assistants. Meanwhile, Motala & Menon (2020) affirmed a need to differentiate the swift shift to emergency remote teaching and learning and well thought-out transitions to online learning, the time and resources to do so, and the preparedness of both teachers and students.

In the Philippine setting, teachers and parents must adapt to alternative learning modalities to ensure that learners achieve essential curricular goals. To address these challenges with the continuing threat of COVID-19, teachers have significant roles and responsibilities in terms of: designing the assessment to allow for flexibility in multiple modalities; communicating to learners and parents/guardians the design and standards for grading the assessment; setting up mechanisms to monitor and record progress remotely; giving timely, constructive, and relevant feedback; and facilitating remediation for learners who need further guidance (DepEd, 2020).

However, teachers and learners are already using the internet, computer and other technologies in education before this "new normal". But the difference lies between having face to face and now classes are done virtually. DepEd introduced three modalities: Distance Learning, Blended Learning, and Home-schooling. The first modality has 3 forms: (1) modular distance learning where modules could be given to Grade 7 students; (2) online distance learning for college students who favour to select this modality and should have net connection and do their sports synchronous or asynchronous; and (3) radio-based commands that devoted to learn on their very own. The home-school modality is allowed if the learner has to train or a parent who is qualified and constantly to be had to facilitate the studying of the child (Ceniza, 2020).

Consequently, the Philippine Information Agency (PIA) as reported by Bagood (2020) considered teachers as front liners in the educational system have undergone various trainings and seminars to be more equipped in delivering better education amid the COVID-19 pandemic as it is a norm of the department to train teachers not just for professional growth but to become ready for unexpected circumstances.

This study explored the secondary analysis studies on research driven pedagogy covering 2015-2020 data-based publication. The various articles reviewed by the researcher enriched and strengthen his previous knowledge on theory development and educational studies.

Likewise, this study is beneficial for the Grade 11 senior high school teachers and students as it highlights the relevance of the topic in Practical Research 1 exploring on the nature of inquiry and Research thereby making this basic research scientific that could lead to employ self-learning activities and offer different learning modalities and interests in the new normal.

III. STATEMENT OF THE PROBLEM

The aim of the research is to create a theory using inductive method that would explain the occurrences of teaching research in the new normal modalities in senior high school level for the school year 2020-2021. The research aims are therefore:

1. To make an in-depth review of the published studies in terms of:
    1.1 Aims;
    1.2 Methodology;
    1.3 Participants;
    1.4 Instruments; and
    1.5 Outcomes.
2. To investigate the practices related to the teaching of research; and
3. To recommend Student's Learning Activities (SLA) based on the constructs of   of the created theory.

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IV. SCOPE AND LIMITATION

The study deals on the preparation of Student's Learning Activities (SLA) for the senior high school students who are taking up practical research subjects in Don Sergio Osmeňa Sr. Memorial National High School of school year 2020-2021.

The proposed SLA may serve as a supplement for the student's blended learning in the new normal included (1) the objectives and sub-tasks of practical research subjects that were taken up and the extent they were developed; (2) the components implemented and the differentiated activities that were undertaken; and (3) the teaching and evaluative techniques utilized based from the literature review using meta-synthesis.

V. METHODOLOGY

A systematic search in the different databases was carried out in August 2020, using the search keywords ["blended learning" or "e-learning"] and ["new normal", "pandemic" or "teaching and learning research"]. To confirm the latest findings are presented in the review, the systematic search was limited to articles published between years 2015 to 2020.

Selection of Studies. According to Anderson in Moral (2019), the use at many points in the systematic review process including scoping the review, guiding the searching and identification stages, and interpretation of the results. Uncovering the assumptions and processes within the teaching research practices as the focus of this study in the new normal requires a careful selection of studies and understanding of the study process and outcome. The process follows the seven steps: 1) Organizing a search plan for published and unpublished studies and kept orderly making transparent, systematic, and replicable; 2) Documenting of studies either secondary or tertiary participants as long as it is all about research process involvement whether quantitative, qualitative or mixed designs; 3) Including standards on year of publication from 2015 onwards; 4) Specifying that the journals are indexed to establish its quality or coming from any data bases such as Scopus, Crossref, Google Scholar, Elsevier, Francis & Taylor etc.; 5) Reviewing of assorted papers for coding that are relevant and be retrieved for further investigations; 6) Abstracting data to finalize the details; and 7) Appraising its excellence by using the checklist called Critical Appraisal Skills Program (2018).

Ethical Issues. Although the ethical issues were minimal during data collection, the researcher still had an ethical responsibility arising from this study. In order to achieve this, the researcher considered the ethical responsibility as follows: assurance in respecting moral rights of authors and no forging parts or all of the results and falsification. However, all through its planning for dissemination and advocacy, the identical role of researcher and a figure was stored in consideration. Finally confidentiality of the individuals must be maintained.

Data Collection. This study is a meta-synthesis to explore the teachers' characteristics towards research in the new normal modalities by searching probable online studies related to the present inquiry from different data bases. Studies from many disciplines and international locations might be sourced and considered. Those studies that do not fit could be excluded due to the fact it may be certified to be covered in meta-synthesis.

Data Gathering Procedure

Before the conduct of the study, the researcher underwent an evaluation of research proposals through initial screening, committee evaluation and finally attended the conference of research proponents and presentation of action/basic research proposals (BERF 2020 Facility) last March 5, 2020. The conference ensured the researcher to be guided and helped on developing the structure of the research proposal and its alignment of the overall approach to the research objective. He was assigned a respective adviser from the Schools Division Research Committee (SDRC) and consequently channeled to the Regional Research Committee (RRC) before proceeding to the conduct of the activities specified in the timetable. Moreover, the researcher avoided self-praising the selection of the published studies on teaching research across countries. Outline was facilitated according to substantive and methodical data pointers while considering recommendation to specify the following: (1) personal structures of the study; (2) research respondents; (3) key teaching process or interventions; (4) research design; (5) cultural range; (6)

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time edge; (7) journal type; and (8) outcomes of the study (Lipsey & Wilson as cited in Moral, 2020). The twenty (20) studies were selected from the 84 studies in the final selection.

Table 1 shows the outline of the twenty (20) concentrates on including best practices in instructing research. Every nation has its solid accentuation of their educational program in research-driven instructional method. The shared trait of these investigations depicts how examination is instructed until its shared trait of conveyance since the beginning of the COVID-19 pandemic. Consequently, educators' openness to subjective exploration writing adds to raising their expert levels.

Table 22: Summary of the Best Research Practices from the 20 Studies

Study	Best Research Teaching Practices
1	**Teaching research methodology in an online ODL environment** (De Beer et al., 2015) 1) The utilization of portable innovation and extra media data innovation devices like constant (coordinated) voice, text talk, camera pictures and full – movement recordings. 2) Teaching of composing abilities to create and communicate their thoughts. 3) Managing moral part of examination and scholastic composition.
2	**Defining a successful undergraduate research experience (URE) in engineering** (Reisel et al., 2015) 1) Primary in-person inquiries questions presented to the understudies. 2) Develop critical thinking abilities. 3) Conduct an exploration project. 4) Attend gatherings and work on planning distributions refered to. 5) Recommend peers take part in a URE.
3	**Developing knowledge and skills in action research** (Hairon, 2017). 1) Establish the examination issue. 2) Be educated by the writing. 3) Set up the reason for the examination. 4) Craft the examination question. 5) Frame the plan of the examination. 6) Organize the discoveries. 7) Summarize the finish of the examination. 8) Explore the ramifications of the examination. 9) Write the report of the examination. 10) Share the examination discoveries.
4	**Remedying for failures in English language teaching using teacher research** (Gunawardana & Karunathma, 2017) 1) Provide open-finished inquiries and offer freedom to add composed subjective remarks. 2) Pilot the poll among six understudy educators. 3) Revise the survey's length, phrasing and in general construction in the light of their criticism. 4) Analyze the information quantitatively through MS Excel programming. 5) Open reactions to surveys in center gathering conversations which gave a further generous were specifically ordered.

5	**Exploring challenges encountered by learners in research teaching and writing**
	(Alsied & Ibrahim, 2017)
	1) Use the primary poll to investigate the difficulties that students face while leading their examination.
	2) The subsequent poll will be directed and allowed them to pick their answer from a four point Likert scale.
	3) A semi-organized meeting was directed for segment data about the instructors just as their mentalities towards understudies' work.
	4) Questions on educators' insights about issues identified with understudies in directing their exploration were underlined.
6	**Reflecting teacher-researchers' experience for the purpose of enhancing professional development and reshaping identities**
	(Al Aamri & Al Wahaibi, 2018)
	1) Use set of inquiries for their account study;
	1.1) worldly thinking about a past encounter and planning ahead
	1.2) emotive-positive and negative encounters
	1.3) intelligent convictions, assumptions, and practices
	1.4) key plans and objectives
	2) Narrative inquiries and proclamations starters followed a similar nature yet they were specifically extraordinary
7	**Describing the benefits and challenges of undergraduate research**
	(Bass et al., 2018)
	1) School A (research-arranged college), one understudy started research during his lesser year and proceeded with it through graduation and up to summer. The other understudy began research in his first year under the creator's direction and paid hourly.
	2) School B (instructing centered school), one first year understudy and worked with an exploration counselor for a year while the other as a sophomore and worked with his examination guide for a semester and were not paid.
	3) Upon culmination of their undergrad research, they were asked to finish a 29-inquiry study dependent on a 5-point Likert scale, portraying their examination experience.
	3) School An understudies were entrusted with the blend, testing, and investigation of biodegradable, electro dynamic polymer twisting actuators.
	4) School B understudies did a trial and computational investigation of the Clark-Y airfoil.
8	**Using qualitative research methods to cope with the educational complexity**
	(Weinberger, 2018)
	1) Two pieces of encouraging criticism surveys used in the examination were the standard instruments which are shipped off the understudies toward the finish of the school year through web.
	1.1) Closed survey based on a Likert scale in which understudies identify with different parts of the course; and
	1.2) Open inquiries that pose to them to portray the cycles they encountered in the course and what they escaped the course.
	2) Four gathering interviews were led as open conversation with the respondents and based on one wide inquiry.
	3) Group interviews were led up close and personal during a discussion.

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9	**Monitoring the performance and quality teaching and research** (Atwebemeire et al., 2018) 1) The survey was steered before it was directed. 2) The quantitative aftereffects of the expressive investigation were introduced in tables demonstrating frequencies and rates. 3) Correlation and relapse examinations were utilized to test the degree, strength and bearing of the impact of execution checking on quality instructing and exploration. 4) Qualitative information gathered utilizing the organized meeting guide, perception agenda and archive survey direct was deductively examined dependent on pre-decided factors from the reasonable structure.
10	**Analyzing action research studies conducted by teachers** (Lekamge & Thilakeratne, 2019) 1) Systematic interaction incorporates a modern intercession plan, perception to reflection and a few cycles to encounter positive changes in members. 2) Participative and cooperative nature of the investigation, it was normal that educators would work together with different instructors, understudies, and guardians. Plan and carry out bit by bit advancements as answers for the issues and basically think about each other's' practices and to incorporate reasonable practices to make a significant change in their everyday exercises. 3) Self-intelligent practice, this altogether analyzed to uncover prove and classify them into some particular territories as they showed different qualities of educators
11	**Exploring the attitudes of senior high school students towards research** (Roxas, 2019) 1) Quantitative information was assembled by overseeing Revised Attitude towards Research (R-ATR). The instruments estimates research demeanor in three spaces: Usefulness of Research, Anxiety about Research, and Positive Research Disposition (Papanastasiou as refered to in Roxas, 2019). 2) Qualitative information were accumulated through an open-finished poll. 3) Descriptive measurements was completed (mean and standard deviation) for the whole scale and each for the sub-scales. 4) Pearson connection coefficient was utilized to recognize the connection between understudies' perspectives and grades in Practical Research 2 through Microsoft© Excel and IBM© SPSS programming to work with factual system.
12	**Exploring and analyzing the perceptions, attitudes, and practices of secondary students towards research writing and reporting in science** (Landicho, 2020) 1) Quantitative survey (Dimensions of Attitude toward Science) included five inquiries areas which looked for (a) socio-segment data and related involvements in research composing and detailing; (b) individual perspectives and mentalities in regards to the lead of exploration, particularly in the normal sciences; (c) individual and gathering rehearses when performing tests, composing research papers, and introducing results; (d) understudies'

inspiration in directing examination; and (e) the snags that they experienced during the whole exploration experience and the difficulties that they may look in future examination tries.

2) The second to the fifth segments of the poll utilized a 5-point Likert scale.

3) Open finished inquiries were additionally utilized.

4) Two segments were welcome to take part in a little semi-organized center gathering conversation.

5) Responses to the polls were summed up utilizing measurements like recurrence, reach, rate, and mean. Critical contrast between mean scores was dissected utilizing t-tests. A Pearson connection test was utilized to quantify the relationship or relationship of factors.

6) Necessary grants, clearances, and ideas from the school chairmen, guardians, and respondents were gotten before the lead of the investigation.

| 13 | **Investigating the junior high school mathematics teachers in terms of their research profile and performance in quantitative research writing and along the different parts of quantitative research paper** (Dullas, 2020) |

1) The specialist made instruments comprising of the examination profile of the respondents and functional test in quantitative exploration composing were inspected and approved by test and scale specialists in the field of examination.

2) The specialist was allowed the chance to go to the gathering with the authorities of the Department of Education to conceptualize the lead of a five-day workshop among middle school science instructors.

3) Focus bunch conversation was utilized on the morning of the second day of workshop to enhance the gathered subjective information.

4) Descriptive measurements like recurrence and percent were used to portray the exploration profile of the respondents.

| 14 | **Helping non-expert university teachers who have little experience with online learning to navigate in this challenging times during and after the COVID-19 crisis** |

(Rapanta, et al., 2020)

1) The members were chosen by their demonstrated aptitude and profound involvement with the field of web based instructing and learning.

2) Three fundamental rules were applied: (a) Research skill, in excess of 1000 references on Google Scholar, with internet instructing and learning advancement framing a significant piece of their exploration; (b) Online showing experience, over a time of functioning as an online educator; and (c) Experience with various public training frameworks.

3) The responses to the inquiries questions are co-introduced as though they framed piece of a similar conversation board.

4) The meetings were regulated by email, after the objective of the examination was disclosed to the members.

| 15 | **Presenting practice driven pedagogical strategies for online learning and teaching** |

(Ng, et al., 2020)

Naturalistic request was utilized to notice, depict, and decipher the "lived encounters" of the three instructors and the impression of partners. Features the experiences acquired from the three cases were accentuated by its difficulties and arrangements in particular:

	1) Digital gap and specialized concern: Digital getting administration with specialized help and educator preparing; 2) Student inspiration: Blended methodology of non-concurrent and simultaneous learning with social and intellectual existences/a broadened learning approach and parental help; and 3) Data security: Educating understudy's innovation proficiency and parental help.
16	**Describing Filipino STEM education researchers based on their attitudes, motivations, and challenges** (Landicho, 2020) There are five parts of the online survey: 1) Demographic information of the respondents; 2) Attitudes towards research using the scale adapted from Shafqat et al. as cited in Landicho (2020) followed a five-point Likert scale; and 3) Researcher-made questionnaire inquiring about the respondents' motivations in doing research;
17	**Exploring how students perceive the COVID-19 crisis and what their personal experiences were while studying during the global pandemic** (Lovric, et al., 2020) 1) Data were gathered utilizing the online structure which included subtleties of the examination, extra rules, and two significant inquiries. It was sent through email from the understudies' office to all qualified members. 2) Non-suggestible, open-finished composed inquiries were utilized to additionally urge understudies to communicate their considerations. 3) Students were approached to portray (a) their view of the COVID-19 emergency and (2) their encounters while learning at the hour of the worldwide COVID-19 pandemic. 4) The open coding techniques were performed by three specialists (the writers of this article with experience in subjective information). 5) The triangulation of coding has been applied (sub-classes, conventional classifications, and fundamental classifications). 5) A model of inductive topical immersion of the information with an emphasis on the distinguishing proof of codes/subjects was applied. 6) All members were educated about the subtleties of the investigation. Their investment was intentional and could pull out from the examination with no outcomes.
18	**Exploring the views of pupils, parents/carers and teachers of home-school during the peak of the COVID-19 lockdown period** (Bubb & Jones, 2020). 1) Research addresses utilizing a four-point Likert scale with understanding; each had space for discretionary remarks. 2) The regions were: advanced learning, imaginative learning, student investment, progress, accomplishment, bunch work, parent-instructor connections, and guardians' capacity to help kids. 3) Ethical issues were painstakingly thought of. 4) The information were examined by question to assess the degree to what rates in each gathering concurred or couldn't help contradicting every assertion. 5) Translation programming was utilized. 6) The remarks were dissected specifically inside each evaluation on the Likert scale

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19	**Identifying the barriers faced by teachers during online teaching and assessment in different home environment settings** (Joshi, Vinay, & Bhaskar, 2020)
	) Interpretative phenomenological examination has been utilized in the investigation which expects to investigate and comprehend in insight regarding the individual's experience of a specific marvel.
	2) Research subjects were reached through email and telephone from various sorts of colleges.
	3) All intrigued members were approached to give their composed assent and present the explanation conveying morals endorsement for investment in the investigation.
	4) Semi-organized meetings were directed.
	5) All the meetings were recorded as brief snippets,.
	6) Triggering questions were asked and the kind of help given by the colleges in internet educating and evaluations.
	7) The normal time length of the meeting was 60 min and the general planning of the meetings vacillated somewhere in the range of 40 and 110 min.
20	**Analyzing the opportunities and challenges of emergency remote teaching based on experiences of the COVID-19 emergency** (Ferri, Grifoni, & Guzzo, 2020)
	1) An online conversation discussion was coordinated to incorporate analysts, educators, and endeavors with skill in data and correspondence innovation (ICT), sociology and instruction.
	2) Their assessments and encounters were gathered in an account way.
	3) The example of the investigation was chosen by utilizing a purposive example.
	4) A semi-organized meeting guide was utilized with questions relating to the chances and impediments of crisis web based learning and related changes.
	5) Thematic investigation is the by and large utilized way to deal with break down information or data for recognizing, dissecting, and announcing designs (topics) inside the information.
	6) A solid contextual analysis of a nation of the venture accomplices was supported.
	7) The aftereffects of the examination are introduced through investigation of the various assertions of assessment pioneers and through measurements from ISTA

Thematic synthesis has three stages: 1) coding of text 'line-by-line'; 2) improvement of distinct topics; and 3) age of logical subjects. While the advancement of illustrative topics stays near the essential investigations, the logical subjects address a phase of understanding whereby the critics go past the essential examinations and produce new interpretive changes, clarifications or theories (Thomas & Hurden as referred to in Moral, 2020).

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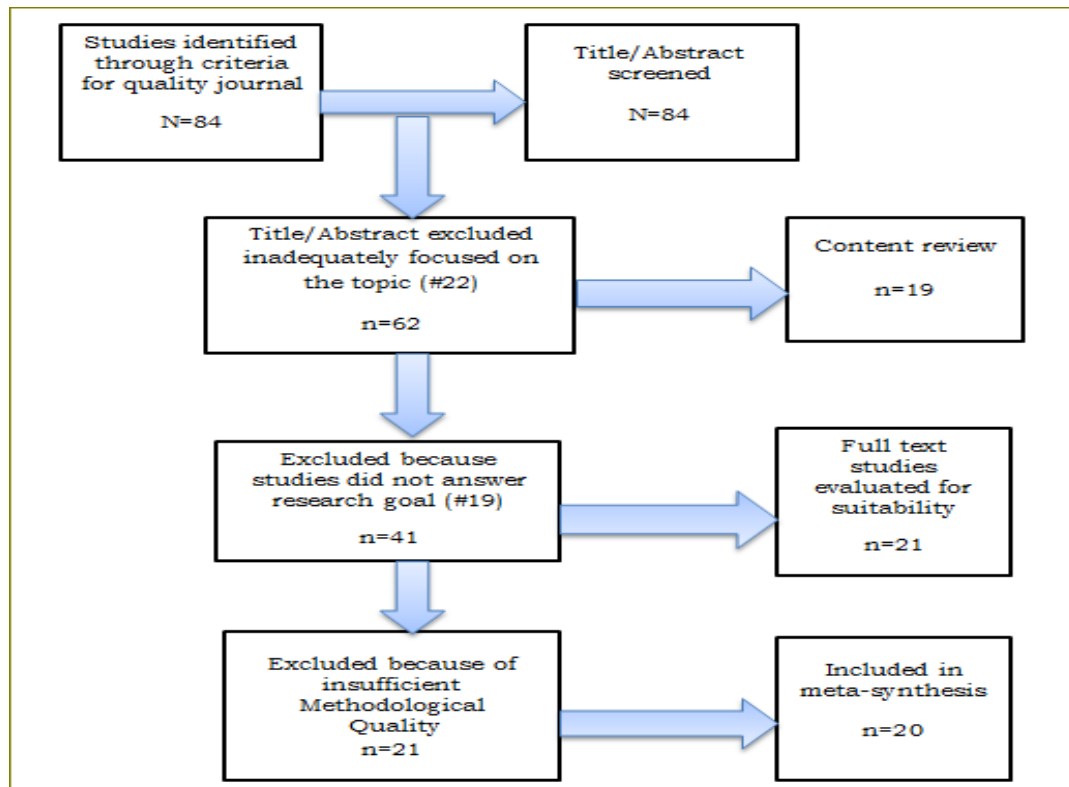Figure 1 presents the pursuit methodology utilized in choosing the articles

Figure 1: Flow Chart of the Selection of the Studies

Data Analysis

From the 84 distinguished investigations, titles and edited compositions were additionally screened. (22) Contemplates were rejected since their points did not coordinate with the emphasis on request; along these lines the leftover diaries limited to (62). These full content investigations were evaluated again for qualification. Notwithstanding, nineteen (19) of the examinations didn't answer the exploration objective thus, the selection for thought additionally limited to (41). Their substances were persistently surveyed. Yet, (21) articles of methodological quality did not passed the rules. At last, just twenty (20) considers are able to be remembered for meta-synthesis.
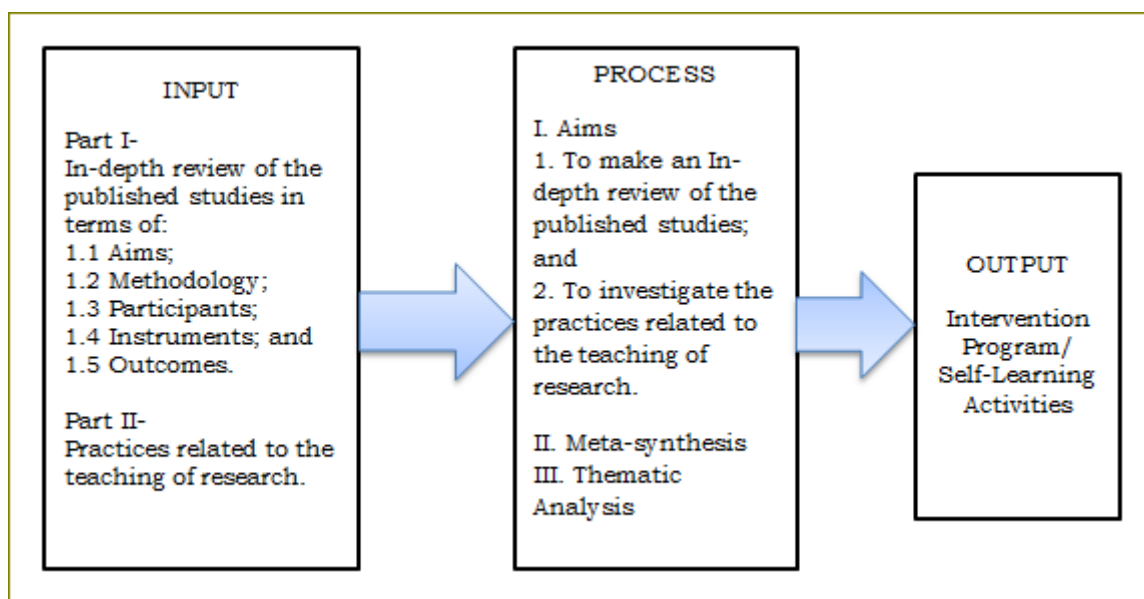

Figure 2: Research Paradigm

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This paper covers the utilization of topical investigation in precise surveys to unite and incorporate the discoveries of numerous subjective examinations. Coming up next is done in topical combination as demonstrated in Figure 2 which layout a few stages for its direct and represent the cycle and result of this methodology utilizing a finished survey of instructing research.

After configuring the meta-synthesis, the Systems Model Approach starting with an Input, Process, and Output was utilized. As indicated in the input system, the identified profile of the selected published studies was being collated together with its best practices in teaching research. The different studies revealed common challenges around teaching research methods for both students and teachers from 2015-2019 while a gradual change of instruction in 2020 has turned into blended learning since the start of the COVID-19 pandemic base from the selected published journals.

From the re-appropriated writing audit, the analyst has disposed of first those that have no bearing as indicated by its title, modified works, and substance that didn't fit the standards. The analyst utilized a rules set called Critical Appraisal Skills Program (CASPE, 2018), A subjective exploration agenda with 10 inquiries to help cause to feel of subjective examinations. Topical assessment turned out to be furthermore utilized and arisen suggestions.

Moreover, the explanations from the data collected have challenged the researcher to discover the essence of these qualitative studies that are significant in the places studied. The best research practices aid also some strategies on the fundamentals of research methodology. Eventually, the context of research teacher in the senior high school may follow these practices so that they can cope up with the best quality of students' research outputs.

Analytical Themes of the Study

The researcher conducted a thematic analysis of the online journals and derived a set of collective interconnected three (3) themes from the twenty (20) studies.

Theme 1: Reflectivity on the Research Process

The systematic study of learning and instruction within school subjects is what we called the subject matter; student's achievements depend on the teacher factors were considered as predictors. Because of the rapid changes and risks brought by the pandemic, it is a must for students to be guided in the research process and together with their engagement in a new learning environment. This phenomenon is attributed to the study of Reisel et al (2015) on learning teamwork skills benefits research with relevant results in defining it that are associated with students' plan of conducting research, experiencing and developing applied engineering skills. However, the overall of the students generally would not be considered among the elite engineering students (Study 2). In fact as asserted in Study 10 by Lekamge & Thilakeratne (2019), there are potential benefits of action research to teachers, students and community at large if the teachers are empowered and motivated with their skills. Whereas, Study 9 (Atwebembeire et al, 2018) implies that some educational institutions are likely to continue engaging in research that does not boost competitiveness, innovation, growth and development. Additionally as mentioned in Study 11, teaching of research shall be situated in real- life contexts for the students to realize its relevance (Roxas, 2019).

As a multidisciplinary approach in teaching research, it is worth mentioning that the subject matter embedded on it reflects an increasing attention. Study 12 indicated their research activity helped them understand the topic more in science. These students underscored the usefulness of research with a positive predisposition towards it (Landicho, 2020). Nevertheless, the performance of mathematics teachers in quantitative research writing shows that prerequisite and fundamental knowledge and research skills have not been acquired or developed adequately to aid understanding (Dullas, 2020). In addition, the systematic review of Berrocoso et al, (2020) on trends in educational research about e-learning aligns with these identified three main nodes: (1) online students; (2) online teachers; and (3) curriculum-interactive learning environments. It

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determined the objectives on the research topics, most relevant theories, most researched modalities, and the research methodologies used.

Much more to the students' side in the new normal system of education, who could be mostly engaged in learning since the findings of Bubb & Jones (2020) in Study 18 found that children from the poorest families were least likely to have access to the devices needed and internet access at home. This scenario is attributed to Study 14 on enriching the students' concern in relation to the topic because at present time online teaching and learning imply a certain pedagogical content knowledge for better learning experiences and creating distinctive learning environments (Rapanta et al, 2020).

Based on the emerging first theme, ontology theory asserts that it has had great success in education since it allows for the formulation of a learning domain representation by defining all concepts involved, their relationships, and all properties and conditions that exist (Stancin, Poscic, & Jaksic, 2019).

Theme 2: Teaching with Compassion

Since the evolution of technological advancement is a direct consequence of increasing interest and dependence on research, the second theme shows on how compassion of teaching can be attributed to a better understanding of research methodologies in the new normal. It may be said that teachers' concerns about their careers apply not only to matters of the mind but also to matters of the heart. According to Hairon (2017)'s findings in Study 3, the sooner teachers become acquainted with the practice of action research, the better; team leaders appear to be the best people to improve teachers' knowledge and skills in action research; and teachers' knowledge and skills in action research should be developed by teachers.

Similarly, college students emphasized in Study four that research help them to improve professionally and academically, enabling them to replicate upon their personal instructing and developing an effective mindset and encouragement to experiment new ideas in educating (Gunawardana & Karunarathma, 2017). In addition, Study 1 pronounced on the excitement of using new approaches/technologies and experiencing the connectedness with students has presented a balanced effort and time worried in launching the online module for instructing research methodology (De Beer et al., 2015).

Since students may hate research but they could learn from it (Moral, 2020), Study 8 shows a significant trend which direct more attention toward nurturing students' abilities to cope with the uncertainty of educational settings as a necessary component of the future teachers' professional proficiencies using qualitative research (Weinberger, 2018).

The findings of Landicho (2020) in Study 12 regarded research to be applicable in growing crucial thinking, solving real-world problems, and proving a sense of fulfillment. Moreover, Study 15 of Ng et al, (2020) indicated that significant cognitive activities matter on teachers' main role to build a blended method that combines the blessings of asynchronous and synchronous strategies in order to facilitate social interaction among students. Although, Study 17 mentioned issue in concentrating and gaining knowledge of whilst all students praised teacher aid and faculty work in crisis in the course of the COVID-19 pandemic (Lovric, et al, 2020).

Some investigations align with second theme supports the current study. According to Study 18 by Bubb & Jones (2020), there is a potential for good things to be achieved in response to the pandemic. It is in the spirit that they share research about home-school that was conducted and contributes something particularly interesting that can be learned and taken forward. This is also related to the implications from the insights in Study 19 that they need to revisit their existing policy frameworks by designing new strategies and technical structures to assist their teachers in successfully embracing the educational technology to deal with any crisis in the future (Joshj, Vinay, & Bhaskar, 2020).

Grounded on the rising 2nd theme, the statistics advise that the love for instructing and learning in realistic look up and different topics would be contingent on many sided elements that are carried out and furnished via schools in the midst of COVID-19 pandemic. Like for example in

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the Philippine setting, teachers and parents should adapt to alternative studying modalities to make certain that novices obtain fundamental curricular goals.

To tackle these challenges, teachers have considerable roles and responsibilities in terms of: designing the evaluation to permit for flexibility in a couple of modalities; speaking to newcomers and parents/guardians the sketch and standards for grading the assessment; setting up mechanisms to reveal and record growth remotely; giving timely, constructive, and relevant feedback; and facilitating remediation for newcomers who need similarly practice (DepEd, 2020). This is supported with the aid of the anchored philosophy of Epistemology whereby the assumption of the understanding idea as key characteristic of the rational self-reliant agent is at the coronary heart of the liberal educational culture and takes root in Descartes' cogito: even if I doubt who I am, there is an 'I' that doubts, and this 'I' is the fundamental characteristic of the independent rational agent, the entirely human being (Stables, 2019). It skill that there are some diploma of teaching and gaining knowledge of modalities that can be adopted in times of surprising exchange of curriculum considering each and every organization has their personal subculture that can be practiced as lengthy as the health situation and getting to know continues. Dependency of guidance and comprehension can nevertheless be sustained when teachers' suggests love and advocacy as a proof of their wholesome attributes.

Theme 3: Pedagogic Culture is all that Matters

The last theme encourages the writer to describe discourse and debate between schools sharing of challenges and successes around teaching research methods in different learning styles and modalities. De Beer et al, (2015) in Study 1 determined that the development of an online module for teaching research methodology has been exciting though laborious journey. However, there are also challenges that are still faced by teachers on the enacted model of action research due to heavy workload as mentioned in Study 3 by Hairon (2017).

The reasons on why majority of the teachers were not aware and exposed to any research related to their majors during their career (Study 4); teachers having negative attitudes towards their students due to lack of motivation and unavailability of internet (Study 5); and (Study 7) it shows how and why experiments are developed and are able to help solve problems that currently do not have answers; and some gaps between qualitative research methods and teacher practices in the perceptions of student teachers (Gunawardana & Karunarathma, 2017; Alsied & Ibrahim, 2017; Bass, 2018; & Weinberger, 2018). These are all culture of trials which would serve as parameters on looking into ways and means to support their academic standards. While practices serve as an opportunity to apply, these would merit and the results for every aims are subject for monitoring and evaluation.

As usual, the business of teaching amid the COVID-19 pandemic served a constructive purpose by presenting practical and pedagogical strategies for online teaching and learning as stated in Study 15 (Ng et al, 2020). According to Landicho (2020) in Study 16, there are many dimensions reflecting the discerning character of teacher researches: the relationship between the researcher and higher education institutions; the conducted studies by the educators in their own area of specialization; and the evidences emanated from the research conducted to inform practice. This phenomenon is inclined with the report of Lovric et al, (2020) in Study 17 who finally stated the equally importance of expansion of global knowledge about the psychological and behavioral aspects of student functioning in crisis situations along perceptions and experiences during pandemics with the use of qualitative inductive content analysis.

The conducted interviews and discussions concerning challenges revolves on the following readings on research culture: Study 5- writing to report research was not easy since it requires adequate background knowledge, interest, motivation and hard work; Study 6- a mixture of internal conditions such as hope, frustration, and moral dispositions has been discussed and has been developed and obtained at the their workplace using narrative inquiry; Study 19- changing the traditional education system to the educational technologies model where teaching and assessments were conducted online through interpretive phenomenological analysis; and Study 20- a thematic analysis of an online discussion concerning challenges faced during emergency

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situations and literature analysis on criticalities of remote learning (Alsied & Ibrahim, 2017; Al Aamri & Al Wahaibi, 2018; Joshi et al; & Ferri et al, 2020).

The quality of teaching and learning in research methods depend on the mechanism employed by the teacher as well as the sudden shift of from classroom-based to remote learning. In this premise, it noteworthy to uncover the relationship of learning modalities based on the students' learning styles. Jaleel & Thomas (2019) asserted that knowledge of learning styles will help the teacher in delivering effective presentations to diverse learners. Soundariya, et al (2017) determined that a successful learning results only when the teaching and assessment methods are in alignment with the student's learning preferences. According to Motala & Menon (2020) there was a need to distinguish the rapid shift to emergency remote teaching and learning and well thought-out transitions to online learning, the time and resources to do so, and the preparedness of both academics and students. The data suggest that the philosophy of Methodology concurs on the procedures of knowledge generation and also guide researchers to choose to choose suitable research methods (Wahyuni in Singh, 2019). This is how the research- teacher decides on what type of learning modalities to be employed whether the context is in the pre-pandemic or in the new normal.

Drawn upon these three themes: *1) Reflectivity on the Research Process; 2) Teaching with Compassion; and 3) Pedagogical Culture is all that Matters* to map to the findings of their own study, the author examined the teaching of research methods through secondary data analysis. The succeeding propositions were enumerated which grounded from the themes mentioned.

The Propositions

Proposition 1. *Students can adapt to their learning environment with the guidance of the research teacher*.

The findings on how students familiarize with the concepts on understanding research methods were based from Themes 1 and 2. Within the learning environment, they tend to adjust the way their research teachers guide. Claims on teachers' narratives are as follows:

"Yes, I keep actually recommend students practicing what they are doing and this is very important to determine the quality of their research and students are having very good opportunity in practicing they are doing and they are writing they are doing for example the steps that they are taking in the course practically" (Study 5).

"By giving them very practical experiences students were able to get a clear idea. In the teaching-learning process, giving targets and helping students to achieve them through step by step reinforcements was very effective" (Study 10).

"The most important contribution of the course was the opportunity to take a problem from the field, explore it using theoretical tools while receiving guidance from the instructor and feedback from colleagues, and then devise a practical solution which I put into practice' (Study 8).

In the new normal, much has been accounted on how guidance in the new environment wherein technology can certainly be of support in this regard. This can be attributed from Themes 2 and 3 concepts wherein the teachers viewed their challenges encountered once they planned to guide their students in teaching research methods.

"The conventional teaching has all the facilities like board, marker, and printer. In the home environment settings, these are not available, without these facilities my confidence and efficiency reduce as I am not able to express myself in an influential manner" (Study 19).

"Parents who were by now against digital devices and encouraged their children not to use them, even for learning purposes, faced that child didn't want to use these devices as they didn't actually know how to use them. I believe that ICT and devices need to be used by children but there is a need for control over what and how they use them" (Study 20).

"If we focus on content, we end up with poor and cheap video or multimedia production, which will not achieve its goal. If we focus on what learners will do, we put them in motion and have an opportunity to help them actually learn" (Study 14).

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"Fantastic teachers in this class who are just a phone away if we as guardians are wondering about something! Can't praise them enough! They are always available to pupils via chat and video, and respond quickly to all inquiries" (Study 18).

The first series of claims added value of the standards to be taught in practical research. This reflects the attitude that teaching is based on the routine of behavior practices which can be learned and applied directly in any fields. The sudden shift of online modality of teaching and learning was what reported that there was a need to distinguish the rapid shift to emergency remote teaching and learning and well thought-out transitions to online learning, the time and resources to do so, and the preparedness of both academics and students Motala & Menon (2020).

As noted, the findings of Selvi (2016) can have any practical impact on the teachers' work that being responsible for operating educational system and they need strong efficient professional competencies such as field competencies, research competencies, information and communication technologies (ICT) competencies and environmental competencies.

Given the descriptions and complex feelings of Study 14 and 18, these findings are consistent with prior studies which indicated that research teachers can improve educational practices. According to the study of Ceniza (2020) there is an option to resort via home-school modality if the learner has an available tutor or a parent who is qualified and always available to facilitate the learning of the child. Henceforth, the systematic literature review conducted by Berrocoso et al, (2020), on trends in educational research about e-learning promotes creative learning with these main nodes: (1) online students; (2) online teachers; and (3) curriculum-interactive learning environments. This would somehow determine the objectives on the research topics, most relevant theories, modalities, and the research methodologies used.

Proposition 2: Students' learning styles are influenced by their research teachers' openness in technology utilization.

As for the second proposition, Themes 1 and 3 reflects the pedagogic culture wherein the students' learning styles enhance the research culture with technology competence and technological adaptation. Some of the responses on online learning may require good technical infrastructure for the smooth conducting of the online classes. It can be gleaned on the following significant statements when teachers experienced these challenges:

I would like to get more training sessions, either face-to-face or even online ones, on the most up-to-date research tools and software, including SPSS and different types of qualitative and quantitative research methods. Hence, from this platform, I request the concerned people to implement some of my suggestions and reform the research committee to perfectly enhance the teacher-research culture" (Study 6).

"I am teaching Google classroom, but connectivity keeps on loosing" (Study 19).

"Pedagogical patterns must be different in virtual classrooms. In the virtual classroom, the educator is more like a moderator and consultant, and lessons cannot be arranged as in a physical classroom. Therefore, learning, especially guidance and feedback should be given in a different way" (Study 20).

From the students' side, they considered and addressed some issues which find them impressive and fuelled with doubts and pessimism as their research teachers demonstrated that they had a lot to share:

"Research is very detail oriented and can be tedious if the scope is small. However, it is important due to its nature to understand areas that are either unknown or previously accepted as fact. Additionally, it develops persistence, problem solving, and technical depth, which are crucial skills to develop in any type of occupation" (Study 7).

"I felt pressured. Teachers and subject it helps us to adopt high standards in producing a better and efficient research papers. I sometimes stuttered when I felt so nervous talking in front. I also compared myself to other people whenever I felt disappointed. When I tend to make mistakes, it pushed myself not stop learning from it and be humble" (Study 11).

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"We need more time to digest. I hope teachers can reduce homework... I am asked to read the boring materials and do homework... I would rather got to Zoom class as I can't really follow well...I will apply to the alumni tutorial class" (Study 15).

"The course changed the way I think about qualitative research. In the first semester, when we learned about the tools, observation and interview, it learned a lot, which I was also able to use in other courses. The research allowed me to see that the truth is made up of many points of view" (Study 8).

The adoption of online learning in different situations represents a need for its improvement as well as searching for solutions. Studying research methods from anywhere at any time have been highlighted from the literature having several advantages. According to the systematic database searches of Nortvig et al, (2017) there are many factors influencing e-learning and blended learning seem to dominate more on: educator presence in online settings, interactions between students, teachers and content, and designed connections between online and offline activities as well as between campus- related and practice-related activities.

Likewise, a successful learning results only when the teaching and assessment methods are in alignment with the student's learning preferences. These students are aware of their learning style and approach may be motivated to adopt techniques that best suit their learning styles and this may result in greater educational satisfaction (Soundariya et al, 2017). These findings are very interesting, as countries of today are already highly experienced an ICT integration with significant influence to students' knowledge and mastery with the teachers' open mindedness and flexibility in the new normal. Therefore, the core issue is to understand how distance learning can be improved considering that many challenges are also connected with the need to overcome technological gaps.

Proposition 3: Outcomes of learning justifies the type of learning modalities employed by the research teachers.

This last proposition acknowledge the importance of assessment and evaluation which have often condemned present practices for the emphasis of carrying out the performance standards based from the learning portal of the Department of Education. However, from the literature review on research teaching, the basic practices have remained essentially constant. Furthermore, some students having more or less adequacy to support learning research says:

"My undergraduate research experience opened my eyes to a field of engineering that I had no previous knowledge of and developed into deep interest in the field I want to devote the rest of my studies to. Without this opportunity, I would never have discovered such an interest in orbital mechanics, and I would still be unsure of my career path. I am extremely thankful that I had this extremely valuable experience" (Study 7).

"Our vocabulary is not yet developed. So the way we wrote the research paper was not yet professional in level" (Study 12).

"I am looking forward to what this module offers in terms of knowledge and skills. I am slightly nervous about my ability to perform research but my confidence will hopefully increase throughout the year. I expect this module to be challenging with a large amount of practical application" (Study 1).

"I find it helpful because it makes the SHS students to become more equipped in terms of doing research and SHS is the best time to introduce research as a subject for us to practice and experience what research all about. Maybe most of the students are struggling doing research but how much more if we have faced thesis and such. Based on my experience for doing research for two years, I learned a lot in many aspects. One example is it teaches me how to manage pressure in doing defense and it enhances my self-confidence" (Study 11).

The above mentioned significant statements are extracted from Themes 1 and 3 which imply that students' mixed emotions towards research methods may cause a both strong encouragement and frustrations in learning. This finding was somehow parallel with the study of Dullas (2020) which posited that research needs systematic processes which require the skills of reading and writing wherein research writing is considered as one of

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the most difficult skill to develop as far as Study 12 is concerned. In addition, the findings of Hamilton et al, (2020) would aid the emotional intelligence of students towards research because of the speculation that educators shifted quickly to distance learning and provided a variety of technology and devices for students, teacher training in remote instruction, strategies, for motivating students, ways to address loss of hands-on learning opportunities, and support emotional learning.

Some more evidence of best practices in the action research serve as viable means for empowering teachers as they implement solutions to problems they face in the teaching-learning process with regards to their students' performance and their actual modality of teaching since they believed:

"Use of mobile phones for teaching was a novel experience for me- it helped to get their attention as well as give clear ideas about contours in maps. At the end of the first cycle progress achieved by students was not satisfactory" (Study 10).

"Doing research on issues pertaining to teaching English in classrooms was useful and helpful to reflect on areas that went wrong and find reasons and practical remedial measures to problematic classroom situations" (Study 4).

"Teachers become extended professionals who are committed to the systematic questioning of one's own teaching as a basis for development; the commitment to and the skills to study one's own teaching; the concern to question and to test theory in practice by the use of those skills" (Study 3).

Out of several reasons and issues pertaining to the research teachers attempt to conduct action research, it is apparent that their pedagogic practices influence the students' performance whether their exposure to research is intensive or not. Their reflexive teaching with compassion according to the emerging Themes 1 and 2 shows parallelism to the findings of Boholano et al. as cited in Moral (2020) who asserted that the quality of education among academic institutions is determined by the learning environment, global competitiveness, innovations and research. Moreover, a competent research teacher in the senior high schools is research-oriented who conducts research in order to improve competency and produce graduates who respond to the socioeconomic development of the country and compete with other graduates of the world (Avilla, 2016).

Finally, reflecting on these findings can also improve the complex nature of the teaching-learning process associated with different instructional strategies with some practical implications regarding its rational stance, systematic literature reviews, and actual learning modalities that uncovers the important role the teachers play in teaching Practical Research 1. The need to read and report on published online journals leads to solid understanding of basic methods and techniques of qualitative research for senior high school students.

THEORY GENERATED:

The generated theory from the propositions shall be stated that teachers can make a difference to their students' capabilities along academic evolution and steadfast development on the basics of applied research. The constructs involved in the theory are:

Teachers can make a difference. Teaching research methods is more impactful to students' side on what they have learned much from classes and enjoys the way of teaching because they are inspired to study harder than ever before. The propositions also suggests that students would become more interested in learning in spite of varying level of difficulties to be done but still confident as learners since they could realize how much their lives have changed. It is also helpful for students the basic facts of research methods rather than inspiring them to learn beyond the course material and more so if they are informed with their commitment to helping each of them to become life-long learners. The skills and strategies for learning applied research are not that enough, but what is also more important is the way they are motivated which would fuel their personal insights and growth in learning in and out of the school. In other words teachers who make a difference really do facilitate a significant personal transformation in the lives of their

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students. In this way success in teaching would depend merely on capturing and organizing student's attention.

Henceforth, students' enthusiasm to learn in practical research will help them realize on finding meanings in what is ask them to learn. Teacher's passion for the subject matter goes a long way in maintaining their students' interest in the course because the experiences would serve as a powerful impact on how they are engaged with the activities that have personal relevance in understanding oneself as well as others if they reflect on the researchable problems with in depth analysis in the research process particularly in qualitative design. The making of difference coming from the teachers' demonstration on caring and guiding to their students are the valuing contextual superglue that binds student and teacher together in quest for learning and self-improvement.

Students' research capabilities. The competencies stipulated from the curriculum guide and the synthesized topics from educational institutions may be given extra focus to improve the students' skills in research writings. Their performance is subject for proper follow up especially to those students on their undergraduate studies on how they apply their learning in writing a research paper. A balance of teaching both quantitative and qualitative instructions in the research program would enable the students to acquire skills in these two types of research. This would also become the benchmarking of the specific practical research subject in the senior high school level that ensures the basic concepts are on a popular with those of students in other schools.

Likewise, students' self-confidence will boost since they gain through good interaction with research teachers and support and encouragement they received. Their research capabilities signify on the fast trend in instructional technology when teachers use innovative approaches and teaching pedagogies, knowledge and skills in the research of all subjects. Their preparation to for college becomes interesting when they are trained in conducting research and be strongly mandated in the educational institutions with precise assessment to produce productive young investigators because they are honed by teacher-researchers. Furthermore, their research capability will improve because their capacity and productivity are given importance over the production of theoretical knowledge.

Academic evolution. The new normal shows the continuing evolution of education which requires vision, clear and consistent communication with planned measure of success in any field of discipline. From the educational research points of view, the teachers around the world include creativity and rethink the way of considering the modality of instruction during a period in world history where people are actually being challenged to re-envision the school.

Since the beginning of the school year in the midst of a pandemic, the realization of crisis has challenged the Department of Education (DepEd) and other institutions consider schooling in a very different way. Some factors that have been seen potential for the greatest evolution of school is its re-envision. The focusing of students' socio-emotional well-being and the standards the school imposed to connect with their students' disposition are well noticed in instructing research as well as other subjects. Learning modalities come to heightened concern for equity in access to technology and content. In this situation, students are considered to be oriented to online learning and not just thrown into experience because they are completely different with regard to inclusion and accessibility.

Therefore, the present system of education has a significant shift and may never return to what it once was because for schools as we know them will no longer exist if computers will become an essential ingredient in the recipe for an effective school in the future. While remote teaching and learning research methods become the trend, transforming a student cannot be a one-off event. The research capacity is still built over a program that requires clear research skills development and assessment that is progressive considering the emergency situation in the new normal where the business of teaching continues.

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RECOMMENDATIONS

Grounded on the findings and constructs of the study on the new normal system of learning modalities, it is highly recommended that:

1) The teachers' needs and challenges towards teaching research must be given high concern so that they will be motivated to do action research and to improve not just their teaching practices but also for them to grow professionally.

2) The schools should also consider that doing research is an additional workload for the teachers. Thus, teachers should be given adequate time to do both teaching and doing research.

3) Students should become conscious of enhancing themselves with flexible learning in the new normal so that they can come out with flying colors in taking up the next research subjects as they are promoted to the next grade level.

4) They should prepare themselves with profound knowledge of technology in order to develop their attention and make their learning easy and effective.

5) School administrator's support may be enhanced as well as coordinators should not invest in teacher leaders unless they intend to support teacher leaders adequately through time, administrative follow through, and training to help practical research teachers develop the positive social relations on which their work depends.

6) The need for further research concerning the kinds of curricular support materials necessary to help novice teachers who are attempting to enact such practices to thrive in schools thereby making the school research committee more functional.

7) During this unprecedented crisis, the researcher found that a key element for supporting students' well-being and success is the faculty members communicating care and incorporating flexibility into their courses.

REFERENCES

1. Adesope, R.Y. & Ahiakwo, R.O.M. (2016). *Perception of Educators towards Using Modular Object-Oriented Dynamic Learning Environment (MOODLE) for Teaching*. International Journal of Academic research and Reflection, Vol. 4 No. 3. Retrieved from https://www.idpublications.org/wp-   content/uploads/2016/03/Full-Paper-PERCEPTION-OF-EDUCATORS-TOWARDS-USING-MODULAR-OBJECT-ORIENTED-DYNAMIC-LEARNING-   ENVIRONMENT.pdf

2. Al Aamri, K.S. & Al Wahaibi, M.K. (2018). *Teacher-Researchers' Reflective Narratives on Their Experiences at the Language Center Research Committee, Sultan Qaboos University, Oman*. Inquiry in education Volume 10 Issue 2. Retrieved from https://digitalcommons.nl.edu/ie/vol10/iss2/6

3. Almaiah, M.A., Al-Khasawneh, A. & Althunibat, A. (2020). *Exploring the Critical Challenges and Factors Influencing the E-Learning System Usage during COVID-   19 Pandemic*. Education and Information Technologies. Retrieved from https://doi.org/10.1007/s10639-020-1021-y

4. Alsied, S.M. & Ibrahim, N.W. (2017). *Exploring Challenges Encountered by EFL Libyan Learners in Research Teaching and Writing*. IAFOR Journal of Language Learning. Volume 3- Issue 2. Retrieved from https://files.eric.ed.gov/fulltext/EJ1167254.pdf

5. Amir, L.R. et al. (2020). *Student Perspective of Classroom and Distance Learning during COVID-19 Pandemic in the Undergraduate Dental Study Program Universitas Indonesia*. BMC Medical Education. Retrieved from https://doi.org/10.1186/s12909-020-02312-0

6. Ancheta, R.F. & Ancheta, H.B. (2020). *The New Normal education in Education: A Challenge to the Private Basic Education in the Philippines*. International Journal of Educational Management and Development Studies. Volume 1, Issue 1. Retrieved from www.iiari.org

7. Atwebembeire, J., Musaazi, J.C.S., Sentamu, P.N., & Malunda, P.N. (2018). *Performance Monitoring and Quality Teaching and Research in Private Universities in Uganda*. International Journal of Learning, Teaching and   Educational Research. Vol. 17, No.10, pp. 70-85. Retrieved from https://doi.org/10.26803/ijlter.17.10.5

_____

_____

8. Avilla, R.A. (2016). *DIWA Senior High School Series: Practical Research 1*. Makati City: Diwa Learning Systems Inc.

9. Bagood, J.B. (2020). *Teaching-Learning Modality under the New Normal*. Philippine Information Agency, Republic of the Philippines. Retrieved from https://pia.gov.ph/features/articles/1055584

10. Barquero, J. (n.d.) *Main e-Learning Modalities*. CAE Innovative Learning Solutions. Retrieved from https://www.cae.net/e-learning-modalities/

11. Bashir, S., Syed, S., & Qureshi, J.A. (2017). *Philosophical and Methodological Aspects of a Mixed-Methods Research: a Review of the Academic Literature*. Journal of Independent Studies and Research, Volume 1 Number 15. Retrieved from https://scholar.google.com/citations?user=1YciraAAAAAJ&hl=en

12. Bass, P., Washuta, N., Howison, J., Gonzalez, R., & Maier, C., (2018). *Benefits and Chalenges of Undergraduate Research*. American Society for Engineering Education. Retrieved from http://www.asee- se.org/proceedings/ASEE2018/papers2018/12.pdf

13. Berrocoso, J.V., Arroyo, M.D.C.G., Videla, C.B., & Cevallos, M.B.M. (2020). *Trends in educational Research About E-Learning: A Systematic Literature Review (2009-2018)*. Sustainability MDPI. Retrieved from https://www.mdpi.com/2071- 1050/12/12/5153/pdf

14. Boholano, H.B., Lapingcao,, N.V., Soledad, B.M., & Elcullada, R.O. (2013). *Indices of Quality education in Asian Countries*. Cebu Normal University Journal of Higher Education, (7) pp. 110-116

15. Brame, C.J. & Biel, R. (2015). *Group work: Using Cooperative Learning Groups Effectively*.Vanderbilt University.Retrieved from https://cft.vanderbilt.edu/guides-sub-pages/setting-up-and-facilitating-group-work-using-cooperative-learning-groups effectively

16. Bubb, S. & Jones, M. (2020). *Learning from the COVID-19 Home-schooling Experience: Listening to Pupils, Parents/Carers and Teachers*. Improving Schools. Retrieved from https://journals.sagepub.com/doi/full/10.1177/1365480220958797

17. Bunyamin, M.A.H., Halim, L., Mohtar, L.E., & Ahmad, N.J. (2017). *Science education Research Trends in Malaysia: A Content Analysis*. Researchgate. Retrieved from https://www.researhcgate.net/publication/316643531

18. Cahapay, M.B. (2020). *Rethinking education in the New Normal Post-COVID-19 Era: A Curriculum Studies Perspective*. Aquademia. Retrieved from https://www.aquademia-journal.com/

19. Carillo, C. & Flores, M.A. (2020). *COVID-19 and Teacher Education: A Literature Review of Online Teaching and Learning Practices*. European Journal of Teacher education, Volume 43. No. 4, pp.466-487. Retrieved from https://doi.org/10.1080/02619768.2020.1821184

20. Ceniza, M.J.L. (2020). *How does the "New Normal" Looks in the Philippine education System?* News BEasT Ph. Retrieved from https://www.newsbeastph.com/2020/07/how-does-new-normal-looks-in-philippine.html

21. Critical Appraisal Skills Programme. (2018). *CASP Checklist: 10 questions to help you make sense of a Qualitative research*. Retrieved from https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf

22. Dayagbil, F.T. (2018). *Inspirational Message Teacher Education Student Conference: 5th International (6th National)*. Book of Abstract p.4. Cebu City: Cebu Normal University

23. De Beer, M., Wsethuizen, S.C.V., Bekwa, N.N., Waughtal, M.P., & Zyl, L.E.V. (2015). *Teaching Research Methodology in an Online ODL Environment: Strategies Followed and Lessons Learnt*. South African Journal of Higher Education. Volume 29 |Number 2| pp. 56-81. Retrieved from https://www.researchgate.net/publication/282703310

24. DeMatthews, D., Knight, D., Reyes, P., Benedict, A., & Callahan, R. (2020). *From the Field: Education Research during a Pandemic*. Educational Researcher. Retrieved from http://er.aera.net

_____

_____

25. Department of Education (2016). *DO. 39, S. 2016-Basic education Sector Reform Agenda (BESRA)*. Retrieved from https://peac.org.ph/wp-content/uploads/2018/08/DO_s2016_039.pdf

26. Department of Education (2017). DO. 42, S. 2017 *National Adoption and Implementation of Philippine Professional Standards for Teachers*. Retrieved from https://www.deped.gov.ph/2017/08/11/do-42-s-2017-national-adoption-and-implementation-of-the-philippine-professional-standards-for-teachers-2/

27. Department of Education (2018). DepEd Learning Portals. Retrieved from https://lrmds.deped.gov.ph/detail/14448

28. Department of education (2020). *DepEd Order No. 031, s. 2020, Interim Policy Guidelines for Assessment and Grading in Light of the Basic Education Learning Continuity Plan*, pp. 1-36. Retrieved from https://www.deped.gov.ph/2020/10/02/october-2-2020-do-031-s-2020- interim-guidelines-for-assessment-and-grading-in-light-of-the-basic-education- learning-continuity-plan/

29. Dullas, L.D. (2020). *Outcomes in Quantitative Research Writing among Junior High School Mathematics Teachers*. Journal of Critical Reviews Volume 7, issue 11. Retrieved from http://dx.doi.org/10.38138/jcr.07.11.07

30. Dziuban, C., Graham, C.R., Moskal, P.D., Norberg, A., & Sicilia, N. (2018). *Blended Learning: The New Normal and Emerging Technologies*. International Journal of Educational Technology in Higher Education. Volume 15:3 Retrieved from https://www.researchgate.net/publication/323200713_Blended_learning_the_new_normal_and_emerging_technologies

31. Elmer, S.J. & Durocher, J.J. (2020). *Moving Student Research Forward during the COVID-19 Pandemic*. American Physiological Society. Retrieved from https://journals.physiology.org/doi/pdf/10.1152/advan.00153.2020

32. Empower Ed (2020). *It's Not about Online Learning: A Reflection on the "New Normal" in education (Part 2)*. Retrieved from https://francisjimtuscano.com/2020/05/07/its-not-about-online-learning-a- reflection-on-the-new-normal-in-education-part-2/

33. Ferri, F, Grifoni, P., & Guzzo, T. (2020). *Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergency Situations*. MDPI Journal Societies. Retrieved from www.mdpi.com/journal/societies

34. Gunawardana, A.A. & Karunarathma, J.A.M.B. (2017). *Teacher Research: Remedy for Failures in English Language Teaching in Sri Lanka*. International Symposium of Sabaragamuwa University of Sri Lanka. Retrieved from https://www.researchgate.net/publication/318901986

35. Guryay, B. (2016). *The Relationship between Learning Modalities and Perceived Self-regulation Levels*. Procedia Social and Behavioral Sciences 232 pp. 389-395. Retrieved fromhttps://www.sciencedirect.com/science/article/pii/S1877042816312861/pdf?md5=ee7109a06d40ed4c75ff831a637cfd9c&pid=1-s2.0-S1877042816312861- main.pdf

36. Hairon, S. (2017). *Action Research in Singapore: Where Are We Now?* Asia-Pacific Science education. Retrieved from https://www.researchgate.net/publication/320218475_Action_research_in_Singapore_where_are_we_now

37. Hamilton, L.S., Kaufman, J.H., & Diliberti, M. (2020). *Teaching and Leading through a Pandemic*. Rand Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RRA168-2.html

38. ICF Consulting Services Ltd (2015). *Literature Review on the Impact of Digital technology on Learning and Teaching*. Retrieved from https://dera.ioe.ac.uk/24843/1/00489224.pdf

39. Jalel, S. & Thomas, A.M. (2019). *Learning Styles: Theories and Implications for Teaching Learning*.Horizon Research Publishing, USA. Retrieved from https://www.hrpub.org/download/book16-978-1-943484-20-1.pdf

_____

_____

40. Jan, A. (2020). *A Phenomenological Study of Synchronous Teaching during COVID-19: A Case of an International School in Malaysia*. Social Sciences & Humanities Open. Retrieved from https://doi.org/10.1016/j.ssaho.2020.100084

41. Joshi, A. & Vinay, M. (2020). *Impact of Coronavirus Pandemic on the Indian education Sector: Perspectives of Teachers on Online Teaching and Assessments*. Emerald Publishing Limited. Retrieved from https://www.emerald.com/insight/1741- 5659.htm

42. Jowet, A. (2020). *Carrying Out Qualitative Research Under Lockdown- Practical and Ethical Considerations*. LSE Blogs. Retrieved from https://blogs.lse.ac.uk/impactofsocialsciences/2020/04/20/carrying-out- qualitative-research-under-lockdown-practical-and-ethical-considerations/

43. Kivunji, C. & Kuyini, A.B. (2017). *Understanding and Applying Research Paradigms in Educational Contexts*. International Journal of Higher Education. Vol. 6, No. 5.   Retrieved from https://files.eric.ed.gov/fulltext/EJ1154775.pdf

44. Landicho, C.J.B. (2020). *Research Attitudes, Motivations, and Challenges of STEM Education Researchers*. International Journal of Technology in Education. Volume 3, Issue 1. Retrieved from   https://www.ijte.net/index.php/ijte/article/view/21

45. Landicho, C.J.B. (2020). *Secondary School students' Attitudes and Practices towards Research Writing and Reporting in Science*. Issues in Educational Research, 30   (1). Retrieved from https://www.iier.org.au/iier30/landicho.pdf

46. Lansangan, R.V. & Gonzales, K.P.J. (2020). *Science Teachers' Voices in the New Normal Teaching: A Phenomenological Study*. IOER International Multidisciplinary Research Journal, Volume 2, No.3. pp. 124-132

47. Lekamge, G.D. & Thilakeratne, J. (2019). *An Analysis of Action Research Studies Conducted by Teachers in Sri Lankan Schools*. Vol. 14, No. 01, pp. 27-49.   Retrieved   from http://doi.org/10/4038/ouslj.v14.7459

48. Lovric, R., Farcic, N., Miksic, S., & Vcev A. (2020*). Studying During the COVID-19 Pandemic: A Qualitative Inductive Content Analysis of Nursing Students' Perceptions and Experiences. Education Sciences*. Retrieved from   https://www.mdpi.com/2227-7102/10/7/188

49. Kenny, J. & Newcombe, E. (2020). *Adopting Blended Learning Approach: Challeneges Encountered and Lessons Learned in an Action Research Study*. Journal of Asynchronous Learning Networks, Volume 15: Issue 1. Retrieved from https://www.researchgate.net/publication/287630140_Adopting_a_Blended_Learning_Approach_Challenges_Encountered_and_Lessons_Learned_in_an_Action_Research_Study

50. Kivunja, C. &Kuyini, A.B. (2017). *Understanding and Applying Research Paradigms in Educational Contexts*. International Journal of Higher Education.6 (5). Retrieved from https://doi.org/10.5430/ijhe.v6n5p26

51. Mahmood, S. (2020). *Instructional Strategies for Online Teaching in COVID-19 Pandemic*. Wiley Periodicals. Retrieved from https://onlinelibrary.wiley.com/doi/10.1002/hbe2.218

52. Martin, F., Dennen, V.P., & Bonk, C.J. (2020). *A Synthesis of Systematic Review Research on Emerging Learning Environments and Technologies*. Education Tech Research Development No. 68 pp.1613-1633. Retrieved from   https://doi.org/10.1007/s11423-020-09812-2

53. Martin, F., Sun, T., & Westine, C.D. (2020). *A Systematic Review of Research on Online Teaching and Learning from 2009 to 2018*. Elsevier Public Health Emergency Collection. Retrieved from   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7480742/

54. Moral, R.V. (2019). *Generating the Theory on Research Teaching*. Asian Intellect for Academic Organization and Development Inc. Research and Education Journal.   Volume 15, pp. 84-91. Retrieved from www.asianintellect.org

55. Motala, S. & Menon, K. (2020). *In Search of the 'New Normal': Reflections on Teaching and Learning during COVID-19 in a South African University*. Southern African Review of Education, 26(1): 80-99. Retrieved from

_____

_____

https://www.researchgate.net/publication/343501284_In_search_of_the_'newnormal'_R eflections_on_teaching_and_learning_during_Covid-19_in_a_South_African_university

56. Munabi, I.G. et al. (2016). *Students' Perspectives of Undergraduate Research Methods education at Three Public Medical Schools in Uganda*. PanAfrican Medical Journal. Retrieved from http://www.panafrican-med- journal.com/content/article/25/74/full

57. Ng, D.T.K., Reynolds, R., Chan, H.M.Y., Li, X.H., & Chu, S.K.W. (2020). *Business (Teaching) as Usual Amid the COVID-19 Pandemic: A Case Study of Online Teaching Practice in Hong Kong*. Journal of Information Technology Education Research. Volume 19. Retrieved from https://doi.org/10.28945/4620

58. Nortvig, A.M., Petersen, A.K., & Balle, S.H. (2017). *A Literature Review of the Factors Influencing E-Learning and Blended Learning in Relation to Learning Outcome, Student Satisfaction and Engagement*. Education Resources Information Center (ERIC). Retrieved from https://eric.ed.gov/?id=EJ1175336

59. Rapanta, C., Botturi, L., Goodyear, P., Guardia, L., & Koole, M. (2020). *Online University Teaching During and After the COVID-19 Crisis: Refocusing Teacher Presence and Learning Activity*. Postdigital Science and Education.Retrieved from https://doi.org/10.1007/s42438-020-00155-y

60. Reisel, J.R., Cancado, L., Walker, C.M., & Mitrayani, D. (2015). *Defining a Successful Undergraduate Research Experience in Engineering. American Society for Engineering Education*. Retrieved from https://www.asee.org/public/conferences/56/papers/11108/download

61. Research and Evaluation in Education and Psychology (n.d.). *Literature Review and Focusing the Research*. Retrieved from

62. Richter, O.Z., Kerres, M., Bedenlier, S., Bond, M., & Buntins K. (2018). *Systematic Reviews in Educational Research: Methodology, Perspectives and Application*. Retrieved from https://www.springer.com/gp/book/9783658276010

63. Roxas, M.J.D. (2019). *Attitudes of Senior High School Students Towards Research: An Exploratory Study*. University of Perpetual Help. Retrieved from http://www.eresearchjournal.com/wp-content/uploads/2020/05/CV_ROXAS- MJD.pdf

64. Selvi, K. (2016). *Teachers' Competencies*. International Journal of Philosophy of Culture and Axiology, Research Gate. Retrieved from https://www.researchgate.net/publication/283961538_Teachers'_Competencie s

65. Sidenko, E. & Najafov, R. (2019). *On the Relationship between Teaching Methods and Motivation Activities of Teacher*. Azerbaijan Journal of Educational Studies.Retrieved from http://journal.edu.az

66. Singh, D. (2019). *Understanding Philosophical Underpinnings of Research with Respect to Various Paradigms: Perspective of a Research Scholar*. Institute of Management, Nirman University. Retrieved from https://www.researchgate.net/publication/333036861_Understanding_philosophical_und erpinnings_of_research_with_respect_to_various_paradigms_Perspective_of_a_research _scholar

67. Soundariya, K., Deepika, V., & Kalaiselvan, G. (2017*). A Study on the Learning Styles and Learning Approaches among Medical Students*. National Journal of Physiology, Pharmacy and Pharmacology. Retrieved from https://njppp.com/fulltext/28-1492756815.pdf

68. Stables, A. (2019). Editorial Epistemology and Education. Education Sciences. Retrieved from https://www.mdpi.com/2227-7102/7/2/44/pdf

69. Stancin, K., Poscic, P., & Jaksic, D. (2019). *Ontologies in Education- State of the Art*. Education and Information Technologies. Retrieved from https://link.springer.com/article/10.1007/s10639-020-10226 z#:~:text=As%20a%20knowledge%20representation%20method,2019).

70. Sun, A. & Chen, X. (2016). *Online Education and Its Effective Practice: A Research Review*. Journal of Information Technology Education: Research Volume 15, 2016. Retrieved from http://www.jite.org/documents/Vol15/JITEv15ResearchP157-190Sun2138.pdf

_____

_____

71. Superfine, A.C. (2020). *Conducting Research in the Time of Pandemic: A pause or an Opportunity?* Journal of Mathematics Teacher education. Retrieved from https://link.springer.com/article/10.1007/s10857-020-09478-w

72. Swan, J.G. (2017). *The Challenges of Online Learning, Supporting and Engaging the Isolated Learner.* Journal of Learning Design Vol. 10 No.1. Retrieved from https://files.eric.ed.gov/fulltext/EJ1127718.pdf

73. Teti, M., Schatz, E., & Liebenberg, L. (2020). *Methods in the Time of COVID-19: The Vital Role of Qualitative Inquiries.* International Journal of Qualitative Methods, Volume 19: 1-5. Retrieved from https://journals.sagepub.com/doi/full/10.1177/1609406920920962

74. Tria, J.Z. (2020). The COVID-19 *Pandemic through the Lens of education in the Philippines: The New Normal.* International Journal of Pedagogical Development and Lifelong Learning. Retrieved from https://www.ijpdll.com/

75. Tupas, F.P. & Laguda, M.L. (2020*). Blended Learning- An Approach in Philippine Basic Education Curriculum in New Normal: A Review of Current Literature.* Universal Journal of Education Research 8(11). Retrieved from http://www.hrpub.org

76. Unal, M. (2015). *An Investigation on Revealing the Learning Modalities of Undergraduate Students.* Educational Research and Reviews Academic Journals   Vol. 10 (15), pp. 2076-2083. Retrieved from http://www.academicjournals.org/ERR

77. UNESCO (2020). COVID-19 Educational Disruption and Response. Retrieved from https://en.unesco.org/covid19/educationresponse

78. University of Winnipeg (2020). *Research Methodologies and Standards during a Pandemic: Remote Teaching, Learning and Research Hub.* Retrieved from https://www.uwinnipeg.ca/remote-hub/research/research-methodologies-and-standards-during-a-pandemic.html

79. Van Wart, M. et al. (2019). *A Literature Review and Model of Online Teaching Effectiveness Integrating Concerns for Learning Achievement, Student   satisfaction, Faculty Satisfaction, and Institutional Results.* Research Gate. Retrieved from https://researhcgate.net/publication/341623310

80. Viner, R.M. et al. (2020). *School Closure and Management Practices during Coronavirus Outbreaks Including COVID-19: A Rapid Systematic Review.* Lancet Child Adolescent Health. Retrieved from https://doi.org/10.1016/S2352-4642(20)30095-x

81. Walther, J. et al. (2017). *Qualitative Research Quality: A Collaborative Inquiry Across Multiple Methodological Perspectives.* Journal of Engineering Education, Volume 106, No. 3, pp. 398-430. Retrieved from   http://wileyonlinelibrary.com/journal/jee

82. Weinberger, Y. (2018). *Using Qualitative Research Methods to Cope with the Educational Complexity.* Journal of Education and Human Development, Vol. 7, No. 1 pp. 135-145. Retrieved from https://doi.org/10.15640/jehd.v7n1a16

83. Zagalaz, J.C. et al. (2020). *Systematic Review of the Literature about the Effects of the COVID-19 Pandemic on the Lives of School Children.* Frontiers in Psychology. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7591583/

_____