

Impact of COVID-19 pandemic on learning in relation to students' adaptation to distance learning modalities, self-efficacy and academic achievement in Rizal National High School, Occidental Mindoro

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Abstract

The study determined the extent of impact of COVID-19 Pandemic on learning on 339 students at Rizal National High School. It also learned the level of student respondents' adaptation to distance learning modalities and learned their self-efficacy in doing their schoolwork. The academic achievement of student-respondents in core subjects was also examined. The COVID-19 Pandemic's effects on learning were investigated using a descriptive research methodology in this study. The study also determined the impact of COVID-19 Pandemic on learning and learning adaptation of student-respondents. The extent of COVID-19's impact on learning has high extent significant values. The study used descriptive research approach in answering the research questions and aimed to learn the impact of the pandemic on learning. The impact of COVID-19 Pandemic on learning and academic performance of student-respondents' in the four core subjects is found to be significantly related at a low level, except for Filipino subject which is not influenced by the independent factors. The result of regression analysis is positive and of moderate impact on students' self-efficacy in doing their schoolwork is found. Rizal National High School shall localize the Learning Continuity Plan and the modules and learning materials adaptable to learners in Rizal. A memorandum of agreement with electricity and communication signal providers to better their service during pandemic, imposing curfews, minimizing social noise, and empowering adult members of the family through the Municipal Social Welfare and Development.

Keywords: academic achievement, distance learning modalities, schoolwork, learning continuity plan, descriptive research

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1. Introduction

The COVID-19 pandemic had an impact on all educational levels. A total of 192 countries' worth of educational institutions have either adopted temporary closures or localized closures that will affect roughly 1.7 billion students worldwide, (UNICEF, 2021). To reduce virus exposure, schools postponed or canceled their events. However, these actions have significant negative economic, medical, and societal effects on everyone. On July 14, 2022, there were 558 million confirmed cases worldwide, 529 million people who had recovered, and 6.36 million fatalities. In comparison, the MIMAROPA region, which includes Occidental Mindoro, reported 37,762 confirmed cases and 1,086 deaths, while the Philippines reported 3.72 million confirmed cases, 1.3 million people who had recovered, and 60,640 deaths, (WHO, 2020).

The Philippines' Basic Education, which was impacted by the COVID-19 pandemic, has 24.6 million students. The Department of Education works very hard to fulfill its duty of offering students a fundamentally good education and protecting the welfare of teachers in the face of the epidemic. There are 18,561,298 pupils enrolled in public schools across the nation. There are 1,443,849 students enrolled in private schools, and 198,297 students are enrolled in the Alternative Learning System (ALS) (DepEd Philippines, 2020). Under the guidelines and health precautions established by the World Health Organization and the Department of Health, education can and must continue. The Basic Education and Learning Continuity Plan was implemented by the Department of Education, along with an increase in employee pay and benefits. (DepEd Philippines, 2020).

K–12 curricula are adjusted because of the Basic Education–Learning Continuity Plan, including the alignment of learning materials, the use of different learning delivery modalities, and associated teacher and parent/guardian training for homeschooling. It was important to make these changes to some policies and procedures to adjust to the new normal. The primary goal of the learning continuity plan and DepEd's commitment is to safeguard the health, safety, and well-being of our students, teachers, and staff throughout the COVID-19 pandemic. (DepEd Philippines, 2020). The following difficulties are listed in the article "Modular Distance Learning Modality: Challenges of Teachers in Teaching amid the COVID-19 Pandemic," published in the International Journal of Research Studies in Education. These difficulties are time-consuming in preparation, assessment, and evaluation; incomplete and unanswered modules; insufficient parental support; and insufficient teacher training. Due to the COVID-19 pandemic, students around the world are having difficulty managing their time, communicating with teachers immediately, obtaining feedback on time, and understanding expectations or instructions (<https://www.universityworldnews.com>)

Rizal National High School is a mega school that has a total of 2,818 students for the school year 2021-2022. As mandated by the Department of Education, the school practices modular print as a mode of learning. Teachers made an effort to use online learning to reach students and guide them through lessons. Because of the geographical location, there are areas in Rizal that have a poor internet connection and areas that have no electric supply, yet teachers conduct home visits, write feedback for students, and give instructions in group chats just to ensure that students receive quality basic education. The Local Government Unit of Rizal and the Rural Health Unit ensured that teachers followed minimum health standards in the delivery and retrieval of modules and student outputs on a regular schedule. Aside from the pandemic, community members in Rizal work hard at farming and fishing to survive, and during the lean months from June to October, students miss school as they help prepare the ground for growing rice and go fishing with their parents. The International Labor Organization (ILO) estimates that there are two million nine hundred seven thousand (2.097 M) child laborers in the

Philippines, of whom fifty-eight percent (58%) work in agriculture, thirty-five percent (35%) in the manufacturing sector, and seven percent (7%) in the service sector. Teenage pregnancy is another issue that female students face, and as a result, there are more dropouts and out-of-school youth. According to the 2013 National Demographic and Health Survey (NDHS), one in ten young Filipino women between the ages of 15 and 19 have started having children. Of them, 8% are already moms, and 2% are expecting their first child. A widespread issue in public schools, these elements have an impact on students' learning situations beyond pandemics.

Given the situation, the researcher aimed to learn and assess the impact of the COVID-19 pandemic on learning about students' adaptation to distance learning modalities, self-efficacy, and academic achievement in Rizal National High School, Occidental Mindoro. The result of this study shall form the basis of programs, projects, and activities of the local government of Rizal to support students in such situations. Teachers in Rizal National High School must ensure that students receive a quality education regardless of their situation or challenges. These factors must be considered in teaching strategies, enrichment activities, and remediation procedures.

Statement of the Problem - This study determined the impact of the COVID-19 Pandemic on learning in relation to students' adaptation to distance learning modality, perseverance, and academic achievement. Specifically, it sought answers to the following questions: (1) What is the extent of the impact of COVID-19 Pandemic on learning in terms of; time management, communication and feedback from teachers, availability of modules and reading materials, availability of electricity, availability of reliable internet connection? (2) What is the level of student respondents' adaptation to distance learning modalities in terms of; independent learning, support from adult members of the family, and support from subject teachers and advisers? (3) What is the level of student respondents' self-efficacy in doing their schoolwork related to; psychomotor, cognitive, and affective? (4) What is the academic achievement of student-respondents in the following core subjects; English, Filipino, Mathematics, and Science? (5) Is there a significant relationship between the impact of the COVID-19 Pandemic on learning and the learning adaptation of student respondents to distance learning modalities? (6) Is there a significant relationship between the impact of the COVID-19 Pandemic on learning during the pandemic and the level of student respondents' self-efficacy in doing their schoolwork in psychomotor, cognitive, and affective aspects? (7) Is there a significant relationship between the impact of the COVID-19 Pandemic on the learning and academic performance of student respondents?

Significance of the Study - The findings of this study will be beneficial to the following stakeholders of the academe and local government in various ways: to the Local Government of Rizal, the findings of this study will provide the Local Government of Rizal concrete basis on how to help in the delivery of teaching and learning during Pandemic, how to align their Program Projects and Activities for students, teachers and the members of the community that shall work hand in hand for the benefit of the school children. The Teachers, findings of this study will provide teachers with ideas and develop teaching strategies and align their methods of teaching with the new normal to ensure that student receives a quality education and efficient access to information. Localize modules and learning activities based on the reality of how students learn in the new setup. To the School Administrators, to provide realistic ideas about the impact of the COVID-19 Pandemic on Education as they provide guidance and mentor the teachers in providing quality basic education. To the Children and Students, the findings of this study will indirectly enable them to express their present situations so that policymakers may have the bases to formulate strategies to address their educational needs. And to the Department of Education, this shall serve as a tool guide on how to deliver effective quality basic education among students, as the result of the study is factual evidence that reflects students' situation in a pandemic setting.

Scope and Delimitation of the Study - This study focused on the impact of the COVID-19 Pandemic on learning in relation to students' adaptation to distance learning modalities, self-efficacy, and academic achievement. The respondents of the study were limited to the students of Rizal National High School from junior and senior high school departments for the school year 2021-2022 from seven (7) barangay communities

of Rizal.

2. Methodology

Research Design - Quantitative research involved the acquisition of data that is often numerical, and the researcher typically analyzes the data using mathematical models. Additionally, the researcher employed inquiry methods to check that the process for collecting statistical data is consistent (Creswell, 2002). This study used descriptive-correlational research design to determine the significant relationship between the impact of the COVID-19 pandemic on learning, the level of student respondents' adaptation to distance learning modalities, the impact of the COVID-19 pandemic on learning, and the level of student respondents' self-efficacy in doing their school work in psychomotor, academic and affective aspects, and the impact of COVID-19 pandemic on student respondents' academic achievement.

Descriptive research was also used to describe the impact of the COVID-19 Pandemic on learning in terms of time management, communication and feedback from teachers, availability of modules and reading materials and availability of electricity and availability of reliable internet connections, level of student-respondents adaptation to distance learning modalities in terms of independent learning, support from adult members of the family, support from subject teachers and advisers, level of student respondents self-efficacy in doing school works related to psychomotor, cognitive, and affective domains in terms of an average number of hours spent per day, the academic achievement of student-respondents in English, Filipino, Mathematics and Science subjects.

Respondents of the Study - There are 2,818 students from (Grades 7-12) junior high school to senior high school department in Rizal National High School and the sample size was three hundred thirty-nine (339) taken from RAOSOFT with a 5% margin of error and 95% confidence level. The respondents of the study were chosen through simple random sampling. A list of names of students from the school registrar was obtained and students were randomly selected using Microsoft Excel for equal chances of being selected.

Research Instrument - The self-constructed questionnaire was the main instrument used in this study and it consists of three parts: determination of the impact of the COVID-19 pandemic on learning in terms of time management, communication and feedback from teachers, availability of modules and reading materials and availability of electricity and availability of reliable internet connections, determination of the level of student respondents adaptation to distance learning modalities in terms of independent learning, support from adult members of the family, support from subject-teachers and advisers and determination of the level of student respondents self-efficacy in doing schoolwork related to psychomotor, cognitive, and affective aspects.

The researcher sought the help of six (6) experts from DWCSJ graduate school professors to validate the questionnaires. Suggestions were reflected and upon revision of the questionnaires, they were presented and approved. Questionnaires were reproduced and distributed to thirty (30) students in Magsikap National Vocational High School for reliability testing. Those who were tapped for reliability testing were not included in the final survey. Split-half was used to test the reliability of the questionnaire. The instrument in the form of a questionnaire was tried out using the test-retest method. The first try-out was administered to thirty (30) student respondents, then after a week's interval, the retest of the same questionnaire to the same group of respondents was given. The questionnaire was comprised of three parts, namely: impact of the COVID-19 pandemic on learning, level of adaptation to distance learning modalities, and level of student respondents' self-efficacy in doing schoolwork. Using Cronbach's Alpha measure to test its consistency, a generally acceptable result came out which is presented below.

Table 1
Result of the Reliability Analysis

COMPONENTS	RELIABILITY COEFFICIENT	INTERPRETATION
Time Management	Impact of COVID-19 Pandemic on Learning 0.820	High Reliability

COVID-19 learning in relation to students' adaptation to learning modalities, self-efficacy and achievement

Communication and Feedback from Teachers	0.785	High Reliability
Availability of Modules and Reading Materials	0.627	Moderate Reliability
Availability of Electricity	0.840	High Reliability
Availability of Reliable Internet Connection	0.900	Very High Reliability
Level of Adaptation to Distance Learning Modalities		
Independent Learning	0.854	High Reliability
Support from Adult Members of the Family	0.898	High Reliability
Support from Subject-Teachers or Adviser	0.833	High Reliability
Level of Perseverance in Doing School Work		
Psychomotor	0.797	High Reliability
Cognitive	0.901	Very High Reliability
Affective	0.802	High Reliability

The computed coefficients registered a high assessment of the reliability of the instrument. Hence, it can then be administered to the final group of student respondents.

Data Gathering Procedure - Before the conduct of the study, a request letter asking permission to conduct the study was sent to the Principal of Rizal National High School. Upon approval, informed consent was sent to prospective student respondents. Upon approval to conduct the study, the questionnaires were given to 339 student respondents. Data gathering was done based on computed sample size per section and the simple random technique using an application from Microsoft Excel. The standard administration procedure was observed by the researcher. This covered (1) the introduction and greetings; (2) the introduction of the researcher himself, the tasks as well as their purpose; (3) rapport building – to underscore anonymity of the response; (4) expression of gratitude and (5) expression of gratitude and assurance of questionnaire results dissemination and interpretation (Lopez et al., 2019).

Statistical Treatment of the Data - Descriptive statistics were used to describe the (1) impact of the COVID-19 pandemic on learning in terms of time management, communication and feedback from teachers, availability of modules and reading materials and availability of electricity and availability of reliable internet connections, (2) level of student-respondents adaptation to distance learning modalities in terms of independent learning, support from adult members of the family, support from subject-teachers and advisers, (3) level of student respondents self-efficacy in doing school works related to psychomotor, cognitive, and affective domains in terms of the average number of hours spent per day, (4) academic achievement of student-respondents in English, Filipino, Mathematics and Science subjects.

Regression analysis statistics were used to determine the significant relationship between the impact of COVID-19 Pandemic on learning and the level of student- respondents' adaptation to distance learning modalities significant relationship between the impact of COVID-19 pandemic on learning and the level of student respondents' self-efficacy in doing their school work in psychomotor, cognitive, and affective aspects, and the significant relationship between the impact of COVID-19 pandemic on student respondents academic achievement. To verify the correlation between the impact of COVID-19 on learning and student respondents' adaptation to distance learning modalities, perseverance, and academic achievement, multiple regression analysis was used. Analysis of data was done using the Statistical Passage for Social Sciences (SPSS) computer software.

Ethical Considerations - Participants for this study were minors, with an age group of 13-18 years. The researcher secured an ascent form where students signed that they agreed on terms and conditions to become the respondents of the study. The consent form signed by parents was also secured. Since all participants have moral and legal rights, ethical considerations are required for research studies. The researcher engaged professionally, did not violate their privacy without their agreement, did not cause distress, and recognized and correctly portrayed any information gathered from them. These are the critical characteristics identified by Walliman & Buckler (2008). Several ethical concerns of this research were ensured for responders to include the following:

Privacy and Confidentiality. The researcher guaranteed that the data were untraceable to anybody other than the researcher. Additionally, respondents were well-informed that the findings were presented in a research paper and may be published in a peer-reviewed publication, but their identities remained anonymous.

Safety. The researcher certified that the research was not damaging to respondents and that the information was used properly.

Autonomy. The researcher guaranteed that the respondents' participation in the study was entirely voluntary and that they may withdraw at any moment. There was no data collecting anymore or analysis beyond this point, and all existing data were collected.

Informed Consent. On the first page of the survey form, a consent letter described the study's major components and what was expected of them as respondents. They had consented to this, indicating their complete understanding of their involvement in this research project.

3. Results and Discussions

Table 2

Mean values of variables

COVID-19 Pandemic Impact on Learning	Composite Mean	Verbal Description
Time Management	3.29	Very High Extent
Communication and Feedback from Teachers	3.25	Very High Extent
Availability of Modules and Reading Materials	3.11	Very High Extent
Availability of Electricity	2.58	High Extent
Availability of Reliable Internet Connection	2.69	High Extent

Legend: 3.25-4.00- Very High Extent of Agreement; 2.50-3.24-High Extent of Agreement; 1.75-2.49-Low Extent of Agreement; 1.00-1.74-Least Extent of Agreement

Five indicators have been considered in the study to find the mean extent of the impact of the COVID-19 pandemic on learning as shown in Table 2. These include time management, communication and feedback from teachers, availability of modules and reading materials, availability of electricity, and availability of reliable internet connection. The computation yields a composite mean of 3.29 (VHE), 3.25 (VHE), 3.11(VHE), 2.58 (HE), and 2.69 (HE) respectively, and indicates a very high and high extent of the agreement by the students.

It is worth noting that despite the pandemic, students were able to manage their study time to get a good performance in school. The International Journal of Research Studies (2020) reported that one of the challenges of distance learning modalities for students worldwide due to the COVID-19 pandemic is ineffective time management. The report of INASED (2021), concluded that the plans made about education during the COVID-19 process could not be followed due to the inability to perceive time, the process negatively affected time management as it created psychological pressure and wasted time. However, this changed the perception of time by making the time pass quickly, that there were motivation problems arising from the focus and lack of explanations about the lessons and family factors, and that time traps related to excessive computer use, watching movies-series, and excessive communication was encountered. Having a strong correlation with the statement made by the 6th UPI international conference on TVET proceedings (2020), this supports the idea that students' time management was one of the factors affecting their learning outcomes because forced-distance learners practiced time management independently at home without a teacher's direct supervision to complete remote learning. Students were dependent on their discipline in scheduling their home studies. With this regard, despite being influenced by changes in the setup of learning and challenges in the use of time for doing schoolwork, students in Rizal National High School managed to prepare their schedule properly, follow a weekly home learning plan, finish their schoolwork, and regularly submit their output on time. To conclude, time management has a very high extent impact on students' learning during the COVID-19 pandemic.

A composite mean of 3.25 is registered for the second indicator, communication, and feedback from teachers, which corresponds to a very high extent of agreement. It can be noted that communication and feedback are very highly regarded as important to the students' learning whether the modality is virtual or face-to-face. True to its mandate, the Department of Education strives hard to deliver its mandate of providing basic quality education among learners and ensuring the welfare of teachers amidst the pandemic (DepEd, 2021). Effective

communication is the process of exchanging information in the best way possible. During the COVID-19 pandemic, the educational system and teachers find it challenging due to larger class sizes, a lack of online teaching infrastructure and professional development, and the student's lack of participation because each student has unique needs and preferences, whether they be academic, social, or cultural. In light of the pandemic situation, students and teachers at Rizal National High School had open communication. Students regularly received feedback and follow-ups on their outputs through the use of different means of communication, such as group chats, phone calls, texts, and the sending of communication letters. To conclude, teacher communication and feedback had a very high extent impact on students' learning during the COVID-19 pandemic.

Taking into consideration the availability of modules and reading materials, a high extent of agreement is conveyed by the students with a composite mean of 3.11. The availability of modules and reading materials needed by the learners is generally highly regarded. The fact that students have different learning paces, and some students particularly slow learners need more time in understanding the lessons in the modules. Despite the pandemic situation, Rizal National High School managed to provide printed modules and learning materials to students, as evidenced by students receiving modules on the scheduled date of distribution, regularly receiving printed summative tests and activity sheets, and students not receiving notice from school employees about failure to produce modules before scheduled distribution or about a lack of printing supplies for the modules. To conclude, the availability of modules and reading materials has a high extent impact on students' learning during COVID-19 pandemic.

Regarding the availability of electricity, students express a high extent of agreement which is equal to 2.58 composite mean. According to Ammar's (202) study, electricity consumption initially declines but then abruptly rises as a result of home consumption because people are unable to leave their homes due to community quarantine. While, to Martin's Perspective on Resources (2021), the same is true in the Philippines; the strengthened community quarantine forced Filipinos to spend a lot of time at home and household energy usage increased. The municipality of Rizal experienced frequent power outages, indicating a low extent for the statements "students do not experience brownout while doing schoolwork at home" and "students perceive it as very convenient to study at home during the pandemic due to the reliable power source." However, data cannot deny that having access to electricity helps students learn in general during the pandemic. The high extent results were noted for statements such as students not feeling pressured to finish schoolwork at home early because of the possibility of brownout; students feeling free to study any time of the day because they are not experiencing brownout; and continuous electricity supply helps a lot in students' journey of learning during the pandemic. To conclude, the availability of electricity has a high extent impact on students' learning during COVID-19 pandemic.

Considering the availability of a reliable internet connection, a generally high extent of agreement is recorded with a weighted mean of 2.69. In a virtual learning modality, the availability of a good and consistent internet connection is necessary. This is true for areas that are far from the cell sites, hence, no signal is received. These findings were emphasized in UNICEF's (2020) report where the experts studied the retention of information by students and how remote learning has impacted the development and social skills of children. It was concluded that online learning's effectiveness is dependent on three conditions one of which is having consistent access to the internet and computers. Pedagogical research, online tools like Google Classroom and Zoom, virtual learning environments, social media, and other group chat apps like Telegram, Messenger, WhatsApp, and WeChat are being used to study and test teaching and learning during the Coronavirus-19 pandemic. Teachers have developed creative solutions to address the challenges of online learning, and they are actively collaborating to improve online teaching methods, according to Kvavadze and Basilaia (2020). Currently, technology is employed in education to carry out duties related to teaching and learning. To promote students' involvement with the curriculum, universities are using technology more and more frequently today. For instance, active learning methods raise student interest, and as students' cognitive abilities advance, they might improve critical thinking. By using active learning approaches, teachers will be able to assess student's performance and understanding and make any necessary revisions to improve the course materials, according to

Doucet et al. (2020).

The availability of reliable internet connections played a significant role in learning during the pandemic. Due to their geographical location, areas in Rizal Municipality such as Barangay Magsikap, Malawaan, and Salvacion have poor internet connectivity, whereas the majority of Rizal has good internet connectivity, which had a positive impact on learning during the pandemic. To conclude, the availability of reliable internet connection has a high extent impact on students' learning during COVID-19 pandemic.

Table 3

Mean value of independent learning, support from adult members of the family, and from teachers

Adaptation to Distance Learning Modalities	Composite Mean	Verbal Description
Independent Learning	2.69	High Extent
Support from Adult Members of the Family	2.95	High Extent
Support from Subject-Teachers and Adviser	3.26	Very High Extent

Legend: 3.25-4.00- Very High Extent of Agreement; 2.50-3.24-High Extent of Agreement; 1.75-2.49-Low Extent of Agreement; 1.00-1.74-Least Extent of Agreement

Table 3 shows the level of adaptation to the distance learning modality indicated by independent learning, support from adult members of the family, and support from the subject teachers or advisers. When a child learns without the direct presence of teachers or anyone from the education sector, independent learning occurs. As the term was defined by Martin et al. (2013), adaptability is the capacity to regulate one's behaviors, thoughts, and feelings in response to novel, variable, uncertain, and unexpected situations and circumstances. It also has been identified as an important capacity for students' academic and personal development.

While it is true that students should learn to study on their own, however, some contents of the module may have not been clearly explained yet, so they resort to getting help from others. Doing things independently has been acknowledged in the findings of Bonneville-Roussy et al. (2013) where autonomy is found to be the basic psychological need to make choices without pressure, external control, or compulsions. Thus, it has been primarily acknowledged that having autonomy would support learning persistence. In other words, autonomy support is one factor that affects academic persistence. The Pandemic forced pupils to learn independently and promoting autonomy may influence academic persistence. According to the self-determination theory, autonomy is the desire to make decisions without interference with other forces such as external pressure, control, or compulsions (Deci & Ryan, 2000). According to most experts (Bonneville-Roussy et al., 2013), autonomy would encourage learning persistence. Students' independent learning as an adaptation to distance learning modalities was learned. This could be attributed to the implementation of enhanced community quarantine, which means that students cannot go out and ask for help from peers and must instead practice independent learning. To conclude, independent learning as an adaptation to distance learning modalities has a high extent impact on students' learning during COVID-19 pandemic.

Through distance learning, which is delivered in various forms like video or conference calls, chats, text messaging, phone calls, and print of modules, students are allowed to seek help from other persons. To facilitate learning, students oftentimes find themselves asking for support from the adult members of the family. This holds to the result about the level of support from adult members of the family wherein a high extent of agreement is indicated with a composite mean of 2.95. The support they get from the family members includes teaching complicated lessons in the module, explaining the instructions in answering summative tests, practicing and completing performance tasks, finding books and reading materials for additional information, and helping in searching internet sites for supplemental information. Since the students attend different subjects in a day and sometimes subject-teachers perform tasks simultaneously, hence, some students may find difficulty in complying with the requirement completion at the scheduled time, so they ask for assistance from their family members. Moreover, parents act as their children's at-home instructors during a pandemic, handling a variety of activities frequently assigned to the instructor, such as implementing lessons, but many parents lack the qualifications to do so. Parental influence as a teacher can occasionally harm parent-child interactions, aggravating both parents

and children. The current emphasis on meaningful involvement and genuine parent-educator partnerships, especially in online environments, may lead parental roles to considerably expand, according to Liu et al. (2010). To conclude, support from adult members of the family as an adaptation to distance learning modalities has a high extent impact on students' learning during COVID-19 pandemic.

Aside from the support received from the student's family members, they also seek support from their subject teachers and advisers. This indicator is accorded with a very high extent of agreement with a composite mean of 3.26. The results given above to the generally high extent of the level of students' adaptation in distance learning modalities support previous research findings by Hammerstein & Svenja (2021) that a systematic approach is required for the evaluation of online teaching and learning adaptation. The adapted online format of the curriculum is likely to impact learning pedagogy affecting both students and teachers. Adaptability was found to be a personal attribute, according to the Australian Academy of Science (2020) that is highly relevant through times of online remote learning and instruction. Subject teachers and advisers' support indeed played an important role in learning during the pandemic, but with the decreased amount of contact time for students and the lack of teacher's advice when encountering learning or understanding challenges, the level of academic performance of the students is expected to decline for the courses held for both the year-end assessment and internal examination (Sintema, 2020). In Rizal National High School, support from subject teachers and advisers in students' learning during the pandemic had a positive result of a very high extent as they communicated to students to teach complicated lessons from the module, provide clear instructions upon answering summative tests, provide guidance on how to conduct and perform performance tasks, provide books and reading materials for the enrichment of learning, and provide links and sites from the internet to explore for additional learning.

Table 4

Mean level of self-efficacy in doing schoolwork related to psychomotor, cognitive, and affective aspects

Self-Efficacy in Doing Schoolwork	Composite Mean	Interpretation
Psychomotor Aspect	3.06	High Extent
Cognitive Aspect	3.01	High Extent
Affective Aspect	3.07	High Extent

Scale: 3.25-4.00- Very High Extent of Agreement; 2.50-3.24-High Extent of Agreement; 1.75-2.49-Low Extent of Agreement; 1.00-1.74-Least Extent of Agreement

Table 4 presents the mean level of self-efficacy of students in doing schoolwork related to the three aspects which are psychomotor, cognitive, and affective. The psychomotor domain focuses on the learning and development of students that require an application and creation of learning like performances and skill works. While the cognitive domain covers the aspect of learning and development that pertains to acquiring knowledge in terms of reading, memorizing, remembering, understanding, analyzing, and evaluating and the affective domain emphasizes self-reflection of learning and its impact on students and its real-life applications.

Under the psychomotor aspect, the mean level of self-efficacy in doing schoolwork got a high extent of agreement with a composite mean of 3.06. According to research published about the investigation of the relationship between sources of self-efficacy beliefs of secondary school students and some variables by Air Arslan, Educational Science Theory and Practice, it is true that students' self-efficacy beliefs are one of their affective traits that mediates their cognitive and psychomotor learning processes. The belief that one can control their behavior and accomplish the goals one sets for themselves is known as self-efficacy (Bandura, 1997). Students in Rizal National High School gained a positive result when it comes to self-efficacy in doing schoolwork related to the psychomotor aspect, as students spend enough time per day on tasks that require the application of skills, performances that use video presentations such as dancing, singing, acting, and demonstration of skills within the quarter, art projects such as brochures, slogans, posters, and portfolios within the quarter, composing poetry or music using available materials at home, playing indoor and outdoor games, and performing recreational activities such as painting and Zumba.

Students manifest their level of self-efficacy in doing schoolwork using their cognitive domain in varied

ways such as spending enough time to read, remember and memorize lessons in modules, comprehending the lessons through inductive and deductive ways, analyzing the topics through mathematical computations, analyzing story plots, observing nature, knowing lesson values, conceptualizing discussed lessons through matrix and diagrams, and summarizing lessons through simple essays and diagrams. A study by D'Errico, et al. (2018) has detected and classified eleven (11) cognitive emotions students showed in video-lecture and chats with teachers.

Within online learning, cognitive emotions were crucial, but social emotions also needed attention, as revealed by Parlangei, et al. (2012). The outcome supports the social learning hypothesis by emphasizing the cognitive aspects of learning from a social context (Bandura 1986). The "cognitive social learning hypothesis" focused on how assumptions about how other people would act shape how a person will act. It was particularly suggested that observational learning required four processes: attention, motivation to engage in the activity, capacity to mimic the action, and memory of the conduct (Bandura 1986). Even though they are not generally viewed as being key domains of cognitive psychology, emotion, and motivation do have cognitive components. People's emotions are influenced by knowledge, at least in part, and mood is known to alter recall and clarity of mind. Students in Rizal National High School gained a positive result when it comes to self-efficacy in doing schoolwork related to the cognitive aspect, as students spend enough time per day to read, remember, and memorize lessons in the modules; understand and comprehend lessons in the modules through inductive and deductive ways of gaining information; analyze topics of the lessons through mathematical computations; analyze the plot of the stories; observe nature; and know the values of the lessons; conceptualize lessons discussed in the modules through matrices and diagrams; and summarize lessons discussed in the modules through simple essays and diagrams. To conclude, self-efficacy in doing schoolwork related to cognitive aspects has a high extent impact on students' learning during COVID-19 pandemic.

Again, the high extent of agreement on the affective aspect descriptors is revealed in Table 4. These results appear to be the opposite of what had been revealed in UNICEF's report (2020) that there was early evidence that children from ages 6 to 18 years experienced a significant increase in their expression of clinginess, irritability, and fear during the early pandemic school shutdowns. Other studies like the one conducted by Meeter, et al. (2020) discovered that students' motivation for online education decreased during the pandemic process. It also concluded that the motivation of students who could not leave their homes due to the COVID-19 process and receive online education is also negatively affected. It is heartening to note that the students at Rizal National High School express their self-efficacy in schoolwork as they explicitly apply their psychomotor, cognitive, and affective domains to improve their academic performance. Students' self-efficacy is a critical component of effective online learning. Promoting students' self-efficacy can potentially alleviate learning loss or drop-out, especially during a challenging time like the COVID-19 pandemic.

The findings support recent research claims that students with high feelings of effectiveness are more likely to set challenging objectives for themselves and to be inwardly motivated. According to Margolis, and McCabe (2006), students who have self-confidence recover quickly from setbacks and eventually succeed in achieving their goals. Students in Rizal National High School gained a positive result when it comes to self-efficacy in doing schoolwork related to the affective aspect, as students spent enough time analyzing the values of lessons and their importance to a real-life setting, doing self-reflection from the values of lessons in the module, applying the values of the lessons in a real-life setting, being a role model of goodness to the family through exhibiting respect among elders, and joining in civic activities in the community like coastal cleanup, waste management, and tree planting activities.

Table 5 summarizes the academic achievement of the 339 school learners considering their performance in four core subjects: English, Filipino, Mathematics, and Science. The student's academic achievement reveals a generally good performance in all the learning areas with grades falling from the 80 to 84 and 85 – 89 brackets. In addition, they performed very well in the four learning areas reaching 90 to 94 grades. The results of the student's academic achievement can be used as a good indicator for the education providers to employ advanced

interventions to further improve the level of their student's academic performance. This seems to be differing from Woessmann's (2020) findings that there is an estimated negative effect on student achievement and learning inequalities due to COVID-19 as many educators and researchers have also raised concerns about the effects of the COVID-19 pandemic.

Table 5

Summary of academic achievement of secondary school learners in Rizal National High School

	ENGLISH		FILIPINO		MATHEMATICS		SCIENCE	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
70 – 74	1	.3	0	0	1	.3	1	.3
75 – 79	14	4.1	10	2.9	27	8.0	19	5.6
80 – 84	160	47.2	85	25.1	150	44.2	131	38.6
85 – 89	129	38.1	154	45.4	128	37.8	146	43.1
90 – 94	34	10.0	76	22.4	28	8.3	40	11.8
95 – 99	1	.3	14	4.1	5	1.5	2	.6
Total	339	100.0	339	100.0	339	100.0	339	100.0

Table 6

Regression between impact of the COVID-19 pandemic on learning adaptation to distance learning modalities

Dependent Variable (Learning Adaptation to Distance Learning Modalities)	Independent Variable	Multiple R	p-value (Sig.)	Interpretation
Independent Learning	TIME	0.486	.000	Highly Significant
	MOD		.000	Highly Significant
	ELECTR		.037	Significant
	INTERNET		.039	Significant
Support from Adult Members of the Family	INTERNET	0.499	.000	Highly Significant
	COMM		.000	Highly Significant
	TIME		.000	Highly Significant
Support from Subject- Teachers or Adviser	COMM	0.457	.000	Highly Significant
	TIME		.003	Significant
	MOD		.000	Highly Significant

***Significant at $p < 0.05$*

Five components are considered to describe the impact of the COVID-19 pandemic which include time management, communication and feedback from teachers, availability of modules and reading materials, availability of electricity, and availability of reliable internet connection as shown in Table 6.

The result of the regression analysis that is set at the 0.05 significance level reveals that time management (TIME) and the availability of modules and reading materials (MOD), electricity (ELECTR), and reliable internet connection (INTERNET) contribute to a moderate level to the learning adaptation in terms of independent learning. This is indicated by the positive multiple *R*-value of 0.486 with the significant contribution, attested by the *p*-values of .000, .037, and .039, all of which are less than 0.05. It is noted in the results, time management and availability of modules showed a highly significant contribution to the level of independent learning with a .000 *p*-value. Students find ways to learn independently provided these factors are present. Students need a well-planned schedule for them to allocate each of their tasks in every learning area with the corresponding modules and reading materials needed for each subject. The importance of electricity and internet connection is emphasized as this contributes to the student's learning pace. Another set of contributory factors to the student's learning adaptation in terms of support from adult members of the family comes from a reliable internet connection, time management, and communication and feedback from teachers (COMM). A moderate and positive multiple *R*-value of 0.499 is recorded and is highly significant with a .000 *p*-value. Usually, at home, the adult members of the family, represented by parents or older brothers and sisters, assist the student, hence, the household needs a sufficient electric power supply as well as a consistent internet connection.

In the adaptation to distance learning modalities in terms of support from subject- teachers, and advisers, three factors under the impact of the COVID-19 pandemic on learning emerged from the regression analysis.

Highly significant are the availability of modules and reading materials as well as the communication and feedback from teachers, indicated by the p -value of .000. Another significant contribution is given by time management with a .003 level of significance. These three combined components contribute to a moderate level with a 0.457 multiple R -value. The findings above give a clear indication that time management can predict the students' learning adaptation to distance learning modalities. This effect is also confirmed in similar studies by Tanrıöğen & Işcan (2009) & Alharbi (2020). Findings showed that time planning skill was effective in achieving performance, an important and positive relationship exists between time planning, time management, and academic performance, and participants of the study who had deficiencies in time planning experienced problems with doing academic activities on time. Başak et al. (2009) also confirmed that when the participants' mean of time planning was low, they could not manage their time well.

The results above lead to the rejection of the null hypothesis that there is no significant relationship between the impact of the COVID-19 pandemic on learning and time management, availability of modules and reading materials, electricity, reliable internet connection, communication, and feedback from teachers, and the learning adaptation of student-respondents to distance learning modalities. This suggests the marked influence of time management, the availability of modules and reading materials, electricity, a reliable internet connection, and the communication and feedback from teachers on the students' adaptation to distance learning modalities.

The relationship between the impact of the COVID-19 pandemic on learning during a pandemic and the level of student respondents' self-efficacy in doing their schoolwork in terms of psychomotor, cognitive, and affective aspects is found positive and moderate. This is indicated by the multiple R values of 0.471, 0.461, and 0.469, corresponding to the descriptors for psychomotor, cognitive, and affective aspects. As disclosed in Table 6, identical factors, such as time management, reliable internet connection, and communication and feedback from teachers emerge with highly significant contributions at the .000 level to the student's cognitive and affective domains. The self-efficacy in doing schoolwork considering the psychomotor aspect is significantly influenced by time management, reliable internet connection, and communication and feedback from teachers with p -values of .007, .004, and .011, respectively. It is more likely that students who aim to achieve well in school have more expectations from what they use in learning such as electricity, internet, and being aware of their schedule.

Table 7

Regression analysis between the impact of the COVID-19 pandemic on learning adaptation to self-efficacy

Dependent Variable (Self-Efficacy in Doing Schoolwork)	Independent Variable	Multiple R	p -value (Sig.)	Interpretation
Psychomotor	MOD	0.471	.000	Highly Significant
	TIME		.007	Significant
	INTERNET		.004	Significant
	COMM		.011	Significant
Cognitive	TIME	0.461	.000	Highly Significant
	COMM		.000	Highly Significant
	INTERNET		.000	Highly Significant
Affective	TIME	0.469	.000	Highly Significant
	INTERNET		.000	Highly Significant
	COMM		.000	Highly Significant

***Significant at $p < 0.05$*

Moreover, their feelings of being highly motivated may likely be dependent on the availability of electric power in the household along with a stable internet connection. It is also likely that they feel happy to complete their school tasks given the resources needed at home. The above findings may be associated with what Tulis and Ainley (2011) pointed out persistence can depend on students' emotions. Joy and anxiety were also potentially related to their ability or resources to achieve their goal. The findings of Wang et al. (2021) also revealed that having a choice and a high intensity of joy can promote students' self-reliance and persistence. The results above lead to the rejection of the null hypothesis that there is no significant relationship between the impact of the COVID-19 pandemic on learning and the level of the student respondents' efficacy in doing schoolwork in

psychomotor, cognitive, and affective aspects.

Table 8

Regression analysis between the impact of the COVID-19 pandemic on learning and academic achievement

Dependent Variable (Academic Achievement)	Independent Variable	Multiple R	p-value (Sig.)	Interpretation
English	ELECTR	0.198	.004	Significant
	MOD		.006	Significant
Filipino	None	-	-	Not Significant
Mathematics	TIME	0.234	.000	Highly Significant
	ELECTR		.006	Significant
Science	MOD	0.261	.004	Significant
	ELECTR		.003	Significant
	TIME		.020	Significant

***Significant at $p < 0.05$*

The student's academic achievement in the four learning areas is found to be significantly related to the impact of the COVID-19 pandemic on learning at a low level except for Filipino which is not influenced by the independent factors. A low multiple *R*-value of 0.198 is recorded with the corresponding *p*-values of .004 and .006 for the availability of electricity and modules and reading materials connected to the student's academic achievement in English. As second-language to Filipinos, students need to be provided with additional learning modules and reading materials to support their English learning. Since most of the additional learning tasks need to be done at home during nighttime, the availability of an electric power source is of high importance.

The science performance of students appears to be influenced at a low level by the availability of modules and electricity and time management. A coefficient of 0.261 can attest to this. At a similar level, mathematics performance shows influence by the availability of electricity and time management with a low coefficient of 0.234. It is surprising to note that none of the factors on the impact of the COVID-19 pandemic on learning showed an influence on the students' academic performance in Filipino. This is possibly due to the student's familiarity with the language used in the subject. The findings above corroborate with UNICEF's (2020) findings that while academic performance is noted to be declining, the pandemic may create a snowball effect setting back children without access to resources. It was disclosed that mathematics scores are impacted overall more negatively by school absences than English language scores. Moreover, families depended on schools for much more than mathematics and reading. In mathematics, Backes and Cowan (2019) revealed that students experienced a struggle with online formats in the subject. In their assessment, it was found that paper-based tests yielded higher mathematics results than online tests. The students' efficacy in online mathematics learning was linked to their later mathematics achievement. In another context, findings disclosed by Martin (2021) demonstrated that achievement is not only a function of subject-specific mathematics self-efficacy but also a function of domain-specific efficacy. The results above lead to the rejection of the null hypothesis that there is no significant relationship between the impact of the COVID-19 pandemic on learning and the academic achievement of student respondents.

4. Conclusions

The following are the conclusions derived from the research findings: In general, the impact of the COVID-19 pandemic on learning ranged from moderate to severe, implying that factors such as time management, communication and feedback from teachers, availability of modules and reading materials, availability of electricity, and availability of a reliable internet connection all played an important role in acquiring quality basic education during a pandemic. The level of student respondents' adaptation to distance learning modalities, ranged from high to very high. It reflected independent learning, support from an adult member of the family, and support from subject teachers and advisers led to a better adaptation of students to the different ways of acquiring knowledge during the COVID-19 pandemic. Students' self-efficacy in doing schoolwork corresponding to psychomotor, cognitive, and affective aspects gained high-degree results. It

concluded that the content of the lesson catered to the three aspects of learning, and students' perseverance in doing lessons and activities in those aspects was affirmative.

Academic achievement of students at Rizal National High School in the core subjects such as English, Filipino, and Mathematics revealed 80-84 and 85-89 ratings, respectively, indicating that the education sector had implemented measures to provide quality basic education to students despite the COVID-19 pandemic situation. The impact of the COVID-19 pandemic on learning directly influenced the learning adaptation of students to distance learning modalities. Time management and the availability of modules and reading materials, electricity, and a reliable internet connection contributed to the moderate level of learning adaptation. It can be concluded that aside from those factors, it was significant for students to do independent learning and get support from adult members of the family and subject teachers and advisers in acquiring knowledge. The impact of the COVID-19 pandemic on learning during the pandemic and the level of student respondents' self-efficacy in doing their schoolwork in psychomotor, cognitive, and affective aspects were found to be positive and moderately affected. It can be concluded that factors such as time management, communication and feedback from teachers, availability of modules and reading materials, availability of electricity, and a reliable internet connection had an impact on student respondents' perseverance in doing schoolwork. The student's academic achievement in the four learning areas was found to be significantly related to the impact of the COVID-19 pandemic on learning at a low level, except for Filipino, which was not influenced by the independent factors. This conveyed that time management, communication, and feedback from teachers, the availability of modules and reading materials, the availability of electricity, and the availability of a reliable internet connection played a significant role in good academic achievement in general.

4.1 Recommendations

Based on the findings and conclusions of the study, the following recommendations are offered by the researcher: The Local Government Unit of Rizal shall assist in ensuring that students receive modules and submit outputs regularly by providing service transportation and manpower support during output provision and retrieval while adhering to the minimum health protocol established by the Inter-Agency Task Force (IATF) and the Department of Health. The Local Government Unit of Rizal and private stakeholders like OMECO and internet communication signal providers such as Globe and Smart shall help in ensuring a teacher-student interaction despite the pandemic by setting up a Memorandum of Understanding to lessen costs or provide free services and improve their service during the pandemic. The Local Government Unit of Rizal, in partnership with existing local brotherhoods and organizations, shall help in empowering students to do independent learning using ensuring peace and order in different barangays, imposing curfews, and limiting noise produced by appliances and vehicles.

The Local Government Unit of Rizal, through the Municipal Social Welfare and Development Office; shall empower parents through the provision of online seminars or orientations about parenting styles adaptable to a pandemic setting to equip them with strategies for helping students cope with a situation; may submit a letter to a higher authority, such as the office of the governor, to allocate communication and transportation allowances to teachers, which will vary depending on the location and circumstances, to ensure students receive quality education amid pandemic; shall tap existing non-government organizations like Plan International and the World Vision Development Foundation; other organizations and the private sector to help in the provision of gadgets like computers and cellular phones to learners, construction, and equipping a computer laboratory at school with free internet connectivity to bridge the distance that limits student-teacher communication and ensure they receive quality basic education.

Rizal National High School, under the Department of Education, shall consider different distance learning modalities that support students' learning in the municipality of Rizal, including the use of modular print, online communication platforms, and home visitations while observing the basic minimum health standards set by the Inter-Agency Task Force (IATF) and the Department of Health. Teachers in Rizal National High School; shall adopt and localize the Learning Continuity Plan designed by the Department of Education; shall localize the

contextualization of their learning activity sheets and modules, which shall incorporate three domains of learning: cognitive, psychomotor, and affective per topic, to ensure greater understanding of the lesson, which may also be used not only during the pandemic but as also enrichment of lessons for remediation among students who are frequently absent during lean months and rice field preparations to ensure greater understanding of the lesson, which may also be used not only during the pandemic but as enrichment of learning for students needing remediation; shall, through the Department of Education, conduct ICT training for teachers to empower them as they constantly communicate with learners and do lessons with the aid of computer technology. Write-shop training and seminars shall be given to teachers as they write and prepare to learn activity sheets for learners per subject area, which may also serve as a tool to enrich students' learning once they are absent from classes or under medical conditions. Modular or online refresher courses about general education shall be offered to parents and guardians, including topics about secondary education, as they play a significant role in helping and guiding students' learning during the pandemic and even during normal daily situations.

5. References

- (DepEd Philippines, 2020). Republic of the Philippines Department of Education: Official Statement: Addressing challenges in the basic education through the Learning Continuity Plan LCP
<https://www.deped.gov.ph/2020/05/06official-statement-2>
- (DepEd, 2021). Republic of the Philippines Department of Education: Official Statement: On the Opening of School Year 2021-2022
<https://www.deped.gov.ph/2021/07/15on-the-opening-of-school-yaer-2021-2022>
- 2013 National Demographic and Health Survey (NDHS), Philippines, Part of Worldwide MEASURE Demographic and Health Surveys program to collect information on a variety of health-related topics including fertility, family planning and maternal and child health. PHL_2013_dhs_v01_M
<https://microdata.worldbank.org/index.php/catalog/2060>
- Air Arslan, Educational Science Theory and Practice, Educational Sciences: Theory and Practice, An International Journal, Volume 20, Issue 3 Eisen: 2148-7561/ ISSN: 2630-5984 / <https://jestp.com>
- Alharbi, RN, J. (2020). The potential for COVID-19 to contribute to compassion fatigue in critical care nurses.: *Wiley Online Library, Journal of Clinical Nursing*, 9(15) p. 2762-2764,
<https://doi.org/10.1111/jocn.15314>
- Ammar, A. (2020). Can COVID-19 mitigation measures promote telework practices? *Wiley Online Library, Journal of Labor and Society*, 23(4) p. 551-576, <https://doi.org/10.1111/wusa.12498>
- Australian Academy of Science (2020). COVID-19 News and Resources Hub; Rapid Research Information Forum, RRIF Reports April to November 2020.
<https://www.science.org.au/covid19/news-and-resources>
- Backes, B. & Cowan, J. (2019). Is the pen mightier than the keyboard? The effect of online testing on measured student achievement.: *Science Direct, Economics of Education Review*, 68, 89-103,
<https://doi.org/10.1016/j.econedurev.2018.12.007>
- Bandura, A. (1986). Teaching Tip Sheet: Self-Efficacy / Social Foundations of thought and action: A social cognitive theory: *American Psychological Association: Public Interest Directorate*,
<https://www.apa.org/pi/aids/resources/education/self-efficacy>
- Bandura, A. (1997). Self – efficacy: The exercise of control: *W H Freeman/ Times Books/ Henry Holt & Co.*
<https://psycnet.apa.org>
- Basak, C., Boot, W., Voss, M., and Kramer A. (2009). Can Training in a Real-Time Strategy Video Game Attenuate Cognitive Decline in Older Adults? : *PubMed Psychology and Aging*, 23(4): 765-77
DOI:10.1037/a0013494,
- Bonneville-Roussy, A., Vallerand R., and Bouffard T. (2013). The Roles of autonomy support and harmonious and obsessive passions in educational persistence: *Learning and Individual Differences* 24 (2013)22-23,
journal homepage: www.elsevier.com/locate/lindif
- Creswell, J. (2002). Educational research: Planning conducting and evaluating Quantitative and Qualitative

- Research: American Journal of Educational Research. 2014, Vol. 2 No. 9, 801-810 DOI: 10.12691/Education-2-9-15, <http://www.sciepub.com/reference/69171>
- D'Errico, M., Romano, D., and Pietrelli R. (2018). Household resilience to food insecurity: evidence from Tanzania and Uganda: Research Gate Net, DOI: 10.1007/s12571-018-0820-5,
- Deci E. and Ryan R. (2000). Facilitation of Intrinsic Motivation, Social Development, and Well Being: University of Rochester, <https://selfdeterminationtheory.org>
- Doucet, A., Pokhrei S. & Chhetri, R. (2020). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning, Open Access Research Article, <https://doi.org/10.1177/234763112098348>
- Hammerstein, A. & Svenja, B. (2021). Effects of COVID-19-Related School Closures on Student Achievement- A Systematic Review, *Sec. Educational Psychology, Volume 12-2021/* <https://doi.org/fpsyg.2021.746289>
- INASED (2021), Inased (inhaled sedation in ICU trial protocol: a multicenter randomized open-label trial: National Library of Medicine: National Center for Biotechnology Information <https://pubmed.ncbi.nlm.nih.gov/33608400>
- Kvavadze, C. & Basilaia, D. (2020). Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia, *Pedagogical Research*, <https://www.pedagogicalresearch.com>
- Liu, E., Black, A., Algina, C. & Dawson, J. (2010). The Validation of One Parental Involvement Measurement in Virtual Schooling, *Journal of Interactive Online Learning*, V9 n2 p 105-132 Sum 2010 DOI: EJ938840
- Lopez- Bueno, R., Lopez-Sanchez, G. and Smith, L. (2019). Potential health-related behaviors for pre-school and school aged children during COVID-19 Lockdown: A Narrative Review. <https://ncbi.nlm.nih.gov>
- Margolis, H. & McCabe, P. (2006). Improving Self-Efficacy and Motivation: What to Do, What to Say.: *Invention in School and Clinic*, 41. No. 4, 218-227. Reprinted with permission. SAGE Journals.
- Martin, A. J. (2021). Adaptability and High School Students' Online Learning During COVID-19: *A Job Demands- Resources Perspective, School of Education, University of New South Wales, Sydney, NSW, Australia, Volume 12 -2021/* <https://doi.org/10.3389/fpsyg.2021.702163>
- Martin, A., Nejad, H., Colmar, S. and Liem, G.A. (2013). Adaptability: How Students' Responses to Uncertainty and Novelty Predict Their Academic and Non- Academic Outcomes, *Journal of Education Psychology* 105(3):728 DOI: 10.1037/A0032794 <https://researchgate.net>
- Meeter, M., Bele T., den Hartogh, C., Bakker, T., de Vries, R., and Plak, S. (2020). College students' motivation and study results after COVID-19 stay -at-home orders, *Vrije Univerteit Amsterdam*, m.meeter@vu.nl , PsyArXiv <https://psyarxiv.com>
- Parlangeli, O., Marchigiani, E., Guidi, S. and Mesh, L. (2012). Disentangled emotions in blended learning, *International Journal of Human Factors and Ergonomics 1(1): 41-57 Project: CLA SIENA ONLINE – UNIVERSITY OF SIENA ITALY /* DOI: 10.1504/IJHFE.2012.045255 <https://www.researchgate.net>
- Pelletier, L., Fortier, M., Vallerand, R. and Briere, N. (2001). Associations Among Perceived Autonomy Support, Forms of Self-Regulation, and Persistence: A Prospective Study, *Motivation and Emotion* 25 (4) : 279-306/ DOI: 10.1023/ a:1014805132406, <http://www.researchgate.net>
- Pensiero, N., Kelly, A. & Bokhove, C. (2020). Learning inequalities during the COVID-19 pandemic: How families cope with home-schooling. University of Southampton research report. <https://doi.org/10.5258/SOTON/P0025>. (n.d.).
- Sintema E.J. (2020). Effect of COVID-19 on Performance of Grade 12 Students: Implications for STEM Education. *Eurasia Journal of Mathematics, Science and Technology Education*, 16, 1-6. <https://doi.org/10.29333/ejmste/7893/> <https://www.scirp.org>
- Smith, J., Guimond, F. A., Bergeron, J., St-Amand, J., Fitzpatrick, C., & Gagnon, M. (2021). Changes in students' achievement motivation in the context of the COVID-19 pandemic: A function of extraversion/introversion? *Education Sciences*, 11(1), 30. <https://doi.org/10.3390/educsci11010030>. (n.d.).
- Tanrıoğen, S. & Işcan, A. (2009). The Effects of COVID-19 Process on Time Management of Foreign Language Teacher Candidates, *Educational Policy Analysis and Strategic Research*, V16, N2, 2021 INASED,

EJ1301907 <https://files.eric.ed.gov>

The International Labor Organization (ILO): Publications 2023 Promoting Labour Rights and reducing decent work deficits <https://www.ilo.org/global/toipcs/child-labour/publications/lang--en/index.htm>

Tulis, M. and Ainley, M. (2011). Interest, enjoyment, and pride after failure experiences? Predictors of Students' state-emotions after success and failure during learning in mathematics. *Educational Psychology*, 31 (7), 779-807/ <https://doi.org/org/10.1080/01443410.2011.608524> / <https://psycnet.apa.org>

UNICEF (2021). Education response to COVID-19 pandemic, a special issue proposed by UNICEF: Editorial Review, <https://doi.org/10.1016/j.ijeddudev.2021.102485>
<https://www.sciencedirect.com/science/article/pii/S0738059321001383>

University.com International : Digital articulation: a new HE internationalization model, University World News <https://www.universityworldnews.com>

UPI international conference on TVET proceedings (2020) Proceedings of the 6th UPI International Conference on TVET 2020 / @atlantis-press.com <https://www.atlantis-press.com>

Van der Velde, M., Sense, F., Spijkers, R., Meeter, M., & van Rijn, H. (2021). Lockdown learning: Changes in online study activity and performance of Dutch secondary school students during the COVID-19 pandemic. PsyArXiv. <https://doi.org/10.31234/osf.io/fr2v8>. (n.d.).

Vansteenkiste, M., Simons, J., and Lens, W. (2004). Motivating Learning, Performance and Persistence: The Synergistic Effects of Intrinsic Goal Contents and Autonomy-Supportive Contexts: *Personality Processes, and Individual Differences*. <https://selfdeterminationtheory.org>

Walliman, N. & Buckler, S. (2008). Your dissertation in education, Publisher: SAGE / <https://scholar.google.com>

Wang, C., Chen, J. & Wang, Y. (2021) Effects of family participatory dignity therapy on the psychological well-being and family functions of patients with hematological malignancies and their family care givers: a randomized controlled trial, Richard Gray. *Int J Nurs Stud*. 2021 Aug., National Institutes of Health / <https://pubmed.ncbi.nlm.nih.gov>.

WHO, (2020). Corona Virus Disease (COVID-19) <https://www.who.international.com>

Woessmann, L. (2020). Folgekosten ausbleibenden Lernens: Was wir über die Corona-bedingten Schulschließungen aus der Forschung lernen können [Follow-up costs of an absence of learning: What research can teach us about corona-related school closures]. *Ifo Schnelldienst*, 73(6), 38–44.

