

Challenges Perceived By the Physical Education Students in CIT-University towards Online Learning for School Year 2022-2023

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ABSTRACT

This study explored the challenges faced by Physical Education (PE) students during online classes during the academic year 2022-2023. Using a quantitative survey method, data were collected to identify key difficulties encountered by students. The findings revealed several significant obstacles, including technological issues, limited learning resources, difficulties in performing physical activities remotely, and heightened stress levels. These challenges negatively impacted students' academic performance, motivation, and overall wellbeing. The study underscores the need for universities to implement targeted interventions to enhance the effectiveness of online PE classes and improve student-learning experiences in virtual settings.

Keywords: Physical Education, online classes, online challenges, technological issues, physical activities, stress levels, academic performance, motivation, student well-being, interventions, virtual learning.

INTRODUCTION

Article XIV, Section 19 of the 1987 Philippine Constitution has mandated that: "The state shall promote physical education and encourage sports program, league competitions and amateur sports including the training for international competitions to foster self-discipline, teamwork and excellence for the development of a healthy and alert citizenry." This mandate is significant when a strong Physical Education program and sports will be implemented from elementary up to college. Physical Education as part of the educational system plays an important role in the lives of the students. It helps them to attain total fitness to enable them to enjoy the "good life". As a subject in school, it helps the students to learn the basics of wellness from pre-school to college level. Physical education and sport is a physical activity that begins by seeing and performing a movement and continues into physical activity that adapts muscles and physiology on a daily basis (Syamsuramel et. al. 2020). Supporting schools in establishing regular physical education will give students the skills and motivation they need to be physically active for the rest of their lives. One of the most critical facets of the educational and teaching systems is physical education (Boonsem et. al., 2020). It is also the responsibility of the physical education instructors including being a physically active role model for students and assisting them in appreciating the value of physical activity will contribute to the growth of student self-esteem, especially among students who are often disadvantaged in physical education classes and planning and teaching lessons that would inspire all students to participate in class. The physical education instructors should encourage the students and build relationship for them to feel more fun and have unforgettable experiences in physical activities that would help them to grow and improve health and fitness (Cruz and Kim, 2023).

Exercise and movement-focused classes play a crucial role in the educational system. They contribute to students' overall development by promoting not only physical health, but also social skills, emotional stability, cognitive function, and personal growth. To achieve and improve these aspects, one should face endeavors and challenges, especially in the new normal settings. Multiple colleges and universities have also introduced online classes to continue the learning that students started in a face-to-face environment. With the addition of other online learning resources, it became the predominant means of imparting information to students (Chogo, 2020). Since online teaching creates new and exciting opportunities to expand the learning experience for a wide variety of students, it is becoming increasingly popular. To raise additional income, some institutions are also inspired to provide online learning programs. Furthermore, both institutions are under pressure to represent a generation of

students who grew up with the internet at their fingertips. According to Moustakas and Robrade (2022), many students noted that they experienced so many struggles during online classes especially when using laptops, webcams and microphones. In Friedman's article (2020), shifting to online learning is difficult to students especially if the subjects are suited for a face-to-face class like laboratory classes. Even with adjustments to online teaching methods in physical education subject, students still prefer the traditional face-to-face learning environment (Kim and Tran, 2022). Physical education students have also difficulty when it comes to performing exercises, dances and playing games or sports.

According to Chung's 2020 research, the global COVID-19 crisis has impacted higher education institutions worldwide in both obvious and subtle ways. There is a great impact on education especially to the physical education students and teachers since this situation is such a big issue. García and Weiss (2020) note that the shutdown of educational institutions, compounded by health and economic challenges, creates substantial hurdles for both learners and educators. The pandemic has had a major effect on universities and colleges worldwide, fundamentally altering their educational systems (Mialkowska, 2025). This situation generates stress that extends beyond the classroom, affecting not just students but also teachers and families. To overcome the danger of a pandemic, the education sector has taken a unique path to surviving disasters and digitizing challenges (Jena, 2020). The effect of pandemic displayed a great impact to student's social and emotional well-being (Juvonen, J. et. al 2022). The inability to form interpersonal relationships with peers, the stress and anxiety states associated with using technology, and being pushed out of one's comfort zone are all examples of personal obstacles to participation. These obstacles may not be faced by those participating in these same units through face-to-face or mixed enrolment modes, providing a different form of learner to consider when planning and implementing online learning activities.

Another obstacle faced by students is the economic status that they are having right now. Students from low-income families and students from high-income families were disproportionately affected, and dependency on using laptops was linked to lower grade point averages. In a synchronous mode of delivery, most students are not yet ready due to internet connectivity (Pastor, 2020). The importance of effective online collaboration/group work cannot be overstated; however, potential obstacles to success may serve to isolate students, leading to disengagement or withdrawal (Rudenko. et al. 2020). Subiyantoro (2024) stated that addressing the challenges faced by the students in an online learning need a joint effort among teachers, administrators, parents and even technology providers to ensure that all students have all the opportunities in an online learning participation and involvement. There is also a greater need for educational institutions to improve teaching practices to make them more sensitive to students' learning needs outside of traditional classrooms (Toquero, 2020). Physical education instructors should be trained for them to effectively implement online learning by using different digital platforms and technologies (Konukman, et.al 2022). According to Martín-Rodríguez and Madrigal-Cerezo of 2025, educators should have essential skills and knowledge to incorporate different online learning approaches to ensure the continuous delivery of high-quality instruction in a digital environment.

Enhancing the use of technology in higher education institutions to improve the effectiveness of physical education would be of great help to students and teachers as well (Burkhonovich, 2020). According to Lobo of 2022, advanced technology is the answer to the problem of the COVID-19 pandemic where students can still study and learn at home. Online learning not only offers a digital comfort for the student, but it also enables the student to closely track changing and improving conditions (Herguner et.al, 2020). It is one way of opening the doors to the online era and continue to improve and develop education especially in the physical education subject. Higher education is being reshaped not only by the advancement of technology, but by how educators pedagogically and professionally navigate the tensions between its positive and negative effects of emerging technology Marshall, et. al, 2024). With this, the students will be able to learn and become adept in the field of technology.

As Physical Education instructors of Cebu Institute of Technology - University, it is very important to know the obstacles perceived by the Physical Education students and their experiences upon taking up the course during the new normal setting. In addition, through knowing the obstacles perceived by the students, the researchers would have an idea how the students understand the Physical Education subjects in the new normal. Learning

from the feedback, it can make the Physical Education department aware about the things happening in the environment of Physical Education in this kind of setting.

Lastly, after knowing the challenges perceived by the students toward the Physical Education subjects, the researchers able to find out that there is a significant difference between the students' perceptions toward PE subjects in an online and face-to-face set-up. It is good to know for the Physical Education instructors how to deal with these problems and discuss with the students the possible output for their Physical Education activities. PE instructors should be equipped to handle various challenges that may arise during physical activities. Being able to deal with these challenges effectively ensures a safe and productive learning environment.

Furthermore, it is hoped that through this study the students would be more aggressive and energetic to attend whether it is Physical Education online or face-to-face classes. When students are genuinely interested in PE, they are more likely to be active and engaged. It is expected that having such information would improve the quality of Physical Education and the institution as well.

METHODOLOGY

Research Design

To identify the challenges perceived by the Physical Education students at the university, the study utilized instruments adapted from the Fortune, M. et. al (2011) and Sharma, S. et. al (2021). The researchers used descriptive quantitative study and utilized the descriptive survey and use a questionnaire consisting of the information about the students in terms of name, age, sex, course/subject enrolled, perceptions and challenges perceived by the students.

Research Environment

The study was conducted at Cebu Institute of Technology–University (CIT-U) at N. Bacalso Avenue, Cebu City. This study leveraged online platforms such as Google Forms and Gmail to facilitate the research process

Research Subjects/Respondents

The respondents of this study were the selected 80 college PE students at Cebu Institute of Technology located at N. Bacalso St., Cebu City. The researchers selected the respondents through the utilization of purposive sampling method with the following criteria:

- must be an online-learning college-level student
- 20 students enrolled in PE 103 during pandemic
- 20 students enrolled in PE 104 during pandemic
- 20 students enrolled in PE 205 during pandemic
- 20 students enrolled in PE 206 during pandemic

Research Instruments

The researchers used researcher-made questionnaire to conduct the study through the google form. The questionnaire included Likert scale items, and multiple-choice questions. Questionnaires were given to the students pertaining to perceptions and challenges perceived by the students. To show the distribution of responses for each survey item, the researchers used frequency and percentage distributions.

Research Procedure

The researchers utilized a Google Forms questionnaire to collect data from the selected PE students. A digital link was distributed to participants, who completed the survey via the Google platform. Each session lasted approximately 30 minutes, and respondent anonymity was strictly maintained to ensure confidentiality.

Ethical Considerations

The researchers created a researcher-made questionnaire using Google Forms considering the respondents as the subject of the study. The researcher ensured that the research is useful for the respondents, PE students, researchers, teachers and the school. The respondents were informed that the answering of the questionnaire is in voluntary condition. All the data that were gathered and personal information remained with utmost confidentiality in the whole-time process.

RESULTS AND DISCUSSION

The following were the results of the study:

A. Age of Respondents

The table represents the age demographics of a study involving 404 total respondents. The data reveals a highly concentrated demographic primarily composed of young adults. The largest single group of respondents is 20 years old, accounting for 150 individuals or 37.1% of the total sample. While there is a significant concentration of respondents in the late teen to early adult range. Specifically, those aged 19 to 22, make up a combined 81% of the total sample (19.1% + 37.1% + 24.8%). Moreover, participants peak at age 20 and shows a sharp, steady decline as age increase. By age 23, the representation drops to just 2.7% (11 respondents) and continues to decline to a low of 0.5% for the 30-year-old category. Those at the youngest end of the age group (age 18) represents a small but notable 5% of the group. While the data is heavily focused towards younger individual, with respondents aged 24-30 combined making up only 2.4% of the total.

Table 1: Age of Respondents

Age	Respondents	Percentage
18	20	5%
19	100	24.8%
20	150	37.1%
21	77	19.1%
22	36	8.9%
23	11	2.7%
24	5	1.2%
25	3	0.7%
30	2	0.5%
Total	404	100%

B. Gender of the Respondents

As shown in table 2, females constitute the largest portion of the respondents, accounting for 53.2% or 215 individuals. Males follow with 39.6% or 160 responses. The study includes LGBTQ+ representations at 5.2% (21 responses) while a small minority of 2% (8 responses) preferred not to share their gender information.

Table 2: Gender of the Respondents

Gender	Respondents	Percentage
Male	160	39.6%
Female	215	53.2%
LGBTQA+	21	5.2%
Prefer not to share	8	2%
Total	404	100%

C. Year Level of the Respondents

The respondents' pool in table 3 is dominated by freshmen, specifically in their first and second year of college. Second-year students make up the largest segment at 57.7% (233 respondents). Furthermore, first-year students consist of 39.6% of the population or 160 respondents. Lastly, senior students are significantly less represented, with third year and fourth-year students combined numbers for only 2.7% of the total population.

Table 3: Year Level of the Respondents

Year Level	Respondents	Percentage
First Year	160	39.6%
Second Year	233	57.7%
Third Year	5	1.2%
Fourth Year	6	1.5%
Total	404	100%

D. Device used by the Students

The data in table 4 indicated a strong reliance on mobile and portable technology among the student population. Cellphones are the most frequently used device, utilized by 84.4% (341 respondents) of the students. While laptops are the second most preferred device used by 55.7% (225 respondents). In addition, traditional personal computers with 13.4% and tablets with 4.7% are used far less frequently than mobile phones and laptops. This means that the high percentage of cellphones and laptop usage implies that mobile devices are strongly preferred for educational reasons.

Table 4: Device used by the students

Device	Respondents	Percentage
Personal Computer	54	13.4%

Laptop	225	55.7%
Tablet	19	4.7%
Cellphone	341	84.4%

E. Internet Connection used by the Students

Internet connection used by the students is presented in Table 5. Most students use wireless internet connections to access educational materials. The most popular option is Wi-Fi (74.5%), with mobile data (70.5%) coming in close second. This demonstrates that when using the internet for educational reasons, portability and flexibility are clearly preferred. Less than half of students (6.7%) connect to the internet via LAN cables. This shows that in the educational contexts that these data represent, wired connections are not as prevalent.

Table 5: Internet Connection used by the Students

Internet	Respondents	Percentage
LAN Cable	27	6.7%
Wifi	301	74.5%
Mobile Data	285	70.5%

F. Financial Capability to Buy

The academic behavior of the students shown in table 6 indicates a consistent, short- term commitment to maintaining their digital connectivity. According to the data, a significant majority students (60.4% purchased prepaid load once a week. While roughly 32.2% of respondents purchase load once a month. Only a fraction 7.4% reloads their devices every day.

Table 6: Financial Capability to buy Prepaid Load

How often	Respondents	Percentage
Once a Month	130	32.2%
Once a week	244	60.4%
Everyday	30	7.4%

G. How convenient to buy Prepaid Load

Table 7 results show that most participants (62.9%) expressed satisfaction with the convenience of acquiring prepaid load while 37.1% find it inconvenient in buying prepaid load.

Table 7: How convenient to buy Prepaid Load

How convenient	Respondents	Percentage
Yes	254	62.9%
No	150	37.1%

H. Internet Connectivity

Internet signal plays a great role in the success of an online class. Table 8 shows the internet connectivity. Most of the respondents (43.8%) had a fairly strong internet signal, followed by strong (34.2%) and very strong (6.2%) signals. Significantly fewer respondents (13.1%) reported having a fairly weak signal, compared to 2.5% who reported weak signal and 0.2% who reported terrible signal.

Table 8: Internet Connectivity

Internet Signal	Respondents	Percentage
Very Strong (no disruption at all)	25	6.2%
Strong (disrupts very often)	138	34.2%
Moderately Strong (connectivity disrupts for about 3- 5minutes in a day)	177	43.8%
Moderately Weak (connectivity disrupts for about 30 minutes in a day)	53	13.1%
Weak (connectivity disrupts for about one (1) day)	10	2.5%
Poor (connectivity disrupts for about 2-3 days)	1	0.2%

I. Technical Literacy

Table 9 represents the technical literacy of the respondents. Most respondents (80.2%) are knowledgeable about using their devices, while a significant minority (19.8%) are not. This indicates that consumers who are uncomfortable using their devices need extra help and education.

Table 9: Technical Literacy

Know how to use and run device	Respondents	Percentage
Yes	324	80.2%
No	80	19.8%

J. Hours Spent in Online Class

The number of hours spent by the students in an online class is shown in Table 10. The distribution of respondent's time spent in online courses is seen in Table 10. Twenty-five percent of the answers fell into the 2hour time category, which is the most prevalent duration among the given time groups. Of the respondents, about 21.0% spent three hours, 25.2% spent four hours, and 16.1% spent five hours. Furthermore, 16.1% of responders fall into the 'Others' group, meaning that a non-negligible portion does not fall within the given ranges and may spend more or less time.

Table 10: Hours spent in online class

Hours	Respondents	Percentage
2	102	25.2%
3	85	21%

4	65	16.1%
5	86	21.3%
Others	66	16.3%

K. Physical Effects on Spending Online Class

Table 11 represents the physical effects on spending online class. The fact that just 10.4% of respondents said they had no bodily effects shows how widely the impact has affected students' wellbeing. The most common symptom, which was reported by 61.1% of respondents, points to possible strain from bad posture and extended screen usage. This comes in close second at 63.9%, indicating over-attention to detail that might cause pain and possibly dryness. 48.5% of respondents reported having experienced this, which suggests musculoskeletal problems that are probably caused by bad posture and restricted movement during online sessions. This confirms the link between extended periods of sitting and physical discomfort, as reported by 57.7% of respondents. Even while these side effects are less common, such as weight increase (22.3%) and other unidentified problems (5.9%), they nevertheless add to the general image of physical health being negatively impacted by online learning.

Table 11: Physical Effects on spending online class

Physical Effects	Respondents	Percentage
None	42	10.4%
Body pains	196	48.5%
Headaches	247	61.1%
Eye irritation	258	63.9%
Poor posture	233	57.7%
Weight gains	90	22.3%
Others	24	5.9%

L. Challenges perceived by the Students during their Online Class

Challenges perceived by the students during their online class in table 12 discusses that 55.9% or 226 students has experienced procrastination, 206 (51%) has experienced interruptions in online classroom by family, breaches etc. Time lag in speaking according to 203 (50.2%) is another challenge faced by them while 195 (48.3%) says lack of internet access or connectivity is another issue. Increased workload due to home and other activities has been experienced by 188 or 45.6% students 185 (45.8%) students say another challenge is the distractions or disturbances in voice or during online presentation. Lack of personal motivation has been perceived by 184 (45.5%) students, 175 (43.3%) added delay in timing of lectures, while 173 (42.8%) says power failure is another challenge, 169 (41.8%) further included lack of interactions with peers. Both challenges about the use of mobile phones or other technologies during online classes and mental stress due to corona virus pandemic has been perceived by 148 (36.6%) of the student's population. Furthermore, 146 or 36.1% students says they experienced less confidence for online classes, 135 (33.4%) students added uncertainties leading to loss in motivation, 126 (31.2%) included lack of immediate feedback, while 121 (30%) lack of instructions/information. 80 (19.8%) students experienced lack of access to resources, while 76 (18.8%) of them added another challenge perceived like lower quality of material delivered online. The rest of the students like the 70 (17.3%) of them says challenges like directly connecting with teacher, lack/problem of infrastructure to

participate in online classes 68 (16.8%), teachers ignoring/ delaying the doubts asked 67 (16.6%), lack of understanding of operations of platforms 57 (14.1%) , lack of technical skills associated for execution in platform 56 (13.9%) , insufficient training to use the system 49 (12.1%) , and lastly, inhibition in using technology by 43 (10.6%) are included in the list of challenges perceived by the students during their online classes.

Table 12: Challenges faced in Online Class

Challenges	Respondents	Percentage
Delay in timing of lectures	175	43.3%
Inhibition in using technology	43	10.6%
Lack of instructions/information	121	30%
Directly connecting with teacher	70	17.3%
Lack of immediate feedback	126	31.2%
Lower quality of material delivered online	76	18.8%
Insufficient training to use the system	49	12.1%
Lack of interaction with peers	169	41.8%
Lack of technical skills associated for execution in platform	56	13.9%
Less confidence for online classes	146	13.1%
Procrastination	226	55.9%
Lack of personal motivation	184	45.5%
Interruptions in online classroom (by family, breaches etc.)	206	51%
Lack of internet access or connectivity issues	195	48.3%
Lack of understanding of operations of platform	57	14.1%
Lack of access to resources	80	19.8%
Mental stress due to corona pandemic	148	36.6%
Uncertainties leading to loss in motivation	135	33.4%
Use of mobile or other technologies during online classes	148	36.6%
Lack/problem of infrastructure to participate in online classes	68	16.8%
Distractions/disturbances in voice or presentation	185	45.8%
Teachers ignoring/delaying the doubts asked	67	16.6%
Increased workload due to home and other activities	188	46.5%

Power failure	173	42.8%
Time lag in speaking	203	50.2%

M. Student’s Perception in Face-to-Face Classes

Table 13 shows the student’s perception in face-to-face classes. As for the classroom environment, it was easier for the students to communicate with their classmates, 97.3% of them says they agree. When asked if they would prefer face-to-face instructions, 90.6% agreed. Students were also asked whether face-to-face instructions helped them understand the course concept better, 93.6% also had a positive response. Regarding technology's impact on their ability to complete their required course, 56.2% of students agreed it has an influence, while 43.8% disagreed. When asked if their coursework challenges them, 81.9% said yes, and 18.1% said no. To the question of whether in-person teaching would be more effective to learn the content and course materials, 92.8% agreed, while 7.2% disagreed. Furthermore, 94.6% of the students agreed to the question whether face-to-face instructions would help them learn more, while 97% says that instructor understands the environment and makes it easy to learn. Learning environment helps the students comprehend the course materials more according to the 95.3% of students who answered the question, while 83.2% responded that access to the internet/ email makes it easier to communicate with their classmates while 16.8% says otherwise. On the other hand, 65.6% of the responders claims that online environment makes it easier for them to communicate with their instructors, while 43.4% says otherwise. The face-to-face learning environment would contribute to the student’s overall satisfaction of the course; this was responded positively by 92.1% students. However, another claim that being in a face-to-face communication would improve their ability to learn, according to the 96.8% students who responded the question. Finally, 46.3% claims that they took the class on campus because they will not enroll in the online section.

Table 13: Student’s Perception in Face-to-Face Classes

Perception	Agree	Disagree
A classroom environment makes it easier for me to communicate with my classmates.	97.3%	2.7%
I would prefer face-to-face instruction.	90.6%	9.4%
Face-to-face instruction would help me understand the course concepts better.	93.6%	6.4%
The use of technology interferes with my ability to accomplish the required coursework.	56.2%	43.8%
I feel challenged by the coursework.	81.9%	18.1%
Face-to-face instruction would be a better way for me to learn the content/course materials.	92.8%	7.2%
Face-to-face instruction would help me learn more.	94.6%	5.4%
The instructor understands the environment and makes it easy to learn.	97%	3%
The learning environment helps me comprehend the course materials.	95.3%	4.7%
Access to the Internet/email makes it easier to communicate with my classmates.	83.2%	16.8%
An online environment makes it easier for me to communicate with my instructor.	65.6%	34.4%
The face-to-face learning environment would contribute to my overall satisfaction of the course.	92.1%	7.9%

Being in a class with face-to-face communication would improve my ability to learn.	96.8%	3.2%
I took this class on campus because I could not enroll in the online section.	46.3%	53.7%

CONCLUSION

The study at CIT University during the 2022-2023 academic year revealed significant challenges faced by Physical Education (PE) students adapting to online learning. These challenges were multifaceted and impacted students' academic performance, motivation, and overall well-being.

The following conclusions are as follows:

1. Unreliable internet connection, inadequate technological devices, and limited software access hindered participation and engagement in online PE activities.
2. The online environment made it difficult for students to perform complex exercises safely and effectively, and the lack of in-person guidance and feedback compromised skill development.
3. Feelings of isolation, decreased motivation, and difficulty staying focused during online PE classes negatively impacted students' mental and emotional well-being.
4. Lack of access to proper equipment for at-home workouts, limited space for physical activity, and a dearth of online resources specifically designed for remote PE classes posed significant obstacles.

RECOMMENDATIONS

Based on the identified challenges faced by Physical Education (PE) students during the 2022-2023 academic year, the following recommendations aim to improve the online learning experience for future semesters:

The following recommendations are:

1. Develop a program to loan laptops, tablets, or fitness trackers to students who lack adequate technological devices for online PE classes.
2. Explore partnerships with local fitness centers or community organizations to offer discounted access to equipment or workout facilities for students.
3. Encourage online group activities and discussions to enhance student motivation and engagement. Consider breakout sessions during online classes for peer interaction and exercise accountability.
4. Develop online learning modules that break down complex exercises into smaller, manageable steps. Provide clear video demonstrations and instructions for safe and effective exercise execution.
5. Offer alternative assignments or modifications for students with limited space or equipment. Be mindful of diverse learning styles and abilities and provide options for students to demonstrate their understanding of concepts.
6. Regularly solicit feedback from students through surveys, focus groups, or class discussions to identify areas for improvement and adapt online PE offerings accordingly.

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REFERENCES

1. Boonsem, Aungkana; Chaoensupmanee, Thongchai. 2020. Determining the Factors of Teaching Effectiveness for Physical Education. *International Education Studies*; Vol. 13, No. 3; 2020 ISSN 1913-9020 E-ISSN 1913-903
2. Burkhonovich, Muhammadiyev Komil. 2020. Improving Technologies of Increasing the Efficiency of the Process of Physical Education in Higher Educational Institutions. *European Journal of Research and Reflection in Educational Sciences* Vol. 8 No. 5, 2020, Part II ISSN 2056-5852
3. Chogo, Pamela John. 2020. An Evaluation of Higher Education Students Online Learning Experience. *International Journal of Scientific and Research Publications (IJSRP)* 10(06):926-933
4. Chung, Ellen; Subramaniam, Geetha; Dass, Laura Christ. 2020. Online Learning Readiness among University Students in Malaysia amidst COVID-19. *Asian Journal of University Education*, v16 n2 p46-58 Jul 2020
5. Cruz, Angelita B.; Kim, Hyun-Duck (2023). Transformational Leadership of Physical Education Instructors and University Students' Satisfaction with Online Classes. Retrieved from <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2023.1259218/full>
6. Fake, Helen; Dabbagh, Nada. 2020. Personalized Learning within Online Workforce Learning Environments: Exploring Implementations, Obstacles, Opportunities, and Perspectives of Workforce Leaders. *Technology, Knowledge and Learning*, v25 n4 p789-809 Dec 2020
7. Fortune, Mary F.; Spielman, Melany; Pangelinan, Dean T. (2011). Students' Perceptions of Online or Face-toFace Learning and Social Media in Hospitality, Recreation and Tourism. Retrieved from https://jolt.merlot.org/vol7no1/fortune_0311.htm
8. Friedman, Jordan. 2020. Tackle Challenges of Online Classes Due to COVID-19. Retrieved from <https://www.usnews.com/education/best-colleges/articles/how-to-overcome-challenges-of-online-classes-dueto-coronavirus>
9. García, Emma; Weiss, Elaine (2020). COVID-19 and Student Performance, Equity, and U.S. Education Policy: Lessons from Pre-Pandemic Research to Inform Relief, Recovery, and Rebuilding. Retrieved from <https://eric.ed.gov/?id=ED610971>
10. Herguner, Gülten; Son, Saltuk Buğra; Herguner Son, Sinem; Donmez, Ahmet. 2020. The Effect of Online Learning Attitudes of University Students on their Online Learning Readiness TOJET: The Turkish Online Journal of Educational Technology – October 2020, volume 19 issue 4
11. Jena, Pravat Kumar (2020). Impact of Pandemic COVID-19 on Education in India. *International Journal of Current Research (IJCR)* , Vol-12, Issue-7, Page-12582-12586 (2020) DOI-<http://journalcra.com/article/impactpandemic-covid-19-education-india>, Available at SSRN: <https://ssrn.com/abstract=3691506>
12. Juvonen, J., Lessard, L.M., Kline, N.G. et al. Young Adult Adaptability to the Social Challenges of the COVID19 Pandemic: The Protective Role of Friendships. *J Youth Adolescence* 51, 585–597 (2022). <https://doi.org/10.1007/s10964-022-01573-w>
13. Kim Le, T. T., & Tran, B. T. (2022). Students' perceptions towards challenges in online physical education course. *Proceedings of the 2022 6th International Conference on Education and Multimedia Technology*, 95– 100. <https://doi.org/10.1145/3543407.3543425>
14. Konukman F, Filiz B, Ünlü H (2022) Teachers' perceptions of teaching physical education using online learning during the COVID-19: A quantitative study in Turkey. *PLoS ONE* 17(6): e0269377. <https://doi.org/10.1371/journal.pone.0269377>
15. Lobo, Joseph, A Sudden Shift: Students' Perception of Distance and Online Education in Physical Education Amidst COVID-19 Pandemic (2022). Retrieved from <https://ssrn.com/abstract=4263223>
16. Marshall, S., Blaj-Ward, L., Dreamson, N., Nyanjom, J., & Bertuol, M. T. (2024). The reshaping of higher education: technological impacts, pedagogical change, and future projections. *Higher Education Research & Development*, 43(3), 521–541. <https://doi.org/10.1080/07294360.2024.2329393>

17. Martín-Rodríguez, A., & Madrigal-Cerezo, R. (2025). Technology-Enhanced Pedagogy in Physical Education: Bridging Engagement, Learning, and Lifelong Activity. *Education Sciences*, 15(4), 409. <https://doi.org/10.3390/educsci15040409>
18. Mialkowska, L., Vavdiuk, N., Koretska, N., Zabiaka, I., Pimenova, O., Pylypiuk, L., & Stryzheus, L. (2025). Global practices in ensuring and improving the quality of education during crises. *Pegem Journal of Education and Instruction*, 15(3), 1–8. <https://doi.org/10.47750/pegegog.15.03.01>
19. Moustakas, Louis; Robrade, Denise (2022). The Challenges and Realities of E-Learning during COVID-19: The
20. Case of University Sport and Physical Education. Retrieved from <https://www.mdpi.com/2078-1547/13/1/9> Pastor, Cherish Kay Landicho. Sentiment Analysis on Synchronous Online Delivery of Instruction due to
21. Extreme Community Quarantine in the Philippines caused by COVID-19 Pandemic *Asian Journal of Multidisciplinary Studies* Vol. 3, No. 1, (2020)
22. Rudenko, Elena; Bachieva, Rupiya; Aligadzheva, Alfiya; Temirhanova, Zarema; Archilaeva, Atikat. 2020. Distance learning during the pandemic: managing the challenges. *E3S Web Conf.*, 210. (2020) 18038 DOI: <https://doi.org/10.1051/e3sconf/202021018038>
23. Sharma, Sangeeta; Bumb, Arpan (2021). The Challenges Faced in Technology Driven Classes During COVID-19. Retrieved from <https://www.igi-global.com/gateway/article/full-text-pdf/264398>
24. Subiyantoro, Singgih (2024). Transformative Online Learning in Post-Pandemic: Challenges, Opportunities, and Future Trends. Retrieved from <https://jkd.komdigi.go.id/index.php/pekommnas/article/view/5233>
25. Syamsuramel, Iyakrus; Silvi Aryanti; Arizky Ramadhan. 2020. The Fitness Level of Physical Education Student. *Advances in Social Science, Education and Humanities Research*, volume 513
26. Toquero, Cathy Mae (2020). Challenges and Opportunities for Higher Education Amid the COVID-19 Pandemic: The Philippine Context. Retrieved from <https://eric.ed.gov/?id=EJ1263557>
27. Wei, Huei-Chuan; Chou, Chien. 2020. Online Learning Performance and Satisfaction: Do Perceptions and Readiness Matter?. *Distance Education*, v41 n1 p48-69 2020
28. Article XIV, Section 19 of the 1987 Philippine Constitution. Retrieved from <https://www.officialgazette.gov.ph/constitutions/the-1987-constitution-of-the-republic-of-the-philippines/the1987-constitution-of-the-republic-of-the-philippines-article-xiv/>