






Experiences of college students with physical impairment during online classes in physical education

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ABSTRACT

Due to the rampant spread of COVID-19, schools have shut down worldwide, resulting in dramatic changes in education. Physically impaired students are one of the groups that were highly affected by these drastic changes. On a positive note, according to previously conducted studies, online physical education can provide students with disabilities a context in which self-efficacy and participation are promoted, which may lead to improved academic achievement. This qualitative-exploratory study is focused on unraveling the experiences and challenges of students with physical impairments during online PE classes amidst the pandemic. Ten (10) samples of college students within Pampanga, Philippines, participated in the study. This study has analyzed in-depth college students' concepts, thoughts, and experiences during their online PE. Narratives from the participants were analyzed using manual qualitative analysis through transcriptions, coding, categorization, and thematic analyses. Based on the findings, three central themes have emerged: (a) becoming better, fitter, healthier, and happier; (b) overcoming challenges; and (c) having a healthy mind in a healthy body. Indeed, there is a need to ameliorate the delivery of acclimated or special needs physical education by making teachers more involved and dynamic in their tasks and lessons. PE teachers supervising students with physical impairments should determine their capacities and measures that need enforcement to support participation in sports and fitness. Aside from the findings discovered, an in-depth analysis of how academic performance, personality types, parental support, or sports participation can affect students' perception or experience in online physical education classes is highly suggested.

Keywords: Experiences; college students; online class; physical education; physically-impaired

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INTRODUCTION

COVID-19 has shut down schools worldwide (Lobo, 2022; Salasac & Lobo, 2022). The suspension of traditional face-to-face instruction in schools has led to concerns about consequences for students' learning (Engzell et al., 2021). The suspension of the face-to-face class has affected 95% of the world's student population, which was considered the largest disruption to education in history, added by Engzell. As a result, the education sector changed dramatically and e-learning phenomenally rose, whereby teaching is being held remotely on various digital platforms (Oraif & Elyas, 2021). The pandemic has impacted the teaching and learning process, and the environment.

The COVID-19 pandemic threatens all members of society. However, the population group that is highly impacted is people with disabilities (Velasco et al., 2021). Persons with disabilities (PWDs) are disproportionately affected not only because of vulnerability but also due to the regulations implemented to control the virus which is approximately 1.44 million or 1.57% of the population in the Philippines. Since PWDs have pre-existing health conditions, this makes them more susceptible to contracting the virus, experiencing more severe symptoms, leading to death.

The pandemic has posed many threats to students with disabilities, especially during the online class modality. Previously conducted studies have provided the challenges of PWDs during the pandemic. Such as the findings of Denisova et al. (2020) revealed that problems with socio-psychological (low self-motivation and self-organization, fatigue, low mood, and lack of live communication), and technical (internet connectivity and distance learning platforms) are the problems students with disabilities are facing. Moreover, parents' support, change in routine, inequities of resources and access to technology, lack of accommodations, and social isolation were the challenges discovered by Denisova et al. (2020). This implies that even though online learning provides comfort and safety for PWDs, there is only a minimal transfer of skills and knowledge to learners (Tegero, 2021).

There have been numerous studies which investigated the experiences of students with physical impairment during the pandemic from various educational institutions on their online physical education classes (Bertills et al., 2021; Pellerin et al., 2022; Roldan & Reina, 2021; Tarantino et al., 2022). On the other side, most of the empirical studies that were conducted in the Philippines are not related to online physical education (Allam & Martin, 2021; Jesamine et al., 2021). In this regard, there is a need to conduct an investigation to enumerate the experiences of students with physical impairment in a local college setting, and to address any barriers and challenges that they are facing. Likewise on the importance provided to regular students, physically impaired students should also be highly prioritized to foster inclusivity (Molina-Roldán et al., 2021; Norwich, 2022).

Review of Related Literature

Factors Influencing Physically Impaired Students on Physical Activities

According to Berry and Domene (2015), physically-impaired students may have movement-related problems. Physical access to the learning environment is the initial barrier experienced by many students with impairment. Relative to this, the inaccessibility of buildings and surroundings areas is the problem. It hinders their ability and takes much more time than ordinary students. On the positive side, physical activity increases not only the physical well-being of children with physical impairment but also their emotional and social well-being, which may also increase their functional independence, integration, and quality of life, positively impacting their future health (Bloemen et al., 2015). Added by Bloemen et. al., young people with cerebral palsy (CP) participated in habitual physical activity at a rate that was 13% to 53% lower than those with typical development and 30% lower than the recommended guidelines. Therefore, it is alarming to see a child with a physical impairment who cannot engage themselves in physical activities. Children must be encouraged and motivated to engage in various physical activities to increase their health and quality of life. It may improve bone density and muscle mass, reduces pain and the risk of chronic diseases, and contributes to maintaining body weight (Pans et al., 2021). Also, to reduce the development and

mortality of non-communicable diseases such as cancer, type II diabetes, and cardiovascular diseases.

Moreover, the factors that influence physically-impaired students in physical activities have three levels: individual, social, and environmental (Banks et al., 2017; de Hollander & Proper, 2018; Mendes et al., 2018). First, the individual level is the lack of knowledge, such as where to exercise, fear of falling, impairment can produce pain, and lack of energy. The social and environmental level is where children with disabilities depend more on their parents than healthy children; there is a lack of professional preparation or equipment for PE teachers and the exclusion of students with disabilities. Additionally, the lack of places to play for children, inaccessible health clubs, and barriers in outdoor areas falls to this level. Hence, the following factors hinder physically-impaired students from not getting the benefits of doing physical activities. Parents and teachers have a critical role in this situation to provide what students need, especially engaging physically-impaired students in various physical activities. Clemente (2017) have also emphasized the crucial role of teachers in handling these students, to value their students as much as they respect their ability to perform a specific physical activity.

Consequences of Physical Impairment on Physical Education

According to Gaetano (2016), lack of physical activities cause the onset of some disorders and diseases such as cardiovascular problems, heart attack and certain cancers. There is a strong need to increase all participation levels across various physical activities throughout life to ensure a better quality of life for all. Lack of physical activity can lead to physical problems which can significantly impacts human life, so it is necessary to perform and be involved to physical activities to prevent, and solve health and physical problems. In the case of physically-impaired students, immobility in itself has a range of adverse effects on the body, and its functioning, which are outlined (Macfarlane, 2013). Being unable to move or being limited to movement is one of the consequences that physically-impaired students have struggled during physical education classes. Students who wanted to live healthy and independent lives are at risk of losing that, added by Macfarlane. Maintaining a healthy lifestyle and functional independence for students with physical impairment has been already a significant public issue all throughout the years. Inclusive physical education programs can do a great deal to improve the lifestyle of children with physical impairment (Bertills et al., 2019; Marron et al., 2021). Added to that, it can help control obesity, improve self-esteem, and social skills, encourage an active lifestyle, and maintain motivation in various areas of life.

The difficulties of physically-impaired students vary and depend on the extent of their impairment (Pasay-An, 2015). This means the kind of condition they have affects how they perform in their physical education classes. Students are being limited on doing certain physical activities and struggling to catch up with their classmates. Pasay-An also added, physically-impaired students were found to have common problems and difficulties concerning their education such as suitable facilities and lack of trained teachers. It is the main reason why Special Education (SPED) teachers are trained to be more flexible to sustain students' needs. Teachers should make extra efforts for physically-impaired students to prevent the limit on doing particular physical activities.

Additionally, one of the consequences that physically-impaired students are facing is bullying. This is prevalent across various studies that were already conducted. Evidences consistently reports that males are more likely involved in bullying cases compared to females (Cook et al., 2010; Malecki et al., 2020; Smith et al., 2019). However, there are some findings showing that females are highly involved in bullying at a higher rate or

having wider experience with specific forms of bullying than boys (Holbrook et al., 2020; Strohacker et al., 2021). It is clear that in an inclusive education process, all students with physical impairment are potentially bullied (Jesina et al., 2022).

Online Physical Education Classes During the Pandemic

Even though the onslaught of the COVID-19 virus has caused catastrophic situations, it does not mean that learning should stop, especially in physical education. In order to fight the virus, people should be healthy and physically fit all the time, especially in a time like this. Jeong and So (2020) and Lobo et al. (2022) have stated that physical education centers on physical activities and is distinct compared to other general knowledge-based courses. Therefore, online physical education classes require special preparation and operation to efficiently communicate with the students and practice the values of physical education, especially during the pandemic. In this, physical education teachers should carefully plan and select the concepts highly needed by the students in order for them to perform well, which can result in students enjoying their classes and appreciating the value that physical education would like to be inculcated in them.

According to Carone (2012), online physical education class may not be the primary and only answer to solving the childhood obesity problem. Yet, it can provide a personalized physical education experience for students and paves the road to a healthy lifestyle. In this, schools and students can benefit from online physical education classes from exploring online solutions. Added by Carone, *participating in regular physical activity, students learn the principles of health and fitness, not just the rules of a sport*. In this, students must engage themselves in physical activities but should be supervised by the teacher. Involvement in various physical activities help to boost immune system and can benefit mood, sleep, and physical health (Ai et al., 2021). The same is true most especially to physically-impaired students as supported by previously conducted studies (Lidor & Hutzler, 2019; Ross et al., 2016; Shields & Synnot, 2016).

Assumptions

1. Teaching Online Physical Education to physically-impaired students will likely improve the learner's physical health and mental health. With principles of social distancing, all face-to-face classes were suspended due to the ongoing COVID-19 pandemic.
2. Physical activities will likely improve the student's health holistically. Physical impairments may impact some or all actions to a greater or lesser extent.
3. One of the critical challenges that physically-impaired students need to overcome is bullying. It is emphasized that bullying situations harm students' enjoyment of PE, leading to detrimental consequences for their physical and psychological health.

METHOD

Research Design

The research study employed a qualitative-exploratory method, which focused on collecting and analyzing non-numerical data, and was used to investigate a problem that is not clearly defined. Data are gathered using in-depth interviews to collect detailed information beyond initial and surface-level answers, investigating the participants' experiences and challenges. The researchers recruited participants through an online interview.

Sampling Technique and Population

In order to recruit participants for the study, purposive sampling was utilized. It is also known as selective or subjective sampling, a non-probability sampling technique in which researchers rely on their judgment when choosing participants due to their qualities that are fitted for the study (Lobo et al., 2022). Moreover, selection criteria have been set to ensure the validity and reliability of the data gathered: (1) Must be studying in Pampanga and be willing to participate and be interviewed online; (2) Any gender or sexual orientation; (3) Must be 18 years old and above; (4) must be registered as a Person with Disability (PWD) within their locality; (5) participants must have one of the following: (a) vision impairment, (b) hearing impairment, (c) physical deformities, (d) speech impairment.

Instrumentation

This study used a two (2) part questionnaire, where the researchers formulated an Informal Interview Guide. Part I deals with the demographic profile and history. The researchers wanted to know the history of every participant, how they deal with trials as an impaired students and how they overcome problems with the various physical activities they do at school. Part II deals with questions and concepts being studied by the research objectives. Based on the current literature review, the researchers identified all items in parts I and II.

To ensure validity and transferability of the data gathering tools used, (1) face, (2) content, and (2) expert validation was secured. For *face validity*, member checking was conducted. This refers to the extent to which a test appears to measure what it is intended to measure. *Member checking*, also known as participant validation, is a technique for exploring the credibility of results (Birt et al., 2016). For *content validity*, the study secured approval from the City College of Angeles' College Guidance and Formation Office (CGFO). It refers to the extent to which the items on a test are reasonably representative of the entire domain the test seeks to measure. Lastly, for *expert validity*, the researchers asked for professional advice from the faculty handling the subject matter. Expert Validity is where the experts can examine the items and decide what that specific item is intended to measure (Taherdoost, 2016).

Data Gathering and Ethical Considerations

The target sample size for this study is 10 Key Informant Interviews (KIIs) or In-depth Interviews (IDIs); 2 Focus Group Discussion (FGD) or 4 to 8 people until data saturation. The following protocols are followed in recruiting participants for this study: First, the researchers sought verbal consent to the Authorized Person's Position for approval. Second, researchers wrote a formal request letter indicating the study's objectives and the participant's expected contribution, risks, and benefits. Third, researchers provided a sample questionnaire/interview guide and secured the list of names and contact information. The researchers contacted potential participants and correctly explained the study's objectives and the participants' expected contribution, risks, and benefits. The researchers also asked for verbal and written consent. Fourth, researchers also asked for a preferred method of gathering online or face-to-face data, and health protocols were observed. Fifth, the researchers scheduled data gathering and conducted data gathering based on agreed conditions.

Data Analysis

Since data saturation is reached, the gathered data are analyzed using Manual Qualitative Analysis through the following steps (Bikner-Ahsbabs, 2019): (i) Transcriptions, (ii) Coding, (iii) Categorization, (iv) Thematic Analysis.

RESULTS AND DISCUSSION**Table 1. Demographic Profile and Impairment History of the Participants**

Code Name	Age	Gender	Program/Course	Disability/Impairment	Achievement	Organization
P01	42	Male	Bachelor of Science in Information System	Orthopedic Disability	2nd Place in Quiz Bee	Joined the PWD called federation
P02	21	Male	Bachelor of Science in Psychology	Visual Disability	Community and Leadership award	Sikolohiyang Kapampangan Youth organization
P03	22	Female	Bachelor of Technical-Vocational Teacher Education	Clubfoot	N/A	N/A
P04	27	Female	Bachelor of Technical-Vocational Teacher Education	Deaf and mute	High School Valedictorian	N/A
P05	20	Female	Bachelor of Science in Mathematics	Leg length discrepancy	With Honors in High School	Campus Paper Staff
P06	21	Female	Bachelor of Science in Agriculture	Cleft lip	N/A	N/A
P07	21	Female	Bachelor of Science in Information Technology	Orthopedic Disability	N/A	N/A
P08	19	Male	Bachelor of Physical Education	Deaf	Excellence Awardee Dean's Lister /	Auditor in Math Club
P09	21	Male	Bachelor of Science in Computer Science	Cerebral Palsy / Orthopedic Disability	Google Ambassador Community Developer	President of Computing Society
P10	20	Male	Bachelor of Science in Information Technology	Communication Disorder	Grade 7 and 10 Best in Conduct Awardee	Poster Making organization

Table 1 illustrates the demographic profile and impairment history of the participants. Based on the findings, most of the participants are vicenarians. Also, there is an equal ratio based on gender, and all are at the tertiary level. The majority of the participants have achievements and organizations where they currently belong.

Table 2. List of Alternatives Activities

List of Alternative Activities
<ul style="list-style-type: none"> • Written Activities • The activities are made easier • Shortened running distance • Special Activity (ex., written tasks, outputs, etc.) • Sports that are easy to play based on their condition • Teacher modifications

List of Alternative Activities

- Special projects

Table 2 describes the list of alternatives activities being provided to them by their instructors during their online physical education classes. As an example, PE03 stated that, *“Yes, I have. Especially when I was a 1st-year college student, we had many PE subjects during our 1st year. Sometimes the activities given to me by my professors are made more accessible. It’s because of my impairment. My movements are limited, especially in running activities. My running distance is shortened compared to other students, and it is not running. I am just walking fast or brisk walking.”* Additionally, P10 stated, *“Yes, I do have, sir. The teacher will give me written activities or special projects, and I am excused most of the time.”*

The following statements above are the learning alternatives being provided by the teachers to the participants. However, one of the findings that was observed is that, *most of the teachers only provides written outputs instead of including the participants in physical activities.* For students with disabilities to join in, feel included, and experience meaningful learning in physical education, teachers need to formulate opportunities for students to control their own learning, and work in accordance with the UNESCO guidelines and national curriculum (Bertills et al., 2019).

Emerging Themes

After processing all the data obtained from the participants, three (3) themes have emerged:

A. On becoming better, fitter, healthier, and happier

Being fit is a goal that everyone strives for. In biological terms, the most suitable are those who can provide for their own lives and well-being in the best way possible. As P02 have stated, *“First, you need to be physically healthy and physically fit for you to work efficiently. Second is it helps you clear your mind and become happier in life. So, being physically fit helps your mental health as well.”* According to Futurists Club Team (2021), when individuals exercise, it increases endorphins, dopamine, adrenaline, and endocannabinoid – these are all brain chemicals associated with feeling happy, confident, capable, less anxious and stress, and even less physical pain. Moreover, in order to fully engage students in physical activities, individual and environmental aspects should be considered. Relative to this, knowledgeable teachers should create a meaningful learning environment that fosters autonomy, with lessons structured into inclusive physical education settings that could promote the physical, social, affective, and cognitive benefits claimed for the course (Bertills et al., 2019; Shirazipour et al., 2020).

Other participants also highlighted that being able to exercise regularly, eat healthy foods, and take care of mental health is a must, especially in times of pandemic. P08 stated that, *“Because if you imagine now that we are in a pandemic situation, it is tough to think that so many people are being affected and people get sick and die. In these situations, we must take care of ourselves and, most importantly, our health by eating nutritious foods and exercising regularly. That is why physical education is essential to know how to cure and be physically fit in everyday life.”* People who exercise regularly tend to do so because it gives them an enormous sense of well-being. They feel more energetic throughout the day, sleep better at night, have sharper memories, and feel more relaxed and positive about themselves and their lives (Aylett et al., 2018; Greer et al., 2016; Kandola et al., 2018; Kandola et al., 2020; Stubbs et al., 2017).

B. On acknowledging obstacles

The challenges that the participants experience is lack of assistive technology which is used in online classes, ineffective online learning, and negative attitudes of people towards disability. An example of this is the statement of P01, *"Although you are attending your classes online, it is not that effective. It is not only because of the unstable connection but because you are not seeing your classmates or you are not with them physically. Unlike face-to-face classes, especially in PE, it is more effective when doing activities with your classmates."* Online education is ineffective because of the fundamental character of education and not merely because of a lack of access to the net and online resources, especially for school-age children and challenged students (Nidheesh, 2020).

Additionally, other physically-impaired students experienced bullying during face-to-face classes and distance learning. Most of the participants have encountered discrimination; one the positive note, they have overcome these obstacles. As per P06, *"I am sad about it because sometimes, if other students know about my speech impairment, I feel like they are degrading me. Just like when I want to ask my teacher about a particular topic, I feel ashamed. Because they may laugh or they will make fun of me, even in online classes. So, whenever I want to participate, I try my best and am already used to it if my classmates or teacher cannot comprehend what I am saying."* Analogous to the statement of Jesina et al. (2022), it is clear enough that in an inclusive education process, all students with physical impairment are potentially bullied. On the positive note, hard times stimulate growth in a way that good times don't. Facing challenges and navigating one's way through them builds resilience capacity. Knowing that one can overcome obstacles, learn from struggles, and benefit from mistakes lays a solid foundation for success in later life (Ware, 2022).

C. Onwards healthy habits

Having a healthy mind contributes to a healthy body, and vice versa. Not feeling accepted and valued can have a detrimental impact on children's overall well-being. Nurturing their physical, emotional and social development enhances their ability to cultivate healthy relationships. As P09 have stated, *"though physical education is still needed, it is because it talks about physical health, or being holistically healthy. It seems like that; it is a need. It is not just a subject; it is a necessity, so we need it. Even in my situation, it is not because it can heal me or what. It is needed. It is just like water, and it is a need."* As supported by Bloemen et al. (2015), physical activity increases not only the physical well-being of students with physical impairment but also their emotional and social well-being, which may also increase their functional independence, integration, and quality of life, positively impacting their future health.

Moreover, being able to participate in the activities despite the student's physical state is having a healthy mind. As P07 have mentioned, *"even if I am like this, I also want to do what my classmates do in the activities. I am also being resilient. I still have my other hand. I type fast on the keyboard because I am used to it. Other people's opinions about me do not affect me because I am a positive thinker."* This is a testament that most participants practice self-efficacy and resiliency. Individuals' sense of self-efficacy and resiliency significantly influences how someone approach challenges and goals (Gallagher, 2012; Schunk & DiBenedetto, 2021).

CONCLUSION

Students with disabilities tend to do better and be more active in co-curricular activities. This is to make up for their acknowledged fragility. Extracurricular activities

can increase the students with disabilities the opportunities to make friends and find a social niche. Many students with special needs have social communication challenges. After-school activities are an opportunity to connect with other students entirely differently.

Moreover, the accomplishment of physical activities among PWD students is more likely to be influenced by their current state. Adjustments to these activities are determined by the teacher or the students, depending on their capacity to execute a particular skill. The amount of participation in physical activity for children with disabilities is low, as reported in articles. Therefore, the barriers and facilitators should be revised and considered to study and plan an intervention to enhance the participation of children with disabilities in physical activity. Also, online PE classes have the liability to foster physical and internal advancements among students with disabilities. Still, tone-conceded capacity and ingrain preparedness enhance their implicit walls to releasing from performing physical conditioning. Students with disabilities engage in lower physical exertion than their generally developing peers. Regular participation in physical exertion by learners, including those with a disability, enhances body composition, bone health, and cerebral health and promotes social engagement. There are also therapeutic benefits to participation in regular exertion for students with disabilities.

Incipiently, there's a need to ameliorate the delivery of acclimated or special needs physical education by making teachers more involved and dynamic in their tasks and lessons. Away from the physical element, the curricula must also address the psychosocial requirements of the students with disabilities. Physical education teachers who are teaching students with physical impairment simply need to determine students' capacities and the measures that may need enforcing to support their participation in sports and fitness. Some learners with difficulties may need DAPE (developmental adapted physical education) to help promote physical fitness, abecedarian motor chops, and more. In contrast, others will need support and encouragement to share in regular physical education conditioning.

Finally, in order to understand and appreciate the research in a deeper level, researchers highly recommend a quantitative validation on the results of this study. Also, more students with disabilities should also be invited to gather more data to support this study. Future researchers must also look into how academic performance, personality types, parental support, or sports participation can influence the perception or experience of students with disabilities. Lastly, should there be a replication of the study, the researchers should try to use focused group discussions, grouped according to disabilities, to probe deeper narratives and sharing among the participants.

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