A Project entitled

Investigating the effectiveness of online PE lesson during COVID-19 on student's social behavior
Submitted by TONG WAI YUEN

Submitted to The Education University of Hong Kong
For the degree of Bachelor of Education(Honuors) – Physical Education

In April 2021

Declaration

I, Tong Wai Yuen, declare that this research report represents my own work under the supervision of Dr. Andy C.Y. Tse, and that it has not been submitted previously for examination to any tertiary institution.

Tong Wai Yuen
23 April 2021

Abstract

Upon the outbreak of the COVID-19 pandemic, all schools adopted online teaching methods as a substitute for traditional face to face lessons. Social behavior of students has significantly diminished. This study aims to investigate the effectiveness of online PE lessons during COVID-19 and the impact of student's social behavior. In questionnaire 1 and 2, 205 responses and 146 responses were received respectively. In this study, there were four major findings. First, most of the students think that online physical education lessons cannot encourage more discussions among students on academic related. Second, more students pointed out that it was harder to communicate with teachers in online PE lessons. Also, they cannot take the initiative to express their idea in the online physical education lesson. Third, a majority of students reflected that taking virtual PE lessons resulted in fewer opportunities to work with classmates, when compared with face-to-face lessons. In addition, these lessons also lessened the chance to train up team spirits and cooperation abilities. Fourth, most of the students think that online PE lessons are not effective, and the major reasons are "students are away from the keyboard", "lack of interaction", "Boring & hard to focus on the lesson". In summary, online PE lessons during the COVID-19 are seen to have low effectiveness and resulted in a significant decrease in student's social behavior. School and government should offer a guideline or training for teachers which can help them to design creative and interactive virtual lessons. It can provide more opportunity to students to interact and improve their social behavior.

Keywords Social behavior, Online teaching, Physical education, Covid-19, Effectiveness

Introduction

Covid-19 pandemic is a global catastrophic risk. All the countries had been affected since early February 2020. At the beginning, Covid-19 was underestimated by all the countries, people thought that it was a flu because the disease showed similar symptoms. There was a lack of preventive measures by governments in the world. As a result, the pandemic got out of control and spread to all parts of the world. The number of victims across the globe who died due to the pandemic surpassed one million in just eight months (BBC, 2020). Under this circumstance, there was a high number of death rate worldwide, which forced the public health, food systems and world of work to face an unprecedented challenge. Under the pandemic, the economy and society were greatly disrupted, and the outcome was devastating (WHO, 2020). In light of that, most governments tried to make some emergency measures, such as Regional lockdowns, social distancing and massive screening (Wang, Ng, & Brook, 2020).

In the educational aspect, a serious situation appeared where globally, schools had to shut down. As reported by UNSCO, across the globe, a total number of 173 countries experienced school closure when situations were severe. Approximately 1.5 billion students were affected. In Hong

Kong, the number of confirmed cases remain very volatile, The Education Bureau (EDB) had declared that all schools (including kindergartens, primary and secondary schools) were suspended face-to-face classes and school activities for a long period (EDB, 2020). All schools adopted online teaching methods as a substitute for traditional face to face lessons. It was a challenge for all subject teachers, especially for physical education teacher. Physical education was traditionally comprising of a lot of physical and visual contact, also non-verbal gestures etc. But it had changed to a passive way which included a lot of limitation, such as body movement, space and tools (Varea & González-Calvo, 2020). In fact, PE lessons require more in class interaction than other subjects. According to the Key Learning Area Curriculum Guide by EDB in 2017, there were three key learning domains which were psychomotor, cognitive and affective. On the affective aspect, PE lessons aim to help students develop positive moral behaviors, train up decision-making skills, learn to appreciate aesthetic motion, as well as learn to cooperate with their peers.

Currently, there are limited number of studies looking into the effect of online lessons under COVID-19 on students. The majority of these studies pointed out a negative influence, stating that due to factors such as limited class interaction and inefficient timetable, students often leave the classroom with a significantly lower satisfaction level (K. Chaturvedi, 2021). In addition, under online lessons, peer-to-peer interaction is greatly restricted. As a result, it becomes hard for students to learn necessary skills, such as social skills. However, despite the attention to the negative impacts of these types of lesson, the effect of these online lessons on PE lessons is still an area that is under searched. Few papers have put the focus onto investigating the impact that PE lessons receive under this circumstance, especially on social behaviors of students, which refers to students developing good relationship with their peers. (Durlak et al., 2011).This paper hopes to further the investigation on this field, and fill in the research gap, by investigating the effectiveness of online PE lesson during COVID-19 on student's social behavior.

Methodology

Participants

A simple of 351 students from different secondary schools were used. They were required to complete an anonymous online questionnaire via Google form in November and March. Before they joined the research, they had to read the instructions. Also, schools and families were accepted to participate in it. Demographic variables of participants are shown in Table 1.

Table 1. Population by gender, age group

Population of "Learning situation during COVID-19 "	n	%
Male	123	60

	n	%
Female	82	40
Age group		
F.1	49	23.9
F.2	56	27.3
F.5	100	48.8
Population of "Questionnaire on online PE lesson during class suspension "	n	%
Male	106	72.6
Female	40	27.4
Age group		
9-11	2	1.4
12-14	2	1.4
15-17	27	18.5
18-20	115	78.7

Measures and data analysis

It is a questionnaire-based study which was conducted online due to the Covid-19 pandemic. There are two questionnaires which consisted of 41 and 34 items respectively. In questionnaire 1 "Learning situation during COVID-19 ", all of the question are 4-point likert scale with 4 chooses (1= strongly Agree, 2= Agree, 3= Disagree, 4= strongly Disagree). In questionnaire 2 "Questionnaire on online PE lesson during class suspension ", there are 22 of multiple choice, 10 of 4 points likert scale (1= strongly Agree, 2= Agree, 3= Disagree, 4= strongly Disagree) and 1 open-end question. The data collected from two questionnaires were analyzed by the frequency of similar participants' responses and were showed in percentages.

Result

Online PE lesson can encourage more discussions among students on academic related topic or non-academic related topic

On academic related topic, 44.4% of students disagree and 14.1% strongly disagree that online PE lesson can encourage more discussions among students, but 29.3% of students agree and 12.2% strongly agree that online PE lesson can encourage more discussions among students. On non-academic related topic, 39.4% of students disagree and 11.3% strongly disagree that online PE lesson can encourage more discussions among students, but 38.9% and 10.3% of student reported agree and strongly agree respectively (see Table 2).

Table 2. Descriptive statistic of learning situation during COVID-19

Online physical education lessons can encourage more discussions among students on academic related topic	n	%
Strongly agree	25	12.2
Agree	60	29.3
Disagree	91	44.4
Strongly disagree	29	14.1
Online physical education lessons can encourage more discussions among students on non-academic related topic	n	%
Strongly agree	21	10.3
Agree	79	38.9
Disagree	80	39.4
Strongly disagree	23	11.3

Question of "Compare to face-to-face PE lesson, it is easier to communicate with teacher in online PE lesson"

39.6% and 14.9% of students reported disagree and strongly disagree respectively that virtual PE lesson was easier to communicate with teacher than face-to-face PE lesson. But 32.1% and 13.4% of students reported agree and strongly agree on it respectively. (see table 3)

Question of "I can take the initiative to express my idea in the online PE lesson"

Only 5.5% of students strongly agree that they can took the initiative to express their idea in online PE. 32.1% of students agree that it is easier to communicate with teacher. But 50% and 11.6% disagree and strongly disagree on it respectively. (see table 3)

Table 3. Descriptive statistic of learning situation during COVID-19 & Questionnaire on online PE lesson during class suspension

Compare to face-to-face PE lesson, it is easier to communicate with teacher in online PE lesson	n	%
Strongly agree	27	13.4
Agree	65	32.1
Disagree	80	39.6
Strongly disagree	30	14.9
I can take the initiative to express my idea in the online PE lesson	n	%
Strongly agree	8	5.5
Agree	48	32.9
Disagree	73	50
Strongly disagree	17	11.6

Question of "Compare to face-to-face PE lesson, it can provide more opportunities to work with classmates during online PE lesson"

Only 12.7% of students strongly agreed that virtual PE lesson could provide more opportunities than face-to-face PE lesson to work with classmates. 29.9% of students agreed that it was more opportunities to cooperate with others. But 34.3% and 23.1% disagree and strongly disagreed on it respectively. (see table 4)

Question of "I can demonstrate team spirit in the online PE lesson"

Only 6.8% of students strongly agreed that they could demonstrated team spirit in online PE lesson. 31.5% of students agreed that they could do so. But 34.9% and 26.7% of students disagree and strongly disagree on it respectively. (see table 4)

Table 4. Descriptive statistic of learning situation during COVID-19 & Questionnaire on online PE lesson during class suspension

Compare to face-to-face PE lesson, it can provide more opportunities to work with classmates during online PE lesson	n	%
Strongly agree	26	12.7
Agree	61	29.9
Disagree	70	34.3
Strongly disagree	47	23.1
I can demonstrate team spirit in the online PE lesson	n	%
Strongly agree	10	6.8
Agree	46	31.5
Disagree	51	34.9
Strongly disagree	39	26.7

Effectiveness of online PE lesson

Only 0.7% of students reported that online PE lesson was very high effectiveness. 6.2% of students indicated that online PE lesson was high effectiveness. 46.6% of students think that it was normal. 41.1% of student respond that it was low effectiveness. And 5.5% of students reported that it was very low effectiveness. The three main reason of ineffectiveness were "Boring/Hard to focus on the lesson" (12.5%), "Students are away from the keyboard" (9.4%) and "Lack of interaction" (7.3%). (see table 5)

Table 5. Descriptive statistic of Questionnaire on online PE lesson during class suspension

Effectiveness of online PE lesson	n	%
Very Low	8	5.5
Low	60	41.1
Normal	68	46.6
High	9	6.2

Very High	1	0.7
Reason of effectiveness/ineffectiveness	n	%
Boring/hard to focus on the lesson	12	12.5
students are away from the keyboard	9	9.4
lack of interaction	7	7.3
etc		

Discussion

During to the Covid-19, virtual PE lesson become a mainstream. The current study shows the descriptive information on the effectiveness of online PE lessons during COVID-19 and the impact of student's social behavior. Based on this study there were four findings, first, unhelpful to encourage more discussions among students on academic related topic. According to the table 2, more students reported that online physical education lessons could not encourage more discussions among students on academic related. 44.4% of students chose the options disagree on academic related topics. But on non-academic related topic, the result was half and half. According to a research by Mr Chu Wai Lam, he reported that communication skill improved by discussion. 51.1% of participant were improved in "attitude, manner & eye contact, also around 40% of students were improved in "Able to develop discussion with others base on the topic of daily life".

Second, Poor communication between teacher and student. According to table 3, 54.5% students pointed out that it was harder to communicate with teachers in online PE lessons. 61.6% students could not take the initiative to express their idea in the online physical education lesson. More students pointed out that it was harder to communicate with teachers in online PE lessons. Also, they could not take the initiative to express their idea in the online physical education lesson. As reported by the pervious study "The effect of online learning on communication between instructors and students during Covid-19 pandemic" by Alawamleh in 2020. This study used was a quantitative research study, also a semi-structured online survey with a random sample technique was conducted. According to the survey from Alawamleh (2020), 66 peoples (49.62) agreed that online classes had negatively affected communication between their instructor and him/her, but only 38 peoples (28.57%) disagree. Also 57 peoples (52.85%) agreed that interacting with their instructor had become harder in online classes, but only 44 peoples (33.08%) disagreed. Compare to the current study, both of them reported a similar result on negatively affected communication between teacher and student.

Third, lack of interaction between student in virtual PE class. According to table 4, 57.3% students reflected that taking virtual PE lessons resulted in fewer opportunities to work with classmates, when compared with face-to-face lessons. 61.6% student thought these lessons also lessened the chance to train up team spirits and cooperation abilities. As reported by the pervious study "Cutting the distance in distance education: perspectives on what promotes positive, online learning experiences" by Boling in 2012, it showed a similar result with current study. In this study, Boling et al. (2012) found that most of their study participants viewed online courses as individualizing learning and limiting interaction with others. Students described feeling isolated from their teachers, from the content of the course and from their classmates. Also in other studies, Vonderwell (2003) explained that online atmosphere was impersonal which was cause by lack of conversation between students. A student reflected that online teaching is similar to that of interaction with a computer, rather than with the real person. (Kear, 2010). Kunal (2021) pointed out that the satisfaction levels among students was significantly affected by a decreased level of class interaction. In a normal school context, interaction with their peers allows students to enhance social skills and become motivated individuals to learn. However, the possibility of this greatly decreases in an online setting.

Fourth, low effectiveness in online PE lesson. According to the table 5, only 0.7% and 6.2% reported very high and high effectiveness, but 46.6% of the students think that online PE lessons are not effective, and the major reasons are "students are away from the keyboard", "lack of interaction", "Boring & hard to focus on the lesson". Previous studies by Alawamleh (2020), Boling (2012) and Vonderwell(2003) concluded similar findings to that of the current study, which pointed out that online classes could cause a decrease in motivation and communication levels among students and teachers, as well as an increase in student's feeling of isolation.

Conclusion

In summary, a total of 351 secondary school students were invited to complete the questionnaires. Online PE lessons during the COVID-19 are seen to have low effectiveness and resulted in a significant decrease in student's social behaviors. Also, similar result with the study form Alawamleh(2020), majority of students agree that online learning have a negative impact on communication.

Limitation

In spite of the strength of the current research, three limitations ought to be acknowledged. First, the quality of the online questionnaires collected are hard to monitor. Due to the pandemic, there were sudden class suspensions in the local schools. As a result, it became impossible to contact the students face to face and online questionnaires had to be given out to students through the class teacher, where he would then pass the link to the respective class representatives. The class representatives would be responsible for distributing the links to their respective classmates.

Throughout the process, the researcher could only play the role of a spectator and it unable to thoroughly monitor the quality of the collected data. In addition, there was a lack of related studies with that of the current study. There were no specific studies looking into the effect of online teaching methods on social behaviors in physical education lessons in the past. The situation of widely adopting online teaching methods in physical education has been unprecedented, therefore, there was a lack of research on related topics.

References

- Alawamleh, M., Al-Twait, L. M., & Al-Saht, G. R. (2020). The effect of online learning on communication between instructors and students during Covid-19 pandemic. *Asian Education and Development Studies*. https://doi.org/10.1108/AEDS-06-2020-0131

- Boling, E.C., Hough, M., Krinsky, H., Saleem, H. and Stevens, M. (2012), "Cutting the distance in distance education: perspectives on what promotes positive, online learning experiences",*The Internet and Higher Education*, Vol. 15 No. 2, pp. 118-126.

- C.J. Wang, C.Y. Ng, R.H. Brook. 2020, Response to COVID-19 in Taiwan: Big data analytics, new technology, and proactive testing. *JAMA*, 323 (14) (2020), pp. 1341-134

- J.A. Durlak, R.P. Weissberg, A.B. Dymnicki, R.D. Taylor, K.B. Schellinger (2011), The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions Child Development, 82 (1) (2011), pp. 405-432, 10.1111/j.1467-8624.2010.01564.x

- Kear, K. (2010), Social Presence in Online Learning Communities, Proceedings of the 7th International Conference on Networked Learning 2010, 3-4 May 2010, Aalborg, Denmark.

- K. Chaturvedi D.K. Vishwakarma, N. Singh (2021), COVID-19 and its impact on education, social life and mental health of students: A survey

- Education Bureau (2017), Key Learning Area Curriculum Guide (PE), Retrieved 2017 https://www.edb.gov.hk/attachment/en/curriculum-development/kla/pe/curriculum-doc/PEKLACG_e.pdf

- Education Bureau (2020), Arrangements of Further Suspension of Face-to-Face Classes for All Schools, Retrieved September 21, 2020 https://www.edb.gov.hk/attachment/en/sch-admin/admin/about-sch/diseases-prevention/edb_20201221_eng.pdf

- UNESCO. (2021). COVID-19 impact on education. Retrieved January 29, 2021 from https://en.unesco.org/covid19/educationresponse

- Varea, V., & González-Calvo, G. (2020). Touchless classes and absent bodies: teaching physical education in times of Covid-19. *Sport, Education and Society*, 1-15.

- Vonderwell, S. (2003), "An examination of asynchronous communication experiences and perspectives of students in an online course: a case study", *The Internet and Higher Education*, Vol. 6 No. 1, pp. 77-90

- WHO (2020), Impact of COVID-19 on people's livelihoods, their health and our food systems, Retrieved 13 October 2020 from https://www.who.int/news/item/13-10-2020-impact-of-covid-19-on-people's-livelihoods-their-health-and-our-food-systems

- 朱偉林 、何志博士 、陳小敏、莫慧梓、鄭玉蘭、吳麗琴 （2010）,「 探討校本課程設計 小組討論的 學習成效」研究報告