

Effect of using student-centred approach on students practical skills learning in an online Badminton Course

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Abstract:

The study examined the effectiveness of using student-centred approach on enhancing students' practical skills learning in Badminton course during online teaching at University of Bahrain due to the spread of (Covid 19). The importance of the research lies in finding best teaching practices during teaching Badminton online course to help students in achieving the learning outcome. The study adopted the empirical approach through observation and interviews and was conducted on 40 female students enrolled in Badminton course during the online teaching where 8 students took the tutor role and 32 students divided into 8 equal groups. The participants were graded in the Forehand Overhead Clear Shot according to the skill practical exam rubrics before implementing cycle 1, the same test was conducted again after cycle 1 and the completion of cycle 2. Also, the 32 participant's performance was observed and data was transferred into check list to find the number of the attained phases for each participant. After completing cycle 2, 15 students from the 32 participants were selected randomly and interviewed. The gathered data was analyzed to find the effect of student-centred approach on students learning. The findings showed that using student-centred approach is effective in developing students' practical skills in an online Badminton course, and the students had positive attitude towards students-centred approach. Therefore, the research suggests to combine student-centred method aligned with the teacher-centred method in teaching practical skills to maximize the learning outcome while teaching online or in campus.

Keywords: Centred approach, coronavirus (Covid 19), Badminton Course, practical skills-online teaching.

1. Introduction

Teaching methods and practices are a vital part of the teaching and learning process, when choosing methods educators consider student capabilities, physical facilities, class size, qualities to be developed and the characteristics of the subject (Taspinar, 2010), choosing the appropriate teaching method is essential to enhance students performance and achieve the required outcomes. Most of Physical education educators use teacher-directed method, where teachers have a certain learning outcomes, present a model of the desired practical skill; accordingly organize the students learning activities (Metzler, 2005).

The respiratory disease COVID19 emerged as a global pandemic forcing educational sectors across the world into changing the ways in which they provided education (Centeio & others, 2021). According to Laar & others (2021) pandemic caused significant damage to the education system leading to huge pressure being placed on students and educators. Tharmar (2019) stated that self-learning has positive impact on physical education students' performance in the e-learning.

Today, the aim of teaching is not to transfer knowledge but to teach students how to learn, and this learning requires environment in which students are responsible for their own learning. According to this method, students should be active in learning process and this is called student-centred approach (Jacobs & Hayirsever, 2016).

Beside the traditional teacher-centred method, physical educators also use peer-teaching in their classes (Rink, 2020). According to Loke & Chow (2006) peer teaching is more effective than teacher teaching since students reported that their colleagues understands their problems related to learning more than their teachers. Furthermore, peer tutoring is considered as an effective way to involve student in their learning process and keep them active (Goto & Schneider, 2010), also it gives them more responsibility and promotes engagement in the task (Nurmi & Kokkoen, 2015). According to Lund (1997), peer teaching improves social interaction, provides fast knowledge gain possibility and habit trust other.

Badminton is a popular sport among the people of Indonesia (Yane, 2016), and also one of the courses taught in Physical Education Bachelor Degree at University of Bahrain. The game starts with service to start the game and continues with performing various practical skills that

aims to get the point (Yane, 2016). Physical education students are used to be in demonstrative field and they may well suffer the most in the shift from well-established face-to-face tutoring and environments to online ones (Jackowicz & Sahin, 2021).

Therefore, it is important to change the teaching methods of teaching Badminton Course during the distance learning from teacher-centred to student-centred method to promote all students participation and help them in achieving the required outcome. According to Sinclair (2017) peers support is very helpful to students regarding educational needs and learning.

1.1. Purpose of the study

Due to the changes on the educational body and shifting to online teaching students' engagement and performance decreased which reflected on their grades, and this might be due to need of modifying the teaching methods to accommodate with the new changes. The purpose of this study is to determine the effectiveness of using student-centred approach on enhancing students' practical skills learning in Badminton course during online teaching.

2.1. Research Question

How effective is using student-centred approach in developing students' Forehand Overhead Clear Shot in an online Badminton course?

2. Literature Review

Most of the previous studies on the peer teaching in physical education were on disabled and school students (Houston & others 1997), Ward & Ayvazo, 2006), (Webster, 1987) and (Mascret, 2011), only few were conducted to study its effect on higher education physical education students. Following few studies was conducted to find the effect of using students-centred and peer tutoring on higher education and school physical education students:

Mirzeoglu (2014) study aimed to examine the effects of peer teaching on the university students achievements in cognitive, affective, psychomotor domains and game performance on volleyball courses. The quasi-experimental design was used in this study and it involved 70 students from second and third year. The study results showed that using different teaching models in volleyball classes improves students' achievement in cognitive, psychomotor domains and game performance.

The research focused on implementing peer teaching on volleyball course students which was a part in this study. Therefore, I found this study very relevant and helped me to develop the research question and data collection tools for peer teaching approach. This study used the skill observation form to measure the psychomotor domain progress; the form was adopted and modified to develop Overhead Clear Shot in Badminton course observation form.

Garcia & others (2020) paper aimed to find the effect of peer- assessment on physical education students in different educational stages with a greater focus observed in higher education than in secondary and primary school. The research showed an increase in students' motivation, perceived teaching confidence & skills. The current study will measure students teaching confidence and motivation during the open ended students' interviews.

Karadag & others (2018) study purpose was to determine changes in students attitude towards the physical education course and sports as well as developing skills after using peer teaching method in secondary schools. The study used qualitative and qualitative method and was conducted on 70 students. The results showed that students attitude affected positively slightly, the reason for this might be that the students had positive attitudes towards the physical education before the application as well.

The results of the above three studies showed positive effect of using student-centred approach on physical education students' performance and this encouraged me to use this method.

Within my knowledge there is no research conducted to study the effect of using peer tutoring on teaching Badminton practical skills.

Jeong & So (2020) emphasized the importance of changing the physical education classes teaching methods during the online teaching to adapt with the new changes required by the crisis and adapt to the education needs, in addition they indicated the importance of making the evaluation process less formal to encourage students participation. This statement assured to me that students-centred teaching method would encourage students to participate comfortably taking the feedback from the colleagues under my supervision. The study results assisted me in selecting the students-centred approach as it stated that physical education classes can be more efficient by engaging students in the learning process.

No previous studies examined the effect of using self-learning utilizing recorded lecture on physical education students' performance during the online teaching; however some studies showed the impact of self-learning through utilizing recorded lessons on students' performance in other courses which was not related to physical education course (Mirzeoglu, 2014). This made me feel how important to conduct my study and be the first in finding the effect of self-learning utilizing recorded lectures on physical education students learning.

Danielson, Preast, Bender & Hassall (2014) research showed that self-learning using recorded lessons provides flexibility in learning where they can utilize the lecture recordings to revise and learn according to their own phase. This study pointed the main important elements in preparing recorded lessons such as preparing straight lecture focused on main basic information which I considered while recording the lesson.

Moreover, some studies emphasized the benefits of pausing and replaying the recordings especially for different native language students (Ronchetti, 2010) (Maynor, Barrickman, Stamatakis, & Elliott, 2014).

Timescale

Cycle 1: Students was tested (Test 1) and then student-centred approach was introduced where they been asked to watch recorded lecture developed by the instructor explaining the practical skill using an Elite level player performance as an example in the recorded session. In the next lesson the practical skill was discussed and students had the chance to practice during the third lesson. Student was tested after the completion of cycle one (Test 2).

Date	Action
16 th . Nov. 2021	Test 1
18 th . Nov. 2021	Recorder session and video demonstrating.
21 st Nov.2021	Discussion
23 rd Nov.2021	Self-practice
25 th . Nov.2021	Test 2

Cycle 2: Peer teaching will be introduced in this cycle and students will be divided into 4 groups, one student in each group will be given the task of teaching the skill during the live session. After that, students will be tested and graded again (Test 3).

Date	Action
28 th . Nov. 2021	Peer Tutoring
30 th . Nov. 2021	Peer Tutoring
2 nd . Dec. 2021	Peer Tutoring
5 nd . Dec. 2021	Test 3

3. Methodology

3.1. Data collection instruments

Quantitative method:

Forehand Clear Shot will be measured in (test 1) according to the skill practical exam rubrics as per the course syllabus. After completing Cycle 1 students will be tested again (test 2). Results from test 1 and test 2 will be analysed and compared to find the effectiveness of self-learning level from the recorded lecture and video.

Afterwards, students will be divided into 8 groups in cycle 2, one student will take the role of tutor in each group and the remaining will be the students in each group. After completing Cycle 2 students will be tested again (test 3). Results from test 2 and test 3 will be analysed and compared to find the effectiveness of peer tutoring (Appendix 1).

Check list developed from the structured observation form: check list developed to determine the students understanding of the three phases through a structured observation for each student in pre implementing the new method, during cycle 1 and during cycle 2. The observation form was adopted from Mirzeoglu (2014) study and modified to develop Overhead Clear Shot in Badminton course observation form (Appendix 2).

Qualitative method:

Open ended students Interviews: since I have 40 students in the course, 8 students will take the role of teaching and randomly 15 students (35%) of the remaining 32 students will be interviewed to give their opinion and feedback regarding student-centred and peer teaching approach.

The research developed the questioner according to the required information needed, the interviews were conducted online individually and students' responses were transcribed immediately, the students were asked to give their opinion regarding strength and points to be improved in the peer tutoring and self-learning tool which was recorded session (Appendix 3).

3.2. Data collection procedure

The study involves 40 female students from second year, (20%) 8 students will take the tutor role and (80%) 32 students divided into 8 equal groups, the (80%) 32 participants was graded in the Forehand Overhead Clear Shot according to the skill practical exam rubrics before implementing cycle 1, the same test was conducted again after cycle 1 and completion of cycle 2. Also, the 32 participant's performance was observed and data was transferred into check list to find the number of the attained phases for each participant. After completing cycle 2, 15 students from the 32 participants was selected randomly and interviewed. The gathered data was analysed to find the effect of student-centred approach on students learning.

4. Data Analysis & Results

Grades Analysis (Test 1,2,3)

Table 01
Grades Analysis between Test 1 and Test 2

	N	Mean Rank	Sum of Ranks
Test 1- Test 2 Negative Ranks	1a	13.00	13.00
Positive Ranks	13b	7.08	92.00
Ties	2c		
Total	16		

- a. Test 2 < Test 1
- b. Test 2 > Test 1
- c. Test 2 = Test 1

	Test 1- Test 2
Z	-2.629b
Asymp. Sig. (2-tailed)	.009

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

Wilcoxon test was used to compare the grades in test 1 and test 2, the results showed significant differences between test 1 and test 2 grades in favour of test 2 at the level of 0.01, which indicates that recording videos had positive influence on students learning.

Table 02
Grades Analysis between Test 1 and Test 3

	N	Mean Rank	Sum of Ranks
Test 1- Test 3 Negative Ranks	0a	.00	.00
Positive Ranks	16b	8.50	136.00
Ties	0c		
Total	16		

- a. Test 3 < Test 1
- b. Test 3 > Test 1
- c. Test 3 = Test 1

	Test 1- Test 2
Z	-3.536b
Asymp. Sig. (2-tailed)	.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

Wilcoxon test was used to compare the grades in test 1 and test 3, the results showed significant differences between test 1 and test 3 grades in favour of test 3 at the level of 0.001, which indicates that peer teaching had positive influence on students learning.

Table 03
Grades Analysis between Test 2 and Test 3

	N	Mean Rank	Sum of Ranks
Test 2- Test 3 Negative Ranks	0a	.00	.00
Positive Ranks	16b	8.50	136.00
Ties	0c		
Total	16		

- a. Test 3 < Test 2
- b. Test 3 > Test 2
- c. Test 3 = Test 2

	Test 1- Test 2
Z	-3.546b
Asymp. Sig. (2-tailed)	.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

Wilcoxon test was used to compare the grades in test 2 and test 3, the results showed significant differences between test 2 and test 3 grades in favour of test 3 at the level of 0.001, which indicates that peer teaching had stronger positive influence on students learning.

Checklist Analysis

Table 04

	Pre Test 1	Cycle 1 Test 2	Cycle 2 Test 3
Phase 1	28	28	28
Phase 2	6	24	28
Phase 3	4	12	26

	C1 - Pre	C2 - Pre	C1 – C2
Z	-1.342b	-1.414b	-1.342b
Asymp. Sig. (2-tailed)	.180	.157	.180

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

Wilcoxon test was used to compare the overhead clear shot phases achievement between pre implementation and cycle one, pre implementation and cycle 2 and the difference between cycle one and cycle two. The results showed no significant differences at all stages as shown in table 4, though numerically it showed that there was improvement in students' performance in phase 2 and 3.

Students Interview

Table 05
Recorded Session Strength (Cycle 1) Sentence's Frequency

#	Strength	%
1	Recorded lecture focused on the main points	%100
2	Easy access on to lessons at flexible timing	%100
3	Learning without any destructions	%100
4	Go back to the lesson again whenever needed	%100
5	Focus on practice rather than theoretical part in the live lessons	%80
6	Opportunity of learn according to student level and ability	%80

The collected data from the interview showed that students had positive attitude towards the recorded session, 100% of the students agreed that recorded sessions was focused, easy to access on flexible timing, provides learning without destruction, available to be replayed whenever needed. 80% of the students agreed that the recorded session allows them to focus on the practical part in the live lessons instead of wasting time on theoretical parts; also the same percentage agreed that it allows them to learn according to their own phase and level.

Table 06
Points to be improved in recorded session (Cycle 1)

#	Needs Improvement	%
1	Students prefer to have an ideal students' performance instead of example from Youtube	%20
2	Open discussion group for each skill separately on Teams to have better understanding and share content	%20

20% of the students suggested to use an ideal student performance instead of performance video from Youtube as example in the recorded lesson, as this will motivate them and let them feel that they are capable to reach the ideal level of performing. Also, 20% suggested creating teams' group for each lesson individually so they can share their experience and questions regarding the skill anytime.

Table 07

Peer Teaching Strength (Cycle 2) Sentence's Frequency

#	Strength	%
1	Helps to correct performance mistakes	%80
2	Improves teams work and management skills	%100
3	Encourage students to be active and participate	%100
4	Students feel more comfortable to perform	%100
5	Helps to understand skill phases in simple way	%100
6	Increase self confidence	%80

Also, the interview showed that 100% of the sample agrees that peer teaching improves team work and skill management, encourage participation, provide comfortable learning environment and helps in learning skills in a simple way. 80% agreed that it helps in correcting performance mistakes and increase self-confidence.

Table 08

Points to be improved in Peer Teaching (Cycle 2)

#	Needs Improvement	%
1	To be implemented on field	%60
2	Use achievement sheet in groups to evaluate student performance by the group teacher	%20

60% of the students expressed their desire of trying peer teaching on field as they believe it will be more beneficial for them, 20% suggested the student teacher to have evaluation form to evaluate their peers performance.

5. Discussion

The study showed that self-learning by demonstrating recorded video had positive influence on students learning, according to my knowledge that is the first study examines the relation between self-learning utilizing recorded lessons and physical education students learning which was positive relation. And this could be due to the flexibility in learning as stated by (Danielson, Preast, Bender & Hassall, 2014).

The study also showed that peer teaching had positive influence on students learning (A2) and this corresponds with Mirzeoglu (2014), Garcia & others (2020) and Karadag & others (2018) studies results as all these studies showed that peer teaching has positive influence on students learning.

Test 1, test 2 and test 3 showed significant differences at all stages of students' performance in cycle one and cycle two. However, the checklist list analysis showed that there are no significant differences at all phases of students' performance in cycle one and cycle two, the differences in the results made me confused as the student test results depends on attaining the performance phases correctly and this should alien with the check list results.

The collected data from the interview showed that students had positive attitude towards students-centred approach. The students suggested using an ideal student performance as a model and opening teams' group for each skill individually, also they expressed their desire of trying peer teaching on field and use peers evaluation form.

The findings showed that using student-centred approach is effective in developing students' Forehand Overhead Clear Shot in an online Badminton course as showed in the 3 tests data analysis; however it didn't reflect on the check list analysis results.

6. Conclusion

The study showed that student-centred approach had positive impact on learning Badminton skills, including utilizing recorded videos and peer teaching, that was reflected significantly on student's performance in cycle 1 and cycle two. Also, the interview that students had positive attitude towards students-centred approach, however the results didn't alien with the observation checklist.

7. Recommendations

According to the researcher knowledge that this is the first study examines the relation between self-learning utilizing recorded lessons and physical education students learning, therefore it's recommended to conduct more studies to examine the effectiveness of student learning through self-learning and utilizing recorded lessons on other practical skills.

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