
THE BOWLING DELIVERIES PERFORMANCE OF THE SELECTED COLLEGE STUDENTS

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ABSTRACT

Due to the reason that there are no known studies on duckpin bowling delivery, the researchers were motivated to make a study that would describe the bowling deliveries performance and the problems encountered in duckpin bowling of the selected college students. The study was descriptive in nature and purposive sampling was employed. 226 college students volunteered to participate in the study. Research instruments used were documentary analysis on the scores, interview and observation. The normality of the distribution on the bowling scores was checked using the Kolmogorov-smirnov test. Frequency distribution, percentage and weighted mean were calculated in data presentation. In conclusions, majority of the respondents performed better in straight ball delivery than curve ball delivery. The problems encountered by the respondents' in performing the deliveries were generally related to arm muscular strength, arm swing and release, and bowling equipment, facilities and apparel. Implication of the findings to the teaching of physical education also surfaced. Thus, it was implied that teacher should educate students on the effectiveness and consistency of the straight ball delivery in duckpin bowling; however, they should not restrict themselves to discover other type of deliveries that would elevate their performance.

Keywords: Duckpin, Bowling, Delivery, Performance.

INTRODUCTION

Duckpin Bowling is a sport that anyone can do at an early age and enjoy for a lifetime. It offers everything you could want in a sport; it combines the elements of fun, excitement, challenge, competition and sociability into one fantastic activity. Think of bowling in miniature. Duckpin bowlers use balls about 6 inches in diameter, rolling them down the alley toward pins that are smaller than those used in standard tenpin bowling. Even children, who could not hoist a regular bowling ball, can play the game. It is a good exercise that works 134 different muscles yet it does not take a lot of strength to become a good bowler, thus, even the smallest player can easily become successful (Fleming, 2002).

Ballantini (2003) concurs that while it is a fun game, it is also famously a frustrating game to anyone seeking super-high scores. Spares and strikes are rare, and nobody has ever recorded a perfect game of 300, a nearly routine occurrence in tenpins. Even

a superb shot to the headpin will leave stragglers if the ball doesn't arrive at the ideal speed or angle. The balls are so small that they frequently seem to whiz through crowds of pins without grazing them. To become a successful player in the sport a lot practice is needed to gain good eye-hand-foot coordination (Clark, 1989). Jowdy (2002) states that one of the most desired aspects for sound bowling execution is a good release or delivery. The success in making a high score depends largely on the consistency of the release or delivery. The two most common types of release or deliveries used in playing duckpin bowling are the straight ball and curve ball. The straight ball is a type of delivery thrown that takes a direct path to the pins without an arc, on the other hand, a curve ball is a ball thrown with spin that follows a wide arc toward the pins. Every should player should become accustomed to a type of delivery where he can gain good speed and control. Furthermore, appropriate stance, firm grip, arm swing and footwork are also necessary.

These are the fundamental techniques that are being developed in the students' bowling lesson, as part of the Physical Education subject in college.

The sport has been very successful in becoming an enjoyed activity by students, which they continue to play as a leisure or recreational game even after finishing their physical education. The skills that they developed in their physical education classes would certainly make them acceptable players when they participate in company leagues when they are already in the industry. However, while the students learn how to discover the appropriate delivery that suits them, they always question which type of roll or delivery is best to bring success. Some players score better in executing the straight ball while others when doing the curve ball. Due to the reason that there are no known studies on duckpin bowling delivery, the researchers were motivated to make a study that would describe the bowling deliveries performance and the problems encountered in duckpin bowling of the selected college sophomore students. Thus, this study aimed to: 1) describe the straight and curve ball bowling delivery performance of the subjects; 2) identify the problems encountered by the respondents in their bowling delivery performance; and 3) provide implications on the findings of the study for the teaching of bowling in Physical Education.

Methodology

This study utilized descriptive method of research as it aimed to describe the bowling delivery performance of selected college students. The respondents played for 3 meetings with 2 games per meet, one game for curve ball deliveries and another game for straight ball delivery. Observation and interviews were also conducted during the

study. After 3 meetings, data on bowling score were collected.

Purposive sampling was used in the study. The college students who voluntarily participated in the study were the most skilled in terms of bowling delivery. The researchers identified the respondents through their previous performances. College students volunteered to take part in the study from the following departments: College of Nursing=86, College of Business Administration=60, College of Allied Medical Profession=12, College of Engineering=27, College of Education=41. Both male and female participated in the study with a mean age of 17. The study was conducted at the Family bowling lanes in Angeles City during their physical education classes. The correct techniques for the straight and curve ball delivery were taught and students practiced before the actual conduct of the study. Each participant read and signed an informed consent in agreement to voluntary participation in the study and approved by authorizes concerned of the Angeles University Foundation.

The study was limited to the straight ball and curve ball deliveries since they were the most common used types of deliveries. The respondents played in the following format: 1) Day 1-straight, curve; 2) Day 2-curve, straight; and 3) Day 3-toss coin, if head play straight first, if tail play curve first.

Research Instruments

The following research instruments were utilized in the study: 1) documentary analysis - score sheets were used in identifying the performance of the respondents; 2) interview- an unstructured interview guide was prepared to obtain appropriate data in describing the bowling delivery performance of the respondents. All questions were based on the objectives of the study; and 3) observation-the researchers conducted observation on the bowling execution and performance of the respondents during their P.E. classes.

Statistical Treatment

The normality of the distribution on the bowling scores was checked using the Kolmogorov-Smirnov test. Since the distribution between male and female scores was normal they were not interpreted and presented separately. Frequency distribution, percentage and weighted mean were calculated in data presentation.

Results and Discussion

1. Delivery Performance of the Respondents

1.1. Delivery Performance of the Respondents' for Day 1

Table 1 (appended) presents the delivery performance of the respondents for day 1. For the respondents' performance on the straight ball, a general weighted mean of 3.06 with a descriptive interpretation of good was obtained. While, for the curve ball delivery a general weighted mean of 1.77 was obtained which means that the respondents' performance on the curve ball was poor. A big number of the respondents fall under good performance in terms of straight ball delivery whereas more than 50% belong in the poor performance when it comes to curve ball delivery. The findings indicated that the respondents performed better in the straight ball compared to the curve ball.

1.2. Delivery Performance of the Respondents' for Day 2

Table 2 (appended) presents the delivery performance of the respondents for day 2. A general weighted mean of 2.99 was obtained which means that the respondents' performance on the straight ball was good. While, a general weighted mean of 1.91 was obtained, this indicated that the respondents' performance on the curve ball

was fair. Findings indicated that the respondents' performance on the straight ball is better compared to the curve ball.

1.3. Delivery Performance of the Respondents' for Day 3

Table 3 (appended) presents the delivery performance of the respondents for day 3. For the respondents' performance on the straight ball, gathered data showed a general weighted mean of 2.96 was obtained descriptive and interpretation as good. While, for the curve ball delivery a general weighted mean of 1.85 was obtained which indicated that the respondents' performance on the curve ball was fair. A big number of the respondents fall under good performance in terms of straight ball delivery whereas 47.79% belong in the poor performance when it comes to curve ball delivery. The findings indicated that the respondents' performance on the straight ball was a lot acceptable compared to the curve ball.

2. Problems Encountered in the Performance of the Deliveries

Details on the problems encountered in performing the deliveries were discussed in a personal interview with the respondents. The researchers were also able to observe some of the identified problems in the actual performance. The problems encountered are discussed below:

2.1. Arm Muscular Strength

In the conducted interview and observation it was found out that most of the respondents were poor in terms of arm muscular strength in controlling the accuracy of their roll. It was also evident that there was no good control in their curve ball delivery unlike their performance in the straight ball, which was more consistent.

Table 1. Participants' bowling deliveries performance for day 1

College		Performance Scale											
		Excellent	%	VG	%	Good	%	Fair	%	Poor	%	Total	WM
		91-100 above		76-90		61-75		46-60		below-45			
CON	S	10	11.63	24	27.91	28	32.56	12	13.95	12	13.95	86	3.09
	C	3	3.49	3	3.49	8	9.30	24	27.91	48	55.81	86	1.71
CBA	S	6	10.00	14	23.33	22	36.67	12	20.00	6	10.00	60	3.03
	C	2	3.33	4	6.67	10	16.67	16	26.67	28	46.67	60	1.93
CAMP	S	2	16.67	3	25.00	4	33.33	1	8.33	2	16.67	12	3.17
	C	0	0.00	1	8.33	2	16.67	3	25.00	6	50.00	12	1.83
CE	S	8	29.63	6	22.22	7	25.93	3	11.11	3	11.11	27	3.48
	C	1	3.70	0	0.00	4	14.81	8	29.63	14	51.85	27	1.74
CED	S	4	9.76	8	19.51	12	29.27	7	17.07	10	24.39	41	2.73
	C	1	2.44	3	7.32	2	4.88	10	24.39	25	60.98	41	1.66
TOTAL	S	30	13.27	55	24.34	73	32.30	35	15.49	33	14.60	226	3.06
	C	7	3.10	11	4.87	26	11.50	61	26.99	121	53.54	226	1.77

Table 2. Participants' bowling deliveries performance for day 2

College		Performance Scale											
		Excellent	%	VG	%	Good	%	Fair	%	Poor	%	Total	W M
		91-100 above		76-90		61-75		46-60		below-45			
CON	S	7	8.14	26	30.23	31	36.05	12	13.95	10	11.63	86	3.09
	C	4	4.65	5	5.81	10	11.63	30	34.88	37	43.02	86	1.94
CBA	S	6	10.00	13	21.67	24	40.00	10	16.67	7	11.67	60	3.02
	C	3	5.00	4	6.67	11	18.33	16	26.67	26	43.33	60	2.03
CAMP	S	2	16.67	2	16.67	5	41.67	2	16.67	1	8.33	12	3.17
	C	1	8.33	0	0.00	1	8.33	5	41.67	5	41.67	12	1.92
CE	S	5	18.52	7	25.93	7	25.93	4	14.81	4	14.81	27	3.19
	C	2	7.41	2	7.41	2	7.41	8	29.63	13	48.15	27	1.96
CED	S	3	7.32	6	14.63	12	29.27	9	21.95	11	26.83	41	2.54
	C	1	2.44	2	4.88	1	2.44	13	31.71	24	58.54	41	1.61
TOTAL	S	23	10.18	54	23.89	79	34.96	37	16.37	33	14.60	226	2.99
	C	11	4.87	13	5.75	25	11.06	72	31.86	105	46.46	226	1.91

Table 3. Participants' bowling deliveries performance for day 3

College		Performance Scale											
		Excellent		VG		Good		Fair		Poor		Total	WM
		91-100 above	%	76-90	%	61-75	%	46-60	%	below-45	%		
CON	S	9	10.47	24	27.91	29	33.72	14	16.28	10	11.63	86	3.09
	C	3	3.49	4	4.65	10	11.63	32	37.21	37	43.02	86	1.88
CBA	S	5	8.33	12	20.00	26	43.33	9	15.00	8	13.33	60	2.95
	C	2	3.33	3	5.00	9	15.00	17	28.33	29	48.33	60	1.87
CAMP	S	3	25.00	2	16.67	4	33.33	1	8.33	2	16.67	12	3.25
	C	0	0.00	2	16.67	0	0.00	4	33.33	6	50.00	12	1.83
CE	S	5	18.52	7	25.93	7	25.93	4	14.81	4	14.81	27	3.19
	C	1	3.70	3	11.11	5	18.52	6	22.22	12	44.44	27	2.07
CED	S	4	9.76	4	9.76	11	26.83	10	24.39	12	29.27	41	2.46
	C	1	2.44	1	2.44	3	7.32	12	29.27	24	58.54	41	1.61
TOTAL	S	26	11.50	49	21.68	77	34.07	38	16.81	36	15.93	226	2.96
	C	7	3.10	13	5.75	27	11.95	71	31.42	108	47.79	226	1.85

2.2. Arm swing and Release

The arm swing of most of the respondent was stiff or jerky and not relaxed which affected their release. Only few of the respondents did the follow through after releasing the ball especially for the curved ball. Most of the respondents have a problem being consistent in following the correct stance and leaned forward that also affected their arm swing and release.

2.3. Bowling Equipment, Facilities and Apparel

Some of the respondents were complaining that some of the balls in the bowling center were not similar in weight and sizes, thus, affecting the consistency of their delivery. Respondents were also claiming that the alleys need to be renovated because some alleys affect the roll of the ball. Furthermore, due to the reason that the pins were manually set, they were not put up on the exact spot that they were supposed to be. It was also observed that the shoes that were not appropriate for bowling also

affected the balance of the respondents and the release in their delivery.

3. Implications of the Findings of the Study for the Teaching of Bowling in Physical Education

The study implies that the performance of respondents may be attributed to the comfort to the kind of delivery used. Muscular strength also played a big role in controlling the ball on their delivery. Findings indicated that there is a need to introduce an intervention program to prevent decline or staleness in skill acquisition, more so to encourage the students to be more focused in learning a delivery that can be more effective for them, which is the straight ball delivery. Data gathered support the fact that there is a need to educate the bowling students on the real effectiveness and consistency of the straight ball delivery in duckpin bowling

but not restricting them to discover other type of deliveries that would elevate their performance.

Conclusion

In conclusions, majority of the respondents in terms of their bowling delivery performance in the straight ball was good while their performance in the curve ball was fair. The problems encountered by the respondents' in performing the deliveries

were generally related to arm muscular strength; arm swing and release; and bowling equipment, facilities and apparel. Thus, it was implied that teacher should educate students on the effectiveness and consistency of the straight ball delivery in duckpin bowling. However, they should not restrict themselves to discover other type of deliveries that would elevate their performance.

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