



SELECTING EXERCISES TO DEVELOP SPEED-STRENGTH FOR MALE STUDENTS OF THE BADMINTON CLUB AT HONG BANG INTERNATIONAL UNIVERSITY, VIETNAM

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Abstract:

Using standard scientific research methods, we selected 22 speed-strength (SS) development exercises and 07 SS assessment tests with sufficient reliability and validity for male students of the Badminton Club at Hong Bang International University. Initial application in practice showed that the selected exercises positively and effectively impacted the SS level of the research subjects.

Keywords: exercise, speed-strength, badminton club, Hong Bang International University

1. Introduction

Badminton is a sport that can be practised indoors or outdoors and is suitable for all age groups. Whether played as singles or doubles, badminton remains an exciting and engaging sport and an ideal choice for enhancing health, psychological wellbeing, physical fitness and social interaction. For this reason, badminton attracts a large number of students at Hong Bang International University to participate in training.

Although the Badminton Club has a substantial membership, its training and competitive performance remains relatively low. Observation revealed that one of the primary causes is the limited physical fitness of the students, particularly their speed-strength, which is clearly evident in shuttlecock-striking movement situations. Therefore, developing a system of exercises to improve speed-strength for male students of the Badminton Club at Hong Bang International University is both necessary and urgent.

2. Research Methodology

The research process employed the following methods: literature analysis and synthesis; structured interviews and focus group discussions; pedagogical observation; pedagogical testing; pedagogical experiment; and statistical analysis.

3. Research Results and Discussion

3.1 Selection of exercises and assessment tests for the SS level for male students of the Badminton Club at Hong Bang International University

3.1.1 Selection of SS development exercises for male students of the Badminton Club at Hong Bang International University

Through literature consultation, pedagogical observation, interviews and discussions with 20 specialists, lecturers and badminton coaches, 22 SS development exercises were selected for the research subjects, comprising:

- **Group of exercises without shuttlecock (07 exercises)**
 - **Exercise 1:** 30m sprint from standing start (3 – 5 reps, 1-minute rest between reps, intensity 95 – 100%)
 - **Exercise 2:** 60m sprint from standing start (2 – 3 reps, 1-minute rest between reps, intensity 95 – 100%)
 - **Exercise 3:** Prone push-ups (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 4:** Overhead forward elastic band pull with straight arms (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 5:** Racket-pattern dumbbell swing (1.5 kg), forehand – backhand (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 6:** Single-under jump rope (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 7:** Double-under jump rope (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)

- **Group of exercises with shuttlecock (15 exercises)**
 - **Exercise 8:** Continuous smash (with feeder) (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 9:** Forehand defensive return (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 10:** Backhand defensive return (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 11:** Drive into designated target zone (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 12:** Combined forehand/backhand defensive return (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 13:** Alternating jump smash to the right and left diagonally overhead (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 14:** Combined forehand smash and backhand clear (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
 - **Exercise 15:** Combined defensive return with net movement for net push (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)

- **Exercise 16:** Combined three-step jump smash (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
- **Exercise 17:** Combined smash and net kill at net corner (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
- **Exercise 18:** Speed footwork to collect shuttles at 6 court points (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
- **Exercise 19:** Speed footwork to play shuttles at all court positions (30s x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
- **Exercise 20:** Along-the-line smash into a 6.7 x 0.8m target zone on the right side (10 reps x 3 sets, 1-minute rest between sets, intensity 95 – 100%)
- **Exercise 21:** Along-the-line smash into a 6.7 x 0.8m target zone on the left side
- **Exercise 22:** Match play (1 minute x 2 sets, 1-minute rest between sets, intensity 95 – 100%)

3.1.2 Selection of assessment tests for SS level for male students of the Badminton Club at Hong Bang International University

The selection of SS assessment tests for male students of the Badminton Club at Hong Bang International University was carried out through the following steps: selection via literature consultation and pedagogical observation; selection via direct expert interviews; selection via questionnaire survey; and determination of validity and reliability. As a result, 07 SS assessment tests were selected, comprising:

- 1) Push-ups 30s (reps);
- 2) Shuttlecock throw (m);
- 3) Jump smash 20s (shuttles);
- 4) Double-under jump rope 30s (reps);
- 5) Lateral court movement with forehand/backhand swing, 10 reps (s);
- 6) Combined footwork smash into target zone 30s (reps);
- 7) Combined footwork lob into the target zone 30s (reps).

3.2 Application of SS development exercises for male students of the Badminton Club for male students of Hong Bang International University

3.2.1 Experiment organization

- **Experimental method:** Parallel comparison experiment
- **Experiment duration:** The experiment was conducted over 03 months, with 2 sessions per week during the club's extracurricular hours, each session lasting 30 – 35 minutes/session.
- **Subjects:** 24 male students of the Badminton Club at Hong Bang International University, divided into 2 groups by random draw:
 - **Experimental group:** 12 male students trained according to the 22 selected exercises.
 - **Control group:** 12 male students trained according to the existing exercises from the established programme and lesson plans

6	Combined footwork smash into target zone 30s (reps)	9.99±0.71	9.61±0.73	0.64	>0.05
7	Combined footwork lob into target zone 30s (reps)	7.45±0.56	7.16±0.57	0.68	>0.05

Table 2 shows that, prior to the experiment, there was no statistically significant difference in SS level between the experimental and control groups. In other words, the SS levels of the two groups were equivalent before the experiment, confirming that the group allocation was entirely objective.

After 3 months of the experiment, the 07 selected tests were again used to assess the SS levels of the 2 groups and compare the differences in test results. The results are presented in Table 3.

Table 3: Post-experiment test results of the two groups EG and CG, after the experiment

No.	Tests	Experimental Group (n=12)	Control Group (n=12)	Comparison	
		x [±]	x [±]	t	P
1	Push-ups 30s (reps)	35.33±2.36	31.46±2.43	2.31	< 0.05
2	Shuttlecock throw (m)	10.76±0.55	8.98±0.82	2.58	< 0.05
3	Jump smash 20s (shuttles)	18.16±1.04	15.91±1.03	2.42	< 0.05
4	Double-under jump rope 30s (reps)	65.62±4.29	62.09±4.26	2.45	< 0.05
5	Lateral court movement with forehand/backhand swing, 10 reps (s)	30.17±1.16	32.11±1.18	2.34	< 0.05
6	Combined footwork smash into target zone 30s (reps)	12.13±0.71	10.27±0.74	4.11	<0.05
7	Combined footwork lob into target zone 30s (reps)	9.44±0.55	8.37±0.54	3.13	<0.05

The results show that after 3 months of the experiment, the test results of the 2 groups differed significantly, with the experimental group achieving better test results than the control group (P < 0.05). This indicates that the exercises we selected initially demonstrated effective development of SS for male students of the Badminton Club at Hong Bang International University, outperforming the exercises commonly used at the university.

4. Conclusion

Through the research, 22 SS development exercises and 07 SS assessment tests were selected.

Application in practice showed that, after 3 months of the experiment, the group of students trained using the exercise system we selected achieved a higher SS level than the control group, reflecting the initial effectiveness of the exercises.

Article source

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Conflict of Interest Statement

There is no conflict of interest.

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M.Sc. Nguyễn Văn Nam, Lecturer in Physical Education at Hong Bang International University. My research interests include studies on physical education and school sports. I have participated in numerous institutional-level research projects and have supervised many undergraduate theses in the field of physical education and school sports. I have also served as a member of various faculty- and university-level scientific committees, contributing to the review and evaluation of research activities in the field of physical education and school sports.

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