European Journal of Physical Education and Sport Science
ISSN: 2501 - 1235
ISSN-L: 2501 - 1235
Available on-line at: www.oapub.org/edu

doi: 10.5281/zenodo.3460873 Volume 5 | Issue 12 | 2019

SELECTING A NUMBER OF TACTICAL COORDINATION EXERCISES TO IMPROVE STUDENTS'S CALCULATING CAPACITY IN CHESS CLASSES AT HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION

Nguyen Duc Thanh[1i],
Le Thi Quynh Diem[2]
[1]PhD, Physical and Defense Education Center,
Ho Chi Minh University of Technology and Education,
Vietnam
[2]Lecturer, Physical and Defense Education Center,
Ho Chi Minh University of Technology and Education,
Vietnam

Abstract:
Based on the assessment of teaching and students' current state of calculating capacity in chess classes, the topic has selected a number of tactical coordination exercises to improve the calculating capacity for students of chess classes at Ho Chi Minh City University of Technology and Education (HCMC UTE). Thereby, indirectly support students to study well other subjects in the school's general curriculum.

Keywords: calculations, chess, coordination, exercises, tactics

1. Introduction

Chess is an intellectual sport that hides extremely fascinating mysteries, so it attracts up to 600 million people worldwide to play daily. From the professional point of view, calculating power is one of the determinants of chess players' performance. In the southern provinces of Vietnam and the Ho Chi Minh City area, many specialized and non-specialized physical training universities have included chess in the formal physical education curriculum (specifically, HCMC University of Sports, HCMC University of and Physical Education and Sports, HCMC University of Pedagogy, Van Lang University, Ton Duc Thang University, Banking University HCMC,…). Particularly at HCM UTE, chess has been taught since 2000 and has brought positive results from learners' feedback.

[i] Correspondence: email thanhnd@hcmute.edu.vn

In accordance with Resolution No. 29-NQ/TW of the 8th Party Central Conference (9th Session) on fundamental and comprehensive innovation in education and training, the renovation and improvement of teaching and training quality practicing chess to suit the general development of the school and society is necessary. Through a preliminary assessment of the current state of teaching chess at HCM UTE, we realize that the use of methods and means to formulate and develop calculating capacity for students has not been focused properly. This has greatly influenced the learners' interest in learning and progress. Specifically, students lack the sensitivity and depth to calculate and solve problems, especially when encountering complex situations or being limited in terms of thinking time.

Due to the above urgent situations, we realize that it is very necessary to implement the research project called "Selecting some types of tactical coordination exercises to improve the calculating capacity for students of amateur chess classes". The research results will be a useful reference for chess teachers in adjusting the professional teaching process. Also expect that the system of exercises applied in the process of research will help lecturers gain a more realistic perspective to accurately and objectively assessing chess students' calculating capacity.

2. Methodology

2.1. Participants

The object for interview was 20 people including the Management Board of chess clubs, lecturers, and coaches who are knowledgeable in chess expertise at a number of universities in Ho Chi Minh City.

2.2. Procedures

The study was conducted from November 2017 to March 2019 at Ho Chi Minh City University of Technology and Education, Vietnam.

2.3. Measurements

First, through the collection and selection of relevant scientific documents, chess teaching materials, textbooks, a number of internal and international journals, and collection of Viet Nam scientific research works to synthesize types of exercises to evaluate the calculation speed of chess students. Then, we interview experts to choose common and appropriate exercises. Finally, use SPSS 22.0 application to calculate and process data.

3. Research results

3.1. Students' current situation of calculating capacity in chess classes at HCM UTE

3.1.1. Selecting tests to assess students' current situation of calculating capacity in chess classes at HCM UTE

Through reference to related research works, books, textbooks, professional documents and especially chess websites, the topic has analyzed and synthesized 5 feasible tests, suitable for learners' initial level. These are consisting of as follows: Test 1 - Test Learning Chess; Test 2 - Test your chess level; Test 3 - Test Chess Maniac; Test 4 - Test Elometer; Test 5 - Test Louis Holtzhausen (Test Your Skill).

Based on the characteristics of the learners' level and the difficulty level and suitability of the tests as presented, along with personal experience in many years of chess learning and teaching, we chose Test 5 - Test Louis Holtzhausen (Test Your Skill) to assess students' initial situation of calculating capacity in chess classes at HCM UTE.

This test was initiated by Louis Holtzhausen (chessfox.com). This is a unique chess training material. Through the test will estimate player's current calculating skill level. The test consists of 10 chess tactics puzzles (chess position). Some puzzles are easy but others are quite difficult to solve.

Requirement: Find tactical moves for every puzzles.

How to: Write down the answers on the answer sheet.

Time to perform the entire test: 10 minutes (1 minute for each chess position).

How to evaluate: 1 point for each correct solution.

How to classify: 0-2 points: Beginner 3-4 points: Novice; 5-8 points: Intermediate; 9-10 points: Advanced

3.1.2. Evaluating students' the initial calculating capacity in chess classes at HCM UTE

After applying the Test of Louis Holtzhausen (Test Your Skill) received that students' initial calculating capacity of chess classes at HCM UTE is not high, in particular, students' the average score of 2 chess classes is only in the range of 4.14 to 4.22 points. It is belonging to the level of novice and also uneven among class members.

Table 1: Students' initial calculating capacity in chess classes performed by the Louis Holtzhausen Test (Test Your Skill)

Parameters		**Chess class 1 (n = 34)**	**Chess class 2 (n = 32)**
$\overline{x}$ (mean)		**4.22**	**4.14**
±SD (standard deviation)		0.51	0.65
Cv (coefficient of variation)		12.09	15.7
SE (standard error)		0.087	0.111
e (relative error of mean)		0.04	0.05
Comparison	**t(t_b=2.04)**	0.58	
	P	> 0.05	

This is also normal for the beginning of a chess curriculum. In order to improve this situation, teachers and chess coaches have to conduct new and feasible studies in accordance with the learners' initial calculating capacity.

3.2. Selecting a number of tactical coordination exercises to improve students' calculating capacity in chess classes

The results are showed on Table 1. Firstly, the exercises used by chess teachers, coaches at HCM UTE were not systematic and not really suitable for students. Second, these were monotonous, often focusing on the chess set. Thirdly, the updates to new documents are few and infrequent. Finally, chess teachers and coaches did not asked students to self-study as well as to solve their homework.

The results of direct interviews to students and athletes belonging to the chess team of HCM UTE also show that most of them only grasp the general theory and formulate the concept of principle but have not developed chess calculation speed.

3.2.2. Conducting the selection of some types of tactical coordination exercises to improve students' calculating capacity

We have conducted the following 3 steps to ensure the exercises are reasonable and objective.

a) Summary and systematize exercises to evaluate students' calculating capacity: Through the reference and analysis of relevant professional documents, we have synthesized 25 chess groups of speed calculation exercises for students at HCM UTE.
b) Cutting out the less common, less used exercise groups: Based on the synthesized exercises and the selection principles, the topic has omitted complex, less used exercises. The remaining 20 groups of exercises to be taken to the next interview step
c) Through expert interviews to identify groups of exercises to improve computing skills in chess

The convention of choosing only exercises to assess students' calculating capacity of chess is ≥ 80% of the votes approved in 2 interviews (eliminating exercises with the approval rate <80%), and at the same time, there must be a consistency (no significant difference) between the 2 interviews.

Table 2: The results of experts' consultation to select tactical coordination exercises groups to improve calculating capacity for chess classes students (according to Wilcoxon interview twice)

Group of exercises	The first time (n=20)		The second time (n=20)		Test Statistics[a]	
	∑ (marks)	%	∑ (marks)	%	Z	Asymp. Sig. (2-tailed)
1. Double attack	55	92	55	92	.000[b]	1.000
2. Double checkmate	53	88	52	87	-.333[c]	.739
3. Discover attack	56	93	57	95	-.378[d]	.705

4. Interference	54	90	55	92	-.378[d]	.705
5. Pinning	56	93	56	93	.000[b]	1.000
6. Deflection	52	87	55	92	-1.342[d]	.180
7. Attract	53	88	51	85	-.816[c]	.414
8. Trap	52	87	52	87	.000[b]	1.000
9. Clearance	51	85	53	88	-.707[d]	.480
10. Annihilation of defence	**31**	**52**	**29**	**48**	**.000[b]**	**1.000**
11. Strangle	52	87	52	87	.000[b]	1.000
12. Mill	49	82	49	82	.000[b]	1.000
13. Waiting moves	**27**	**45**	**29**	**48**	**.000[b]**	**1.000**
14. Assault on overloaded troops	51	85	53	88	-.707[d]	.480
15. Skewers	52	87	53	88	-.378[d]	.705
16. Promoting	55	92	55	92	.000[b]	1.000
17. Demolition of pawn structure	**30**	**50**	**28**	**47**	**.000[b]**	**1.000**
18. Looking forward to the draw	52	87	55	92	-1.000[d]	.317
19. Sacrifice	53	88	54	90	-.447[d]	.655
20. Attacking last line	54	90	53	88	-.447[c]	.655
(a. L2 < L1, b. L2 > L1, c. L2 = L1)						

Thus, through experts' opinion, the topic has selected 17 exercises that meet the conditions as convention, which are: (1) Double attack; (2) Double checkmate; (3) Discover attack; (4) Interference; (5) Pinning; (6) Deflection; (7) Attract; (8) Trap; (9) Clearance; (10 Strangle; (11) Mill; (12) Assault on overloaded troops; (13) Skewers; (14) Promoting; (15) Looking forward to the drawer; (16) Sacrifice; (17) Attacking last row.

4. Conclusion

The reality of the computational competence of chess students at HCM UTE is not high, their level is only at the apprenticeship (the ranges of between 1000-1400 ELO) and it is not equal among class members.

First, the topic has synthesized and systematized the chess tactical exercises used by domestic and foreign authors. Next, we cut back on complicated, under-used exercises. Finally, we conducted an interview by questionnaire to get experts' opinions and selected 17 objective and feasible exercise groups to put into teaching.

The application of these exercises will help improve students' calculating capacity of chess classes at HCM UTE.

References

Alexander Kotov (translated from the Russian by Bernard Cafferty, London, Batsford 1971), *Think like a Grand Master*, Algebraic Edition 2003.

Chessfox (2019). "4 Important Elements of an Effective Chess Calculation Technique".

Chessfox (2019). "The 7 Skills Chess Training Model".

Chess Informant (2012). *Encyclopedia Combinations* - Four Edition, Serbia.

FIDE (2012). AGON releases new chess player statistics from YouGov, trích xuất từ trang fide.com (http://www.fide.com/…/6376-agon-releases-new-chess-player-s…) ngày 09/8/2012.

FIDE (2019). *Standard Top 100 Players August 2019*, extracted from World Chess Federation (https://ratings.fide.com/top.phtml?list=men).

Jacob AaGaard (2001). *Excelling at Chess*, Everyman Publishers plc, London.

Jon Edwards (2007). *Teach Yourself Visually™ Chess*, Wiley Publishing, Inc.

Jose' R. Capablanca (1934). *Chess Fundamentals*, New York Harcourt, Brace And Company London: G. Bell and Sons, Ltd.

Mark Dvoretsky - Edited and translated by Ken Neat (2003). *Tactical Play*, Edition Olms.

Patrick S. McDonald (2000), *The Benefits of Chess in Education*. Retrieved from website: ajedrez21.com (http://www.ajedrez21.com/circulares/descargas/BenefitsOfChessInEducation.pdf).

Philip Ochman (2012). *The Process of Decision Making in Chess*, First Edition.

Sergey Ivashchenco (2007). *The Manual of Chess Combinations - Chess School 1a and 1b*, Moscow.

Tim Brennan (2012). *101 Tactical Tips*, TacticTimes.com.