

Original article

The formation of some skills throuot teaching tasks in combinatorial themes

La formación de las habilidades de enseñanza de los temas de combinación de ajedrez

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Abstract

This research work accomplished for the sake of favoring the formation of teaching skills of combinatorial themes of chess, in the Physical Culture career at Holguín University, as from the insufficiencies detected in the process of teaching learning process of this contents itself. Methodological established for teaching contribute teaching tasks designed in accord with the steps themselves. The obtained results evidence the functionality of the teaching implemented tasks.

Key words: pedagogical tasks; chess skills; chess teaching; combinations; chess.

Resumen

Esta investigación se realizó con el objetivo de favorecer la formación de las habilidades de enseñanza de los temas de combinación de ajedrez, en la carrera de Cultura Física en la Universidad de Holguín, a partir de las insuficiencias detectadas en el proceso de enseñanza y aprendizaje desde lo metodológico, donde se establezcan las instrucciones que contribuyan a tareas de enseñanza las que de diseñaron. Los resultados obtenidos evidencian la funcionalidad de la enseñanza al poner en práctica las tareas.

Palabras claves: tareas pedagógicas; habilidades de ajedrez; enseñanza de ajedrez; combinaciones; ajedrez.

Introduction

In the formation of the student of the Physical Culture career, as well as in the diversity of specialties that the professionals of higher education study, it is essential the formation of

knowledge and the development of skills in correspondence with the work to be developed once graduated, such aspects are materialized through the different subjects of the study curriculum. Chess, as a subject of its own or as part of the Discipline Theory and Practice of Sport, in the current E study plan, are subjects that students receive during their training and although in one way or another it is elementary to provide them with knowledge of the fundamentals of the game, it is essential to equip them in the management of teaching methodologies in correspondence with the pedagogical cut of the career.

The combinatory themes (check in the open, the double attack, the pinned piece, among others) are tactical fundamentals of the game that are presented more systematically in the middlegame phase. The teaching of this content needs to follow certain guidelines or methodology to promote positive results in learning; in this regard, the integral program for the preparation of the chess athlete (PIPDA) provides general indications to be followed for the treatment of the content, such as:

- Concrete definition of the trial.
- Simple didactic examples that demonstrate the applied concept.
- Various exercises.
- Application tasks (Rivero et al., 2015, p. 30).

Such indications lack didactic arguments for implementation, however there are methodological guidelines derived from the scientific-methodological work of the subject, made available to students as teaching support material. In spite of the situation referred to, insufficiencies were detected in the learning of skills for the teaching of this content, which was corroborated during the internal teaching practice activities conceived in the teaching-learning process.

The causes that led to this situation were confirmed from the application of the group dynamics technique with students involved in the learning process and the exhaustive review of the documents of the subject in question, detecting insufficiencies in the application of teaching-learning methods and procedures.

Chess literature related to the content was consulted, such as: Huerta (1990), Barrera (2000), García et al (2003), Blanco (2004), Chacón (2012); which contain conceptualizations, methodological suggestions for teaching in the context of primary education, approaches of tactical situations with their respective solutions and model games in terms of forming skills in the referred combinatorial themes.

The authors of this investigation related to chess content read and analyzed several sources like: Bandera (2013), Fernández (2015), Mestre and Tur (2016), Aguado and Rangel (2018), among others. Such sources relate actions, tactical themes for the training of children, multimedia and methodology for didactic competences of the teacher in Physical Culture; without having found studies aimed at the formation of skills for the teaching of chess combinatorial themes in Higher Education.

Taking into consideration these reasons, the following scientific problem was posed: How to favor the formation of skills for the teaching of chess combinatorial themes in students of Physical Culture in Holguín?

In correspondence with the stated problem, it was proposed as objective: elaborating teaching tasks to help the formation of abilities for the teaching of the combinatorial themes of chess, in students of the race of Physical Culture, in Holguín.

Development

In the higher education system, the teaching activities designed should promote the development of students, confronting them with learning situations that require them, among other aspects, to search for and process information from various sources, a growing logical, creative, critical and independent thinking, the analysis of the complexity of the processes, the exposition and defense of their points of view. (Ministry of Higher Education [MES], 2016, p.37).

In the referred document it is stated: "Different organizational forms of the teaching-learning process of higher education in our country: lectures, seminars, practical classes (development of professional pedagogical skills, sports), constitute variants for the formation of skills"(p.142).

Further on it is expressed:

[...] the teaching-learning process must be conceived in such a way that the student is active, the use of productive teaching methods must be closely related to the management functions that the future sports teacher will fulfill in the basic link. (p.143)

In relation to learning and teaching, (Alvarez 1999 p.44) states: "Learning is the activity developed by the student to learn, to assimilate the subject of study. Teaching is, in turn, the activity carried out by the teacher", hence the importance of planning, as one of the phases comprising the management cycle, and the selection of teaching methods in correspondence with the teaching method are fundamental to form skills in students.

Regarding the use of teaching-learning methods (Silvestre and Zilberstein, 2000, p.18), they state:

[...] constitute the system of actions that regulates the activity of the teacher and the students, according to the achievement of the objectives, they assume that reproductive and productive methods must be linked, with predominance of the latter and the corresponding evaluation, that is, to control the extent to which the objectives are met, encouraging activities that stimulate self-evaluation by the students, as well as the assessment of the work of others.

The teaching-learning process must conceive methods or procedures that contribute in this sense, where the student puts into practice his creativity and is the protagonist of his own learning, independent work being an essential way.

Labarrere and (Valdivia 1991 p.111) define independent work as: "The performance of tasks by the student under the direction of the teacher".

Concepción and Rodríguez (2005) consider that independent work can be developed in different ways, one of which is the teaching task:

We understand by teaching task a learning situation that the student must solve as a means for the appropriation of contents and values. According to its structure, the task is a learning situation that includes proposition and approach, demand(s), and requires a procedure to solve the demand(s). (p.100)

These authors consider the following as a possible structure of a teaching task:

- Objective.
- Content.
- Cognitive actions.
- Bibliography.
- Control. (p. 101)

From the above, it can be inferred that teaching assignments, as a productive teaching-learning method, must be correctly elaborated in their entire structure, so that students have within their reach the precise orientations and resources demanded by the oriented activity.

The main results of the solution to the problem posed were the elaboration of teaching tasks that made possible the efficient development of the teaching-learning process, in close connection with the indications emanating from the program of the Discipline Theory and Practice of Sport, the guiding document of the sports training process and the considerations of several pedagogues on the teaching-learning process, making possible the formation of skills in correspondence with the work profile of the future professional.

Population

The population of the scientific study consisted of four students in the 3rd year of the Physical Culture course in the Regular Day Course modality, which constituted the total enrollment of the subject Sport I (Chess), three of them belong to the female sex and one to the male, which represent 75% and 25% respectively; their common characteristic is that they have no experience as athletes of this sport although they feel motivated to teach it; two of them have a higher learning capacity than the others.

The scientific research methods and techniques used in the study are described below:

- Historical-logical: to determine the trends of the teaching-learning process and preceding studies.
- Analytical-synthetic: to determine significant aspects in relation to the precepts of teaching-learning.
- Inductive-deductive: to reflect and make decisions regarding the solution of the problem posed.
- Documentary review: to review documents of the subject and others that regulate the teaching of the content under analysis.
- Group dynamics: to learn the causes of the problems detected, to reconcile the teaching tasks developed and to estimate the students' learning.
- Observation: to observe the students' performance and give them evaluative categories.
- Descriptive statistics: to show the quantitative results of the research through the use of tables.
- Empirical frequency distributions: for statistical processing of quantitative information.

The methodology followed in the scientific study for the solution of the problem posed was as follows: after the initial diagnosis, several bibliographic sources and scientific studies related to the subject were consulted, then the teaching tasks were elaborated, taking into account the criteria of several pedagogues in their structure, these were reconciled in the subject group and improved when necessary. Observations were made during their implementation, having as a preamble a conference and a seminar related to the content. They were validated by means of the observation method during the practical classes and the partial exam, for which an observation guide was prepared with the respective indicators that made it possible to assign an evaluative category to each student and to estimate learning according to the skills shown.

Analysis of the results

Twelve teaching tasks were elaborated, four for each combinatory theiece), corresponding to each methodological step established in the PIPDA, with their objective structure, content, cognitive actions, bibliography and control.

Six practical classes were developed for the study of three combinatorial topics atme (double attack, check in the open, the pinned p the rate of two teaching tasks (each one includes a methodological step) in each practical class, being oriented in the preceding class the guide for self-preparation; students were given 10 minutes at their work tables before the teacher began to control the individual exposition of the tasks; the students were organized in the roles of speakers and opponents; evaluative categories were given to each student per practical class (in the roles of speaker and opponents) by means of self-evaluation, co-evaluation and hetero-evaluation techniques.

Tasks teachers	C.P # 1 Pinned piece		C.P # 2 Pinned piece		C.P # 3 Check in the open		C.P # 4 Check in the open		C.P # 5 Double attack		C.P # 6 Double attack	
	P	OP	P	OP	P	OP	P	OP	P	OP	P	OP
Tasks 1	E-1	E-3			E-3	E-1			E-2	E-4		
Tasks 2	E-2	E-4			E-4	E-2			E-1	E-3		
Tasks 3			E-3	E-1			E-1	E-3			E-4	E-2
Tasks 4			E-4	E-2			E-2	E-4			E-3	E-1

Table 1. Organization of students for practical classes

Symbologies: C.P: practical class E: student

The following are teaching tasks for the combinatorial theme: Double Attack.

Task # 1. Concrete definition of the trial.

Objective: to demonstrate the methodological step referred to the concrete definition of the trial for the teaching of the combinatorial theme double attack.

Content: demonstrate how you would proceed so that children of the basic link understand the concept of the double attack combinatorial theme.

Cognitive actions: consult the summary elaborated on the 1st methodological step as part of the independent work oriented in the conference activity, consult the definitions offered by the basic text of the subject, detect objects present in the classroom environment or conceive situations of daily life within reach of children of the basic link that can serve to extrapolate the concept to the chess context, to elaborate a list of possible definitions or concepts of said combinatorial theme that they consider appropriate for children of the basic link, to conceive simple questions and positions on which they can rely so that the children by themselves can arrive at the definition.

Bibliography for self-preparation:

Lecture: methodology for teaching combinatorial topics. (Placed in the Moodle Platform).

Abstract elaborated individually (as part of the independent work) on the characterization of the PIPDA indications for the treatment of the content.

Silvino G. et al.aut. (2003). Integral Chess. Volume I. Ciudad de la Habana, Editorial Deportes (Basic text of the subject).

Tey (2016). Methodology for the teaching of combinatorial subjects. Teaching support material: ICT funds (code FA - 1668).

National Chess Commission. (2013). Comprehensive program for the preparation of the chess athlete (in digital support).

Rivero et al. aut. (2015). Comprehensive Program for the Preparation of the Athlete: chess. Havana: Editorial Deportes.

Control: through the observation of the teachers to the exposure of the tasks performed by the students; the criterion of self-evaluation and co-evaluation, plus the criterion of the observers.

Task # 2. Simple didactic examples of the applied concept.

Objective: to demonstrate the methodological step referred to simple didactic examples demonstrating the applied concept.

Content: Demonstrate how to proceed to comply with the methodological step referred to simple didactic examples demonstrating the applied concept, for the teaching of the double attack combinatorial theme, children of the basic link.

Cognitive actions: consult the summary elaborated on the second methodological step (as part of the independent work oriented in lecture activity), interpret the basic idea of the methodological step, consult the basic text of the subject, conceive or select positional diagrams from the bibliography offered (book: Chess Game Theory), exchange criteria with classmates.

Bibliography for self-preparation: idem to the 1st task.

Control: by means of the observation of the task oriented by the teacher to the students' exposition, self-evaluation and co-evaluation criteria, plus the observers' criteria.

Task # 3. Various exercises.

Objective: to demonstrate the methodological step referred to various exercises to children of the basic link.

Content: demonstrate how you would proceed to implement the third methodological step for the teaching of the double attack combinatorial theme to children of the base link.

Cognitive actions: consult the summary elaborated on the third methodological step as part of the independent work oriented in the lecture activity, make a selection of diagrams that meet the characteristics implicit in the methodological step to be implemented in the classroom context.

Bibliography for self-preparation: idem to the 1st task.

Control: by means of the verification of the progress of the oriented task by the teacher, the exposition of the tasks by the students, the criterion of self-evaluation and co-evaluation, plus the criterion of the observers.

Task # 4. Application tasks.

Objective: to demonstrate the methodological step referred to application tasks for teaching children of the basic link.

Content: demonstrate how you would proceed to implement the fourth methodological step for teaching the double attack combinatorial theme to children of the basic link.

Cognitive actions: consult the summary elaborated on the fourth methodological step (as part of the independent work) oriented in the lecture activity, make a selection of games from the chess literature where the combinatorial theme under study is manifested to be analyzed on the tabletops, propose diagrams of greater complexity to be solved in the context of the class and extra-class with minimal information about it and indicate game activity where they manifest the knowledge of the subject under study or those already studied.

Bibliography for self-preparation: idem to the 1st task.

Control: through the verification of the progress of the guided task by the teacher, the presentation of the tasks by the students, the criteria of self-evaluation and co-evaluation, plus the criteria of the observers.

You drive of observation with the respective indicators and criteria for the formation of abilities.

Objective: observing the abilities of the students for the teaching of the combinatorial themes.

Concrete definition of the judgment.

- The student (teacher's role) must state the combinatorial or tactical theme to be studied and, based on objects in sight or situations of everyday life known by children of the basic link, extrapolate them to the chess context so that classmates can conceive the idea of the combinatorial theme.

- The student (teacher role) should place a simple position on the wall board and pose questions that allow the other classmates to reflect on definitions of the combinatorial or tactical theme under study.

- The student (teacher's role) must ensure that the other classmates on their own are able to formulate with certainty the definition of the combinatorial or tactical topic under study.

Simple didactic examples that demonstrate the applied concept.

- The student (teacher role) must place positions on the wall board with as few pieces as possible to exemplify the concept of the combinatorial or tactical theme under study.
- The student (teacher role) must place positions on the wall board where different game pieces participate in the achievement of the combinatorial or tactical theme under study.
- The student (teacher role) must place positions on the wall board where both colors of pieces or sides intervene as protagonists in the achievement of the combinatorial or tactical theme under study.
- The student (teacher role) must get the other classmates to place positions on the wall board that exemplify the combinatorial or tactical theme under study.

Various exercises.

- The student (teacher role) must propose diagrams to be solved by the other classmates, first on the wall board and then on their tabletops, in one and two moves where both colors of pieces are involved in the same, previous orientations, i.e.: who plays first, who wins, in how many moves.
- The student (teacher role) must propose diagrams to be solved by the other classmates on their tabletops in one and two moves where both colors of pieces are involved in the same, reducing the level of information for the solution of the same.
- The student (teacher role) must propose diagrams to be solved by the other classmates increasing the number of moves for the achievement of the combinatorial or tactical theme, previous orientations, i.e.: who plays first, who wins, in how many moves.
- The student (teacher role) must propose diagrams to be solved by the other classmates on their tabletops, increasing the number of moves to achieve the combinatorial or tactical theme, reducing the level of information for the solution of the diagrams.

Implementation tasks.

- The trainer (teacher role) should guide the analysis of games from various chess literature previously selected by him, where the combinatorial or tactical theme under study is manifested.
- The trainer (teacher role) should guide diagrams to be solved by classmates in the teaching and extra-teaching context with minimal information about it.

- The student (teacher role) should guide the game activity with a task involving the application of the combinatorial or tactical theme under study or those already studied, stimulating them to obtain a better evaluative category in class.

In mail with the indicators and preceding criteria were granted categories evaluativas to the students. The formation of abilities was evaluated as from the scale that is shown in the table.

Evaluative scale	Formation of abilities
Evaluations between 5 and 4, with a predominance of 5	Excellent
Evaluations between 5 and 4, with a predominance of 4	Adequate
Evaluations between 5 and 3, with a predominance of 5	Adequate
Evaluations between 5 and 3, with a predominance of 3	Poorly adequate
Evaluations between 5, 4 and 3, with a predominance of 5	Adequate
Evaluations between 5, 4 and 3, with a predominance of 4	Adequate
Evaluations between 5, 4 and 3, with a predominance of 3	Poorly adequate
Evaluations between 4 and 3 with predominance of 4	Adequate
Evaluations between 4 and 3 with a predominance of 3	Poorly adequate
Assessments of 3	Poorly adequate
Evaluations that 2 contain	Insufficient

Table 3. Scale for the evaluation of abilities

Below are the evaluative categories achieved by the students in the roles of speakers (P) and opponents (Op) according to indicators and criteria set out in the observation guide.

Population	Evaluative categories												
	C.P # 1 T.D: 1-2		C.P # 2 T.D: 3-4		C.P # 3 T.D: 5-6		C.P # 4 T.D: 7-8		C.P # 5 T.D: 9-10		C.P # 6 T.D: 11-12		E.P
	O	Op	O	Op	O	Op	O	Op	O	Op	O	Op	
Studen 1	4	5			4	5			5	5			5
Studen 2	4	3			3	4			4	4			4
Studen 3			5	4			4	5			5	5	5
Studen 4			3	4			4	3			4	4	4

Table 2. Evaluative categories achieved by students.

Symbologies: C.P: practical class T.D: teaching assignment E.P: partial evaluation P: speaker Op: opponent

Categories evaluativas obtained by the students revealed the attained abilities.

Population	Formation of abilities
Student 1	Excellent
Student 2	Adequate
Student 3	Excellent
Student 4	Adequate

Table 4. Abilities attained by the students

Conclusions

1. Forming skills for teaching combinatorial topics requires productive teaching methods that place the student in a productive learning situation.
2. The diagnosis carried out made it possible to determine the main causes of insufficient learning.
3. The teaching tasks should contain in their structure aspects that make it easier for students to solve them in an understandable and coherent way.
4. The teaching tasks implemented favored the formation of skills for the teaching of chess combinatorial themes, which is evidenced in the results attained by the students.

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