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Effectiveness of the use of strategies as learning objects in physical education: The case of teaching discus throwing at CEG Mededjonou

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Abstract

This study examines the implementation of learning-object strategies in teaching the discus throw at CEG Médédjonou. Its main objective is to analyze their effectiveness in relation to official prescriptions. To achieve this, a mixed methodology was adopted: a questionnaire was administered to twenty-one (21) Physical Education teachers in the municipality of Adjarra, and two teachers were observed and videotaped during discus throw lessons, complemented by pre- and post-lesson interviews. The theoretical framework is the Anthropological Theory of Didactics (Chevallard, 1992), particularly the concepts of didactic transposition, institution, relation to knowledge, and milieu. The findings reveal that most teachers confuse learning-object strategies with teaching/learning strategies. Consequently, prescribed strategies are rarely applied in their entirety. Teachers mainly emphasize individual technical reproduction, without explicitly defining learning objects or encouraging students' autonomous knowledge construction. This situation is explained by insufficient didactic training, inadequate teaching materials, and large class sizes. In conclusion, the study highlights the need to strengthen both initial and in-service teacher training, to improve material conditions, and to raise greater awareness of the importance of learning-object strategies for effective teaching of the discus throw.

Keywords: Learning-Object Strategies; Discus Throw; Teaching

1. Introduction

Physical Education (PE) is a discipline in its own right that develops learners not only motor skills but also cognitive abilities; this makes its teaching particularly delicate as it directly impacts the human body. The complexity of its teaching stems from the teacher's ability to use strategies to facilitate the acquisition of learning objectives. In this context, the teaching of learning strategies is conceived as an intentional and structured approach where the teacher methodically organizes learning situations according to specific and progressive objectives (Siedentop, 2002). Within the framework of competency-based learning (CBL), the learner is at the heart of the learning process; an autonomy that allows them to grasp all aspects of a problem situation in order to deduce the appropriate solution.

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In the specific context of discus throwing, students are encouraged to experiment with different techniques, analyze their own movements, progressively adjust their posture and coordination, and develop a personal understanding of the physical principles underlying this athletic activity. In this process, teaching strategies must be conceived as an integrated system that fosters lasting, meaningful, and contextualized learning.

To guide physical education teachers, the teaching-learning-assessment approach prescribed in official documents encourages them to use teaching-learning strategies and learning-object strategies in their pedagogical practices in real classroom situations. What is the nature of learning-object strategies for teaching discus throwing? Are they actually implemented or used by teachers in the classroom?

This research focuses specifically on the implementation of learning strategies during physical education (PE) sessions, particularly during the teaching of discus throwing in first-year classes at the CEG Mèdédjonou school in the municipality of Adjarra.

Research Objective

This research aims to analyze the implementation process of learning strategies during the teaching of discus throwing. Specifically, it seeks, firstly, to identify the prescribed learning strategies actually used during discus throwing teaching/learning sessions; and secondly, to describe the approach to implementing these prescribed learning strategies for teaching discus throwing.

1.1. Theoretical Framework: Chevallard's Anthropological Theory of Didactics (ATD) (2018)

Within the framework of this research on "learning object" strategies in Physical Education (PE) in Benin, ATD offers a relevant framework for understanding how learning object strategies related to PE are defined, transformed, and implemented within the specific context of the Beninese education system. It also allows us to analyze the institutional, material, and human constraints that influence teaching practices. To this end, we borrow several concepts from the didactic anthropology model, such as: didactic transposition, institution, position, relationship to knowledge, and the didactic environment.

1.2. Didactic transposition

Didactic transposition is a fundamental concept of ATD that refers to the process by which scholarly knowledge becomes taught knowledge. It involves two successive transformations: first, scholarly knowledge becomes prescribed knowledge (external didactic transposition), then this is transformed into knowledge to be taught through pedagogical action (internal didactic transposition). Today, it is recognized as a complex system of actors and mediations, where, within institutions, teachers, students, and tools shape the final content transmitted (Bosch and Chevallard, 2020).

In the context of Physical Education in Benin, didactic transposition reveals a recurring and often divergent gap between the prescribed curriculum (external didactic transposition, i.e., the development of the national program) and the curriculum actually implemented in the classroom (internal didactic transposition, revealed by actual classroom practice), particularly in the teaching of technical physical activities such as discus throwing.

Atoun et al. (2021), in a case study on the high jump in Benin, reinforce this perspective: they observe that teachers do not exactly apply the official curriculum, due to their interpretation of institutional directives and classroom realities. The observed discrepancies result from each teacher's practical epistemology, influencing the form and scope of the content taught.

This research converges on the idea that didactic transposition is not limited to a material adjustment, but involves a reflective process of constructing learning objects (in this case, the discus throw) that must be culturally informed, technologically informed, and technically progressive.

1.3. Institutions, positions, and relationships to knowledge

In the Anthropological Theory of Didactics (ATD), an institution is defined as a total social apparatus, which may have a limited reach in social space, but which enables and imposes upon its subjects that is, upon the individuals who occupy different positions within it. This conception allows us to analyze the Beninese education system as a set of institutions (ministry, schools, physical education classes, etc.). Simultaneously, this theory introduces the notion of a personal relationship to an object of knowledge, constructed through the institutions to which one is subject. The Anthropological Theory of Didactics (ATD) formalizes these relationships in terms of praxeologies. An individual's personal relationship to a praxeology is determined by the history of their institutional subjugations, while the institution possesses a defined

praxeological framework. Teachers' didactic choices (particularly in physical education in Benin) are part of this dialectic between personal relationships and institutional constraints. Research conducted in Benin (Agbodjogbé, Attiklémé and Atoun, 2014; Atoun et al., 2018) shows that, despite the introduction of a competency-based curriculum, teaching practices remain dominated by a traditional model centered on mastery and formal assessment, relegating the complexity of underlying knowledge (theoretical and technical praxeologies) to the background.

1.4. The concept of milieu in Theory of Didactic Structure (TDS)

In TDS, milieu is defined as “the human and material environment, stable and transparent for all actors in the institution” (Attiklémé, 2009, p. 20). It refers to "the set of institutional objects for which the institutional relationship is stable at a given moment within the institution, and which, subjectively (for the subjects of the institution), appear self-evident, transparent, and unproblematic" (Bosch and Chevallard, 2020, p. 57).

This concept is particularly relevant for analyzing the ecological conditions that determine physical education teaching in Benin. Its analysis allows us to understand the constraints and resources that influence the application of learning-object strategies.

2. Problem statement, research questions and hypothesis

In the Beninese educational context, the Competency-Based Approach (CBA) has been adopted to place the student at centre of their learning, valuing their active involvement in knowledge construction. This requires teachers to have a thorough mastery of various pedagogical strategies, particularly those referred to as "learning-object" strategies. However, in practice, recurring observations show that many physical education teachers encounter difficulties in appropriating and effectively applying these strategies, often due to a superficial understanding of the concepts, a lack of ongoing professional development, and unfavorable working conditions (Atoun et al., 2018). Physical Education and Sport, although integrated into school curricula as a discipline in its own right aimed at the overall development of the learner, remains marked by discrepancies between curricular intentions and actual practices, particularly in the teaching of discus throwing, where teaching guides clearly recommend the use of student-centered strategies, such as learning object strategies (Attiklémé et al., 2006). This discrepancy highlights a problem of didactic transposition, more precisely of internal didactic transposition, where the knowledge prescribed at the national level is difficult to transform into knowledge actually taught due to constraints such as insufficient materials, overcrowded classrooms, or the individual interpretation that teachers make of official guidelines. According to the anthropological theory of didactics developed by Chevallard (2018), several concepts can shed light on this situation: didactic transposition, which examines the transition from scholarly knowledge to taught knowledge; the institution, which here refers to the Beninese education system with its norms and guidelines; the teachers' position and relationship to knowledge, which influence their didactic choices; and finally, the environment, which encompasses the concrete realities in which teaching takes place, such as the material, human, and organizational context of the Médédjonou CEG (General Education College).

Thus, the problem raised by this research lies in the observation of a persistent gap between didactic guidelines and their actual implementation in classrooms. This gap appears to have institutional, conceptual, and contextual causes, justifying the need for an in-depth study of how physical education teachers in Benin implement learning strategies.

Research questions: Are learning strategies used appropriately by teachers during the teaching and learning process in discus throwing, in accordance with official guidelines?

Hypotheses: Physical education teachers confuse learning strategies with teaching and learning strategies. This suggests a lack of understanding of their implementation and therefore a failure to comply with official guidelines.

3. Methodological approach

This research falls within the field of teacher practice analysis in relation to the present problem. This study involved observing two teachers with different professional backgrounds as they taught discus throwing to two first-year classes at the CEG Mèdédjonou school, in order to analyze their implementation of the learning strategies. The methodology developed for this study is structured around four main points: the study subjects, the research techniques and tools, the survey procedure, and the data analysis method.

3.1. Nature and subjects of the study

This research is a mixed-methods study, combining qualitative and quantitative approaches. It is qualitative in that it describes the actions of certain subjects in a specific context, and quantitative through the questionnaire administered to Physical Education teachers regarding the teaching and learning of discus throwing. Accordingly, the study subjects were chosen based on their relevance to the research question. Physical education teachers are indeed key players in the pedagogical implementation of discus throwing, which justifies their selection as privileged participants, capable of providing rich and contextualized data (Creswell, 2014). More specifically, only two teachers working with eleventh-grade students at the school confirmed using learning materials related to discuss throwing and agreed to have their lessons filmed. These qualitative observations allow for an in-depth analysis of actual practices in real-world situations (Patton, 2015). In parallel, a larger sample of 21 teachers agreed to complete the questionnaire, thus ensuring the collection of quantitative data representative of practices and perceptions on a broader scale (Bryman, 2016). The choice of these subjects also adheres to strong methodological coherence, directly linked to the research question and objectives, thereby guaranteeing the internal and external validity of the results. When possible, the students of the filmed teachers are also included, allowing for data triangulation that strengthens scientific rigor (Merriam and Tisdell, 2016). It is from this perspective that these two teachers became our subjects of investigation. The students of these teachers, in line with the ternary structure of the Amade-Escot (2003) didactic system, should be of particular interest to us. Having focused our investigation on the teachers' actions in the classroom, we chose not to target specific students as subjects of study.

3.2. Research techniques and tools

These include document analysis, interviews, audio-visual recording of sessions, and a questionnaire.

3.2.1. Document analysis

Through reading, document analysis consisted of consulting documents related to the topic to conduct a literature review and demonstrate the originality of this research. Specifically, we consulted: the official physical education (PE) curriculum in Benin; teaching materials related to discuss throwing; previous research on PE teaching strategies; lesson plans from the two observed teachers; the annual progressions established by the teachers; and the lesson plans of the two first-year classes.

3.2.2. Interviews

Using an interview guide and a voice recorder, we conducted three types of interviews. This study consists of pre-session and post-session interviews conducted primarily with the two teachers who were filmed, followed by a non-directive interview with other teachers working in general education secondary schools in the municipality of Adjarra.

Pre-session interviews

Pre-session interviews are conducted at the beginning of each session with each teacher. These interviews, following the work of Amade-Escot (2003), allowed us to understand the teachers' didactic intentions for each session, including the targeted knowledge, the objectives related to the strategies to be used, the planned tasks, and the anticipated difficulties for the students. The objective is to identify the extent to which the teachers structure their sessions around a clear and structured learning strategy, in accordance with official guidelines. These interviews also allow us to verify the consistency between the stated strategies and their actual implementation in the classroom.

Post-session interviews

This is the time for each teacher to reflect on the teaching choices made, the adjustments made during the session, the students' reactions to the tasks presented, and any difficulties encountered. The objective is to assess the extent to which the initial intentions were translated into pedagogical actions and how the learning strategies were developed, used, or abandoned throughout the session. In accordance with the number of filmed sessions, three pre-session interviews and three post-session interviews were conducted with each teacher. This makes a total of six pre-session interviews and six post-session interviews.

Non-directive interviews

In addition to the pre- and post-session interviews, we conducted non-directive interviews with physical education teachers from the CEG Médédjonou to gather contextual data that complemented the pre- and post-session interviews. These interviews provided a better understanding of the institutional environment and the realities on the ground in which the teachers' practices are situated. The selection of the teachers interviewed was based on rigorous qualitative

criteria: a minimum of three years of professional experience, their actual responsibility in teaching physical activities, particularly discus throwing, and their willingness to actively participate in the research process. This selection aimed to guarantee the relevance and richness of the data collected, in accordance with the principles of purposive sampling in qualitative research (Paillé and Mucchielli, 2012). These unstructured interviews led to free-flowing discussions around several key themes: the place of discus throwing in physical education curricula, the constraints encountered (class sizes, equipment, training), dominant pedagogical approaches, and teaching strategies deemed effective or applicable. This method allows for an exploration of the professional reasoning and didactic adjustments made by teachers in response to official guidelines, particularly those concerning learning strategies.

Indeed, according to the anthropological theory of didactics (Chevallard, 2018), analyzing the relationship to knowledge, internal didactic transposition, and adaptations imposed by the local "environment" is essential for understanding how prescribed knowledge is actually implemented in the classroom. These interviews thus helped identify the gap between curricular intentions and actual practices, while also revealing the diversity of teachers' institutional stances in the face of pedagogical directives (Clanet, 2001; Amade-Escot, 2003).

3.2.3. Audiovisual recordings of sessions

Our investigations focused on three discus throwing sessions for each teacher in their classroom. These were, in fact, instrumented observations conducted using audiovisual recordings of three successive sessions for each teacher. This methodology, inspired by the work of Leutenegger (2003, 2009) and Amade-Escot (2003), made it possible to simultaneously capture verbal and gestural interactions between teachers and students, real-time decision-making, and the dynamics of teaching situations within the school environment. The use of two camcorders—one fixed to film the entire class and the other mobile to focus on specific areas of interest—facilitated a detailed analysis of teaching/learning practices during key phases of the lesson (warm-up, activity, and cool-down). This approach aimed in particular to identify the learning strategies actually used, to describe their effective implementation, and to analyze the discrepancies between official guidelines and observed practices, in relation to the concepts employed.

3.2.4. Questionnaire survey

In this mixed-methods research, a questionnaire survey was used in conjunction with observations of filmed sessions and pre- and post-session interviews to collect quantitative and self-reported data on the implementation of learning strategies in discus throwing instruction. The questionnaire was administered to twenty-one (21) Physical Education teachers working in the municipality of Adjarra, including the two teachers who were filmed. This tool aimed to identify teachers' conceptions of learning strategies, assess their level of knowledge of official guidelines, and describe their reported practices as well as the difficulties encountered in their implementation. The use of a questionnaire in this research broadens the scope of analysis by providing a comprehensive view of professional trends, while complementing the detailed analysis of practices derived from qualitative data (Creswell and Plano Clark, 2018).

3.3. Data Collection and Question Timeline

Before data collection began, the teachers involved were informed of the essential procedures related to the data collection process: the key points of our interview guides, the organizational conditions, and logistical constraints such as the class schedules, the planning of audiovisual recordings, and the conduct of the interviews. Once these elements were clarified, the interview guides were validated, the class sessions were filmed, and the interviews were conducted.

The planning of all these steps is presented in the table below.

Table 1 Summary table of the plan implemented for field data collection

Teachers	**Classes**	**Observations of classroom sessions**		**Interviews**	
		Hours	**Date of the session**	***Pre-session (with the teachers)***	***Post-session discussion (with the teachers)***
E_1	1ere D	07h à 10h	05/05/2025	06h 40 à 06 h 46	10h10 à 10h15
			12/05/2025		
			19/05/2025		
E_2			09/05/2025		

	1ere AB	07h à 10h	16/05/2025	06h40 à 06h 46	10h10 à 10h15
			23/05/2025		

Source: Field data, May 2025

The table above presents the timeline for data collection in the field with the subject teachers at the Médédjonou CEG (General Education College). The data collected were transcribed and processed primarily using qualitative methods.

For the questionnaire survey, forms were sent to teachers working at the aforementioned CEG, as well as other teachers working in general education colleges in the municipality of Adjarra, for a total of 21 teachers. The survey results were processed quantitatively.

3.4. Data transcription and processing

Following the field data collection phase, we began a processing and analysis process. To meet the research objectives, we opted for a thematic analysis applied to session data and interviews conducted with the physical education teachers. This qualitative analysis method allowed us to group the data into relevant sub-themes, thus facilitating their organization, interpretation, and highlighting the dynamics surrounding the implementation of learning strategies in discus throwing instruction.

3.4.1. Processing data from observations and interviews

Regarding the interviews, we used audio recordings, followed by a full transcription of the information. We then used thematic grouping after reviewing the transcribed text to identify, within this information, the data related to teaching/learning discus throwing in general, and specifically the implementation of learning strategies within the physical education teaching/learning process.

After the data collection phase in the field, we began processing and analyzing the data. Thematic analysis was chosen due to its effectiveness in processing qualitative data and its suitability to the objectives of this research. This method was developed and extensively described by Paillé and Mucchielli (2012). It relies on an interpretive reading of data, allowing for the emergence of units of meaning that are then grouped into thematic categories. This method was notably tested by Bardin (2007) in his seminal work on content analysis, which defines it as a set of communication analysis techniques that aim, through systematic and objective procedures for describing message content, to obtain indicators (quantitative or otherwise) enabling the inference of knowledge related to the conditions of production and reception of these messages (Bardin, 2007). In the field of physical education didactics, this method has been validated in numerous studies, particularly by Terrisse (2000), who used it to analyze teachers' practices and discourse in real-world teaching situations. These authors emphasize the relevance of this approach for uncovering logics of action, implicit pedagogical strategies, and resistance to change. In this research, all data from the questionnaires were transcribed and organized into categorization tables, thus facilitating the identification of central themes related to learning strategies. The objective was to structure the analysis rigorously while remaining faithful to the qualitative richness of the empirical material.

3.4.2. Video data analysis

- For the video data analysis, we proceeded in several stages:
- overall viewing of the sessions to gain a comprehensive view;
- breaking down the sessions into significant didactic episodes;
- transcribing verbal and non-verbal interactions;
- identifying the learning strategies implemented;
- analyzing the impact of these strategies on student learning.

For each session, we developed a synopsis to visualize the temporal structure and organization of the content. This synopsis served as the basis for identifying key moments when the "learning object" strategies were used by the teachers.

3.4.3. Data Triangulation

Following the triangulation approach used in Atoun's (2016) work, the information obtained from the different types of interviews was cross-referenced with data from the visualization and transcription of the teaching/learning sessions to ensure greater objectivity. This triangulation allowed us to:

- Compare teachers stated intentions with their actual actions;
- Verify the consistency between the stated strategies and those actually implemented;
- Compare the pedagogical approaches of the two teachers in their respective classrooms.

The data thus collected and processed led to results that were analyzed and interpreted in conjunction with the literature review and the theoretical framework. 3-5-4 - Processing of Data Collected from the Questionnaire

To gather sufficient information, we also used a survey questionnaire. This consisted of a set of questions written on a form that was given to the 21 teachers working at CEG1 Adjarra and its surrounding area, who were asked to answer them. After collecting all the responses, we read and analyzed them. We then grouped them by category to better understand the challenges of implementing learning strategies when teaching discus throwing. For the sake of synthesis, we chose a thematic data analysis approach instead of a question-by-question analysis. We used tables to summarize the data. Quantitative data processing was performed using Excel to determine percentages.

Following the triangulation approach used by Atoun (2016), the information obtained from the various questionnaires was cross-referenced with data from the visualization and transcription of the teaching/learning sessions to ensure greater objectivity.

The data thus collected and processed led to results that were analyzed and interpreted in conjunction with the theoretical framework.

4. Presentation, analysis of results and interpretation

4.1. Analysis of content of teaching strategies

Before any analysis, it is necessary to begin by presenting the various learning strategies recommended by official documents before focusing on those essential for discus throwing.

Table 2 Teaching strategies recommended by official curricula

Class	Teaching strategies recommended by the curricula
1ère	Brainstorming, pair work, collaborative work, group work, problem-based learning, tutoring, peer teaching, repetitive exercises

Analysis of this table reveals that the teaching strategies recommended by official texts for the first year of high school (1ère) include: brainstorming, pair work, group work, problem-based learning, tutoring, peer teaching, and repetitive exercises. Among these strategies, individual work, tutoring, and peer teaching are considered learning objectives (Guide to Teaching in the First Year of High School, 2015).

4.2. Presentation, analysis, and interpretation of questionnaire results

To assess physical education teachers' familiarity with learning objectives strategies, the table below presents data on their level of knowledge in this area.

Table 3 Level of Knowledge of Learning Objective Strategies

TEACHERS	RESULTS YES	% OF ANSWERS YES	RESULTS NO	% OF RESULTS NO
Knowledge of learning strategies	15	71,43 %	06	28,57 %

According to the analysis of this document, 71.43% of the teachers surveyed stated that they were familiar with learning strategies. However, 28.57% reported not mastering this concept, reflecting a gap in the dissemination and appropriation of these modern teaching concepts. Attiklémé (2009) emphasizes that "a lack of mastery of the content prescribed by teachers is a major obstacle to effective teaching."

Following the analysis of knowledge levels, it is relevant to examine the training teachers received regarding learning strategies. The following table presents teachers' responses concerning the initial and continuing professional development programs they participated in, allowing us to assess the origin and strength of their knowledge in this area.

Table 4 Training received on learning strategies

TEACHERS	RESULTS YES	% OF ANSWERS YES	RESULTS NO	% OF RESULTS NO
Training received on learning strategies	09	42,86%	12	57,14%

From this table, 57.14% of teachers have not received specific training on learning strategies, which contributes to the gap between official guidelines and observed practices. Agbodjogbé et al. (2015) emphasize the importance of continuing professional development in adopting effective teaching approaches. The lack of training on learning strategies compromises the implementation of the physical education curriculum. It is therefore imperative to include these strategies in continuing professional development modules or during teacher training sessions.

To better understand the actual teaching practices of physical education teachers, this table presents the strategies frequently used when teaching discus throwing.

Table 5 Frequently Used Strategies for Discus Throwing

Strategies used	Answers	% of answers
Technical demonstration	19	90,48%
Group work	17	80,95%
Repetitive Exercises/Tutoring/Pair Practice	13	61,90%
Problem-based learning	06	28,57%

Analysis of Table 5 shows that the dominant strategies used by teachers for teaching/learning discus throwing are demonstration (90.48%), group work (80.95%), and repetitive exercises, peer tutoring, and pair teaching (61.90%). In contrast, more active strategies such as problem-based learning (28.57%) are rarely used. Teachers favor traditional, transmission-based approaches over learner-centered strategies such as individual work, peer tutoring, and pair teaching. In this context, Marsenach (1993) argues that teaching practices should promote exploration, cooperation, and cognitive engagement of the student. The limited use of active strategies indicates a still very traditional approach to physical education teaching, which is not well-suited to the requirements of competency-based learning. Therefore, there is an urgent need for didactic renewal.

In order to verify the effectiveness of the implementation of learning objectives in teaching practice, this table presents those declared as being used by teachers when teaching discus throwing.

Table 6 Learning Objective Strategies Used in Discus Throwing Instruction

TEACHERS	RESULTS YES	% OF ANSWERS YES	RESULTS NO	% OF RESULTS NO
Use of learning object strategies	02	09,52 %	19	90,48%

From this table, the majority of teachers, 90.48%, do not use learning strategies. Bégin (2008) argues that learning strategies must be explicitly taught to strengthen students' autonomy and effectiveness. Their non-use in physical education therefore limits students' ability to learn autonomously and reflectively. This finding highlights the importance of pedagogical support to guide teachers in planning and integrating learning strategies into their physical education teaching sequences.

4.3. Analysis of two teachers' discus throwing sessions, E1 and E2

This analysis supports the non-use of learning strategies identified in the questionnaire.

Before beginning the didactic analysis, we presented a condensed summary of the tasks and strategies implemented successively during each observation.

4.3.1. Didactic analysis of E1's session

To concretely analyze the implementation of the SOA (Skills Assessment and Orientation) in the field, the following tables present a condensed synopsis of the different teaching sessions conducted by teacher E1. This summary highlights the didactic choices made, the phases of the session, as well as any evidence of prescribed or adapted strategies.

Table 7 Condensed Synopsis of E1's Teaching Session n°1

Session objective	Tasks	Instructions	Strategy	Didactic intentions	Duration
The student will be able to throw the disc without moving under the regulation conditions.	Learn the concept of spinning the record	- Place your disc on your last few fingers - Roll the disc, pulling it out with your index finger	Individual work Group work	Students successfully completed the technical aspects of the record tour	15 mn
	Launch the disc without moving	- Throw on the signal - Throw with arm extended above your head - Release the disc with your index finger in a clockwise direction	Individual work Group work	The students successfully completed the technical aspects of the tour and the on-site release of the record.	25 mn

Following on from the first session, the table below presents the condensed synopsis of the second teaching session on discus throwing for E1.

Table 8 Condensed synopsis of teaching session no. 2 of E1

Session objective	Tasks	Instructions	Strategy	Didactic intentions	Duration
The student will be able to throw the discus with movement under the regulation conditions.	Throw the disc while moving with three steps forward.	- Throw on the signal - Throw with arm extended above your head after three steps forward - Pull the discus out with your index finger in a clockwise direction	Individual work Group work	Successful coordination of "throwing-movement" by students	15 mn
	Start the disc at half volt	- Throw on the signal - Throw with a half-turn, arm extended above your head after a side step	Individual work Group work	Successful discus throws with movement by students in half-volt	25 mn

		- Pull the disc out with your index finger in a clockwise direction			

Table 9 Condensed synopsis of teaching session no. 3 of E1

Session objective	Tasks	Instructions	Strategy	Didactic intentions	Duration
The student will be able to throw the discus using the volt technique under the regulation conditions.	Launch the disc using the volt technique	- Throw on the signal - Throw with your arm extended above your head after the volt - Pull the disc out with your index finger in a clockwise direction	Individual work Group work	Successful coordination of students "throwing with movement"	15 mn
	Throw the discus at a distance of at least 10m for girls and 15m for boys, respecting the rules.	- Throw on the signal - Throw in a volley with arm extended above your head after a side step - Complete the minimum	Individual work Group work	Successful discus throw with movement by the students	25 mn

Source: Teacher E1's lesson plan/implementation

Analysis of the three synopses based on observations of three sessions conducted by Teacher E1 shows that E1's tasks are centered on immediate physical performance, without the explicit mobilization of learning strategies. The teacher does not appear to encourage students to reflect on their learning processes or to develop autonomy in technical execution. The teacher maintains a demonstrative and directive approach. The strategies implemented are based on a logic of learning through movement. Students are therefore not sufficiently engaged cognitively or strategically. This approach remains purely transmission-based. The absence of reflective or metacognitive moments demonstrates that learning strategies are not integrated. This aligns with Moreno's (2013) observations, which suggest that physical education too often remains focused on technical reproduction, to the detriment of developing transferable learning skills.

During the post-session interviews, E1 answers the question “Did you use any learning object strategies during your session?”

TdpP22: I used strategies such as individual work, group work, and collaborative work

Source: retranscription des séances filmées

E1 states after the question, “Were these strategies taught?”

TdpP23: I used these strategies as teaching methods and not as learning objectives.

Source: Transcript of filmed sessions

2015 Guide to Teaching in 11th Grade recommends the use of strategies such as problem-based learning, pair work, and tutoring, recognized as learning strategies. However, these approaches are absent here. Zinsou (2011) showed that tutoring in Physical Education promotes students' cognitive engagement, which is not the case in this session. There is

therefore a discrepancy between the official guidelines and actual implementation, a finding confirmed by the triangulation proposed in the work of Atoun (2016).

Didactic analysis of teacher E2's sessions

Following the analysis of Teacher E1's sessions, the study continues with an observation of Teacher E2's practices. The tables below present a condensed synopsis of their various discus throwing sessions.

This table presents the condensed synopsis of the first discus throwing teaching session conducted by teacher E2.

Table 10 Condensed synopsis of teaching session #1 by E2

Session objective	Tasks	Instructions	Strategy	Didactic intentions	Duration
The student will be able to throw the disc without moving under the regulation conditions.	Learn to hold the disc	- Pick up your record on the signal - Rest the record on the base of your fingers and rock	Individual work Repetitive exercises	Students successfully held the disc	15 mn
	Learn to throw the discus using the front throwing technique without movement	- Face the throwing area - Throw without moving on the signal - Release the discus with your index finger	Individual work Repetitive exercises	Successful back throw with movement by the students	25 mn

This table presents the condensed synopsis of the second discus throwing teaching session conducted by teacher E2.

Table 11 Condensed synopsis of teaching session no. 2 by E2

Session objective	Tasks	Instructions	Strategy	Didactic intentions	Duration
The student will be able to throw the discus with movement under the regulation conditions.	Learn to throw the discus using the front throwing technique with movement	- Launch on the signal - Retrieve your disc on the signal	Individual work Repetitive exercises	Successful execution of the front throw with movement by the students	15 mn
	Learn to throw the discus using the backhand throwing technique with movement	- Stand with your back to the throwing area - Throw on the signal - Release the disc clockwise	Individual work Repetitive exercises	Successful back throw with movement by the students	25 mn

Table 12 Condensed synopsis of teaching session no. 3 of E2

Session objective	Tâches	Consignes	Stratégie	Intentions didactiques	Durée
The student will be able to throw the discus using the volt technique under the regulation conditions.	Launch the disc using the volt technique	- Throw on the signal - Throw with your arm extended above your head after the volt - Pull the disc out with your index finger in a clockwise direction	Individual work Repetitive exercises	Coordinated and synchronized the throwing and movement of the students	15 mn
	Throw the discus as far as possible (at least 10m for girls and 15m for boys with the volt	Throw the discus as far as possible (at least 10m for girls and 15m for boys with the volt	Individual work Repetitive exercises	The students achieved a perfect result in the discus throw with movement.	25 in

Analysis of the three synopses from observations of Teacher 2's three sessions shows that Teacher E2 replicates the same approach as E1. The student's active role in constructing their learning is minimized. The teaching strategy remains centered on execution and repetition. This homogeneity of practices between teachers demonstrates a certain standardization of physical education teaching, as observed by Amade-Escot (2007) and Attiklémé (2009).

The use of learning objectives strategies (LOS) would allow students to develop transversal skills (analysis, self-assessment, planning). Their absence here reflects a need for teacher training in these specific strategies.

4.3.2. Comparative analysis of the two teachers' interventions for implementing learning objective strategies in discus throwing

The results of the interviews and observations reveal that neither E1 nor E2 integrates learning objectives strategies into their sessions, despite official guidelines. The observed practices are limited to demonstrative or repetitive approaches, with little or no cognitive involvement from the students. This confirms the data from the questionnaires. This gap between prescribed guidelines and actual practices can be explained by: insufficient initial and ongoing training on learning objectives strategies (Agbodjogbe et al., 2015); a still traditional approach to physical education teaching; and a lack of concrete mechanisms for translating these guidelines into classroom reality, etc.

5. Discussion

This research aimed to analyze the actual implementation of learning objectives strategies (LOS) in teaching discus throwing in physical education at the Mededjonou CEG (General Education College) in the municipality of Adjarra. The results obtained through questionnaires, lesson observations, and interviews reveal significant discrepancies between official guidelines and teachers' actual practices.

The questionnaire results show that 71.43% of teachers report being familiar with LOS, but 57.14% acknowledge not having received specific training on this subject. This contradiction reflects a vague or incomplete understanding of the concept. In reality, teachers often confuse learning strategies with general teaching approaches. This observation aligns with Attiklémé's (2009) findings that many Beninese teachers struggle to grasp the content prescribed by the curriculum. This lack of understanding compromises the effectiveness of its application. For teachers to fully integrate learning strategies into their pedagogical approach, targeted initial and ongoing training is necessary.

Almost all of the teachers observed and interviewed (90.48%) admitted to not actually using learning strategies in their lessons. Observations of lessons confirmed these statements. The teaching sessions were conducted in a traditional manner, based on demonstration and group work, without encouraging students to reflect on their learning. However, learning strategies, as defined by Bégin (2008), include metacognitive, cognitive, and resource management approaches. They allow the student to become an active participant in their learning, to plan their actions, to solve

problems, and to regulate their movements. Their absence in the observed sessions therefore severely limits the achievement of the objectives of the Competency-Based Approach (CBA).

Teachers claim to follow the guidelines, but their actions in the classroom reveal something else. This inconsistency between discourse and practice is well-known in didactics. Turcotte, Otis, and Gaudreau (2007) distinguish between "stated practices" and "observed practices." This phenomenon is exacerbated by a lack of training, but also by structural constraints.

According to Chevallard (2018), the transition from scholarly knowledge to taught knowledge relies on a didactic transposition that allows for the adaptation of content derived from research or expert practice to the requirements of school teaching. In the context of physical education in Benin, although official guidelines, particularly those of the DIPIQ (2016), emphasize the importance of pedagogical strategies that promote student autonomy, problem-solving, observation, and critical analysis of actions, observed practices reveal a partial and often incomplete transposition. Indeed, the teachers interviewed for this study were unable to operationalize the prescribed objectives through structured teaching tasks based on genuine learning strategies. Analysis of the sessions conducted by E1 and E2 shows that the didactic transposition employed remains largely marked by a logic of technical transmission, where the student's activity is reduced to the motor execution of instructions without any real access to the meaning of the knowledge involved. The knowledge to be taught, as prescribed by the institution, is thus distorted in the internal transposition process specific to each teacher, influenced by their personal relationship to knowledge and by the environment in which they operate. This situation illustrates a gap between the institutional model of reference and actual practices, reflecting a weak institutionalization of learning strategies in the observed school environment. This observation directly calls into question the teachers' position within the didactic system, their ability to adapt prescribed knowledge to the context, and their relationship to the knowledge to be transmitted—three fundamental dimensions of didactic transposition.

6. Conclusion

This research was conducted to analyze the implementation of object-oriented learning strategies (OOLs) in discus throwing instruction in secondary schools in Benin, using the case study of CEG Médédjonou. To achieve this objective, we used the Anthropological Theory of Didactics (Chevallard, 2018) as our analytical framework, drawing on key concepts such as didactic transposition, the subject's position within the didactic system, the environment, the institution, and the relationship to knowledge. These concepts allowed us to examine how the knowledge prescribed by official texts is transformed and implemented in teachers' actual practices. Methodologically, we adopted a qualitative approach based on questionnaires, pre- and post-session interviews, and direct observations of discus throwing teaching/learning sessions. The data analysis allowed us to meet our specific objectives, namely: identifying the prescribed and actually used learning strategies, and describing the concrete methods of their implementation. The results reveal that, while a majority of the teachers surveyed claim to be familiar with the learning strategies, very few are able to effectively use them in their lessons. The observed sessions were characterized by primarily technical and transmissive approaches, with low cognitive engagement from the students. This practice demonstrates an incomplete didactic transposition: the prescribed knowledge is not truly reconstructed to allow students to appropriate the content. This results in a significant gap between the knowledge to be taught and the knowledge actually taught, reflecting a break in the didactic process, in the sense of Chevallard (2018). This gap between institutional guidelines and observed practices hinders the achievement of the goals of physical education (PE) within the Competency-Based Approach (CBA), which requires active student participation in constructing their knowledge. Well-designed and implemented learning strategies (LSAs) are precisely the tools that enable these requirements to be met. Ultimately, it is essential that teachers recognize the importance of learning strategies and receive training in their implementation. This will foster in students a deep understanding of the knowledge involved, the development of their autonomy, and the ability to transfer their learning to other contexts.

Compliance with ethical standards

Disclosure of conflict of interest

All the authors acknowledge that there is no conflict of interest. They all agree with what is written in this article. In accordance with the requirements of transparency and scientific integrity, we, the authors of this study, declare that we have no conflict of interest, whether financial, commercial or otherwise, that could influence the results or interpretations of our research on initiation rites in Benin, thus guaranteeing the independence and objectivity of our work and ensuring the credibility of our conclusions

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