81 - SYSTEMATIZING THE THEME COUNTER-RESISTANCE EXERCISES FOR HIGH SCHOOL PHYSICAL EDUCATION THROUGH THE BASIC CONTENT PHYSICAL CONDITIONING GYMNASTICS

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INTRODUCTION

School Physical Education has achieved a status of curricular component (BRAZIL, 1996) which assigns a necessity for an organizational redefinition to the area. Therefore, teachers become responsible for a particular subject organization, which is no longer to be seen as an "activity" but as having a multiplier quality and generating experiences and knowledge useful to students lives, enabling them to be independent in extracurricular practice (BETTI; ZULIANI, 2002; OLIVEIRA, 2004). The National Curricular Parameters (BRAZIL, 1997) remove from sports its previous priority in Physical Education classes, widely advocating that the greatest aim of High School Physical Education is to teach a citizen how to monitor, control and have autonomy over a physical activities program in order to develop, incorporate and maintain a healthy life style.

In High School such concepts are boosted since at this stage students become more critical. Teachers will have to prepare and administer their classes paying attention to the daily reality of young people if they apply a real effort on contributing to the validation of their actions and discipline.

Darido (2004) highlights that High School students more frequently question about the strategies teachers apply, and it is simpler to encourage children and youngsters into physical activities practice rather than adults; as such, teachers should be attentive to the opportunity of turning their classes into a healthy and pleasant moment for their students. (pg 63).

However, facing this "new reality", teacher and subject coordinators as well as pedagogical coordinators should be engaged in elaborating a contents system to increase difficult and complexity levels throughout the grades. (OLIVEIRA, 2004; KRAVCHYCHYN et al, 2008). Pestana (2002) considers the existence of situations within school life – such as excessive sportivization – which contribute to an accommodated performance, disconnected from reality.

The content "gymnastics" is poorly worked in spite of being a "classical" one in school physical education; thereby, "it is up to the vocational training to rethink the construction of gymnastics-related knowledge" (BARBOSA-RINALDI, 2003, p. 159).

Within this perspective, Perrenoud (2000) presents to teachers the necessity of organizing and managing learning situations through de necessity of studying a particular theme, working through students representations, that is, through apprentices conceptions and experiences.

The development of curricular guidelines such as in Paraná State – focus of this study – has contributed to guide teachers regarding the necessity of approaching particular themes, but when described as "guidelines", they clear spaces to build school curriculum connected to the reality of the school, the neighborhood and youngsters' daily life. It shouldn't, thereby, be a matter of "making what the students want" – our area is harshly criticized because it – but a matter of working with proposed themes in context and guided towards the needs and realities of the students.

Therefore, we do not carry the intention of delivering a pedagogical "recipe", but we want to propose an acting manner, based on an education model responsible and flexible.

Thus, the aim of this study is to propose a contents system related to the theme "counter-resistance exercises", which we consider to be attached to the elementary content "physical conditioning gymnastics", which appears in the Paraná State curricular guidelines for High School.

THE BASIC CONTENT "PHYSICAL CONDITIONING GYMNASTICS" IN PARANÁ STATE CURRICULAR GUIDELINES (PARANÁ, 2008)

The curricular guidelines for Physical Education in Paraná State (PARANÁ, 2008) present the structuring content "Gymnastics" and among the basic contents "Physical Conditioning Gymnastics", which carries in its theoretical-methodological definition indicatives which contemplates the counter-resistance exercise (muscle tissue, muscle endurance, difference between resistance and strength, types of strength, energy sources, heart rate, metabolic source, energy expenditure, body composition, postural deviations, LER, DORT), items we highlighted in Table 1, in bold.

STRUCTURING CONTENTS	BASIC CONTENTS	THEORITICAL-METHODOLOGICAL APPROACH	EVALUATION
Gymnastics	Artistic/Olympic Gymnastics **Physical Conditioning Gymnastics** General Gymnastics	To analyze the social function of gymnastics. Present and experiment the gymnastics basics. To research the interference of Gymnastics in the work sphere (example: workplace) **To study the relationship Gimnastics X sedentarism and quality of life.** **Through researches, discussions and own experiences, to study the relationship of gymnastics with: muscle tissue, muscle endurance, difference between resistance and strength; types of strength, energy sources, heart rate, metabolic source, energy expenditure, body composition, postural deviations, LER, DORT, cultural comprehension regarding the body, gymnastics appropriation by Cultural Industry and others.** **To analyze the different evaluation methods and physical tests styles, as well as training system and planning.** To organize gymnastics festivals.	To organize gymnastics events presenting different choreographic creativity or gymnastics movement sequences elaborated by states. **To deepen and comprehend biological, ergonomic and physiological matters involved in gymnastics.** **To discuss on the media, science and cultural industry influence on gymnastics.** To comprehend and deepen the relationship between gymnastics and work.

Table 1 – Contents division for High School – structuring content Gymnastics (PARANÁ, 2008, p.88-89)

The relationship with the counter-resistance exercises can be observed in the classification presented by Souza (1997) who related different manifestations in gymnastics present in society, considering the different playing fields structured as: 1) Physical Conditioning Gymnastics (modalities aiming to acquire or maintain the physical conditioning of regular and non-athletes subjects); 2) Competitions Gymnastics (competitive modalities, gymnastics practices which became sport gymnastics); 3) Physiotherapy Gymnastics (diseases prevention or treatment); 4) Body Awareness Gymnastics (alternative techniques or soft gymnastics); 5) Demonstration Gymnastics (non-competitiveness, aiming to socially interact and integrate the participants, as in General Gymnastics).

COUNTER-RESISTANCE EXERCISES: THEORY AND PRACTICE IN SCHOOL PHYSICAL EDUCATION

Coll et al (2000) suggest that school education must contemplate three contents dimensions: conceptual, procedural and attitudinal. Such classification, according to Darido and Souza Junior (2008, p.15) corresponds to the following questions: "what is one supposed to know"? (conceptual dimension), "what is one supposed to know how to do"? (procedural dimension), and "how it is supposed to be done"? (attitudinal dimension), aiming to achieve educational goals. We understand that the counter-resistance exercises approach in school Physical Education for High School enables students to be independent to choose their physical exercises routine and good professionals to guide them forward once they overcome the simple practice.

Among the currently best known and practiced counter-resistance exercises there are strength training, located gymnastics and hydrogymnastics. Giving the students the opportunity to know and experiment such modalities in school Physical Education may mean wider possibilities for further practice.

Strength-training is the most used term to designate the training with weights, referring to its most evident effect of increasing muscle mass. Thus, strength-training in gyms is not a sport modality, but a type of physical training with weights.

According to Guedes Júnior (2003), despite the excellence in exercises developed only with the regular body weight, through calisthenic exercises (with materials such as sticks and elastic ropes),the exercises with weights and dumbbells are a resource much used in muscle endurance and strength development and maintenance, which is strength-training. The same author defines strength-training as the performance of biomechanical movements located in defined muscle segments using external or internal overload.

Godoy (1994) states that strength-training is a physical activity developed through analytical exercises, using progressive resistances provided by material resources such as: barbells, dumbbells, leg bands, expanders, modules, the body itself and/or segments, weighted pieces and others.

Campos (2002) emphasizes that one of the most striking characteristics of strength-training is how easily exercises may be adapted to one's physical condition, which even enables training with highly debilitated people; additionally, functionally speaking, working with weights develops important fitness qualities, composing one of the most complete types of physical preparation.

Other type of training which aims to develop strength is located gymnastics (LG), which presents characteristics similar to strength-training (such as series, load, pauses, repetitions), but is different for using a soundtrack to pattern movement performance speed in group classes (SABA 2003). Usually, the located gymnastics is practiced to acquire located muscle endurance (LME), which generates a soft hypertrophy and good muscle definition, being thus applied mostly by women. The Physical Education classes may break this stigma (just as happens to dance, for example).

Hydrogymnastics is a highly demanded activity in private gyms, clubs and public sport centers for it is a modality which provides people with muscle work without meaningful impacts. Many elderly people demand this modality because of that. Aquatic activity such as hydrogymnastics and deep water pool running are exercises which incorporate great muscle groups, both of lower and upper limbs, presenting less articular stress and also take water resistance to acquire and maintain the cardiopulmonary fitness (CASSADY; NIELSEN, 1992, apud KANITZ et al, 2010).

Before these characteristics we understand that counter-resistance exercises are important, mainly at High School, a stage when students start to seek activities which promote mainly body image, thus having the necessity for further information and research on the matter. Table 2 carries a suggestion for distributing contents through High School grades. Strength-training contents are given a greater designation on time, since the activity is highly demanded by both male and female adolescents and carries principles to be applied to other modalities.

CONTENTS	Total Classes	Grades		
STRENGTH-TRAINING		1st	2nd	3rd
Concepts and proposals of strength-training: aesthetic, prophylactic, therapeutic, competitive, physical preparation, functional.	02	X		
Basic exercises with body weight: appropriate speed, breathing and posture. Agonist muscles (used at the concentric stage), antagonistic (used at the eccentric/breaking factors, synergists and stabilizers (auxiliaries). Coactivation importance in injury prevention.	02	X		
Building of equipment (barbells, leg bands and dumbbells) with alternative material (PET bottles, sand, cans, pipes and scrap heap).	02		X	
Basic exercises with equipment (squats, bench press, pull-up push workout): appropriate posture, speed and breathing.	02		X	
Notions on building of programs for LME, strength and hypertrophy.	02			X
Functional exercises – kinesthetic awareness and body control, static and dynamic muscle balance, how to low injury incidence and increase movements efficiency.	02			X
LOCATED GYMNASTICS		1st	2nd	3rd
Concepts and proposals of located gymnastics.	01	X		
Basic located gymnastics exercises, rhythm and physical exercise.	01		X	
Notions on the building of series and choreographies / visiting a gym and classes with an expert professional	02			X
HYDROGYMNASTICS		1st	2nd	3rd
Concepts and proposals of hydrogymnastics. Aquatic exercises characteristics – effects on strength, speed and resistance.	01	X		
Strength and flexibility exercises in water / notion on the building of series and choreography.	01		X	
Visita a uma academia e aula com profissional especializado. Visiting a gym and classes with an expert professional.	01			X

Table 2 – Contents System – counter-resistance exercises for High School

FINAL COMMENTS

The field of Physical Education is going through a historical period attempting to be validated as a curricular component. Guidelines such as the one presented in this study bring out the concern on such validation when they propose a wide range of diversified contents and a more complex approach to them, thereby, an overcome of the discipline contents procedural dimension.

While every school should “educate for life”, we understand that the presented theme is filled with relevance to adolescents' lives. The proposal previously presented seeks a more concrete view of the increasing in difficulties and complexity so common to the curricular proposes for Physical Education.

We conclude that due to its great relevance to adolescents the theme should be treated in Physical Education for High School as well as the teachers should be able to perform so, through planning actions and appropriate educational methodologies.

We hope to contribute to the performance of Physical Education teachers who are engaged in teaching with quality, connected to the contemporary reality in order to be able to transform it.

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SYSTEMATIZING THE THEME COUNTER-RESISTANCE EXERCISES FOR HIGH SCHOOL PHYSICAL EDUCATION THROUGH THE BASIC CONTENT PHYSICAL CONDITIONING GYMNASTICS

ABSTRACT

This study aims to discuss and present contents proposals on counter-resistance exercises which are highly demanded by adolescent students for High School Physical Education classes. It is a bibliographical study with a propositional nature in which the theme was led through the Paraná State guidelines for School Physical Education (PARANÁ, 2008), containing Physical Conditioning Gymnastics – item which the counter-resistance exercises are inserted in – as a basic content. From the necessity of distributing adjacent contents throughout the grades we sought to do so in order to contemplate the increasing in difficulty and complexity levels. The proposed classes take into account every step from the building of alternative equipment with the use of recyclable material to the comprehension of exercise programs structuring. We conclude that the theme is filled with relevance to adolescents' lives and should therefore be treated in Physical Education for High School as well as teachers ought to be able to perform so through planning actions and appropriate educational methodologies.

KEYWORDS: Counter-resistance exercises, School Physical Education, High School.

SYSTEMATISATION ANS THÈME DE LA RESISTANCE CONTRE L'EDUCATION PHYSIQUE SCOLAIRE DE L'ÉCOLE DU CONTENU DE FITNESS GYM DE BASE

RÉSUMÉ

L'étude visait à discuter et faire des propositions sur le contenu des contre-résistance des exercices, très prisés par les étudiants au stade de l'adolescence, pour les classes d'éducation physique au lycée. Il s'agit d'une revue de la littérature des caractéristiques des propositions dans lesquelles le renvoi est fait l'objet de directives de l'État du Paraná de l'éducation physique (Paraná, 2008), qui apporte Fitness Gym - qui Item des exercices de résistance sont inclus - tels que le contenu de base. Il a été, de la nécessité de distribuer du contenu sur la note adjacente (année), le faire de façon à couvrir l'augmentation de la difficulté et la complexité. Les propositions comprennent des leçons de la construction d'équipements de remplacement, en utilisant des matériaux recyclables, à la compréhension de la structure des programmes d'exercice. Il est conclu que la question est d'importance dans la vie des adolescents, et devraient donc être traités dans l'éducation physique au secondaire, et que l'enseignant doit être capable de le faire, des activités de planification et de la méthodologie d'enseignement appropriées.

MOTS CLÉFS: exercice de la résistance, l'éducation physique, l'école secondaire.

SISTEMATIZACIÓN DEL TEMA EJERCICIOS CONTRA-RESISTENCIA PARA LA EDUCACIÓN FÍSICA ESCOLAR DE LA ENSEÑANZA SECUNDARIA A PARTIR DEL CONTENIDO BÁSICO DE GIMNASIA DE CONDICIONAMIENTO FÍSICO

RESUMEN:

El estudio pretende discutir y presentar propuestas de contenidos sobre los ejercicios contra resistencia muy procurados por los alumnos en la fase de adolescencia, para las clases de Educación Física del Secundario.Se trata de un trabajo bibliográfico de característica propositiva, en el cual el encaminamiento del tema se dió a partir de las directrices del Estado del Paraná para la Educación Fisica Escolar (PARANÁ,2008), que trae la gimnasia de Condicionamiento Físico –item en el cual los ejercicios contra-resistencia se incorporan – como contenido básico. Se procuró a partir de la necesidad de distribuirse contenidos adyacentes a lo largo de los años, hacerlo de forma en que se contemple el aumento de la dificultad y complejidad. Las clases propuestas contemplan desde la construcción de equipamentos alternativos, utilizando materiales reciclables, hasta la comprensión de la estructuración de programas de ejercicios. Se concluye que el tema se reviste de importancia en la vida de los adolescentes y por eso debe ser tratado en la Educación Física del Secundario, así como que el profesor debe estar preparado para este fin, a partir de acciones de planificación y metodologías de enseñanza adecuadas.

PALABRAS CLAVE: Ejercicios contra resistencia, Educación Física Escolar, Enseñanza Secundaria.

SISTEMATIZAÇÃO DO TEMA EXERCÍCIOS CONTRA-RESISTÊNCIA PARA A EDUCAÇÃO FÍSICA ESCOLAR DO ENSINO MÉDIO A PARTIR DO CONTEÚDO BÁSICO GINÁSTICA DE CONDICIONAMENTO FÍSICO

RESUMO

O estudo visou discutir e apresentar propostas de conteúdos sobre os exercícios contra-resistência, muito procurados pelos alunos na fase de adolescência, para as aulas de Educação Física do Ensino Médio. Trata-se de um trabalho bibliográfico de característica propositiva, no qual o encaminhamento do tema se deu a partir das diretrizes do Estado do Paraná para a Educação Física escolar (PARANÁ, 2008), que traz a Ginástica de Condicionamento Físico – item no qual os exercícios contra-resistência se inserem – como conteúdo básico. Procurou-se, a partir da necessidade de se distribuir conteúdos adjacentes ao longo das séries (anos), fazê-lo de forma a contemplar o aumento em dificuldade e complexidade. As aulas propostas contemplam desde a construção de equipamentos alternativos, utilizando materiais recicláveis, até a compreensão da estruturação de programas de exercícios. Conclui-se que o tema se reveste de importância na vida dos adolescentes, e por isso deve ser tratado na Educação Física do Ensino Médio, bem como que o professor deve estar apto para tanto, a partir de ações de planejamento e metodologia de ensino adequadas.

PALAVRAS-CHAVE: Exercícios contra-resistência, Educação Física Escolar, Ensino Médio.