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EFFICIENCY OF COGNITIVE TRAINING IN PHYSICAL EDUCATION OF STUDENTS

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Abstract

Cognition refers to a process of comprehension, gathering of information, expressed in the accumulated experiences present in every action of man. Research Questions: Would the introduction of a platform with theoretical notions for all students improve their attitude towards motion? Does the interest in motion increase if they have access to specific information? This research has started from the hypothesis that in the absence of awareness, motion performance and interest in motion would diminish by introducing theoretical notions of motion, in addition to the practical ones in the students' study program on an on-line platform, would make the result of motion performance to change positively and interest in motion to grow. As a result, the theoretical (cognitive) notions of practical activities would play a decisive role in triggering students' interest in physical education and increasing their motor performance. In conclusion, the introduction of theoretical notions about the benefits of motion on the on-line platform accessed by the interest and needs of the students would change their attitude towards the movement, which is proven by the improvement of motor performance.

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Keywords: Physical education, students, cognition, motor performance.

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1. Introduction

Cognition is closely related to motor skills, to the formation of superior psychic mechanisms, "... the psyche itself being built up in and through activity" (Manaila, 2019, p.1) as "Cognitive reserves are the ability of the brain to improvise and find alternative ways of doing their job and helping people to compensate ... the changes (p.1). Awareness is extremely important in the matter described, as it means, "... much more pseudo mental energy consumption" (Messinger, 2016, p.55), and, ...decision-making is a complex cognitive function that involves several factors interacting with each other" (Icellioglu & Ermiş, 2017, p.10). The problem of *importance of cognition in physical education activity of students applies* to some adults that have developed, ... the cognitive and emotional apparatus and have the ability to discern ... (Sadner, 2015, p.12). The theme proposed is a widely discussed subject as "intelligence is the development of internal consciousness" (Osho, 2014, p.9) and cognition refers to a process of comprehension, information gathering, expressed in accumulated experiences present in each action of man. There are numerous research whose results would suggest that "... our mental talents are not determined by biological heritage, but by social factors like education and the development environment" (Carter, 2015, p. 11) and man, , ... by developing their own competencies, knowledge ... extends their control of events and reduces the control that escapes them ... "(Albu, 2013, p. 189). The knowledge is " ... a reason is a psychic structure that leads to (Anitei, 2010, p.103, p105) therefore, when we discuss cognition, we think of introducing some theoretical notions about movement in the study program of the students that enhances the knowledge and thus, the enhancement of sports performances, as well as the interest in physical education. Through careful observation of “how ... as a person understands the environment and acts within it, we think of *a cognitive process of data accumulation and understanding through the filters of experiences, programming, or even present needs*, which would ultimately make training more efficient. "On the territory of cognitive psychology, the correct understanding of the relationship between man and technology is one of the great challenges of the present" (Popa, 2013, p. 21). That's why research has started from the idea that practical activities yield performance if accompanied by theoretical notions of movement, and thus an on-line platform has been created, as "... man as a being subject to error - is the person (Albu, 2017, p. 82), and needs certainty that he finds written by reading and learning how to execute not only from the explanation / demonstration the ration of the teacher and his own reading, experimenting alone. Thus, the interest in movement may change positively and drive motor performance.

2. Problem Statement

The present research has started from the hypothesis that in order to increase the efficiency of the training and the increase of the interest of the students for the movement, a very important role is played, next to movement itself, by cognition, so it is believed that the introduction into the study program of the current students of the theoretical notions about movement on an on-line platform would positively modify the results obtained.

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3. Research Questions

Introducing a platform with theoretical notions for all students would improve their attitude toward movement? Would it increase interest in movement if they have access to specific information?

4. Purpose of the Study

The purpose of the research was to demonstrate that an on-line platform associated with practical and methodical activities is useful because the theoretical notions of knowledge lead to change of attitude and improve the relationship between practical and cognitive-physical-training activities, truth reclaimed by the recorded results to motor performance by the two groups and frequency in lessons

4.1. Research tasks

- Choosing the random group of subjects to be tested;
- Division of the lot into two groups: Experimental group (G.E., consisting of 30 students, Faculty of IME / AIA, year II / N.F); control group (G.C. composed of 32 students, IME / AIA Faculty, year II / Day);
- Conceiving the questionnaire on "Effectiveness of training through cognition in the physical education of students";
- Applying the questionnaire to the two groups;
- Panelling of data collection, after applying the questionnaire;
- Conceiving questionnaire with the theme: "Efficiency od training through cognition in the activity of physical training of students";
- Verifying the two groups by ticking "tickets" and storing the data collected;
- Motor testing of the two groups: experiment group (G.E.); control group (G.C.)
- Recording the motoric indicators in an observation protocol and their panelling;
- Analyse and interpretation of all data panelled.

5. Research Methods

Prior to describing research methods, it is important to note that this research is more of an observational study, a starting point for extensive research to be carried out, that is why the questionnaire is applied directly to the group without an initial test, or final testing, without intervention on the group by applying a special program designed to detect possible changes.

5.1. Subjects

The research was carried out on a lot of students from Petroleum Gas University of Ploiesti, consisting of two groups: Experiment Group - (GE) - composed of 30 students (s) Faculty of Mechanical and Electrical Engineering / Automatics and Applied Informatics / No Frequency) Abbreviated IME / AIA, Year II / N.F.; - and a Control Group - (GC) - composed of 32 students (s), Faculty of (Mechanical and Electrical Engineering / Automation and Applied Informatics), abbreviated IME / AIA, year II / Day,

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aged between 18 and 39 . The lot entered into the research was randomly chosen on the grounds that they have similar educational and motivational concerns, at least theoretically.

5.2. Research methods

The research was carried out taking into account the theme of "The importance of cognition in stimulating students' interest in physical education activity" and the fact that "... the partisans of continuity claim that science develops in the prolongation of common knowledge, distinguishing itself from it only by: degree of accuracy, depth, consistency, consistency, efficiency" (Crăciun, 2015, p. 13-14) thus I tried to motivate why I chose for research the following methods: The bibliographic study method; Observation method; Investigation method (talk, questionnaire, verification tickets, etc.); Pedagogical experiment method; Statistical-mathematical method; Graphic method.

These methods were chosen to substantiate both theoretically and practically the performed study:

- Method of bibliographic study. Any research required a thorough, prior, substantiated information on the topic to be researched. This requires a critical analysis of the specialized scientific literature, native, foreign, sources of origin on the importance of cognition in the physical education activity of the students, this was made possible by using the above mentioned method.
- Method of observation. This method was followed by obtaining information and meant knowledge, on the basis of which were made findings about what I noticed;
- Method of investigation (talk, questionnaire, exam tickets, etc.). Using the conversation, the questionnaire, the exam tickets, we followed the importance of cognition in making training more effective and its impact on the actual group. For this we have made the questionnaire which I called: "Efficiency of enlightenment through cognition in the activity of physical education of students". The questionnaire was made up of 12 items that helped us to check each indicator for language skills, understanding, working memory, attention, perception, motoring, decision-making, relevant indicators to elucidate the research. It was not a standardized questionnaire, it was designed specifically for interethral research, moreover with a concluding purpose, and was used to gather the information needed to reason the topic.
- In parallel with the above mentioned methods, we also used the driving tests to demonstrate the ability to decide on the subjects to be followed. In addition, we have checked the level of integration of students, their ability to adapt. As a last argument in favor of the importance of cognition for the efficiency of training in the physical education lesson, we brought two important indicators: memory and attention. The working tool that was at hand for checking memory and attention was called - Exams for the exam titled "Working memory and attention to the efficiency of marriage in the physical education lesson". We had ten tickets containing ten different motor structure, with the same number of technical elements. In testing, we approached two techniques (Technique 1, Technique 2) that I describe extensively when analyzing and interpreting data. Evaluation of working memory, attention was made on the basis of the number of elements retained and executed in the field, recorded in an observation protocol.

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- The analysis of the results was performed comparatively. The number of technical elements executed in the field was compared with the number of technical elements present in the ticket structure. So we have tried to support interacted research and to further clarify the importance of cognition in making training more effective as a determinant factor in increasing students' interest in the movement;
- Pedagogic experiment method. It was a particular form of the natural experiment, it had a role of observation - it aimed to record the situation existing at one moment, but also had a formative role - it tracked the evidence of the factors of progress in order to improve the relationship; cognition-physical education-training-efficiency;
- The statistical-mathematical method. Through this method, the interacted research pursued a more precise description of the multidimensional phenomenon in the relation between cognition and physical education-efficient training, drawing out some general conclusions regarding this phenomenon, summing up the results of the research in a significant form ;
- Graphic method. By using the graphic ..., the statistical information was visualized, facilitating the overall perception of the data ... about the variance of the observed values, their distribution, the links between them ... and ... the evolution in time (William, 2010, p.13-14) of the indicators followed on the importance of cognition in the physical education of students.

6. Findings

In recent years there has been a decline in motivation for movement, a worrying aspect from an educational perspective. This is the reason why we have tried to introduce the psychological side of training as "The psychological training is a component of the instruction and training ..." (Sabău, Niculescu, & Gevat, 2014, p.499) and a way of diversification of the educational offer to increase the students' interest in the movement, the degree of involvement and the quality of the training level. To that end, I intend to study cognitive processes through a "... set of skills and processes that are present in almost every action of man ..." (Manaila, 2019, p.1-2) as indicators with regard to: language skills; understanding; working memory, attention; perceptive; motor actions; the ability to decide. These are relevant indicators for elucidating research and demonstrating how knowledge becomes an important lever in the educational instructive process and stimulating the interest in the movement. By orienting towards knowledge, ... we define a specific structural and functional component of the human psychic system, which reflects a state of necessity in a broad sense" (Golu, 2007, p. 675).

The present study proposes the analysis and evaluation of the above-mentioned indicators, which is why we divided the research into four stages:

- **Stage I -** Stage of the questionnaire with the theme –"Efficiency of training by cognition in the physical education activity of students";
- **Stage II -** Stage- Tickets for examination with the title - "Work memory and attention in effectiveness of training into the physical education lesson;
- **Stage III -** Stage- Physical exams;
- **Stage IV-** Stage- Level o"f integration, adaptation ito the physical education lesson

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Based on these stages, the interpretation and analysis of data gathered were performed

6.1. Analysis and interpretation of data

The research involved students from the Petroleum Gas University of Ploiesti. The research was carried out on two groups: an Experimental Group (G.E.) composed of 30 students, Faculty of IME / AIA, year II / N.F..; - and a Control Group (G.C.) composed of 32 students, Faculty of IME / AIA, year II / Day. The group entered into the research was randomly chosen. Subjects came from the same institutions and at least theoretically had similar educational concerns. The research was done in stages as follows:

Stage I-Stage of the questionnaire:

- Questionnaire with the theme - **„** Efficiency of training by cognition in the physical education activity of students";

  The entire lot was applied. It was structured on 12 items as follows;

  - 3 items (4,7,12) with open response, useful items to see what stimulates or blocks an individual in the relationship of cognition-physical education-efficient training;
  - 2 items (6 ,8) with closed response;
  - 7 items with answers at choice (1,2,3,5,9,10, 11) we asked students to score on a scale from 1 to 5 (where 1- means totally disagree, and 5 means total agreement) the preferred answer to the question, to check what it means for them to make cognition more effective.
  - I mention that 2 items from the questionnaire (4,10) played a key role with multiple representation for (Linguistic skills versus the ability to decide, Linguistic skills versus working memory, attention).

Each section had a number of items with a direct reference to the observed component, and three items to verify the sincerity of the answers given by the subjects in the questionnaire (these items were marked with the star * in the tables, respectively the items: 1 *, 3 * *, 11 * .In this case, the seriousness is closely related to the decision-making capacity. Based on the items described above we have made the observation protocol on the importance of cognition in the efficiency of training and the increase of students' interest in the movement.

When applying the protocol there was no time limit, the students did not provide personal data, they were informed that the sincerity factor is essential, that it is not a competition so we assured the confidentiality, and we assured them of their sincerity through the elements described above. There was a lot of work on the test, and each question in the test had several variants. The application of the test required the ticking of the values indicating the preferred answer, but the opinion of the subjects was also requested.

Theoretically and practically, the questionnaire proposed a quick "scanning" of the existing literature but also an attempt to structure and present the information about its cognition and its applications as well as possible.

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It was not a standardized questionnaire, it was used to gather the information needed to reason the topic. The items in the questionnaire were not analysed in the numerical order of the questionnaire when applied, but they were identified and commented on the importance I gave to physical education.

After the application we divided the questionnaire into five sections, analyzed the section questionnaire and interpreted the items according to the specifics of the indicators that we were trying to explain the importance of cognition. Each section has got the name after the theme analyzed in the following way:

Section 1. Motor action (checked theoretically by items 6, 7 of the questionnaire) but also through motric exams;

When analyzing the answers, the following results were recorded according to the data in Table 1:

Table 01. Registered Indicators for the Observed Component - Motor Action: (G.E.); (G.C.)

TOTAL SUBJECTS: 62 students: 30 students Experiment Group (G.E.)/F.R.; 32 students Control Group (G.C.)/Zi.	**EVALUATION SCALE-Number of technical elements ticked by students**										**Total Subjects assessed**
SECTION 1: Component observed - Motor action, And groups enterd into recearch: (G.E.; G.C.)	1 technical element		2 technical elements		3 technical elements		4 technical elements		5 technical elements		%
	G.E. %	G.C. %	G.E %	G.C. %	G.E. %	G.C. %	G.E. %	G.C. %	G.E. %	G.C. %	G.E./ G.C %
Answer and number of sutudents for - **Item questionnaire no.** 7. Execute a motric structure learned, tocomprise minimum 5 technical elements of sports play etc.?	-	5	-	5	3	16	4	6	23	-	30/32
Total percent % on evaluation scale		15.62%		15.2 %	10 %	50 %	13.34%	18.76%	76.66%		100 %

Item 6. From the questionnaire - Do you know a basketball structure? A. Yes; b. No. In response to this question, we found that 98% of the experiment group (G.E.) and 95% of the control group (G.C) responded "Yes".Discrepancies occurred when they were asked to answer by field execution to Question No. 7 (table 01), in the Experimental group (GE) 28 student, meaning that 93.34% of the total of 30 subjects were in the state to execute a learned motor structure, which included at least 5 technical elements (eg grip, pass, dribbling, overflow, basketball, etc.) while subjects in group control (GC) in number of 15 subjects out of a total of 32 ie 50% were unable to execute only a motor structure with 3 technical elements, the rest of the subjects recorded even worse results according to the data in table no. 01.This was the first aspect that led me to the idea that due to the fact that the day students of G.C. they do not have access to a platform according to needs that allow them to read and memorize the information that the teacher verbalizes in the lesson and then execute them on the ground this would be one of the reasons why the ability to play elements learned in the field is reduced by compared to GE students who have superior results.

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Section 2. Work memory, attention. In order to check this component, I have used 2 work manners:

- The quastionnaire through items; 9 and 10. Item 10 hd a double quality: 1 Checking both the working memory; 2. As well as checking the specific language, this is why item 10 will be analyzed in Section 4.
- A Exam tickets; The results for the observed component - work memory, attention were recorded in table no. 02 in percent using the data collection tool - item no. 9 - How much is the point scored from a distance of more than 16 meters? 1 point; b. 2 points; c. 3 points; d. 0 points.

Table 02. Indicators registered for the oserved component – Work memory, attention (G.E.): (G.C.)

Basketball - Point value scored from a distance more than 16 m Item No 9 of the questionnaire:	**0**		**1**		**2**		**3**		**Total G.E./G.C. %**
Nr. students Who answered to item no 9	G.E.	G.C.	G.E.	G.C.	G.E.	G.C.	G.E.	G.C.	30/32
				15	2	7	28	10	
Total percent % on evaluation scale				46.87 %	6,66 %	21.87 %	93.34 %	31.26 %	100 %

Although the requirement of item no. 9 of the questionnaire is a common requirement and should have been known to all subjects because it was taught and is part of the gaming regulation that has been taught or repeated by all the subjects at the beginning of physical education lessons at the entrance to life university and then applied in the game during the two years, weekly (we mention that all the students involved in the research are the second year, as a result they have a level of theoretical and practical knowledge similar to the training stage in which they are at least theoretically). By the registered indicators for the obscured component - working memory, attention, for the two groups (G.E.); (G.C.), but differences were recorded (Table no 02). in 28 (93.34%) of the total of 30 subjects, correctly scored the value of 3 points for the scored goal from a distance greater than 16 meters while the subjects in the control group (GC) in a fairly small number 10 students out of a total of 32 (31.26%) indicated the correct answer, the rest of the subjects wrong the answer according to the indicators in table no. 2 The results recorded in table no. 2 demonstrate that attention plays an important role in verbalized information although it is transmitted the same, at the same time it is not stored identically by the subjects undergoing research. The difference in the transmission of information would probably be due to the presence or absence of an online platform whereby "... a person actively and directly interacts with a system" ("Human–computer interaction", 2017, p.1) and where are the important information for cognition and automatic memory enhancement are written.

Section 3. **Decision capacity** (checked by items 1*,3*,5,,8,11*fom th questionnaire) and by motor exams.

The component observed for section 3 is the capacity to decide, checked by items 1*,3*,11*from the questionnaire with the answers registered into table no 03.

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Table 03. Indicators registered for the observed component – Capacity to decide: (G.E.);(G.C.)

TOTAL SUBJECTS: 62 students: 30 students (G.E.); 32 students (G.C.)	**EVALUATION SCALE – answer typology**										
	1 Total disagreement		**2 Greatly disagree**		**3 Neutral**		**4 Partly agree**		**5 Total agree**		**Total G.E./ G.C.**
SECTION 3: Component Observed Capacity to decide; answer to **items in the questionnaire:**	G.E %	G.C %	G.E %	G.C %	G.E. %	G.C. %	G.E. %	G.C. %	G.E. %	G.C. %	G.E./G.C. %
1*. The lesson of physical education is important in the students' schedule?						11	2	12	28	9	30/32
Total percent % on the evaluation scale						34.37 %	6.67 %	37.5 %	93.33 %	28.13 %	100 %
3*. Is it important to practice a sports game in the physical education lesson?				4		12	3	10	27	6	30/32
Total percent % on the evaluation scale				12.5 %		37.5 %	10 %	31.25 %	90 %	18.75 %	100 %
11*. An online platform for information on physical education, sports games is useful, etc.?	-	-	-	-	-	14	6	14	24	4	30/32
Total percent % on the evaluation scale	-	-	-	-	-	43.75 %	20 %	43.75 %	80 %	12.5 %	100 %

Items 5, 8 were closed-ended items for verifying the ability to decide where all students in the two groups (G.E. and G.C.) responded "yes" it is important to know a sports game; "Yes" - I know the rules of basketball. The 1 *, 3 *, 11 * indicators are items to check the sincerity of the answers given by the subjects (these items have been marked with star * in table no 03). asked students to score on a scale of 1 to 5 (where 1 means "totally disagree" and 5 means "total agreement") their answers. Thus I notice that although the responses were positive for both groups for items 5.8, they still appear different in the decisions. While students from G.C. are indecisive in answers or more neutral, in proportion of 43.75%, students from G.E. in 80% of the households they chose without hesitate the "total agreement" answer for the question of item 11 * . as it can be seen in table no 03. By the answers we actually have followed the influence of cognition in the ability to decide.

Thus, we have obtained a new confirmation of the theory of the importance of written information that fixes the data in memory and stimulates students' interstellar movement not only theoretical but also practical.

- **Section 4.** Language skills and understanding (verified by item 2.10 of the questionnaire);

  Linguistic abilities and understanding have been verified by item 2.10 of the questionnaire according to the data in the table 04.

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Table 04. Registered indicators for the observed component - linguistic skills and comprehension versus Working memory, attention: (G.E.); (G.C.)

Specific language to physical education (E.F.) - Item 2. Which is the role of physical education, in the timetable of students	**a. Harmonious physical development**		**b. Development of thinking**		**c. Emotional development**		**d. Occuying time in the schedule**		**e Other??**	
Answer (G.E.) 30 s	30		28		29		-		-	
Total percent % on evaluation scale- (G.E.)	100%		93.34%		96.67%		-		-	
Answer (G.C.) 32 s	20		-		-		10		2	
Total percent % on evaluation scale - (G.C.)	62.5%		-		-		31.25%		6.25%	
Item 10. Tick scientific indicators specific to physical education.	a. Lesson (E.F.)	b. Execrise	c. Motor	d. Sports play	e Motoract	f Gam	g Movement gamr	h Act	i Lesson	j Coor-donation
No. students /30 s. With correct answers For item no 10(G.E.)	27	-	30	30	29	2	28	1	3	-
Total percent % on evaluation scale - (G.E.)	90 %	-	100 %	100 %	96.67 %	6.67 %	93.34 %	3.33 %	10 %	-
No students /32s. With correct answers For item no 10(G.C.)	12			22		10			20	
Total percent % on evaluation scale - (G.C.)	37.5 %			68.75 %		31.25 %			62.5 %	

Asked, in order to check the linguistic ability, "What is the role of physical education in students' schedule?", (see Table 04), 100% of the students in the G.E. stated that physical education has a role in "Harmonic Physical Development"; the same response was also noted by G.C. but in less than 62.5% of the total. The change is probably also due to the fact that the students from G.E. they had access to the online platform, so they had a broad information base that made them understand that physical education is not just related to movement, it is also related to thinking, 93.34% have checked this aspect but and emotions, 96.67% of the student have noted this item. Which determines me to believe that the lack of information in the control group has limited the thinking about the importance of physical education to the notion of harmonious physical development.

The correct answers for item 10 were (a, c, d, e, g,). While G.E. notes the correct answers in very high percentages of 90% (a), 96.67% (e), even 100% for (c, d), G.C. record only 68.75% (d). By comparing the indicators obtained by the two groups, we observe the results that give the difference with respect to knowledge, due to the existence of the online platform for G.E. By the indicators registered in table no. 04 for the tracked component - it is also confirmed here what I noticed for item 9 as an online platform made available to students throughout the year would help to fix the written information in the minds of the students and would be a "trampoline" for recording the qualitative leap in training. Our affiliation is accompanied and demonstrated by the results of the two groups at item no. 10 of the questionnaire

Through the information obtained from sections 1 and 2, 4 of the questionnaire we obtained a confirmation of the theory according to which we do not have to look rigidly to introduce the theoretical notions about movement on an on-line platform in the study program of the students because the physical education is not only movement is theory, by understanding and accepting physical education as

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theoretical science but also the practice of modifying the mentality of the taught matter this would increase the interest in the movement.

Section 5. Perception (verified by item 12 of the questionnaire) on the recognition and interpretation of sensory stimuli (hearing in this case). For this indicator each subject was asked to listen to the noise in the room and then define it;

Table 05. Indicators registered for the observable component – Perception: (G.E.); (G.C.)

SECTION 5: Component Observed - Perception (checked through item. 12 of the questionnaire)	**Joy, laughter**	**Noise, shindy**	**Pin-pong ball kicked on the table**	**Dribling With basket ball**	**Lowd noise Irritation state**
Group Experiment (G.E.)	20s./66.67%	-	3s/10%	7s/23.33%	-
Group Control (G.C.)	2s/6.25%	10s/31.25%		10s/31.25%	10s./31.25%

The component observed in Table 05 is the perception of the recognition and interpretation of sensory stimuli (hearing in this case). According to the indicators in the table there are differences of perception between the two groups. While the experiment group perceives cheerfulness, 66.67% laughs the students in the control group are at the opposite side of it they perceive galliness, irritation, strong noise at 31.25%. By watching the results I notice an interesting thing. Students were asked to record age, gender, faculty, etc., whether they are fit for physical exercise or are physically exempt from S.M.). As a result, S.M. I separated the 10 students from the rest of the group and followed them separately. So I found out that the 10 students in table no. 05 who said they heard loud noise, irritation were none other than the ten student S.M. Which has led us to believe that emotionally relieved physical relief is not beneficial, and it is possible to change their perception. While students fit for physical exercise enjoy movement. The movement oxygenates the blood and thus the brain creates a state of well-being, S.M. attending classes without being able to enjoy the benefits of physical education, feel frustrated, which materializes in their response to item 12, only perceive loud and irritating noise.

Stage II-Stage- Tickets of examination with title:

Stage-Exams for the title - "Working memory and attention to the efficiency of training in the physical education lesson". The working tools at hand for checking the memory and attention were - Exam tickets. We had ten tickets with ten different structures but with the same number of technical elements in a motric structure. I mention that these structures are also found on the on-line platform, students from the non-frequent education (N.F..) being able to access them at any time unlike the day-time students who do not have an online platform.

In testing we approached two verification techniques:

Technique 1. Of the ticket on which various motoring structures were located (it was done reading the structure on the ticket, then memorizing it, the time allowed for this action was 30 seconds for each student);

Technique 2. Motric test - the actual execution of the memorized structure in the ticket. This technique did not have a timetable.

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The evaluation of the working memory, attention was made on the basis of the motor sample and counting the elements retained and executed in the field, recorded in a previously observed observation protocol and by total points recorded by the two groups (G.E. and G.C.). The points were calculated separately for each group by multiplying the number of students with the number of points that corresponded to the number of technical elements retained and executed in the field.

Table 05. Registered indicators for the observed component - Work memory, attention: (G.E.); (G.C.)

TOTAL SUBJECTS: 62 students: 30 students Group Experiment (G.E.); 32 students Group Control (G.C.)	**EVALUATION SCALE-For elements learned and executed in the field**										
	1 point		**2 points**		**3 points**		**4 points**		**5 points**		**Total students**
Stage second – Exam tickets –Title-, Work memory and attention: Observed component Work memory and attention Work technique: 1; 2	1 technical element		2 technical element		3 technical element		4 technical element		5 technical element		G.E./ G.C.
	G.E. %	G.C. %	G.E %	G.C. %	G.E. %	G.C. %	G.E. %	G.C. %	G.E. %	G.C. %	%
Verification done on basis of Technique 1 combined with Technique 2. Technique 2. Performed based on the motor exam, by counting technical elements learned (technique 1) and number of elements executed in the field				5	2	10	6	15	22	2	30/32
Total percent % on evaluation scale				15.63 %	6.67 %	31.25 %	20 %	46.87 %	73.33 %	6.25 %	100%
Total points (p.) registered on the two groups (G.E/G.C.)				10	6	30	24	60	110	10	G.E./140 G.C./110

The analysis of the results was presented in a comparative manner, the number of technical elements executed in the field was compared with the number of the technical elements present in the structure of the ticket and the points obtained. in a percentage of 73.33%, ie a number of 22 students out of 30 managed to execute five technical elements in five by comparative students in the control group did not climb to more than 4 elements, 46.87% of the total. The memory here having an especially important role being practiced by reading on the platform, to the students of G.C. they lack this exercise as visible in test results and recorded in table no. 05 on the basis of which we have attempted to support interacted research and to further clarify the importance of cognition in making training more effective as a determinant factor in increasing student interest in movement.

Stage III-Stage- Motion exams

Physical education is a practical and theoretical activity and hence the need of theoretical notions about movement on an on-line platform, in the study program of the students, for the practical side in parallel with the above-mentioned methods, we used the proper motor samples to demonstrate the

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importance of cognition in the ability to decide and thereby link to the online platform, meaning the theoretical notions that are inseparable and only go together to streamline physical education training.

The control tests used were:

A. Throwing at the basket, procedure at choice. The number of marked baskets has been counted in 5 rounds, there was no time limit. Through this test I checked whether the student has the ability to decide which execution best suits and which helps them finish the discarding of the marked basket, which type of execution he / she approaches to record as many points as 5 out of 5 throws.

B. Throwing at the basket, procedure indicated by the teacher. There were counted the number of scored baskets in 5 throws, there was no time limit. Execution was indicated verbally by the teacher during execution. Example; The student thrower stays at the starting line, facing the basket at a distance of 5 m, at the start he will take a pass from a team player, then goes dribbling with his arm and throws himself into the basket by the procedure indicated by the professor. Example: the basket throws could be executed from the spot, from bounce, from running, etc. Through this test we checked the ability to decide, which is to be shown in the completion of the action through the marked basket. The number of baskets marked in both the motor test A. and the motor test B. demonstrated the ability of the subjects to make decisions (see table no.06.)

Table 06. Indicators recorded for the bserved component – Capacity to decide : (G.E.); (G.C.)

TOTAL SUBJECTS: 62 students: 30 students - Group Experiment (G.E.); 32 students – Group Control (G.C.)	**EVALUATION SCALE-value of points**										
	1 point		**2 points**		**3 points**		**4 points**		**5 points**		**Total students**
STAGE III: Observed component -Capacity to decide; Verification performed based on: Motor exam A and Motor exam, counted no. baskets marked.	1 basket marked		2 baskets marked		3 baskets marked		4 baskets marked		5 basked marked		G.E./ G.C. 30/32
	G.E. %	G.C. %	G.E %	G.C. %	G.E. %	G.C. %	G.E. %	G.C. %	G.E. %	G.C. %	G.E./ G.C %
Exam A. - Throw at basket, procedure at choice / student number and marked baskets		4		5	3	9	7	10	20	4	-
Total percent % on evaluation scale		12.5 %		15.62 %	10 %	28.12 %	23.33 %	31.26 %	66.67 %	12.5 %	100 %
Total points (p.) registered for the two groups (G.E/G.C.).		4		10	9	27	28	40	100	20	G.E/ 101p. G.C./ 137p.
Exam B. Throuw at basket, indicated by teacher/ student number and marked baskets		6		6	4	12	9	8	17	-	-
Total percent % on evaluation scale		18.75 %		18.75 %	13.33 %	37.5 %	30 %	25 %	56.67 %	-	100 %
Total points (p.) registered for the two groups (G.E/G.C.).		6		12	12	36	36	32	85	-	G.E./ 86p. G.C./ 133p

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In stage III a probelor motrice we compared the results recorded by G.C. with those obtained by G.E. at the two motric exams: at sample A. Studying at the choice of basket - a total of 20 students from G.E. (66.67%) scored 5 baskets, by comparison to the same proga with 5 marked pockets we had only 4 subjects, a percentage of 12.5% of the total. At sample B.- Throwing at the basket indicated by the teacher with 5 marked baskets - we had 17 students from G.E. and 56.67% of the total of 30 students. Students from G.C. have registered 0 marked baskets. Researchers registered by G.E. at the two samples for the ability to decide the type of cartoon finishing with the marked point are sensitively close and grateful given the number of lessons and training stages in which the subjects are at the time of the evaluation. Through comparative students from G.C. have weaker results (see table no. 06). Because the two student groups in terms of motors have the same working and theoretical conditions, they should have similar results in support of the driving tests and in the answers to the questionnaire, we believe that it has appeared due to the online platform that only students can use of GE, which demonstrated the usefulness of the online platform to streamline training. This program helped students assimilate, memorize, and then update the information found on the platform, and easily redeem them on demand or at choice when checking students either through field-based driving tests or by investigating them on the basis of the questionnaire or " exam tickets " thus confirming the research hypothesis that cogniti has a cognitive role in increasing the efficiency of training and raising the interest of students in motion, so it is believed that the introduction of theoretical notions about movement on an on-line platform the study program of the students, changed the positive sense in the results obtained according to the data in the tables 01, 02, 03, 04, 05, 06 As a result of the commented above it seems that the reaction to the order is due in probably the platform and is better at students in G. E.

Stage IV-Stage- Level of integration, adaptability

The level of integration, adaptation in the physical education lesson was verified by the number of present or absent one year and the number of medical exercise exertions (MS) for each group entered into research and were recorded in table no. 07 and figure 01.

Table 07. Indicators registered for the observed component – Level of integration, adaptation into the phsical education lesson; (G.E.); (G.C.)

Stage IV- Level of integration, adaptation Total subjects: 62 students (30 G.E.; 33 G.C.) + Age of students	**Present 14 Lessons/per academic year No. Students %**	**Present 6-8 Lessons/Per academic year No. Students/ %**	**Medical leave (M.L.) or absents No. Students/ %**	**Total No. students/ %**
Group Experiment (G.E.) – 30 students (age 21 -35 years old)	25 s. – 83.33 %	5 s. – 16.67 %	-	G.E./30 students
Group Experiment (G.C.) – 32 students (age 19-21 years old)	8 s. – 25 %	14 s. – 43.75%	10 s. – 31.25 %	G.C./32 students
Total- 62 STUDENTS	25s. G.E..+8 s. G.C. = 33 s/ 53.22%	5s. G.E..+14 s. G.C. = 19 s/ 30.65%	10 s. G.C. =16.13 %	62 students (G.E.+G.C..) 100 %

Through figure 01. I represented the level of integration, adaptation of the students in the physical education lesson by present, absences and medical exemptions (S.M.).

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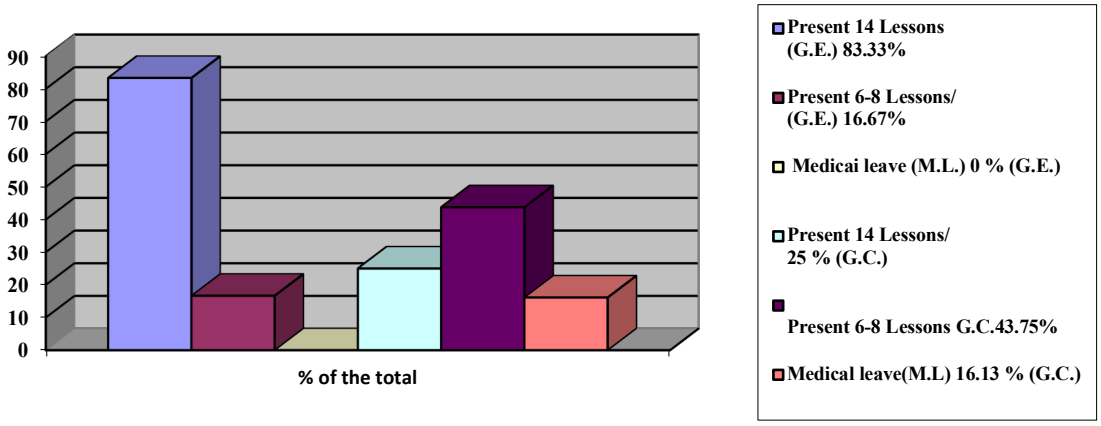

Figure 01. Level of integration, adaptation of students in the physical education lesson

Essential for the topic is also the presence of students in physical education lessons. Presence means awareness and efficiency of training. Students from G.E. in a very high percentage 83.33% participate in all the lessons, not absent. Students from G.C. participate in a total of 6-8 physical education lessons in 43.75%. These percentages clearly describe the level of integration, adaptation of students in the physical education lesson. Awareness through knowledge also gives the level of participation in the lesson which would confirm that by introducing into the student study program of theoretical notions about moving on an on-line platform which means active and direct dialogue of a person with a system, it increases the interest in student movement while at the same time increasing the level of integration and adaptation in lessons

7. Conclusion

- In recent years there has been a decline in motivation for movement, a worrying aspect from an educational perspective;
- In increasing the training and the interest of the students for movement, besides movement, it is also cognition,
- An important element in increasing the interest of students for physical education would be an online platform;
- The introduction of theoretical notions about movement on an on-line platform in the study program of the students brought to a positive change in the obtained results confirming the hypothesis of the research
- As a result, the online platform's effectiveness in the training efficiency was demonstrated (indicators in the 01.-07 tables and in the graph 01 demonstrate the statement);
- The study of the importance of cognition in the physical education lesson allowed us to realize that the notion of "cognition" refers to a process of comprehension, gathering of information, expressed in the accumulated experiences and then reproduced in every action of man (aspect studied and confirmed on the basis of the research stages from I to IV which culminated in the answers to the items in the questionnaire);

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- In conclusion, the introduction of theoretical notions about the benefits of exercise on an on-line platform with free access according to the students' needs influences and changes their positive attitude towards physical exercise, which is proved by improving the motor performance.

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