

## Original Article

### Designing an effective approach to sport for the integration in higher education institutions (the effects of yoga practice)

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#### Abstract

The objective of this paper is to highlight the findings of students' readiness for sport for all involvement through Physical Education classes. The research discloses the semantic structure of the problem under study, while blending motivational, cognitive, reflective and physical components. Authors' attention is captivated by different focal points: HEIs students' personal values and their positive attitudes about fitness development that is necessary for carrying on their lifelong enjoyment and engagement in exercise and physical activity. Thus, the authors delved into this aspect, immensely developing and contributing to understanding of the importance of fostering students' interest in regular motor activity and maintaining a health-enhancing level of fitness.

The outcomes of our research pointed out that sport for all is an avenue for engaging in developmentally appropriate physical activities designed for students to boost their fitness, gross motor skills, and health as well as form students' reflective ability on motor activity and give them the necessary knowledge, capacity and skills. The program core was implemented to leverage the motivation-information, the reflective and the practical stage. Therefore, this paper provides information regarding the propound program efficacy and states that the index of EG students' optimal and sufficient level of readiness for physical activities, being 2.7 % has raised to 56.2%. It is essential to stress out that after the experiment in EG there was not a single student to be completely dissatisfied with their Physical Education classes.

It should be stressed out that the experimental verification revealed high efficiency of the authors' designed model to achieve its ultimate goal; in addition, available research suggests increased number of students to self-exercise (62.8 %). Specifically, 33.8 % of respondents indicate their regular attendance of Yoga section; 20.1 % – practice our developed Yoga asanas; 8.9 % – became interested in Yoga and currently study a relevant literature. Evaluating and measuring indices, we came to the conclusion that there was a significant improving of the students' readiness for sport for all (EG students' indices after the experiment showed a high level of readiness for sport for all and equaled 2.9 %; sufficient level – 53.3 %; critical level – 43.8 %; insufficient level – 0.0 %, as compared to 0.0 %, 2.7 %, 91.3 %, 6.0 %, respectively, before the experiment). Regarding the therapeutic effects of Yoga and providing a comprehensive review of the benefits of regular Yoga practice, we should emphasize the following: as participation rates in mind-body fitness programs such as Yoga continue to increase, it is important for PE professionals to be informed about the nature of Yoga and the evidence of its many beneficial effects.

**Keywords:** students, readiness, sport for all, physical education, model, elements of yoga.

#### Introduction

Sports are becoming increasingly important for boosting confidence, staying fit, interacting with peers, being competitive and strengthening a family bond. Sport for all provision combined with population's vigorous daily schedule (work, school, recreation) and other components of a healthy lifestyle are the most effective life-enhancing decisions on promoting, restoring and maintaining health and would contribute to reducing the burden of noncommunicable diseases in order to improve a person's quality of life in general (Baumann, 2000; Palm, 2004; Yamaguchi, 2004; Lytvynenko, 2005; Dutchak, 2009; Khimenes, 2016; Galan, 2016). However, only regular physical activity and a healthy lifestyle can positively affect the human body (Platonov, 2006; Pityn, 2013; Andrieieva, 2017).

It should be noted that in Ukraine's Higher Education Institutions (HEIs) students' systematic motor activity is developed through twice-a-week PE classes, consequently, a paucity of physical activity does not provide any students' health-improving or developmental effect (Bar-Or, 2009; Romanchyshyn, 2015; Briskin, 2016). However, this number of classes even with optimal parameters cannot achieve the desired health effect, and, thus, stipulates the need for additional motor activity during after classes' time.

With the seemingly endless push of the public towards a rigorous physical activity, the 'personality'

approach is observed to be completely neglected; HEI students' top priorities, their motives, needs and interests get left behind. Suchlike grave situation necessitates finding effective ways to solving these burning issues. Noteworthy, the overriding goal of Pedagogics is Humanism, which is crucial in Physical Education (P.E.) standards as well, as it facilitates fostering humanistic values in students (Zyazyun, 2002; Kremen, 2011; Shabanova, 2014). Following the ideas of humanism through PE classes will enable young people to focus on their personal values and develop their positive attitudes about fitness that are necessary to carry on a lifelong enjoyment and engagement in exercise and physical activity.

Ukraine's present-day higher education system comprises Physical Education as an integral part of specialists' training, yet, experts put an emphasis in their research on the urgency of a far-reaching restructuring of Physical Education classes in universities as well as innovative technologies being introduced into classroom (Jedynak, 2014; Kolumbet, 2015). The authors argue that such innovations will significantly affect the process of encouraging students to various forms of motor activity (Tomenko, 2010; Sychova, 2012; Kozina, 2014; Olxovyj, 2014; Temchenko, 2015). Furthermore, Physical Education experts suggest applying recreational technology in PE classes for HEI students (Smyrnova, 2006; Verblyudov, 2007; Bazylyuk, 2013; Tolchyeva, 2012; Kozina, 2014; Ivani, 2016). Simultaneously, scientific studies on effective approach to sport for all integration in Higher Education Institutions (HEIs) have received scant attention from researchers, as a result, the authors inquire into this aspect, immensely developing and contributing to understanding of the importance of fostering HEI students' interest in regular motor activity and maintaining a health-enhancing level of fitness.

Aforesaid statement stipulates the novelty and relevance of our research, dedicated to solving the problem, which is of vital theoretical and practical importance for optimizing and improving Physical Education (PE) classes in terms of designing an effective approach to sport for all integration in Higher Education Institutions.

### **Purpose of the research**

Scientifically ground a structural and logical model of students' involvement in sport for all activities through Physical Education classes.

### **Materials and Methods**

To judge the validity of our study we'd rather provide a clear and precise description of the research methods as followed: Scientific Methods (theoretical analysis, generalization of the body of specialized and documentary evidence, the modeling method, programming); Pedagogical Methods (classroom-observation, motor abilities scores; pedagogical experiment, including constative and forming stages); Sociological Methods (questionnaire, interview); Methods of Mathematical Statistics (t-criterion of Student;  $\chi^2$  (chi-square) test of homogeneity, Tschuprow's T test; Cronbach's alpha (a measure of internal consistency)).

It should be emphasized, that scientific methods were applied to analyze the cutting on the edge trends for integrating the results and produce a relationship between the findings. Pedagogical method, based on effectiveness of creating the culture of motor activity and students' motor abilities scores, attempted to discover their physical fitness preparedness for physical activity at different stages of PE classes. Tests revealed the students' level of coordination abilities (shuttle run 4x9 m), speed endurance (running 100 m), general endurance (cross run 2000m), dynamic strength endurance (seated forward bend, bending and straightening the arms); explosive strength capacity in the lower limbs (long jump), and flexibility (sit-ups). Furthermore, the purpose of ongoing study was to determine the students' level of retained factual knowledge of Physical Culture and Sports fundamentals, respectively, the questionnaire included three groups of questions (in the domain of Olympic Education, Sports, and Healthy Lifestyle Basics).

The method of classroom observation was conducted at the prime stage of our experiment as a means of familiarizing with the problems under study and enabling to elucidate what specific issues should be targeted. Namely, the objective of ours was to verify the effectiveness of the developed structural and logical model of involving students into 'Sports for All' activities, to incorporate students' cognitive and psychomotor demands into activity that exercise thinking and motor skills concurrently. In view of aforesaid, applied sociological methods, including questionnaires and interviews, made it possible to monitor students' progress, their level of interest and motivation, and observe how exercise encourage the students to acknowledge the capabilities they possess and persevere in the goals they pursue.

It is important to note that participants were recruited from 9 HEIs: Vasyl Stefanyk Precarpathian National University (Pedagogical Institute); Yuriy Fedkovich Chernivtsi National University (College of Pedagogy, Psychology and Social Work); Lesya Ukrainka Eastern European National University (Lutsk State Pedagogical Institute); Kherson State University (Faculty of Natural Science, Human Health and Tourism); Vasyl Sukhomlynsky Mykolaiv National University; Taras Shevchenko Kremenets Regional Humanitarian Pedagogical Institute (Faculty of Pedagogy); Ivan Ohienko Kamyanets-Podilsky National University (Faculty of Pedagogy); Ivan Franko Drohobych State Pedagogical University (Faculty of Pedagogy) and Volodymyr Hnatyuk Ternopil National Pedagogical University (Institute of Pedagogy and Psychology). Overall, constative experiment engaged 902 students. The forming pedagogical experiment was conducted in Vasyl Stefanyk Precarpathian National University (Pedagogical Institute). The forming experiment engaged two groups with low

level of readiness for ‘Sports for All’ through PE classes. The first group (Experimental, further – EG) included 105 students of Vasyl Stefanyk Precarpathian National University, and the second one (Control, further – CG) – 100 students of Yuriy Fedkovych Chernivtsi National University (from College of Pedagogy, Psychology and Social Work).

The study was carried out between 2010 and 2015.

### Results

The outcomes of our research pointed out that the effective benefits of a quality Physical Education program syllabus are exponential, especially in terms of ‘Sports for All’ involvement through PE classes. The authors utilized the depth and breadth of sport for all content knowledge to develop the idea of sport for all involvement through PE classes; to make PE teachers think outside the box and deliver a high quality lessons to the students. It was concluded that students’ readiness for sport for all involvement comprises four components: the motivational, the cognitive, the reflective and the physical one.

Obtained data are quite sufficient to support the conclusion about efficacy of innovative technologies being introduced into classroom (Smyrnova, 2006; Verblyudov, 2007; Bazylyuk, 2013; Tolcheyeva, 2012; Kozina, 2014). However, the problem of students’ involvement in sport for all activity has not been relevantly highlighted, evaluated and theoretically grounded. Thus, the focus of our studies revolves around the importance of the approaches that should be adopted in rising students’ awareness to develop their critical and analytical capacities, to motivate, and value students’ engagement that should support them as they face and learn from challenges. All abovementioned reasons and causes presuppose the novelty of our investigation. The willingness/readiness of students to exercise and practice sport for all is seen as a holistic, systematic and personally structured trait of a person as an entity (Fig. 1).

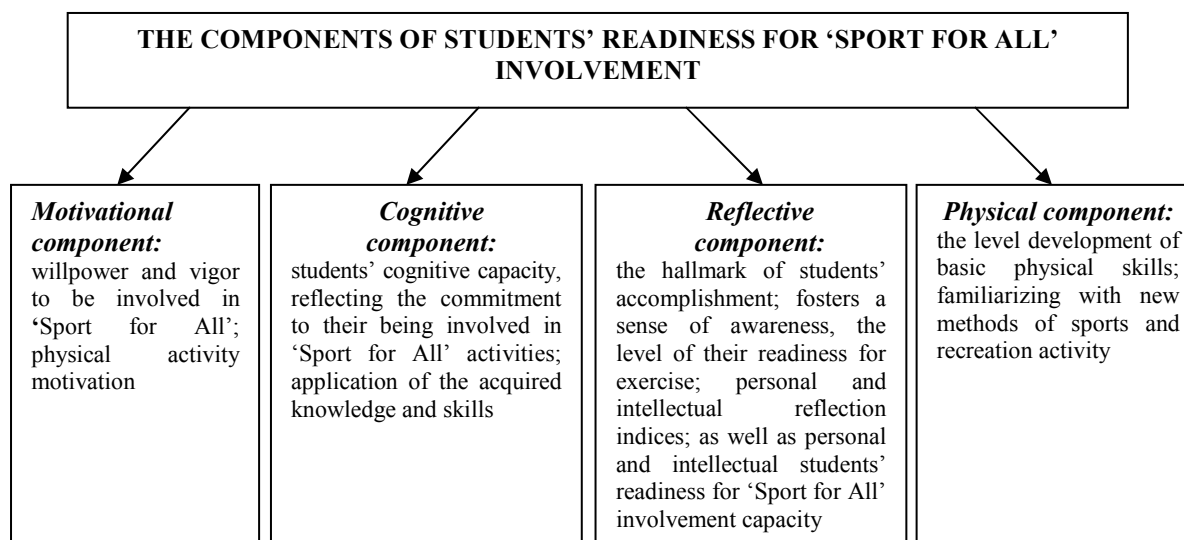


Fig. 1. The components of students’ readiness for sport for all involvement through pe classes

The obtained results of students’ readiness for sport for all involvement prove that only 2.7 % of students’ readiness is at a sufficient level, and 97.3 % showed insufficient and critical indices, that is, we can state that the level of students’ motivation, reflection, knowledge and physical fitness appeared to be minimal.

Aiming at determining the causes of low students’ readiness level for sport for all, whether it be low interest or low perceived competence, the physical activity participation data indicated that students are either unmotivated, having no intention to be more physically active, or are insufficiently motivated in the face of other interests or demands. The majority of respondents agreed to the positive influence of exercise on their health. However, according to the survey regarding the assessment of students’ motivation and satisfaction enrolled in Physical Education classes, we obtained the following data: only 2.2 % are fully satisfied; 35.1 % are pretty satisfied; 40.4 % are partially content; 18.7 % are rather dissatisfied and 3.5 % are completely dissatisfied with the quality of PE classes.

Students also noted that athletics is the most challenging aspect of the curriculum and they are zealous about going in for track and field events. Besides, the respondents were speaking in favor of enjoying outdoor activity and having after-school training sessions. Noteworthy, 49.9 % of respondents indicated that they would attend PE classes, even though they were optional. In terms of developing high and rigorous standards for accomplished practice, we draw the inference that the cornerstone of effective PE classes should be wellness interweaved throughout the curriculum to provide students with the information and experiences they need to make independent choices that positively affect their health and lifelong well-being.

The respondents/participants most frequently pointed out to the reasons concerning continuous strive to embody wellness in the pursuit of an active, healthy life and physical fitness (21.0 %), promoting an active

lifestyle (23.2 %); benefits of regular physical activity (19.7 %); and peer socializing (18.0 %) are among the second priorities. Competitive reasons (10.5 %) and motivation to succeed in sport (7.6 %) are ranking the third place.

A key question that arises from this research is whether the social and environmental factors that affect motivation in a PE context can be transferred into increased motivation toward extramural physical activity in a leisure-time (LT) context. The crucial effect of autonomous motives in (LT) leisure-time physical activity on students' physical activity intentions and behavior was tested and proved by the study. Thus, 38.6 % of respondents stated the reason of their LT physical activity is the desire to lose the weight, improve their body composition, prevent illnesses; raise awareness of the positive changes in the body due to motor activity enhancement. Regrettably, 62.4 % of the students don't adopt any health-related physical activity.

Other significant and mainly defining reasons for the students' sedentary lifestyle are the lack of free time; scarcity of funds; decreased level for motivation (laziness), aggravated by current socio-economic factors and the imperfect system of education in higher education institutions.

The findings from the present study suggest that the majority of the inactive participants, whose lifestyle is predominately sedentary, enjoy reading – 5.7 %, watching movies and surfing TV channels – 6.9 %, computer games and social networking – 13.7 % and being couch-potatoes – 6.7 %), and finally, such indolent lifestyle has a negative impact on the functional state of an organism that grows and develops.

Our research posits that 60.0 % of participants would like to see qualitative changes in Physical Education, and 40.0 % of respondents do not need any changes in the system of PE classes. The survey found ambiguity in the suggestions and wishes of students for such changes. Thus, every fourth respondent, seeking for a change, emphasizes that it would be interesting to diversify Physical Education classes.

Fostering autonomous forms of motivation might be an attractive proposition for both PE teachers and students because it is likely to increase self-directed pursuit of school activities in the absence of external reinforcement. Interestingly, 'swimming', 'fitness', 'yoga' and 'ice skating' appeared to be the most desired motor activity for the students-participants. According to respondents, they would love to attend such classes. Analysis of survey data confirms the findings of J. Kozina's research (2014) that students are more excited to attend state-of-the-art technologically equipped Physical Education classes which are rich in emotions and improve the students' psycho-emotional state, if compared to antecedent and conservative PE classes. In addition, students stand for increasing the length or number of Physical Education classes (13.1 %) and creating favorable conditions for classes (14.6 %). On the other hand, there were the students suggesting a number of changes that would further restrict their physical activity, namely 14.6 % would reduce the number of Physical Education classes and 7.2 % of respondents consider it necessary to make it optional.

Research has shown that the students' level of retained factual knowledge of Physical Culture and Sports fundamentals is insufficient and critical (correspondingly, 18.6 % and 74.7 %), yet, the most essential is the fact that the largest percentage of all three questionnaires as well as integral assessment focus on students' lack of background knowledge.

The low level of students' knowledge of physical culture can be a barrier to implementation of building advocacy and promoting plans for quality physical education, specifically, to identify the need for providing permanent, sustainable environments that support physical activity. The study has highlighted the importance of autonomous motives as a mediator of relationships between autonomy support and academic-related behaviors; easy-to-understand messages and information should be developed for the intended audiences and the most appropriate informational outreach activities should be designed to reach the targeted group – HEIs students.

Carrying out the constative experiment we can present the following statistically significant data. According to survey indicators, intellectual variable (61.7 %), personal reflection (65.3 %) and the integral index (70.3 %) demonstrate the critical level of reflection of the majority of students. As a result, we concluded that (32.6 % and 50.8 %) of respondents' physical fitness level is, respectively, insufficient and critical.

A growing body of research, our observation and constative experiment has stipulated sport for all including in the curriculum to improve Physical Education system and designing its efficient outcome.

Designing an effective approach to sport for all integration in HEIs suggests the process of the implementation of task sets, which involves 'roadmapping', to be more precise, a set of measures implying syllabus and assignments designing (goals, organization, policies, expectations, requirements to students) and its successive implementation (Singayevs'kyj, 2002). During the first stage of our learner-centered syllabus designing we defined a coherent set of tasks. The second stage specified the most efficacious methods, tools, and forms, complying with its content. And the third stage allowed us to define methods and optimum conditions for its implementation. Consequently, all components of students' readiness for sport for all integration were applied through optimum syllabus/program, which comprised 234 hours per year. Getting Yoga incorporated into the P.E. curriculum offered a fresh perspective on how students can improve their own fitness and experience exercise in a new way.

One of the most subtle benefits of integrating Yoga into P.E. is that Yoga is essential to forging a path to students' healthier future. Moreover, it is expected that Yoga focus, identified in our propound program, will contribute substantially to the Health and Physical Education teaching and learning program for the relevant band of learning.

The outcomes of our research pointed out that sport for all is an avenue for engaging in developmentally appropriate physical activities designed for students to boost their fitness, gross motor skills, and health, as well as form students' reflective ability on motor activity and give them the necessary knowledge, capacity and skills. The program core was implemented to leverage the motivation-information, the reflective and the practical stage.

The importance of the launched program lies in optimizing obtained necessary theoretical knowledge, in particular, during the motivation-information stage, comprising 22 hours per year. Specific targeted methods and techniques were used – explanation, narration, conversation, critical thinking, videos demonstration, information booklets spread, 'Brainstorming', mini-lectures and discussion – to be associated with students' academic benefits and their physical well-being.

Reflective stage involved trainings to develop students' reflective abilities to exercise. Such classes were conducted once every two months during the academic year, and in total it made three classes.

Aiming to verify expediency of incorporating Yoga into PE classes we introduced Bhastrika Yoga Pranayama and Surya Namaskar (powerful breathing techniques). Opening to each PE lesson involved students' activity in a set of Bhastrika (for 3 or 5 min.) and during the closing stage of the lesson the students completed one set of Surya Namaskar. Yoga classes were regularly scheduled, twice a week, for 2 hours during the academic year (112 hours). In addition, this stage of our propound program included a daily after-class training in Bhastrika for 10 min., which together amounted to 94 hours.

To judge the validity of the proposed model we figured out that there was a slight difference in the CG's data, detected before and after the experiment, meanwhile EG's results monitoring highlighted a significant difference. In particular, EG students' readiness for a physical activity is at a sufficient level – 30.6 %, whilst before the experiment the variable equaled 11.3 %. In addition, the number of respondents with insufficient level of readiness has decreased 9.1 % ( $\chi^2 = 35.71$ ;  $p < 0.05$ ).

After the forming experiment we conclude that the proportion of students' willingness to demonstrate their desire and commitment to attend PE classes was detected as a considerably progressed and regarded as a positive tendency. Tracking EG progress, we can state that students' insufficient and critical indices reduced if compared with those before the experiment. Moreover, the percentage of participants who are completely satisfied or rather satisfied ( $\chi^2 = 95.70$ ;  $p < 0.05$ ) has significantly increased. Thus, in EG – 72.3 of participants are completely satisfied with their PE classes if compared to 28.0% of participants in CG ( $\chi^2 = 59.58$ ;  $p < 0.05$ ). It is essential to stress out that after the experiment in EG there was not a single student to be completely dissatisfied with their Physical Education classes.

Obtained data are quite sufficient to support the conclusion that the students' level of retained factual knowledge of Physical Culture and Sports fundamentals is as followed: before the experiment only 6.7 % of EG participants' level was sufficient, and after the experiment it made 50.5 %. However, we should note that after classroom observation 9.5 % of respondents had an optimal level of knowledge ( $\chi^2 = 7.81$ ;  $p < 0.05$ ). We can trace another positive tendency that before the experiment the integral index in EG did not include the share of students with an optimal level of knowledge, and after the experiment this index equaled 9.5 % of respondents.

Carrying out the pedagogical experiment we can present the following statistically significant data. According to its results, we tracked no significant differences in integrated assessment of the CG participants' level of reflection before and after the experiment. Albeit, the experiment resulted in increase of every third EG participant's level of reflection (in EG 60.0 % of respondents had sufficient knowledge after the experiment if compared with 20.0 % of participants before the experiment). However, due to the introduction of experimental factor every third EG student's reflection level increased (in EG after the experiment – 60.0 % with a sufficient level in the experiment group – 20.0 %). Noteworthy, the number of students who have a level of critical reflection almost halved (in EG before the experiment - 70.3 %, and after - 37.1 %).

Overall variables of category-level performance are directly proportional to the level of the above-mentioned components. One of the efficiency criteria of implemented program is the developmental dynamics of physical readiness indices and taking advantage of sport for all integration in Higher Education Institutions (incorporating Yoga practice). Thus, positive dynamics is observed in comparative EG-CG analysis before the experiment, especially while testing flexibility and strength capacity (Table. 1).

Table 1. The benefits of yoga for students' physical fitness

Indices of physical fitness	Before pedagogical experiment $X \pm m$ (n=889)	After pedagogical experiment $X \pm m$		EG before	CG-EG	p EG-before
		CG(n=100)	EG(n=105)			
Running 100 m	17,39±0,05	17,32±0,11	17,09±0,24	1,22	0,87	>0,05
Shuttle run 4x9 m	11,11±0,02	11,12±0,06	11,01±0,05	1,86	1,41	<0,1
Long jump, cm	170,64±0,53	171,81±1,08	186,84±1,50	10,20	8,16	<0,01

Seated Forward Bend	14,26±0,16	13,87±0,49	16,23±0,45	4,10	3,53	<0,01
Bending and Straightening the Arms	15,95±0,21	15,57±0,60	23,14±0,29	19,92	11,37	<0,01
Cross run 2000 m	11,54±0,06	11,55±0,08	10,94±0,10	5,06	4,61	<0,01
Sit-ups	38,00±0,22	37,26±0,40	38,93±0,69	1,29	2,09	>0,05

The Yoga elements were well accepted by students, as they also demonstrated significant and positive changes in overall motor abilities scores (balance, strength, and flexibility). In addition, the interviews reported changing in social behavior and the use of the knowledge learned in the program in contexts of after-classes training. These findings suggest that the implementation of Yoga practice (Asanas and Pranayama) in Physical Education lessons contributed to students’ development. Consequently, Yoga classes practicing Surya Namaskar contained Asanas – thrusts, bending, stretching, and twisting and developed students’ flexibility as well as increased their physical fitness indices (in 5 out of 7 training exercises).

According to comparison-group study, it was detected that CG students’ physical fitness index before the experiment and CG after the experiment is significantly lower. Additionally, before the experiment 50.8% of CG students had quite a critical level of awareness of physical activity effect, then after the experiment the figure was 59.0%.

Consequently, the experiment recognizes the constructive outcome of the authors’ program and after implementing its structural and logical paradigm in HEIs Physical Education there was a tendency of positive changes in improving the students’ readiness for sport for all involvement. Our strong conviction about the propound program efficacy is that the index of EG students’ optimal and sufficient level of readiness for physical activities – being 2.7%, has increased 56.2% (Fig. 2).

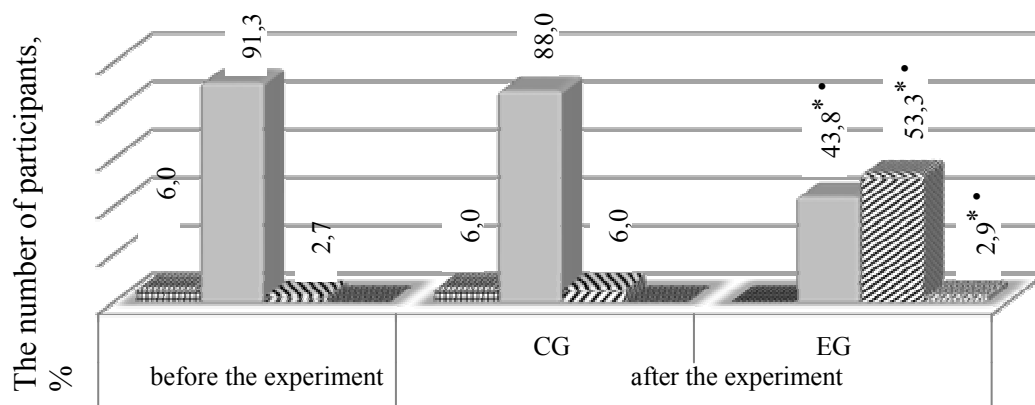


Fig. 2. Levels of students’ readiness for sport for all involvement through physical education classes (the results of the experiment)

■ insufficient    ■ critical    ■ sufficient    ■ optimal;  
 \* - p<0.05 (EG and CG measured outcomes figured out that there is a slight statistical difference).

**Discussion**

A thorough conceptual literature review, a meta-analysis and research findings of both domestic and foreign scholars underpin the principal aim of our research project, the objectives and all elements of the research program and prove that the most urgent problem of the 21<sup>st</sup> century is children and youths’ vigorous-intensity of physical activity and participating in any amount of physical activity to gain some health benefits. The authors delved into this aspect, immensely developed and contributed to understanding the importance of fostering interest in creating favorable climate for reaching ultimate goal – to succeed in HEIs students’ health enhancing behavior and outcomes of such integrated mindfulness and lifestyle as well as determine the students’ level of retained factual knowledge of Physical Culture and Sports fundamentals. Furthermore, experts are developing and practicing a variety of innovative technologies that might effectively impact the process of HEIs students’ Physical Education. Moreover, as the evidence that physical activity has numerous physical, health, and emotional benefits has grown, the body of effective, evidence-based studies has also grown.

Grounded on these criteria and on expert opinion, the physical activity promotion strategies are considered to be the most appropriate for speculating sport for all as an integral and indispensable part of a healthy lifestyle. What’s more, this project was designed to provide all with equal access to sports and high-quality physical education (PE). A unique opportunity exists to formulate and implement an effective strategy for a person’s participating in multiple sport recreational and social activities and take advantage of being

involved in activities that will not only help them develop life and leadership skills, but can also lead to students' increased participation in education.

To put it straight, students' involvement in regular physical activity will accrue multiple health benefits. Key considerations of going in for regular physical activity will result in healthy bones and muscles, improve muscular strength and endurance, diminish the risk for developing chronic disease risk factors, improve self-esteem, and make students become stress and anxiety resilient. The postulates of such well-known health effects of physical activity and its beneficial influences on academic performance would always be a sticking point in higher learning.

The other important goal is to modernize current HEIs forms, methods, tools and general concept of Physical Education as being ineffective in view of the fact that HEI students' top priorities, their motives, needs and interests are neglected. Therefore, such vital prerogative necessitates finding effectual ways to solving this topical issue.

According to Trufanova (2009), the level of physical fitness is the result of the three (intellectual, reflective and motivational) components interaction. Regarding Physical Education ultimate goals, the focus should revolve around both the level of HEI students' physical fitness, and their gaining knowledge in the field of Physical Education as a basis for the formation of conscious motives and needs in fostering their interest in regular motor activity and maintaining a health-enhancing level of fitness. In accordance with above mentioned considerations, findings of the research on progressed indices, characterizing students' readiness to sport for all demonstrated efficiency of our propounded program on its inclusiveness in Physical Education curricular.

Aimed at gaining deeper understanding of Yoga incorporated in PE classes' effect, our study further developed the idea of the feasibility, opportunities and trends of students' involvement in Yoga classes for several reasons besides being healthier, they become more prepared to face future challenges with confidence and resilience. (Baumann, 2000; Yamaguchi, 2004; Bal, 2009; Bilichenko, 2011; Tolcheyeva, 2012; Kara, 2014; Savchenko, 2014).

In developing the program, we adhere to the scientific and methodological principles of designing and implementing training programs. The results regarding students' awareness about their health-enhancing behavior highlighted specific targeted interactive methods and techniques – mini-lectures, information booklets, 'Brainstorming', discussion and trainings – the basis for strengthening capacity to meet its specific issues.

The outcomes of our research testify to the novelty of the propound program – the effective benefits of a quality Physical Education program/syllabus are exponential, especially in terms of sport for all involvement through PE classes. Research has shown that authors' utilized the depth and breadth of sport for all content knowledge to develop the idea of sport for all involvement through PE classes; to make PE teachers think outside the box and deliver a high quality lessons to the students. It was concluded that students' readiness for sport for all involvement comprises four components: the motivational, the cognitive, the reflective and the physical one. *Motivational component* implies willpower and vigor to be involved in sport for all and physical activity motivation; *cognitive component*: students' cognitive capacity, reflecting the commitment to their being involved in sport for all activities; application of the acquired knowledge and skills; *reflective component*: the hallmark of students' accomplishment, that fosters a sense of awareness, the level of their readiness for exercise; personal and intellectual reflection index as well as personal and intellectual students' readiness for sport for all involvement capacity; and *physical component*: the level of development of basic physical skills; familiarizing with new methods of sports and recreation activity.

Thus, to efficiently develop and implement the suggested program the authors outlined and grounded organizational and methodological principles for achievement its goals: to methodically and theoretically analyze and raise awareness about sport for all activity and students' willing to be involved in this project, foster respect and inclusion and outline the best practices for such PE classes; to investigate the effects of Yoga program in Physical Education classes on the motor abilities and social behavior parameters and figure out the driving motives of students' encouragement to attend PE classes with Yoga practice; to theoretically prove and develop the authors' method of assessment of students' readiness for sport for all involvement through Physical Education classes; to elaborate and experimentally verify the effectiveness of a structural and logical paradigm of students' involvement in sport for all through Physical Education classes, as well as investigate the importance and efficacy of Yoga class attendance. These findings suggest that the implementation of Yoga practice (Asanas and Pranayama) in Physical Education lessons considerably contributed to students' development.

Content-centered and thoroughly carried out, our propound program laid the grounds for engaging in developmentally appropriate physical activity designed for students to boost their fitness, gross motor skills, and health, as well as form students' reflective ability on motor activity and give them the necessary knowledge, capacity and skills. The program core was implemented to leverage the motivation-information, the reflective and the practical stage. The underlying premise is that physical activity, essential to students' healthy lifestyle and their understanding of fitness should become the subject of any array of initiatives and strategies that improves their health system through modern improvements in access, coverage, quality, or efficiency of regular involvement in sport for all activity.

## Conclusions

To conclude we shall state that there have been some breakthroughs in incorporating non-traditional activities into our PE lessons. The findings, derived from the constative experiment, have corroborated the feasibility and expediency of Hatha yoga as an integral and indispensable part of sport for all provision.

Discussions centered on getting over such hurdles as improper students' involvement in non-traditional motor activity due to outdated normative standards of Physical Education; insufficiency of financial subsidizing, demand of highly qualified staff and inappropriate information outreach. More importantly, PE teachers should take painstaking efforts to increase the students' overall awareness and understanding of the influences of sport for all on health and its positive impact on preventive involvement. Thus, we dare state and highlight the merits of our designed model in terms of fostering understanding and building respect for integrated education model to meet the fast-growing challenges of the present day.

The authors' method of assessment of students' readiness for sport for all involvement through Physical Education classes is grounded on four main components: the motivational, the cognitive, the reflective and the physical one.

The authors delved into this aspect, immensely developed and contributed to understanding the importance of fostering interest in creating favorable climate for reaching ultimate goal – to succeed in HEIs students' health enhancing behavior and outcomes of such integrated mindfulness and lifestyle as well as determine the students' level of retained factual knowledge of Physical Culture and Sports fundamentals. One of the most subtle benefits of integrating yoga into P.E. is that Yoga is proved to be essential to forging a path to students' healthier future. Additionally, Yoga focus identified in our propound program has substantially contributed to the Health and Physical Education teaching and learning program for the relevant band of learning.

Data analysis, emanated from our propounded program, spoke in favor of its efficacy regarding delivered mini-lectures to encourage the students to acknowledging their capacity and persevering in the goals they pursue. One of the most efficient criteria of the implemented program are the developmental dynamics of physical readiness indices and taking advantage of sport for all integration in Higher Education Institutions, incorporating Bhastrika Yoga Pranayama and Surya Namaskar (powerful breathing techniques) during the opening and closing stages of each PE lesson as well as a daily after-class training.

Evidence-based data give us the grounds to declare for the effectiveness of our structural and logical paradigm of students' involvement in sport for all through Physical Education, namely:

a) the motivational component indicates that the number of EG students with insufficient level of readiness has decreased 9.1 %; whilst the number of students with a sufficient level increased 13.7 % and with optimal level, respectively, 5.5 %; EG and CG measured outcomes figured out that there is a slight statistical difference ( $\chi^2 = 8,24$ ;  $p < 0.05$ );

b) the cognitive component grounds the fact that streaming stipulated decrease 53.3 % of EG students with insufficient and critical level after the experiment; increase 40.3 % of students with the sufficient level; and 9.5 % of students have an optimal level of knowledge ( $\chi^2 = 7,81$ ;  $p < 0.05$ );

c) the reflective component states that the number of EG students with insufficient and critical level has decreased 41.4 %. Correspondingly, 41.3 % of EG students after the experiment gained the sufficient and optimum level ( $\chi^2 = 17,70$ ;  $p < 0.05$ );

d) the physical component demonstrates that after the experiment the number of EG students with insufficient level has lessened to 27.8 % and the number of EG students with optimum level has raised to 10.5 % if compared with CG ( $\chi^2 = 55,61$ ;  $p < 0,05$ ).

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## Competing Interests

The authors declare that they have no competing interests.

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