

# The Impact of Climate Change and the Sustainable Development Strategy on the Physical Education Lesson

**Dr Mohammed Asim Ghazi**

Department of Curricula and Methods of Teaching Physical Education, Faculty of Physical Education, Alexandria University, Alexandria, Egypt

**Email address:**

Gfx20044@hotmail.com

**To cite this article:**

Dr Mohammed Asim Ghazi. The Impact of Climate Change and the Sustainable Development Strategy on the Physical Education Lesson. *International Journal of Sports Science and Physical Education*. Vol. 8, No. 1, 2023, pp. 1-4. doi: 10.11648/j.ijsspe.20230801.11

**Received:** October 5, 2022; **Accepted:** October 24, 2022; **Published:** March 16, 2023

---

**Abstract:** It is the normal lifestyle, and some areas may sometimes have to refrain from practicing sports, whether individually or collectively. Teaching is a professional duty that the teacher is committed to by planning, implementing, evaluating and influencing the changes of the society surrounding the learners, with the aim of helping learners achieve results. Teaching and learning and be observable and measurable to improve its quality The study of climate changes within the framework of climatic presence and changes that occur in our society from crises, epidemics, global warming and rising land levels in various countries, which leads to high blood pressure, which directly affects the physical condition and Physiological and training for the trainee, study methodology: The researcher used the descriptive approach within the framework of studies and theoretical literature related to the study and similar, and the experimental method through the application and analysis of the study variables, the study population was from the students of the Future School of Languages in Kafr El-Sheikh Governorate, and the research sample was chosen Of the third preparatory grade students participating in the International Day of Green Day scheduled for 1 / April, and their number was (20) students. The curriculum was The scientific purpose of the study is the application of climatic variables to the course of the physical education lesson by choosing the skill of passing in handball, one of the basic skills in the handball curriculum. Compared to the percentage of practicing in the winter season (35%).

**Keywords:** Climate Change, Sustainable Development Strategy, Physical Education Lesson

---

## 1. Introduction

It is a normal lifestyle. Sometimes some areas may have to refrain from exercising, either individually or in groups; In view of facing emergency external circumstances; Such as: wars, crises or natural disasters; But with the demise of the cause, things return to normal, with the introduction of climate change and its repercussions as one of the most important global influences and challenges at present [5].

Teaching is a professional duty that the teacher undertakes through planning, implementation, evaluation and influencing the changes in the society surrounding the learners, with the aim of helping learners achieve teaching and learning outcomes and be observable and measurable to improve its quality [6].

Sustainability is a holistic approach to human development that considers the intersection of environmental, social and

economic aspects. The three aspects of sustainability are referred to as the pillars of sustainability. The overlap of the three components describes the best-case scenario for sustainable development with the educational community, and resilience usually focuses on developing measures to address the effects of climate change. For methods and approaches to become climate resistant, the drivers and underlying causes of vulnerability must be considered: exposure, susceptibility, and adaptive capacities of the affected environment, economy and society. However, short-term disaster reduction, adaptation and building resilience against obvious risks and impacts are a critical step towards achieving sustainable long-term resilience. [11].

## 2. Study Background

The study of climatic changes in the context of climatic

presence and the changes that occur in our society are crises, epidemics, global warming and rising land levels in various countries, which leads to high blood pressure, which directly affects the physical, physiological and training condition of the trainee, which prompts Those in the field of scientific research and those in charge of the educational and training process look at the scientific view of research and study on this variable that the world seeks to reach scientific postulates, results and recommendations through the scientific conclusions of those variables within the framework of building a sustainable society and special educational activity for the education lesson physical.

### 3. Related and Similar Studies

Obrenovac, Nick, and James H. Fowler assert [8] "Climate change may change an individual's physical activity patterns and behavior Natural human regular physical activity supports healthy human performance 1-3. Climate may change - by modifying the environmental determinants of human physical activity - Changing exercise rates in the future.

An empirical investigation of the relationship between meteorological conditions, physical activity and future climate change. Using data on reported participation in recreational physical activity from more than 1.9 million survey participants in the United States between 2002 and 2012, combined with daily meteorological data, we show that both cold and hot temperatures as well as days of precipitation reduce physical activity.

Estimates from 21 climate models and projections of possible effects of physical activity for future climate changes by 2050 and 2099 The projection indicates that warming over this century may be an increase in net recreational physical activity in the United States.

A study (Madeleine Orr, Yuehe Inoue, Russell Seymour, Greg Dingle [7] "The Effects of Climate Change on Organized Sport" The relationship between sport and the environment was examined mainly to understand how sport affects the natural environment. However, as the impact of climate change becomes more evident, there is a need to establish a systematic understanding of the effects of climate change on the operations of sport. The aim of this review is to evaluate the existing literature on the effects of climate change on organized competitive sports entities, paying more attention to their adaptation efforts. A scoping review was conducted to identify relevant studies published between 1995 and 2021. After evaluating over 2,100 publications, we retained and analyzed 57 articles to answer research questions: (1) What evidence is available regarding the effects of climate change on the operation of sporting entities organized competitiveness? (2) What is known from the literature about measures taken by competitive sporting entities to adapt to the effects of climate change? Our analysis yielded five main themes: (1) Effects of heat on the

health of athletes and spectators. (2) the effects of heat on the performance of athletes; (3) adaptive measures taken in sport; (iv) suitability of different cities to host events; and (5) benchmarking terms and limits. This review reveals that there is evidence of some impacts of climate change on sport, but the literature reflects only a small share of the global sports sector. Likewise, much remains to be understood about the nature of adaptation.

A study (Hanan Ahmed Murad, Hoda Hosni Al-Shayeb [4] "The Role of Sports Activity in Achieving a Culture of Volunteerism and Community Belonging from the Perspective of Sustainable Development for University Students" The culture of volunteering and community affiliation between practitioners and non-practitioners of sports activity for Alexandria University students.

The two researchers used the descriptive survey method, and the study was applied to a sample of (400) male and female students in the academic year 2018/2019, who were chosen by stratified random method. The results of the study: The high level of awareness of the culture of volunteering and the level of affiliation among the practitioners of sports activities within the university, and the presence of differences in the culture of volunteering and the level of affiliation between the practitioners of sports activities and the non-practitioners of sports activities in favor of the practitioners of sports activities. And developing the values of belonging and loyalty to university students, as well as spreading the culture of volunteering among university students (Murad, 2021).

#### *Study Methodology*

The researcher used the descriptive approach within the framework of studies and theoretical literature related to the study and similar, and the experimental method through the application and analysis of the study variables. On the International Day of Green Day, scheduled for 1st of April, numbering (20) students, the scientific methodology of the study was to apply climatic variables to the course of the physical education lesson by choosing the skill of passing in handball as one of the basic skills in the handball curriculum, which is scheduled for the third grade. Preparatory, areas of study from a spatial point of view were the handball courts at the Future School of Languages, the time limits for the study were in the period from 1/12/2020 1 to 1/6/2021, which is the beginning of winter and the beginning of summer in Egypt to compare the variables during the two semesters.

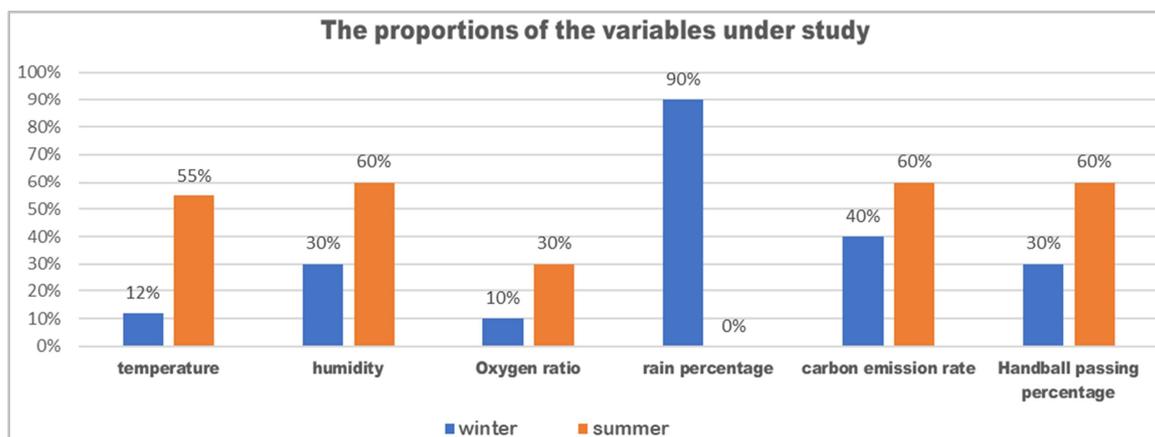
### 4. Results

The variables under consideration were communicated (temperature, humidity, oxygen percentage, rain percentage, carbon emission rate) the use of the skill used in the physical education lesson (the skill of passing in handball) [1, 2].

The following table shows the percentages of the variables under study:

**Table 1.** The proportions of the variables under study.

variables	the extent of the effect	winter		summer		The extent of the impact on the educational situation		Impact of changes on practice	
		M	Sd	M	Sd	winter	summer	winter	summer
temperature	Training Status	1.3	0.1	2.3	0.12	12%	55%	Exercise	not exercising
humidity		2.5	0.5	4.3	0.24	30%	60%	Exercise	not exercising
Oxygen ratio		3.85	0.4	5.6	1.2	10%	30%	Exercise	Exercise
rain percentage		0.89	0.0	00	000	90%	0%	not exercising	Exercise
carbon emission rate		0.45	0.0	2.6	0.1	40%	60%	not exercising	not exercising
Handball passing percentage		0.25	0.0	2.31	0.78	30%	60%	Exercise	Exercise

**Figure 1.** Percentage of the variables.

The results are in Table 1 and Figure 1, and the results of the humidity degree came in the winter (30%) in the summer by (60%) in winter and summer, and through the variables that were selected in the context of climate changes and the impact on Practicing sports within the framework of the physical education lesson and the results came as follows in the winter season, the percentage of the effect of temperature on sports practice through the physical education lesson was (12%) in the winter group, but in the summer (55%) and the results of the degree of humidity In the winter (30%) in the summer (60%), and the results of the percentage of oxygen in the winter (10%) in the summer (30%), and the results of the percentage of rain in the winter (90%) in the summer by (0%), and the results of the percentage of carbon emissions came in the winter (40%) and in the summer (60%).

## 5. Discussions

The concept of sustainable development has led to the emergence of a new development philosophy that takes into account the limitations of natural environmental resources and the limits of the land's ability to withstand the stress of depletion on the one hand, pollution and deterioration in the context of climate changes and the orientalist ability to deal with those variables [12, 6].

And the temperature results came in the winter (12%) and in the summer (55%), which leads to the inability to practice in the summer, and this gives us to work on the sustainable development of the ability to practice sports, whether in the winter or The summer season by planting playgrounds to reduce the emitted temperature and give us

the ability to practice, and this is in agreement with [5], and the results of the humidity level came in the winter (30%) in the summer by (60%) Which leads to the practitioner and the implementation of the lesson in the winter and summer and through the variables that were selected in the context of climatic changes and the impact on the practice of sports within the framework of the physical education lesson and through that the pursuit of planting green trees on the sides of the stadiums to reduce the humidity, and this agrees With [10], the results of the percentage of oxygen in the winter (10%) in the summer (30%) came as a result of dealing with environmental sustainability by planting trees around the sides of the stadiums, which leads to an increase in the percentage of oxygen, which leads to a kind of practice and this It agrees with both [7, 9] and the results of the mother's percentage came It flew at a rate of (90%) in the winter and in the summer at a rate of (0%). Carbon emission in the winter (40%) and in the summer (60%) to non-practice, and this leads to a lot of loss of the percentage of fluids from the saltwater and the percentage of water, and the percentage of loss ranges between 3-4% of the body water leads to unconsciousness and lack of The ability of muscles to perform sports activity, and this is consistent with [1, 3, 8].

## 6. Conclusions

The percentage of practicing in the summer is more than in the winter in the context of climatic changes, and the percentage of practice was (44%) compared to the percentage of practice in the winter season at (35%) Table 1, Figure 1.

## Acknowledgements

Thanks and appreciation to Sadat City University and the president of the university in Egypt. I also thank the dean of the college, Prof. Dr. Ahmed Azab, the head of the debate department in the college, Porf Ahmed emara and Dr. Hassan Mohamed Hassan Ali for supporting me in research productivity.

---

## References

- [1] Abu Ela Abdel Fattah. (1998). Sport Biology and Athlete Health -. Arab Thought House - Cairo.
- [2] Al-Hayek Sadeq. (2011). Strategies for teaching physical education based on life skills in the era of the knowledge economy and their practical applications. Jordan: Crescent Center for Publishing and Distribution.
- [3] Bahaa El Din Salameh. (2000). Physiology of sport and physical performance (blood lactate) -. Arab Thought House - Cairo.
- [4] Hanan Ahmed Murad. (2021). The role of sports activity in achieving a culture of volunteerism and community belonging from the perspective of sustainable development for university students. *Journal of Sports Science Applications* Volume 07, Issue 107, March 2021, Page 173-202.
- [5] Muhammad Asim Ghazi, Mazen Al-Tai. (2022). Sports and sustainable development, first edition, p. 122. Jordan: Dar Al Wefaq for Publishing and Distribution.
- [6] Muhammad Asim Ghazi. (2022). Climate changes within the framework of the sustainable development strategy for physical education sciences, first edition, p. 23. Jordan: Dar Al-Ibtikar for Publishing and Distribution.
- [7] Obradovich, N. a. (2017). Climate Change May Alter Human PhysicalActivity Patterns.” *Nature Human Behaviour* 1 (5) (April 24): 0097. doi: 10.1038/s41562-017-0097.
- [8] Orr, M. &. (2019). Sport versus climate: Introducing the climate vulnerability of sport organizations framework.
- [9] Najwa Youssef Gamal El Din. (2015). Orienting agricultural university education in Egypt towards a green economy in the light of the experience of the United States of America". *Journal of Educational Sciences*, No. 1, Part One.
- [10] Hisham Bashir. (2014). Climate change and its impact on Egypt. Cairo: Institute of Educational Research and Studies.
- [11] CB3. (2021). Toward a sustainable and resilient future. (2012). IPCC Cambridge University Press. Available at. cario: <http://www.ecaa.gov.eg/>.
- [12] Giddy, J. K. (2018). The impact of extreme weather on mass-participation sporting events: The case of the Cape Town Cycle Tour. *International Journal of Event and Festival Management*, 10 (2), 95–109. <https://doi.org/10.1108/IJEFM-04-2018-0027>.