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A chat about sedentary lifestyle in adolescence: an educational practice

Um bate-papo sobre sedentarismo na adolescência: uma prática educativa

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Abstract

The research was conducted on students and the external community - people with no academic or functional ties to the Federal Institute of Goiás Câmpus Itumbiara, Brazil. As a remote, hour-long complementary activity, the aim was to perform an educational practice using active methodologies to deal with the concepts of integral human formation and understanding the importance of physical aspects as a part of it, and physical activity and inactivity in adolescence in the context of the COVID-19 quarantine period. The activity involved 22 participants, including technical course students integrated to high school and higher courses, and external community. The educational practice adopted two active methodologies (conversation circle and gamification) utilizing technology that enabled remote meetings (Google Meet). It is suggested the use of conversation wheel and games to maintain a constant dialogue about physical inactivity, with adolescent population, for awareness about the harmful effects of physical inactivity.

Keywords: Active methodologies; Integrated High School; Professional and Technological Education; Remote education; Sedentary Lifestyle.

Resumo

A pesquisa foi realizada com estudantes e comunidade externa - pessoas sem vínculo acadêmico ou funcional com o Instituto Federal de Goiás Câmpus Itumbiara, Brasil. Como atividade complementar remota, com duração de uma hora, o objetivo foi realizar uma prática educativa utilizando metodologias ativas para lidar com os conceitos de formação humana integral e compreender a importância dos aspectos físicos como parte dela, e da atividade física e inatividade física na adolescência no período de quarentena da COVID-19. A atividade envolveu 22 participantes, entre alunos de cursos técnicos integrados ao ensino médio e cursos superiores, e comunidade externa. A prática educativa adotou duas metodologias ativas (roda de conversa e gamificação) utilizando a tecnologia que possibilitou reuniões remotas (Google Meet). Sugere-se o uso de roda de conversa e jogos para manter um diálogo constante sobre a inatividade física, com a população adolescente, para conscientização sobre os malefícios da inatividade física.

Palavras-chave: Metodologias ativas; Ensino Médio Integrado; Educação Profissional e Tecnológica; Educação remota; Sedentarismo.

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1 INTRODUCTION

The social isolation imposed by the COVID 19 pandemic as of March 2020 (LINDELL-POSTIGO ET AL., 2020; LOADES ET AL., 2020), brought the need to reinvent the ways of applying educational PRACTICES (FRANCHI, 2020; SRINIVASAN, 2020; WALENSKY & DEL RIO, 2020). This research sought to address the integral human formation, especially its physical aspects that promote health. Brazilian adolescents are legally guaranteed the right to integral human formation (BRASIL, 1988; BRASIL, 1990; BRASIL, 1996; & BRASIL, 2017). Understanding the importance of physical aspects is a part of it, and it promises a healthy lifestyle with a focus on maintaining the health of these adolescents, and that the physical activity is also a complex political, social, and emotional act (PIGGIN, 2020).

There are several legal foundations that deal with integral human formation. The first and most important foundation is stated in the Article 205 of the Brazilian Constitution, 1988, focuses on education and it seeks the full human developments, which are right of all and the duty of the State and the family (BRAZIL, 1988). The Second foundation, it is contained in the Law of Guidelines and Bases nº 9.394 of December 20, 1996, in its Article 35-A (BRASIL, 1996). The Third foundation, in the Statute of the Child and Adolescent (ECA), Law 8.069 of July 14, 1990, Article 19, it is stated that adolescents should be provided education for their integral development (BRASIL, 1990). The Fourth foundation and the more recently enacted one is the National Common Curricular Base (BRASIL, 2017), which aims to guarantee the integral development of Brazilian students.

The preamble of the Universal Declaration of Human Rights asserts that, through teaching and education, respect for human rights and freedoms should be promoted (UN General Assembly, 1948). Among these rights, it is highlight health, which is “a state of complete physical, mental, and social well-being and not merely the absence of infirmity or illnesses” (WHO, 1946). In recent times, a major challenge faced by public health is of chronic non-communicable diseases, such as: cardiovascular disease, cancer, diabetes, and chronic respiratory diseases that are the main causes of mortality, they are responsible for over 70% of the global deaths (WHO, 2020). Thus, regular practice of physical activities (CASPERSEN, NIXON, & DURANT, 1998) is characterized as a protective factor against such diseases (ANDERSON & DURSTINE, 2019; WHO, 2018).

Most young people do not reach the minimum recommended levels of physical activity (GUTHOLD ET AL., 2020). Over 81% of the world's teenagers are considered physically inactive. In addition, physical activity decreases with advancing age, beginning in adolescence (HALLAL ET AL., 2012), and reaches a more pronounced decline between late adolescence and early adulthood (HARDMAN & 47 STENSEL, 2007; LU ET AL., 2017; MARCONDELLI, DA COSTA, & SCHMITZ, 2008).

A recent study conducted in Norway found that students exercised less in 2018 than in 2014; the prevalence of overweight increased substantially from 2010 to 2018; and approximately 20% of students did not meet the recommended criteria for attendance, intensity, and duration of physical exercises (GRASDALSMOEN ET AL., 2019). Another major problem related to physical inactivity is sedentary behavior, which in turn is directly related to obesity, another major public health problem. Obesity and physical inactivity have increased considerably among the youth

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(CARNEIRO ET AL., 2017; CUREAU ET AL, 2012; DE PINHO ET AL., 2014; SILVA JÚNIOR ET AL., 2012). According to Barata “the social reproduction system of different groups includes the patterns of work and consumption, the practical activities of daily life, the forms of organization or social participation, politics, and culture” (BARATA, 2011, p. 24). Therefore, it is through the contradictions expressed in societies and the social condition of the individual that will determine whether they will have access to beneficial health-sustaining or disease-producing processes (BAGRICHEVSKY ET AL., 2013; BARATA, 2011). Inequities in the health conditions of the population are widely known (MARMOT, 2009), and many studies have shown that the disparities are also present in health behaviors and, particularly, in leisure-time physical activity (DE OLIVEIRA ET AL., 2018).

It is necessary a broader view of the concept of physical activity benefits beyond dominant disease management justifications, thus, rather than focusing on the long-term benefits, could put more emphasis on friendship than longevity, there is more to physical activity than health (MATIAS & PIGGIN, 2020). In this sense, in addition to the health-related benefits, some evidence is also presented to support the link between physical activity and learning outcomes (TOMPOROWSKI ET AL., 2008). A participation in physical activity has a positive effect on students’ engagement in the classroom, it is often reflected in improvements in “time on task” and concentration (ALVAREZ-BUENO ET AL., 2017). Physically active English classes have demonstrated important benefits for students' behavior and literacy (MAVILIDI ET AL., 2020). The integration of physical activity into learning environments such as mathematics classes may help develop tools that improve mathematical learning (CECCHINI & CARRIEDO, 2020). Physically active academic lessons not only increase physical activity levels but may improve learning and health outcomes (MARTIN & MURTAGH, 2017).

The aim is to perform an educational practice using active methodologies (conversation circle and gamification, utilizing technology that enabled remote meetings). Deal with the concepts of integral human formation and understanding the importance of physical aspects as a part of it, and physical activity and inactivity in adolescence, especially in the context of the period of social distance imposed by the pandemic of COVID-19.

2 MATERIALS AND METHODS

2.1PARTICIPANTS

This research was developed in June 2020, with high school and undergraduate students from the Federal Institute of Goiás (IFG) - Câmpus Itumbiara, Goiás, Brazil, along with the members of external community. Initially, the proposal included only high school students as its target audience. However, enrollments from undergraduate students, teachers, and the external community were also received. There was a total of fifty-six enrollments; however, only twenty-two participated in the activity, which comprised high school and undergraduate students and the external community.

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2.2 METHODOLOGIES AND TECHNOLOGIES

Considering the context of social distancing, the research was conducted using Google Meet virtual room, lasting for an hour, and using the active methodologies such as: conversation circle and gamification. Especially during a pandemic like this, teachers are required to be more creative, features such as; Google Meet makes it easier for teachers to carry out learning and students become more interested and enthusiastic (ALDI ET AL., 2020). The active methodologies allow the engagement and participation in knowledge building (GUERRA ET AL., 2019; SILVA, 2023), improve student performance (AJI & KHAN, 2019), and enable student protagonism in the learning process (DA SILVA ET AL., 2020). In this context, conversation circle refers to the understanding of more depth, more reflection, as well as weighting, in the sense of better perception and frank sharing (MOURA & LIMA, 2014). Games provide the student with an active role in building new knowledge by overcoming conflicts and imbalances, helping them to “learn to do, relate, contact, compare, build, and ask” (SILVA, 2006). The perceptions of a longitudinal study on improving digital skill through gamified learning environments, reported that “I think that this is the best way to teach future generations” (ALT & RAICHEL, 2020).

This descriptive research followed a qualitative approach along with an action research method. The descriptive research purports to name things or phenomena, or to classify characteristics of things (TOUCH & BERG, 2016). Qualitative approaches may not represent the entire population; however, they add depth and meaning to facilitate understanding (HOLTROP, RABIN, & GLASGOW, 2018).

This study was developed in conjunction with the Remote Complementary Activities 2020 project of the IFG Campus Itumbiara, which was observed in the Public Note to the Academic Community issued by the College of Directors of the IFG on May 13, 2020. Considering the current context of the COVID-19 pandemic, it was decided to not adopt distance learning in this period of social distancing, and the academic calendar was suspended; merely the conduction of complementary activities at a distance was authorized. The activity was divided into three stages, namely, pre-activity, activity, and post-activity. The pre-activity was developed a day before the activity. All subscribers received a link from the Mentimeter website, in order to answer the following question: "What are the first two words that come to your mind when you hear the word sedentariness?" The activity started with the participants presenting their name, course, and period of the course. There are several pedagogical benefits of using Mentimeter in the classroom, including increasing interaction and engagement, soliciting opinions, and formatively evaluating student understanding (MOORHOUSE & KOHNKE, 2020).

Posteriorly, a game was held (Quiz 1 - Kahoot!), a link for which was sent to the Google Meet chat with questions to explore some concepts that would be worked upon. After everyone answered each question of the game, the participants discussed about the researcher's tutoring and the questions. From their speeches, it was possible to determine their previous knowledge in relation to the concepts that would be worked upon. A second game (Quiz 2 - Kahoot!) was carried out and immediately after and right after, a round of conversation between all the participants started to talk about each concept presented in this second game. Finally, a game

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(Quiz 3 - Kahoot!) comprising 10 questions were played to evaluate all the concepts covered during the activity (Comprehensive integral human formation and its physical aspects, concepts and legal basis in Brazilian legislation; Concepts, relationship, examples, benefits, differences between physical activity, physical exercise and sports activities; and Sedentarism origin of the word, risks of sedentary behavior, relationship with obesity, technology and in the context of social isolation imposed by COVID 19). Kahoot! trivia games allow students to connect course topics and learning paths while pointing out learning gaps to instructors (BASZUK & HEATH, 2020). Recent review of the literature that included ninety-three concluded that Kahoot! can have a positive effect on learning performance, classroom dynamics, student and teacher attitudes and student anxiety (WANG & TAHIR, 2020).

For the post-activity, a Google Forms questionnaire was sent to all participants by e-mail at the end of the activity. This form contained the following questions:

1. Did you like to participate in the remote activity “A chat about sedentarism in adolescence”?

2. Did taking part in the remote activity “A chat about sedentarism in adolescence” provided you with new knowledge?

3. Point at least one positive and one negative point regarding remote activity “A chat about sedentarism in adolescence”?

In order to assess the validity of the educational practice and its learning effect, the participants’ feedback was considered. The options for answering the first two questions were objective (yes, no and indifferent), while the last question, despite being open, requested that the answer be given objectively (at least one negative point and one positive point). Therefore, it was possible to perform a quantitative analysis of the objective responses presented.

3 RESULTS

This section presents the results related to the issues worked on throughout the activity. Namely: pre-activity that enabled the creation of a word cloud; the activity that happened in an asynchronous moment, in which the participants answered some questions of games; and the post-activity that comprised the act of answering a small questionnaire evaluating the activity.

3.1 PRE-ACTIVITY

For the question "What are the first two words that come to your mind when you hear the word sedentariness?" A total of 16 responses and these responses were used to form a word cloud (Figure 1) that was used during the activity. The three most mentioned words were: obesity, laziness, and lack of physical exercise. The words food, sport, home, laziness, health, lack of physical exercise, illness, idleness and physical inactivity were also mentioned.

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Figure 1: Word cloud formed by pre-activity responses

Fonte: authors (2020).

3.2 ACTIVITY

Analysis of Quiz 1 - Kahoot! (diagnosis), from Quiz 3 - Kahoot! (evaluation) of the post-activity (Google Forms questionnaire) was conducted. Regarding the data from Quiz 1 - Kahoot! (diagnosis), the following results were identified: in relation to the knowledge levels, 68% of the students demonstrated having little previous knowledge about the concepts, 11% exhibited no knowledge, and only 21% displayed having knowledge about the concepts. Data analysis revealed that at the beginning of the activity, most participants had insufficient knowledge about the concepts to be studied. The Quiz 2 – Kahoot!, its function was only to introduce new concepts, so it did not evaluate the performance of the participants. In the analysis of the final evaluation, Quiz 3 - Kahoot !, which contained 10 questions about all the concepts discussed in the chat, it was found that 15% of the participants correctly answered more than 70% of the evaluation, 40% correctly answered 50% of the evaluation, and 45% correctly answered less than 50% of the evaluation. Therefore, demonstrating that the activity provided learning to these participants.

3.3 POST-ACTIVITY

The post-activity questionnaire was answered by 77% of the participants. The first question was to check if the participants liked participate in the activity. The answer options were “yes,” “no,” or “indifferent.” Results are presented in the (Figure 2), this result is in line with the fact that the most teachers assume that students are confident and ready to learn online (KIRSCHNER & DE BRUYCKERE, 2017) and technology also has a potential to fill the gap between teacher and student discourse, helping

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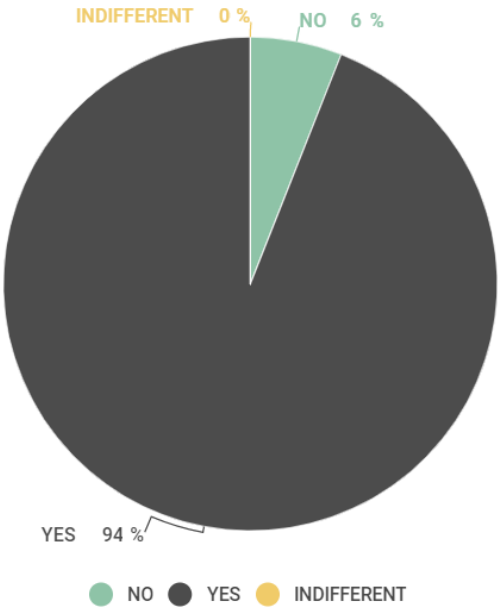
students to connect academic meanings with their individual understanding (KIM, 2020).

Figure 2: Answers to question “Did you like to participate in the remote activity “A chat about sedentarism in adolescence?”



Fonte: authors (2020).

The second question, examining whether the activity provided new knowledge to the participants. The answer options were “yes,” “no,” or “indifferent.” One hundred percent of the participants responded that the activity provided them new knowledge. About the last question, regarding the attribution of a minimum one positive and one negative point in relation to the activity.

The positive points included: better understanding and clarification about physical inactivity and the benefits of regular physical activity, the use of games, and practical interaction. The most recurring negative point was related to time; they found that the time was limited considering the number of concepts. Another negative point was the lack of participation by some participants. We present some observations made by the participants during the post-activity.

Some observations made by the participants, positive and negative point in relation to the activity.

Post-activity response, participant “A”:

“Positive: It provided a better understanding of subjects unknown to us. Negative: none”

Post-activity response, participant “B”:

“Positive: Clarification of the risks posed by a sedentary lifestyle. The many benefits brought by the practice of physical activity. Negative:”

Post-activity response, participant “C”:

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“Positives: Easy grasp of knowledge, practical interaction, and games (quiz) about the content. Negative point: Duration of 1 hour only.”

Post-activity response, participant “D”:

“One of the positive points was the opportunity to expand knowledge on the subject, and the negative point is related to the time, an hour to dismember the subject is very little.”

Post-activity response, participant “E”:

“I found the idea of using Kahoot very creative, as I found the form on the web that was adapted very interestingly. The content was very objective, and of course, congratulations on the initiative!!! ”

Post-activity response, participant “F”:

"It gives incentive to want to practice exercises in this quarantine."

Post-activity response, participant “G”:

“The least positive point is that, you are ashamed to answer fear of making mistakes!! Positive point I found the activities fun”

Participant “G” mentioned shame and fear of making mistakes while participating in the activity. So it is in line with the statement that fear can extend its effect to influence technology adoption during the COVID-19 pandemic, when most schools, colleges and universities started to implement (AL-MAROOF ET AL., 2020).

4 DISCUSSION

4.1 INTEGRAL HUMAN FORMATION

The idea of integral human formation suggests overcoming the human beings who were historically separated by the social division of labor (CIAVATTA, 2005). Between the actions of executing and thinking, directing, or planning, it is about overcoming the reduction of work preparation to its operational, simplified aspect, drained from the knowledge of its scientific-technological genesis and in its historical-social appropriation. The omnilateral human formation comprises physical, mental, cultural, political, and scientific and technological aspects (CIAVATTA, 2005); therefore, the physical formation (that includes understanding the importance of physical aspects for a healthy life), as an integral part of it, has the potential to make students aware of the benefits of physical activities for a healthy life and understand that the physical activity is a complex political, social, and emotional act (PIGGIN, 2020).

4.2 PHYSICAL ACTIVITY AND SEDENTARY LIFESTYLE

Physical activity can be understood as any body movement, produced by skeletal muscles, those results in energy expenditure (CASPERSEN, POWELL, &

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CHRISTENSON, 1985). Therefore, we can infer that most games, fights, dances, sports, physical exercises, work activities, and commuting are physical activities, because for their execution, it is necessary that the human body is in movement, that is, out of the state of rest. Physical activity is a complex political, social, and emotional act (PIGGIN, 2020).

Sedentarism is a word derived from the Latin “sedere” which means to stay seated. The term was originally used to define the transition from one nomadic society to a fixed society, which had permanent housing in particular location. Later this word “sedentary” has begun to be applied to people who spend most of the day sitting down (VAN UFFELEN ET AL., 2010). Therefore, the man, once physically active and nomadic, became sedentary.

Currently, sedentary behavior refers to activities that do not increase energy expenditure substantially above the resting level and includes activities such as sleeping, sitting, lying down, and watching television, and other forms of screen-based entertainment (PATE, O’NEILL, & LOBELO, 2008). This behavior of not practicing physical activities at adequate levels is a public health problem affecting adolescents from all over the world. The overall prevalence of insufficient physical activity, affecting more than 80% of adolescents worldwide, and more than 83.6% in Brazil (GUTHOLD ET AL., 2020).

4.3 REMOTE TEACHING AND SOCIAL ISOLATION

For the remote teaching, we use resource Google Meet, is considered as a safe environment in online teaching, and it is highly recommended during the pandemic outbreak for tree factors (AL-MAROOF ET AL., 2020). First of all, it is an application on smartphones and laptops. The second important factor is that the links that are provided within each class time can be used several times. The last crucial factor is that students are more confident and the feeling of fear is reduced.

The current pandemic related situation in Brazil has generated new teaching practices to ensure that education is not interrupted, although challenging, remote teaching has become a viable alternative as a result of Covid-19 (PACHECO, NOLL, & MENDONÇA, 2020). Given the concentrated efforts by all in the face of global changes, the uncertainties and potential vulnerability seem to guarantee an effective learning environment, whenever possible (PATHER ET AL., 2020). Study that analyzed the interface between pandemics of physical inactivity, obesity and COVID-19, suggest that current and post-pandemic context, the use of technological resources to encourage children, adolescents, adults and the elderly to be more assets can be a relevant alternative (PITANGA, BECK, & PITANGA, 2020). Recent study carried with Spanish adolescents aimed to analyze some demographic, physical, and psychosocial parameters throughout the COVID-19 quarantine lockdown, and concluded that COVID-19 lockdown has negatively affected adolescents by decreasing some psychosocial factors such as self-concept, prioritizing family and academic matters within that period (LINDELL-POSTIGO ET AL., 2020). A study carried out with Brazilian students during the covid-19 pandemic presented the main barrier to practicing activity as having a lot of schoolwork to do (SILVA, 2022). However, the prioritization by adolescents of academic matters to the detriment of

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regular physical activity is not specific to this lockdown period imposed by COVID-19. The prioritization of studies and school tasks can be identified in at least twenty studies carried out in the last twenty years on the continents: African, American, Asian, European and Oceania.

Two studies from the African continent were analyzed in common with the “lack of time” barrier and others as a prioritization of studies and school tasks; laziness and lack of interest (ABDELGHAFFAR ET AL., 2019; MUSAIGER ET AL., 2013). Of the nine studies analyzed on the American continent, two countries stood out for the number of studies, Brazil and Canada, each with four studies. The four main barriers identified were: lack of time; prioritization of studies and school tasks; lack of access to adequate facilities and high screen time (ALLISON ET AL., 2005; ALLISON, DWYER, & MAKIN, 1999; BELANGER ET AL., 2011; DAMBROS, LOPES, & SANTOS, 2011; DIAS, LOCH, & RONQUE, 2015; DWYER ET AL., 2006; GARCIA & FISBERG, 2011; PANDOLFO ET AL., 2016; PAROBII ET AL., 2018). In the four studies analyzed on the Asian continent, the barrier “lack of time” is the most prevalent, as it occurs on the African and American continents. In addition to the lack of time, barriers were also mentioned, such as the prioritization of studies and school tasks; lack of adequate facilities; lack of social support and lack of financial resources (CHENG ET AL., 2003; GAWWAD, 2008; MUSAIGER ET AL., 2013; PADEHBAN & NEGARANDEH, 2018). In the three studies analyzed on the European continent, the most frequently identified barrier is “lack of time”, followed by tiredness, laziness, illness or injury and for requiring a lot of effort (BUTT ET AL., 2011; CANET ET AL., 2017; SHERAR ET AL., 2009). Finally, in the two studies analyzed on the continent Oceania, the barriers identified were: lack of time; prioritization of studies and school tasks; lack of social support; lack of accessibility and availability of physical activities (EIME ET AL., 2015; HOHEPA, SCHOFIELD, & KOLT, 2006).

The COVID-19 lockdown and its restrictions not brought only negative effects, the closure of institutions, schools, universities and social isolation, how new reality forced radical need to rapidly introduce and use all the available technologies and tools for remote, distance work and communication (OZADOWICZ, 2020). Recent study assessed the influence of the COVID-19 pandemic in motivating digital transformation in the education sector in South Africa. Concluded that much as this pandemic has brought with it massive human suffering across the globe, it has presented an opportunity to assess successes and failures of deployed technologies, costs associated with them, and scaling these technologies to improve access (MHLANGA & MOLOI, 2020).

5 CONCLUSIONS

The participants' perceptions of the Remote Complementary Activity 2020 “Chat: Sedentary lifestyle in adolescence, concepts, and current context” with the use of active methodologies were of great learning and knowledge. One limitation identified was the low adherence of some participants, reported even by other participants who were more active. Therefore, we suggest the use of a conversation wheel and games to maintain a constant dialogue about physical inactivity, which is currently a major public health problem, especially in the adolescent population. These actions may raise awareness in adolescents about the harmful effects of physical

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inactivity and the health benefits of regular physical activities. It is necessary to allow everyone, independent of their social class, to have access to beneficial processes and health maintenance.

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