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## BRAIN BREAKS ACTIVE BREAK IN MACEDONIAN SCHOOLS – QUALITATIVE STUDY

*Preliminary communication*

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### Abstract

*Technology is everywhere in our everyday life. It is also included when speaking about physical activity. When speaking about technology and physical activity in children, it can have both positive and negative effects on physical activity level on children, prolonged screen time, motivation for movement, etc. Lately, many interventional programs are created that include technology to motivate children for physical activity. Such intervention is Brain Break® active break. It integrates different online videos, 3 – 5 minutes that include different forms of classroom-based physical activity. Study reports indicate on positive effect on active break regarded increase interest for physical activity, improved goal orientation holistic learning, self – efficiency and self – awareness. The success of implementation of the intervention is highly depended on the work and attitudes of teachers. Therefore, considering the importance of teachers` work for the effectiveness of the applied intervention, we designed this study to give more attention to the teacher`s role in the implementation of this intervention program as well as their feedback as extremely valuable for future actions. It is designed as a qualitative study aimed to identify teacher`s opinion about the BB interactive platform and their personal opinions about effects on students learning and their level of physical activity. The sample was intentional and consisted of 12 persons, teachers of primary schools in Macedonia. The interviewing technique was applied. According to teachers` opinions, these videos are effective not just in promoting physical activity on a daily level but they also help in maintaining positive classroom behavior, better concentration and attention in children. Teachers also emphasized the benefits of applied video in holistic learning, establishing cor-relational relations between different educational contents.*

**Keywords:** *active break, Brain Breaks Web based platform, primary schools, qualitative study*

### INTRODUCTION

Every day we are surrounded by reports, articles and other sources of information that promote physical activity and emphasize the need for regular participation in it. Confirmed and highlighted are the benefits of regular physical activity in improving hearth and bones health, work efficiency, increased energy, improve sleep, skin health and beauty, improved immunity, increased happiness, etc. Yet, despite these and many other reported benefits, we still have a noticeable global trend of physical inactivity across all age categories.

As reported from WHO, physical inactivity is still one of the leading risk factors for death in all age categories worldwide. Particularly, 23% of adults and even 81% of adolescents fail to meet the minimum requirements for physical activity recommended by WHO (WHO, 2018). Reasons for these are numerous and includes: poor eating habits (Gubbels, Van Assema & Kremers, 2013; King, Glanz & Patrick, 2015), sedentary behavior and increased screen time (Bilgrami et al, 2014; Brindova et al, 2014), prolonged time with bad body posture, excessive use of motor vehicles, etc (Pavelka et al, 2016).

About 3,2 million deaths worldwide are linked as an indirect consequence of physical inactivity, i.e. inactive people have a 20 to 30% higher risk of death, compared to people who are actively following WHO recommendation for physical activity (WHO report). Similar situation is noted for children as well, particularly a trend of decreasing the level of physical activity in children with increased health risk is notable in last decade (Person, Braithwaite, Biddle, Sluijs & Atkin, 2014; Saunders, Chaput & Tremblay, 2014; WHO, 2016).

The questions that arise are: How to encourage people and especially children to be physically active on a regular bases? How to exploit the “weaknesses” of the modern way of life, i.e technology (TV, computers, smartphones) to be used to initiate physical activity?

Many study reports emphasizes that technology, implemented through a variety of mobile applications, interactive video games,

intervention programs can be used as a powerful tool aimed at promoting a healthy and active lifestyle (Hall&Bierman, 2015; Gonzalez, et al 2016). In this relation, many intervention programs that were created are technology-based or use technology in some relationships such as measurement, following the progress, creating programs, etc. Many of them are created as interactive video – games, online platforms and internet-based interventions. Some of these programs are also school-based, which means they are organized during school time – recesses or during classes. These programs that are school-based and technology supported, implemented as different forms of active breaks are proven to have positive effects on students cognitive functions and brain functions (Mullender et al, 2015; Etseban et al, 2015; Voss et al, 2011; Weslake & Christian, 2015), academic achievement (Donnelly et al, 2016; Mullender et al, 2015 Howie, Schatz & Pate), improved attention and focus on task (Janssen et al, 2014; Mullender et al, 2015), better concentration, focused attention, (Carlson et al, 2015), classroom behavior, holistic learning (Popeska et al, 2018; Glapa et al, 2018) and positive attitudes toward physical activity (Uzinoz et al, 2017).

One of the intervention programs which is classroom-based and technology-supported and aims to increase the level of daily physical activity, promoting an active and healthy lifestyle is recognized as Brain Break® active break. It integrates different online videos, 3 – 5 minutes that include different forms of classroom-based physical activity. The Brain Break interactive platform is known worldwide, considering that school in countries from all continents can use it. Effects of Brain break short breaks are confirmed in several studies conducted with primary school children in more than 15 countries worldwide including Poland, Croatia, Serbia, Romania, Macedonia, Turkey, Lithuania, South Africa, Singapore, Malesia etc. Reports from this studies indicates on positive effect on active break regarded increase interest for physical activity, improved goal orientation holistic learning, self – efficiency and self – awareness (Mok et al, 2015; Uzunos et al, 2017; Glapa et al, 2018; Popeska et al, 2018; Kuan et al, 2019).

The results from the study applied on sample only on Macedonian students conducted by Popeska et al, (2018) are similar to results from previously mention countries. Results from Macedonians students emphasize the positive effect of three months of intervention of HOP Sport Brain Breaks® in classroom in Macedonian setting, emphasizing mainly the improving of child knowledge and self-awareness for individual application of Brain break activities and promoting of the holistic health (Popeska et al, 2018). Furthermore, the frequent use of video exercises in the classroom demonstrated positive changes in the child's attitude about their motivation for physical activity, and positive impact on many aspects of their development with special emphasis on a holistic approach to teaching and learning. According to the authors, the success of the implementation of the intervention is highly depended on the work and attitudes of teachers. The positive attitudes of teachers towards the use of technology, the frequency of its application and the willingness to learn about the advantages offered by technology, the possibility of participation in the process and ascertaining the effects of it, always leads to its massive and effective implementation.

Considering the importance of teachers' work for effectiveness of applied intervention, we designed this study to give more attention to teacher's role in the implementation of this intervention program as well as their feedback as extremely valuable for future actions. It is designed as a qualitative study aimed to identify teacher's opinion about the BB interactive platform and their personal opinions about effects on students learning and their level of physical activity.

## METHODS

Opinions of teachers regarded the effects of the application of the interactive platform HOPSports Brain Breaks®, in primary schools in Macedonia were defined as the subject of this study.

The purpose of the study was to gain qualitative insights into the application of video exercises from the HOPSports Brain Breaks® platform, implemented with pupils in the classroom. They should be used as a starting point for the identification of positive and negative aspects of the application of selected intervention.

The main task that we have set in this research was to investigate the opinions of the teachers from experimental and control groups about the effects of the application of interactive platform HOPSports Brain Breaks® with pupils in their classroom.

The study was designed as a qualitative study that is a continuum of the qualitative research. It aims to support and explain the results from quantitative study but also to help to define future actions and steps.

Although it is not always possible and often unnecessary to define hypothesis in qualitative research, due to established communication and cooperation with the schools during the numerous preparatory activities and obtaining knowledge and assumptions about the possible results of the research, however, we set up the hypothesis that teachers have (involved and not directly involves in Brain Break implementation), positive attitudes about the effects of the application of the interactive platform HOPSports Brain Breaks® with pupils in the primary schools in Macedonia.

The sample was intentional and consisted of 12 persons, teachers of primary schools in Macedonia (6 teachers, departmental heads of the experimental units and 6 teachers departmental heads from control groups, not directly, but occasionally watched what happens in classes which involve video exercises).

The interviewing technique was applied. An interview protocol was used as an instrument containing several sets of questions discussed. An audio recorder was used to record the conversations

that the subjects in the interview were informed about. An individual approach to the subjects in the interview was applied. Interviewing with teachers was conducted through general questions related to their work experience as a teacher, the application of different teaching models, implementation of different project activities, new teaching approaches, and their knowledge about the interactive platform HOPSports Brain Breaks®. The conversation took place in schools. Indirect interview was used, based on a previously agreed upon discussion with the subjects about its purpose and the topics about which we discussed.

The obtained result is presented in a way characteristic of qualitative data processing, ie we applied narrative style and verbal descriptiveness to the studied phenomenon.

## RESULTS AND DISCUSSION

Before the implementation of Brain Break intervention, teachers involved in the intervention were familiarized with the protocol of implementation, manner of application and expectations. This process was realized by educated university teachers, researchers in the project. After a defined number of hours of training after which followed an independent decision on inclusion, exclusion in its implementation in the teaching process.

The first set of questions was related to teachers' attitudes and opinions about the effects of the interactive platform HOPSports Brain Breaks® focused on their views on the importance of physical activities for overall, holistic development of young people.

All teachers fully agree about the need and importance of physical activities for strengthening child health and their holistic development. The differences in their answers were perceived as given an advantage in different aspects, i.e. motor health and development, cognitive, socio-emotional development. Yet, in most of the obtained responses, the emphasis was given on cognitive development. We highlight some of the most characteristic responses.

Z.N. Physical activity has a great importance for the development of the young person. It gives a beautiful, fit look, maintaining good health, improving sleep.

J.M. Physical activity has positive effects on socio-emotional child development. It strengthens their self-esteem, increases their willingness to work, and leads to improved classroom performance.

K.B. Critical, convergent, divergent thinking, the development of numeral logical thinking operations is at a higher level after implementation of the activities in which we use video exercises. Through various video presentations, children gain new insights into different countries, cultures, peoples and their worldwide expands.

The second set of questions referred to teacher's attitudes towards the need and opportunities for children's physical activity.

Almost all of the teachers agreed with the fact that each of us, more specifically the pupils, also have time for physical activity. They emphasized that the most important thing they must to do is to develop the child's habits for physical activity. The importance of physical activity was highlighted as most important for good health among young people.

A.K. Our pupils have enough free time, even we often hear "I didn't have time to write home, I didn't have time to go to football". If we analyze the day, we can observe that at the schools, pupils spend at school up 6-7 hours during the day. After returning to their home, pupils realized the commitments which they have for the next school day, we supposed 2-3 hours, so they have enough free time in which they can perform a range of leisure activities. It is necessary for each of us, especially the pupils, to form a habit of physical activity-walking, running. The forming of habits for physical activity

is also important for the younger generation. Such habits should be things that we will strive to achieve throughout our lives. Having responsibilities-work, home, school, should not be an obstacle for the realization of physical activity. Rather, the realization of the same will allow us not only physical but also psychological relief will help us to be free from negative energy, and lead us to better performance.

In the next set of questions are identified attitudes of teachers related to the benefits from the implementation of the interactive platform HOPSports Brain Breaks®. The following was noted:

A.Z. Implemented video exercise enabled my pupils to learn about the culture of other nations. They met with some for them unknown countries and even got the idea to independently investigate the internet characteristic of those countries, they also made a poster presentation. At the same time, I noticed that they also learned language, especially the English language.

S.A. Although I was not involved in the direct implementation of the activities, my several visits to the classrooms of the colleagues involved in the project activities, allowed me to see what the children were prepared to do after the active break.

A.K. They see costumes in different dances, flags of the countries and listen to their traditional music. It was especially interesting and we used it at the moment when we learned about different countries, cultures, continents.

K.B. In many videos in which were movements from different sports, it was interesting to see which equipment is used for a particular sport (eg. Ice hockey, skiing) where they are realized. Such videos initiate children's interest in sports that are very popular in our country.

Z.D. The video exercises which we watch and the movements which we perform while watching them are necessarily accompanied by music. The music relaxes us, does not carry, we accept musical rhythm. It also raises our brain activity, affects the creation of positive feelings, emotional experience. It sometimes takes us into a new, for us until today's unknown world.

L. J. Some of this video exercises guide pupils to specific mathematical concepts, provide insights into the need to preserve the environment. Most of these video exercises, inserts of them, we can use for the realization of different teaching content from different teaching subjects to initiate intrinsic motivation, and we can apply them at different stages of the teaching hour.

The fourth set of questions identified teacher's attitudes about pupils' abilities for selection, monitoring and realization of different physical activities contained in the video exercises.

Most teachers emphasized that the teacher usually chooses video exercises. Pupils are curious, they want to try all of the exercises, and they find all of them interesting. They also have their favorite video that want to try it over and over again. They can successfully follow all the movements, however, they are more motivated when the teacher is involved with them in the activities. When there is a video monitor, the implementation is easy.

I.K. I am working with pupils in third grade. Starting from the first day until today, they insist to introduce new video, new exercise. The day begins with the question: Are we going to practice today? Can we practice more today? They are always ready to try, to follow, and imitate different movements. They are better and better in imitations. I hope that not only in our schools but also in other primary or secondary schools, this program will be accepting.

The fifth set of questions referred to teacher's attitudes about pupil's emotional charge, their dexterity to achieve goals and the effect on the pupils after the realization of physical activity.

I.K. The introduction of Brain Break activities made the lessons

interesting, we forgot the monotony, and pupils fill more happiness, satisfaction and full of energy. After activity realization, pupils with more enthusiasm approach the assigned tasks. It does not require from us much preparation. They were easily and gladly accepted by us.

K.B. After every our that includes Brain Break activity, I notice a different expression of the children's faces-cheerful, smiling, faces from which radiate positive energy, self-esteem. They don't even pay attention to the school bell. They continue with their activities with greater interest and attention. They are stronger, more powerful on the road to achievement of the educational goals.

S.A. Children were happy and smiled while practicing different movements, especially when dance was included. They also become emphatic to other children. There was an interesting example while practicing video where children in wheelchair participated. Children were positive about how all children regardless of their abilities or disabilities could participate and all can be equal.

The sixth and final set of questions referred to teacher's attitudes and opinions about the abilities, skills that pupils develop during the Brain Break activities.

All teachers unanimously stated that there are no "lazy" pupils for activities realization. Although at the start we saw differences, each pupil, following his or her individual development phase, strives to achieve the best they can, perfume personal best and every one of them want to be the best.

S.A. Participating in the video exercises developed the collective spirit in children. They wanted all of them to succeed, to perform together if needed to help a friend.

Few of the teacher also stated that children also show a will and intention to create videos by themselves. On their initiative, they created their choreographies and practiced by themselves during recesses. These were especially notable for females. Many teachers from the experimental group received feedback from parents that children wanted to do Brain Break videos at home, involving all family members. This was also empirically confirmed in results from experimental study conducted with children using pre and posttest questioner Based on the results, children self – awareness for individual participation and self – confidence while performing the videos was significantly increased in the experimental group at the end of the experimental period (Popeska et al, 2018).

## CONCLUSIONS

The expressed opinions of the teachers clearly emphasis their developed sense for the positive benefits of this interactive platform. The results of the conducted qualitative research allowed us to get a fuller insight into the essence- pupil's physical activity. The same should influence to pupils to increase the level of their physical activity on a daily level, through the use of technology that increases their motivation for movement, but also to change their attitudes about physical activity, technology as an instrument for motivation for physical activity and the values and effects of applying of active break in the educational work.

The information presented in this paper are important for promoting better exercise habits and a holistic approach to better health, using the personal motivation and motivation given by others. The study confirms the effect of applying Brain Break video exercises on children's attitudes for physical activity, motivation for physical activity, internalizing movement habits as a personal good. They are also very important from the aspect of involvement of the teachers. According to teachers' opinions, these videos are effective not just in promoting physical activity on a daily level but they also help in

maintaining positive classroom behavior, better concentration and attention in children. Teachers also emphasized the benefits of applied video in holistic learning, especially the international character of the videos established by representatives of many countries worldwide, apply of music, traditional costumes and traditional dances. This element, many teachers in the experimental group used as a positive in establishing correlational relations between different educational contents. According to teachers, different types of movements included in the video exercises available on the platform can also be used to support the process of learning at the physical education classes. Used in this way, Brain break video exercises can also be used as a learning method and a learning strategy. This supports the idea of classroom teaching and non-teacher learning during short breaks as components of the school education process.

In this process, an important factor that determines the involvement of the teachers and also their motivation to work and apply the intervention was their interest in technology, preparedness and flexibility to use it as well as personal convince of its benefit regarded motivation for physical activity. As confirmed in other studies for use of technology in PE teaching process, classroom teachers are more open and flexible when speaking about using technology for promotion of physical activities and participation in projects regarded such use (Popeska, Jovanova Mitkovska & Sivevska, 2017). Upon this, technology is mainly used for preparation for class and frequently used as a method of demonstration when learning new movements as well as following the progress.

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