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5 METHOD GUIDE FOR THE INCLUSION OF MOVEMENT INTO COMMUNICATION SKILLS CURRICULA

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Movement, understood as any form of physical activity, is indivisible from health. There are numerous ways of how to introduce movement into the teaching of other subjects since PE classes alone are insufficent to maintain health. Moreover, movement enhances knowledge acquisition and communication which leads to better academic results. Subject teachers other than PE teachers find it difficult to introduce movement into their teaching, so it is very important to provide teaching resources and training on the inclusion of movement into lessons. The following guide offers five shorter tasks which can be used at any point of the lesson in order to engage students, make them move and reinforce the knowledge of the topic being learned. The tasks are adequate for any type of learner, from complete beginners to those highly proficient in a certain area.

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5.1 Introduction

In the Oxford Learners' Dictionary movement has three definitions:

1. an act of moving the body or part of the body
2. an act of moving from one place to another or of moving something from one place to another
3. a group of people who share the same ideas or aims

For the purpose of this chapter the first two definitions will be applied.

As widely known, movement is an inseparable part of health. Professionals in the field put strong efforts in making people aware of the fact that in order to improve the quality of life and health, it is important to develop the habit of moving. The World Health Organisation has launched recommendations about physical activity for children of different ages. The WHO advises that one- to two-year-olds should spend at least 180 minutes doing various physical activities of any intensity (from moderate to highly vigorous) during the day. Children aged 3 to 4 should spend at least 180 minutes of different physical activities of any intensity, but during the day 60 minutes should be spent doing moderate to high-intensity exercises (WHO, 2019). Children and young people aged 5 to 17 should accumulate at least 60 minutes of moderate to vigorous physical activity during the day, mostly aerobic, while at least three times a week the activities should be of high intensity (WHO, 2010). It comes as no surprise that the "movement" for the introduction of movement into everyday life has reached such wide frontiers. As a compulsory part in a child's life, school at all levels of education has become the optimal place for acquainting students with the importance of movement and for teaching them how to engage in physical activities to promote their health and well-being.

Since the subject of Physical Education is not sufficient to follow the WHO guidelines mentioned above, it has become very popular to introduce movement into other subjects' teaching as a way of enhancing achievement and exploring distance from traditional teaching methods. The introduction of movement into other subjects' teaching is not a complicated process. Given the fact that subject teachers are not PE teachers, the notion of movement is simplified to the level that any form of movement in a usually sedentary class is considered physical activity.

5.2 About the correlation between communication skills and movement

Dittman (2009) defines body language and provides insight into the extent to which we use body movement to communicate, and to what extent non-verbal communication can be a source of information about people. He explains that with verbal communication things tend to be easy since there is a general, common agreement about what words mean (i.e. language is codified), whereas non-verbal communication can be problematic in the sense that not everyone is able to interpret body movements in the same way. If movement is taken as a form of communication (non-verbal communication), effective forms of movement, i.e. non-verbal communication, lead to better confidence in all subject areas, and conversely, poor non-verbal communication leads to weaker academic results (Houser & Frymier, 2009, according to Dobrescu & Stănică Lupu, 2015). Numerous studies have been written about this topic. In their attempt to summarize what had been done in this area Howie and Pate (2012) conducted a review of the available literature and found out that the majority of scientific studies showed positive effects on physical activity constructs related to academic achievement. Moreover, with the increasing focus on academic achievement, physical activity significantly decreased in the US. The higher the orientation toward academic achievement, the lower the physical activity level. The same method was applied by Castelli et al. (2014), but their work was primarily oriented toward local policies in a school environment, culture and climate and their effect on learning. The evidence they collected suggests that healthy children learn better. Another article which tried to review the existing research studies about the influence of physical activity on academic behaviour (paying attention, concentrating and performing on-task behaviours) was written by Sullivan et al. (2017). After reviewing 218 articles and narrowing the number down to nine of them about physical activity and academic behaviour, the authors found out that most of the physical activities' interventions had positive effects on academic behaviour. It was surprising that even 5-minute physical activity enhances academic performance, but it was suggested that at least 10 to 30 minutes of regular physical activity would be needed to achieve good results. Moreover, the research points to the importance of school staff awareness of the importance of physical activity and the benefits that it can bring. Another area extremely interesting to scientists and educators is the effect of physical activity on cognitive and brain functions, regardless of the insecure findings about the consistency and scale of its effect. Erickson et al. (2019) conducted an umbrella study in which they researched

whether physical activity interventions improved cognitive and brain outcomes in a person's life, but also among persons who experienced some kind of cognitive disfunction. Another aim was to understand if greater amounts of physical activity could reduce the risk of developing cognitive impairment and dementia later in life. Their research resulted in evidence that moderate to vigorous physical activity improved cognition and reduced the risk of developing cognitive impairment (e.g. Alzheimer's disease), as well as that these improvements can be obtained during one's whole life.

The topic of physical activity integration into cognitive tasks has been analysed taking into consideration all age groups. Mavilidi et al. (2015) studied the learning effects of enacting vocabulary and thus learning it physically compared to learning vocabulary in a traditional manner; as anticipated "children in the integrated physical exercise condition achieved the highest learning outcomes." (ibid., 413). A similar study was conducted by Toumpaniari et al. (2015). These authors wanted to prove that physical activities and gestures could improve preschool children's language learning. The study is focused on the combination of classroom-based enactment gestures and physical activities used to make learning easier. Authors wanted to examine whether preschool children learning a foreign language vocabulary by embodying words through task-relevant enactment gestures and physical activities would be seen as being instructed in the preferred teaching method and reach higher learning outcomes than students learning in a traditional way without gestures and physical activities. The sample of participants consisted of 67 kindergarten 4-year-old students (30 boys and 37 girls) and the total duration of the experiment was four weeks. After conducting their experiment with three groups of children (namely, those who learned words through physical activity and gesturing, those who learned only through gesturing, and those who learned in a traditional way not involving movement), they concluded that the group who studied employing both gestures and physical activity achieved better results than the other two groups. By combining physical activity with task-relevant gestures, learners can benefit from both the cognitive and the physiological gains. Children prefer being active and making gestures in the classroom, and there is a possibility of them being more enthusiastic about the new active teaching methods. The authors concluded that physical activity can lead to better learning results and the positive effects of physical activity can become more pronounced when physical activities are embodied.

Most research on the topic of physical activity and movement and their correlation to academic success and communication was conducted among school children. Kwak et al. (2014) investigated the relationship between light-, moderate- and vigorous-intensity levels of physical activity and academic success with primary (9 to 10-year-olds) and secondary school (15 to 16-year-olds) children. This study was designed to examine personal, environmental and lifestyle influences on the risk for future cardiovascular diseases. A total of 1,137 pupils were randomly selected proportional to the sizes of the respective schools. Complete data on physical activity do not differ with regard to sex, sum of skinfolds, or mother's education from the sample from which they originate. Academic achievement was assessed through the schools and individual written marks were reported for 17 school subjects. Physical activity was measured by an accelerometer which participants wore 4 days in a row (excluding periods of bathing or other water activities). Cardiovascular fitness was measured with a bicycle ergometer and heart rate was measured with a Polar heart rate monitor. Differences between boys and girls were analysed using Student t tests or Chi-squared tests. The relations between the intensity levels of physical activity and academic achievement was analysed using linear regression analyses. The results of this research suggest that only vigorous physical activity has a significant correlation with academic achievement, and only among girls. Authors suggests that in girls, there is an association between more time spent in vigorous physical activity and higher grades.

This was confirmed by Coe et al. (2006) who concluded that there needs to be a level of physical activity intensity which would produce beneficial effects, and that this level is reached only by vigorous physical activity. This study was conducted to determine the effect of physical education class enrolment and total physical activity on academic achievement in middle school children in one academic year. Participants were 214 sixth-grade students from a single public school in western Michigan (USA) and all participants were randomly assigned to one of four teams by administrators. Each team consisted of one teacher from each of the core classes (mathematics, science, English, and world studies). The ensured anthropometric characteristics were height, weight and BMI (calculated), while habitual physical activity was estimated using the 3-d physical activity recall (3DPAR), a variation of the previous day physical activity recall. Academic achievement was based on individual grades for each student in the core classes (mathematics, science, English and world studies) and a standardized test score. The System for Observing Fitness

Instruction Time (SOFIT) was used to provide descriptive information regarding the quantity of physical activity performed during physical education class, teacher behaviour and also the type of activity generally performed during the class. The obtained results showed that the only significant difference between groups was in their BMI. Following on this, the reason why there were studies which did not find a correlation between physical activity and academic achievement could be in the lack of distinction made between intensity levels. Another important point, reached by Pruitt and Morini (2021), is that language abilities are not equally developed by all types of physical activity. They taught new words to 6 to 12-year-olds. They conducted activities accompanied by aerobic and anaerobic exercises and compared it to traditional vocabulary learning. The results of their study confirmed that only aerobic exercises improved the ability of word acquisition, whereas anaerobic exercises did not prove to be more efficient than traditional vocabulary acquisition methods. De Greeff et al. (2018) came to a similar conclusion when they studied the effect physical activity had on executive functions, attention and academic performance in preadolescent children. They examined four executive functions (inhibition, working memory, cognitive flexibility and planning), three subdomains of attention (selective, divided and sustained), and three academic areas (mathematics, spelling and reading). They tested these domains with regard to study designs (acute or longitudinal physical activity programmes), type of physical activity (aerobic or cognitively engaging) and duration of intervention. All these were tested separately and the results confirmed that acute physical activity has a positive impact on attention, whereas longitudinal physical activity programmes have a positive impact on executive functions, attention and academic performance. Certain authors also discuss the influence of physiological factors (brain-derived neurotrophic factor and blood flow to the cortex) and psychological factors (self-esteem) and their positive association with physical activity. On the other hand, the research conducted by Shoval (2010) proved that any type of bodily movement can support academic achievement. She studied cooperative learning in geometry classes among second- and third-grade pupils, but focused on its non-verbal aspect. In learning about angles, children had to employ mindful movement, i.e. use their body in order to learn. She also concluded that "the more the learners used learning activities with movement, the higher their academic achievements "(ibid., 462). Following on this study, Shoval and Shurluf (2011) continued analysing tasks which involved movement activities during cooperative learning and wanted to find out what type of students would benefit more from such activities. They divided students into

three groups – active, social and passive – and concluded that students who were physically active during learning, even if considered lower achievers, obtained better results than the socially active ones. As expected, passive students achieved the lowest results. The authors concluded that cooperative learning based only on verbal activity can be problematic, especially with primary students.

Another study was conducted among 10 to 12-year-olds by Sari and Karagün (2020). They examined the effect leisure time sports activities organised by the municipalities on internet addiction, optimism and communication skills. The three variables were measured before 12-week exercising was organised. After this period, the results proved that the symptoms of internet addiction decreased and optimism and communication skills improved so the authors advocated the introduction of leisure time sports activities into schools and the promotion of exercising and doing sports among children. Troudeau and Shephard (2008) reviewed the relationship between academic performance and concentration, memory and classroom behaviour, and participation in school-based physical activities, including physical education (PE), free school physical activity (PA) and school sports. By conducting cross-sectional observations, they found out that there was a positive association between academic performance and PA, but PE does not seem to show such an association. Data from quasi-experimental point to a positive relationship between PA and intellectual performance. Although the benefits brought by physical activity are numerous, there has always been the concern that to give more time to physical activity at the expense of cognitive academic activities hinders academic achievement and therefore, the time given to physical education in schools is, in fact, reduced (UNESCO, 2015). However, as advocated by Trudeau and Shepherd (2008), with competent providers, PA can be added to the school curriculum in any subject with no risk of hindering student academic achievement. On the other hand, forcing "academic" or "curricular" subjects at the expense of physical education programmes does not improve grades in these subjects and may jeopardize health. Álvarez-Bueno et al. (2017) concluded that physical education improves classroom behaviours and benefits several aspects of academic achievement, especially mathematics-related skills, reading, and composite scores in youth. Their meta-analysis included healthy children and adolescents in their developmental age. The interventions made aimed at making physical activity stronger. Types of movement they wanted to check were regular physical education taught in schools, physical activity included in teaching other subjects (e.g., active breaks or teaching subjects

with physically active tasks), extracurricular physical activities. Their meta-analysis shows that physical activity programmes bring benefits for mathematics-related skills, reading and composite scores, as well as for classroom behaviour, both in the form of regular, curricular physical education and physical activities introduced in one part of other subject teaching. Finally, the authors state that curricular exercise in the form of physical education is the most effective intervention for the improvement of academic performance and classroom behaviour. Children's and adolescents' healthy habits tend to persist through life. The schools are an ideal setting for promoting healthy behaviours and the promotion of PA is an effective tool for improving children's physical and mental health and also enhancing academic achievement. Another article dealing with the topic of physical education and children's academic achievement was written by Nur (2015). He discussed the disregard physical education encountered in Muslim schools and advocated holistic education where Physical Education should serve as a medium in which social and emotional behaviours leading to better communication within a society would be developed. It is a learning environment in which children interact with others, not only peers, but teachers as well. His study also supports other research findings stating that physical activity enhances academic achievement. Similar findings were reached by Dobrescu and Stănică Lupu (2015). They conducted an observational study in which one of the main conclusions was that "the identification of the subjects' perception regarding the importance of non-verbal communication can influence the result of the pre-university educational process and, implicitly, can lead to better performance in physical education activity." (ibid., 548). Authors analysed nonverbal communication in the physical education lesson instructional process. The study consisted in a sociological approach through an inquiry conducted on a middle school group of 150 pupils. The questionnaire comprised 13 items with prefigured and open answers to facilitate the research in pre-university education. The authors concluded that the identification of nonverbal communication structure imposes codes, models and aims. Most respondents perceived body language and the messages transmitted this way as facilitating the dialogue between the teacher and the pupil. The teachers and the pupils must know and use the types of non-verbal communication, according to the goals of the lessons. In the physical education lesson, body movement is seen as an expression of energy and information through posture and movement. The identification of the subjects' perception regarding the importance of non-verbal communication can influence

the result of the pre-university educational process and can lead to better performance in physical education activity.

In Australia, Dwyer et al. (2001) conducted research among 10 and 14-year olds to find out about the link between academic performance and physical activity and fitness in children. They picked all schools which had more than 200 enrolled students and from each age group they chose 10 boys and 10 girls. The reference for the academic ability for each subject was given by a representative, usually the headmaster. Indoor measurement included height and body mass, the standing jump for muscular power, sit-ups and push-ups for muscular force and endurance, sit and reach for joint mobility, dynamometry for muscular force and power, skin folds, and lung function. Outdoor tests included the 50-meter sprint for muscular power and 1.6-kilometer run for cardiorespiratory endurance. They used a Monarch cycle ergometer to measure physical work capacity, and in the end, students aged 9 or over had to fill in a questionnaire about their involvement in exercise and sport. After conducting their complex research, the authors concluded that scholastic ability and physical activity had a low correlation implying that physical activity and fitness modestly contribute to academic performance. The correlations were similar for male and female students.

An interesting study was conducted by Nopembri et al. (2017). They investigated how children's communication and social awareness skills could be developed through physical education and sports programmes, but the target group they conducted their study on were children from volcano disaster areas. The authors developed a psychosocial-based P.E. and sports programme which led to an increase in communication and social awareness skills among those children. A research conducted by Trost in 2007 in the USA as part of the Active Living Research (a national programme of the Robert Wood Johanson Foundation) also confirmed the aforementioned findings, namely, that physical activity leads to improved grades, and that physically active children tend to have better academic achievement.

Since concern about children's health due to the sedentary way of life and physical inactivity remains a leading topic among scientists, Ahamed et al. (2007) also conducted research among primary school students (aged 9 to 10). Even if aware of the importance of physical activity for health, school policies are unable to do much to increase the level of physical activity in schools due to the constant pressure posed

on education system participants to achieve better academic results. The authors (ibid.) conducted a randomized control trial in a multi-ethnic group of students in British Columbia using the AS! BC model in experimental (intervention) schools. However, their results showed that although intervention schools dedicated approximately 10 minutes more physical activity on a daily basis, the academic performance between them and students from the control group did not differ significantly. Regarding gender, academic performance results for boys and girls were similar at the beginning and after the intervention period.

Research was also conducted in tertiary education. Tozoğlu and Bayraktar (2014) did research among male and female students – teacher candidates. After gathering their personal data, the authors employed the Communication Skills Inventory developed by Ersan and Balci in 1998. Their results show that there is a significant difference in communication skills when gender, conditions of doing sports and the type of sport they engaged in was analysed. However, no difference was detected regarding age and level of education. They concluded that during their university study students should engage in sports activities as they develop communication skills. Kompara Lukančič and Omrčen (2021) conducted a research on the introduction of movement among university students learning the Italian language and analysed its influence on the language acquisition process. Students were asked to give their opinion about the possible link between movement and language learning through the preparation of on-site video materials. In 2015 Aydin assessed the communication skills of students studying in physical education and sports schools at universities in Turkey. The instrument used to gather information for this study comprised the demographic information of participants and Communication Skills Assessment Scale (CSAS) composed of 25 items. The study results indicate that participants had a high level of communication skills, and that the results were statistically significantly different regarding university department and age. Fitzpatrick and Pope (2005) conducted a research about the New Zealand Health and Physical Education Curriculum investigating how Maori and Pasifika students viewed their physical education experience. The results turned out to be positive – P.E. gave them opportunities to practice care for others, taught them how to employ interpersonal skills and gain self-confidence in out-of-school situations. However, it was difficult for them to integrate the things they had learnt in their homes and wider lives due to the complexity of their lives and the cultural background in which they had to function. Given the importance of physical activity for children, it is expected

that students who intend to pursue a teaching career should develop an understanding of physical activity. Students – prospective teachers are expected to be able to include movement into their teaching, and following this Kalma et al. (2022) conducted a research with the aim to develop a teacher training module for movement integration and to design its implementation into the physical activity programme. This study provides a detailed description of the design and development process of a teacher training model to support teachers' readiness and skills to integrate more MI (movement integration) methods into academic subjects. MI is defined as the inclusion of physical activity of any intensity level into academic lessons. To support the use of MI methods by teachers, such training for qualified teachers should become readily available for continuing professional development. These results can be used to develop targeted interventions aimed at promoting teachers' education of MI and a more physically active school culture.

Since previous studies (e.g. Goh et al., 2017; Bartholomew & Jowers, 2011; McCullen et al., 2016) have proven that teachers dislike this approach and find it difficult to integrate movement into their daily teaching, authors such as Martin and Murtagh (2017) found out that providing teaching resources and offering training on the inclusion of movement into lessons increased the teachers' interest for this teaching approach. Therefore, Kalma et al. (2022) made available online a whole range of resources (examples of methods, teacher toolbox materials, movement integration timetable poster and the "idea board" for individual feedback at the end of the seminars) which could facilitate movement integration in everyday teaching.

Dina and Dina (2014) analysed the direct communication in PE classes. The main research methods included bibliographic study and observation, which formed the basis for the documentation necessary to understand the process of communication in association with the area of PE. The identification of forms of direct communication involved in Physical Education classes has led to the clarification of specific forms that are acquired in each of the parts of a class. Knowledge of specific forms of communication leads to the optimization of the communication process in the lesson and, in this context, to an increase in its quality and effectiveness. A lesson's efficiency is the result of the accurate identification of deficiencies in the communication process, so that factors generating a negative impact that can be remedied in a timely manner.

The results of the study Communication skills of a teacher and its role in the development of the students' academic success written by Khan et al. (2017) indicates that the majority of the students were of the opinion that they could learn well from those teachers who had good communication skills or who adopted good communication skills working both inside and outside the institution. Good communication skills strengthen the relationship among the students and teachers by improving the level of understanding among teacher and students. Effective teaching not only depends upon the knowledge base of the teacher, but it is also related to the method and style of teacher communication skills.

Kurkova and Scheetz (2016) wrote their study with the purpose to determine what communication and instructional techniques including coaching strategies were being implemented by coaches and physical education (PE) teachers working in residential or day schools for the deaf throughout the U. S. The results suggest that targeted and adapted communication strategies in PE and physical activities play an important role for individuals who are D/HH.

Regarding articles where the sample of examinees consisted of persons with disabilities, they mostly studied persons with autism and their communication skills. In an article written by Akamoglu et al. (2019) the authors suggest a few communication teaching strategies and describe the promotion of communication skills among children with disabilities where they can practice them during motor activities. They conclude that having a communication target in physical activities would probably result in new receptive and expressive skills for disabled children. Ostrosky et al. (2018) studied how children's literature could be used to support physical activity and readiness skills in preschool children with autism. Noticing the lack of movement in children's everyday lives, they argue that activities not primarily linked to movement should be used to enhance movement and consequently develop cognitive skills. They advocate the use of books in general, but especially interactive movement books, offer recommendations about the criteria which should be met in choosing them, give suggestions about the titles to choose, and give advice to both educators and parents on how to use them effectively.

Preja (2013) discussed the role of communication among athletes stating that their attitudes can be inferred from their posture and facial expression (which she defined as non-verbal communication). Among her findings, one is important for the

present research, and that is that good communication may lead to better performance of sports persons. She also concluded that communication is not an inborn skill and that it must be learned and practiced in order for a person to become better in it.

This introductory discussion shows that the number of research studies on the influence of movement on academic achievement in all school subjects and areas of study, and for all age groups, is very high. However, it is never enough to emphasize the importance of any form of movement for the physical and mental condition of a person so attention should be paid to promoting regular physical activity.

5.3 Analysis of existing curricula for the inclusion of movement into communication skills

The analysis of the inclusion of movement into communication skills curricula included ten (10) Croatian public and private universities: University of Zagreb, University of Rijeka, University of Split, Josip Juraj Strossmayer University of Osijek, University of Zadar, Juraj Dobrila University of Pula, University of Dubrovnik, University of Slavonski Brod, University North and Vern University. All study programs were analysed considering relevant key words. The subjects which include movement and communication skills in foreign languages are mandatory in almost all study programs in Croatia – all study programs have PE (kinesiological culture) in their first and second year and a mandatory foreign language (any) in their first year. Movement as an additional subject can be found in acting studies. They are not primarily oriented to movement, but use movement as a form of expression and communication.

5.4 Methodology

In the common methodology aiming at the inclusion of travel writing, movement and nonverbal communication into teaching literacy and communication skills, movement is seen as a facilitator to teaching the other activities, namely travel writing and nonverbal communication (sign language). Since movement is not a primarily cognitive activity, but is focused on improving a person's motor skills and overall psycho-physical condition, it is important to emphasize that the activities which will be presented cannot be divided to suit the undergraduate and graduate level of study.

The following activities can be used at any level, but the content taught through them has to be adapted to match the teaching aims for the two levels. These activities are:

ACTIVITY 1 – "BUILD THE WHOLE PICTURE"

1. The teacher takes different pictures (the number of pictures determines the number of student teams).
2. The teacher cuts the pictures into four pieces and mixes all the pieces together.
3. Then he/she puts four random pieces in one envelope so that each student team gets an envelope with four pieces in it.
4. Each team has to put their picture together so they have to walk toward the other teams and ask for the missing piece, but they also have to negotiate by trading the piece they want with a piece the other team needs.
5. If a team wants a piece, but does not have a piece for the team which has the piece they want, they cannot carry on the trade but have to go to another team and see if they can trade a piece there.
6. The winner is the first team to form their whole picture.
7. Follow up: the teacher asks students questions about the strategies they employed to get the piece they needed and which sentences they used.
8. This activity can be used in all subjects which include pictures. For instance, in Science teaching (pictures of animals, plants, or other organisms), Art, languages (to revise vocabulary and negotiation expressions), mother tongue (to revise characters of books students have read, or parts of a story).

ACTIVITY 2 – "LISTEN, RUN AND DRAW"

1. Divide the students in a few groups.
2. Each group chooses a member who will be the "instructor."
3. The instructor gets instructions on a piece of paper describing a picture.
4. The instructor reads the instructions to the other members of his/her group who have to draw according to the instructions.
5. Members of the group take turns to draw (each instruction for one member), but the paper which they have to draw on is a few meters from them, so they have to run to it in turns, draw, and then run back to their group before the next member runs and draws according to the next instruction.

6. This task is assessed in two ways: first, according to the group who finished their picture first, and second, according to the accuracy of the picture (number of correctly drawn instructions).
7. This activity can be used in all subjects which include pictures. For instance, in Science teaching (pictures of animals, plants, or other organisms), Art, languages (to revise vocabulary), Mathematics (to revise 2D geometric shapes).

ACTIVITY 3 – "THE CAPTAINS AND THE MARINES"

This activity can be used in all subjects since it can revolve around any teaching material.

1. Divide students into as many groups as there are tasks – all groups get the same tasks.
2. Groups start to work on their task.
3. The first group to finish the task correctly becomes "the captain" and they have to give a physical activity assignment to the groups who did not finish their task as fast ("the marines"). For instance, the assignment can be to do jumping jacks for one minute, or to run around the classroom for two minutes, or to do 20 squats, etc.

ACTIVITY 4 – "THE WHITEBOARD SPIKE"

This activity is ideal as a true/false or correct/incorrect activity and can be used in all subjects.

1. The teacher writes true/false (correct/incorrect) on the left and right top side of the board.
2. Students are divided into two groups and they form a line.
3. They are instructed to pay attention to the statements the teacher is going to give and to try to remember them because they will need them in the end.
4. When the teacher gives a statement, the first student in the line has to run to the board and jump in order to touch (spike) the right answer – true if they agree with the teacher's statement, false if they do not.
5. This student goes to the back of the line while the following student who is now first in the line has to do the same with the teacher's next statement.

6. The winner is the group who has more correct spikes. (of course, there has to be a person who will write down the score).
7. In the end, to promote communication, the winner group takes a few minutes and tries to remember all the teacher's statement which they then repeat to the group who lost.

ACTIVITY 5 – "BROKEN PIECES"

1. Again, students are divided into groups.
2. Each group gets a text about a paragraph belonging to a topic (for instance Geography – one group gets a paragraph about African countries, one about climate, industry, agriculture, tourism, culture, etc.).
3. The groups have 5 minutes to study and discuss their topics.
4. Then, for instance, the "countries member" moves to the next group and in 5 minutes has to teach the other members everything he/she knows about the topic, then the "climate members" go each to one group and teach them about their topic.
5. This moving goes on until all groups are formed by members who know something about different topics.
6. In the end, each group writes on a piece of paper all they know about the topic (Africa, in this case).
7. The winning group are the ones who included the most details in their text.

Movement can also be used outside the classroom in order to reinforce memory. An example of such an activity can be as follows:

Take a walk along the main street in your town. Pay attention to the buildings you are passing by – are they public/state institutions, private companies, cultural/historical monuments, or religious institutions/monuments. When you find yourself in front of such institutions, do the following movements:

- Public/state institutions – turn around (360°)
- Private companies – do three half-squats
- Cultural/historical monuments – do three Jumping Jacks
- Religious institutions/monuments – do a forward bend

When you get back to the classroom, make a list of the buildings you remember seeing.

After the memorization part is complete, students can proceed with the writing task (travel writing), or with the description of the street they visited but without using words (non-verbal communication).

5.5 Conclusion

Considering the chapter devoted to the theoretical framework, i.e. to the literature dedicated to the research on the correlation between movement and communication skills, but also academic achievement in general, this monograph chapter offers examples of activities which engage students in physical activities. At the same time they do not represent a threatening challenge to teachers, not all of them physical education professionals, who will introduce them in their classes. The huge amount of scientific knowledge gained in this area supports the need of physical activity introduction in teaching other subject areas which will in the end contribute to better health and quality of life. In the frame of this project, the offered activities will lead to better retention of learned materials without the need of rote learning, to better communication skills inside and outside the classroom, and consequently to the improvement of work productivity in the students' present and future businesses.

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