

# MOVED BY ENGLISH:

Incorporating movement into English as foreign language lessons - A material package

Master's Thesis

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Tiivistelmä – Abstract <p>Tutkimus osoittaa fyysisen aktiivisuuden, erityisesti yhdistettynä opetukseen, vaikuttavan oppimiseen positiivisesti. Muokkaamalla aivojen toimintaa ja rakennetta liikunta vaikuttaa positiivisesti moniin tärkeisiin oppimistekijöihin, kuten muistiin, tarkkaavaisuuteen ja toiminnanohjaukseen. Vaikka aiheesta tehty tutkimus on lisääntynyt huomattavasti viimeisen vuosikymmenen aikana, näyttää siltä, ettei tieto liikunnan positiivisista oppimisvaikutuksista ole vielä laajasti saavuttanut opettajia. Vaikuttaakin siltä, että fyysisen aktiivisuuden ja kielenopetuksen yhdistäminen on erittäin vähän hyödynnetty, mutta tehokas keino parantaa oppimistuloksia.</p> <p>Tämä maisterintutkielma käsittelee liikunnan ja englanninopetuksen yhdistämistä ja pyrkii vastaamaan seuraaviin kysymyksiin: Miksi olisi kannattavaa yhdistää liikuntaa kielenopetukseen, kuinka fyysinen aktiivisuus vaikuttaa kielen oppimiseen ja kuinka englanninopettajat voivat tehdä oppitunneistaan liikunnallisempia yhdistämällä liikettä kielisisällön opettamiseen? Työ koostuu kahdesta osasta: aiheen teoreettisen taustan esittelystä ja materiaalipaketista.</p> <p>Liikunnallisten englannintuntien tavoitteina on saada oppilaat liikkumaan mahdollisimman paljon oppitunnin aikana yhdistämällä liikettä kielen oppimiseen ja opettamiseen ja saada näin parempia oppimistuloksia. Materiaalipaketin tavoitteena on inspiroida ja kannustaa useampia opettajia kokeilemaan fyysisesti aktiivisia menetelmiä englannin opetuksessa antamalla esimerkkejä liikkeen ja englanninopetuksen yhdistämisestä. Materiaalipaketti sisältää esipuheen opettajille ja 24 tehtävää. Tehtävät on suunniteltu alakouluun sopiviksi, mutta kaikkia ideoita voi helposti muokata ja hyödyntää englannin opetukseen monella eri tasolla, sillä materiaalipaketti toimii nimenomaan kokoelmana ideoita ja esimerkkejä liikunnallisesta kielenopetuksesta.</p>	
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# 1 INTRODUCTION

This master's thesis explores combining physical movement and teaching English as a foreign language. Research shows that physical activity influences learning positively, especially when combined with learning activities. Utilizing physical exercise in teaching is very topical in Finland, as well as in the USA. Research on the subject has increased significantly in the past decade, and many books have been published on the matter in the past few years. However, the many ways in which learning can benefit from moving are just now starting to arise into public awareness. The latest research affirming the positive effects physical exercise has on learning has not yet widely reached the professionals of the Finnish educational system, and movement is not yet commonly utilized in classrooms across the country.

Luckily, the National Agency for Education in Finland has now seized on the topic and published in January 2018 an overview called "Learning and physical exercise during the school day" (Koulupäivän aikainen liikunta ja oppiminen). The overview is aimed for teachers, faculty and people who make decisions on education. Its purpose is to bring out the many-sided effect physical exercise during the school day has on the learning of academic knowledge and skills and to support taking advantage of movement in learning and teaching. This is a great step forward, as so far the main focus of discussion and various projects concerning physical activity in schools has been on the physical health benefits of movement and on increasing physical exercise during school days – but outside the classrooms. It seems that combining physical activity and language lessons is a very unutilized yet effective way to improve learning outcomes.

The aim of this thesis is to show, based on research, how it would be beneficial to promote physically active English as foreign language (EFL) lessons and why, as well as to give examples on how it can be done, hopefully inspiring more teachers to try physically active methods. The thesis is comprised of two parts. The first part lays the theoretical background for the material and the second part is a material package designed to give teachers inspiration and examples on how one could incorporate movement into English as foreign language teaching.

The paper begins by discussing terminology and definitions used in studies regarding the matter and then exploring how movement during language lessons has been regarded before, how the outlook has changed and how the idea of physically active language lessons has come to be. Next, language teaching and movement in the Finnish National Curriculum is looked at, followed by a short review of projects that have aimed to increase physical activity in schools. In chapter three, the research based reasons to integrate physical activity and language teaching are explored. How physical activity influences learning through the brain, as well as other mediators between physical activity and improved learning outcomes are discussed. Chapter four presents the framework of the material package, which can be found in the appendix.

The material package is designed to give teachers inspiration and examples on how one could incorporate movement into English as foreign language teaching. The package contains a foreword and a collection of 24 exercises, aimed for EFL teaching for ages seven to twelve. However, all the ideas can easily be modified and utilized in language teaching at any level. The material is meant to function specifically as a collection of ideas and examples that can be easily adapted and used in different ways.

## **2 BACKGROUND**

Traditionally there has been very little movement in schools apart from physical education lessons and possibly recesses. Sometime it was even feared that if the children were too physically active during recess, it would hinder learning during lessons, due to over excitement. There are many factors behind the development of the idea of physically active language lessons. The idea itself is still relatively new, and views on it are not fully uniform. For this reason, the terminology used varies, and should be paid some attention to. The terminology is discussed in chapter 2.2. The idea of physically active language lessons has been influenced by pedagogical trends, growing concern over the immobility of children and its negative effects on their physical health, as well as a better understanding of the risks of a sedentary lifestyle. However, possibly the biggest influence has come from the development of new brain research methods. They have given us a lot of new information on how physical activity affects our brain and through it, learning a language. The significance of these new brain research methods is examined in chapter 2.4. In Finland, school practices and teaching are also affected by the National Core Curriculum for basic education. Also various projects that aim to introduce more physical activity into school days have had a role in creating a base for the development of physically active language lessons.

### **2.1 Movement in the classrooms**

As a theoretical subject, English as a foreign language has for long been taught and learnt "the traditional way": in a classroom, sitting by a desk, working with a book and a notebook, with the teacher in the front of the room using the blackboard and a stereo. Even though the equipment and methods have developed over the years – there are iPads, Smart boards, electronic materials, computer programs etc. – one thing has mainly stayed the same: often the students sit behind their desks even for the entire duration of the lesson. Traditionally all moving and movement in the classroom has been seen as a disruption, and sitting still behind the desk as something every child must learn right in the beginning of their school career. Any jiggling or swaying in your seat, getting up or moving around in the classroom has been seen as disturbing the lesson. In my school days, ten to twenty years ago, you were not

allowed to get up from your seat without the teacher's approval – even for going to the trash can to sharpen your pen you had to first raise your hand and ask for the teacher's permission.

As noted by Kibbe et al. (2011), already around 450 BC, the effectiveness of experiential learning had been observed by Confucius: "Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand". From 1980's on, Kolb's (1984) work on different learning styles presented the idea that certain learners are "kinesthetic" and that they therefore benefit from the opportunity to move and to actively participate in learning. At that time, learning via movement was seen as a learning style favored by just a specific group of students, and it was not understood how it could benefit all students regardless their labeled learning style in so many ways. The arrival of the functional movement had some teachers conducting lessons in which students moved more than during a traditional language lesson. However, in the functional movement physical activity is still not seen as a value in itself, but it is more like a side effect of the functional exercises.

Despite these considerations towards activity and movement as part of the learning process, as Donnelly and Lambourne (2011) point out, schools still support a sedentary lifestyle, especially in the lessons of theoretical subjects. According to Anttila (2006), in our school system the outdated view of body and mind being separate still dominates, and therefore the connection between mental and physical functions is not being utilized in teaching even though there is plenty of research to support the connection between the use of the body and cognitive functions of the brain.

The societal discussion on the importance of physical activity has been noticed also in schools. The Liikkuva koulu project (Finnish Schools on the Move) has aimed to increase the amount of physical activity in schools. In the participating schools, the increase has mostly been in the form of different break gymnastics and recess activities (Aira et al. 2015, Tammelin et al. 2013a). In the new Finnish National Core Curriculum, the number of physical education lessons was increased by two weekly lessons per year. However, the positive effects of physical activity on learning have not yet reached the wide awareness of the education professionals, or at least this new knowledge has not yet widely affected the

teaching practices. Integrating physical activity with the lessons of theoretical subjects still seems to be quite rare and is usually the result of the personal views and efforts of individual teachers. In fact, Kantomaa et al. (2013) state that physical activity, in all its various forms, seems to be an important, yet mostly untapped, resource in the learning and teaching of Finnish children. It is not enough for the schools, teachers and policy-makers to be aware of the health benefits of physical activity, they need to wake up to the scientifically proved positive effect physical activity has on learning and to all the vast benefits of increasing physical activity during the school day, especially as an integrated part of theoretical lessons. Moilanen and Salakka (2016) state that as the link between physical activity and improved learning results has been clearly proved, increasing the amount of physical activity during school days is justifiable. However, it is not enough to increase the amount of physical activity during school days in the form of recesses, physical education lessons and break gymnastics, but the next step needs to be integrating physical activity with the teaching of theoretical subjects. Tammelin et al. (2013a) found that in the schools participating in the Liikkuva koulu project, the increases of physical activity during schooldays – mostly outside the academic classroom – were not enough to reach the official goals for physical activity. To reach the guidelines for physical activity, measures during a school day, such as reducing sedentary and immobile time, are needed (Tammelin et al. 2013b). According to Kantomaa et al. (2018), research shows that physical activity is connected to good learning results especially when done during lessons and integrated into teaching. Physically active language lessons enable teachers to effectively reduce sitting and increase movement in their classrooms, while they also improve learning outcomes. However, in their study Tammelin et al. (2013b) found that the time period when the students were clearly most physically passive was when they had English and math lessons.

## **2.2 Physically active language lessons – terminology**

Physically active language lessons have only relatively recently become the focus of wider interest. Earlier theories involving concepts such as kinesthetic language learning, functionality or embodiment can be seen to have built a base for physically active language lessons. After the substantial increase of interest towards the link between movement and learning, which was spurred on by the development of new technological research tools and



the rising awareness of the sociological importance of physical activity, the idea of physically active lessons has been approached from many different perspectives. The idea that is in this paper called physically active lessons of EFL or other theoretical subjects is yet to have a widely accepted and coherent terminology and definitions, which means that almost every single research and project has created and used their own slightly individual perspective and terminology on the subject.

The word kinaesthetic, as for example in “kinaesthetic exercises”, indisputably refers to bodily movement. However, when talking about physically active lessons I find it a problematic term to use, as it carries strong connotations to the theories of Kolb, which, as mentioned above, do not include the idea of physical activity improving the learning of all students. When reading literature and studies on this subject, it is also useful to pay attention to the use of terms such as physical, activity, fitness and exercise. In some studies pertaining the effects of physical activity, the measured fitness levels of the subjects are seen as synonymous to their level of physical activity, which may be problematic, as one’s success in a fitness test does not necessarily give accurate information on how physically active he or she has been during the past year, for example. The terms physical activity and exercise are often used as synonyms, but exercise carries the connotation of doing physical exercises for the specific goal of improving one’s physical health. In this paper I use the terms physical activity, exercise and movement, meaning simply the state in which a person uses his muscles to move. Physically active EFL lessons aim to have the student move as much as possible during the lesson, integrating the movement to the teaching and learning of the language, for the specific goal of improving learning outcomes. This is not to negate the obvious benefits of this method to the students’ physical health, but the main focus is on learning. Simple movement breaks can and should also be utilized, as long as the focus is on integrating physical activity into learning activities. Many useful studies that provide us with proof on the positive effects of physical activity on learning have different takes on the matter. Hence one should pay attention to whether physical activity is being done outside the school day, during the school day, or during lessons, and whether it is used only for the sake of physical health, or for the positive learning effects. If done during a lesson, are physical activities used separate from learning, only as small breaks? Some studies also differentiate the different levels of physical activity: moderate or straining, aerobic or anaerobic. In this paper, any form and level of movement is accepted.

Whatever the details, the effects physical activity has on humans and especially on our learning, can be seen as the baseline of the matter. For this thesis, I have gone through research that looked at the wide effects of physical activity on humans, but especially research on the effects on language learning and how introducing movement into the lessons of academic subjects affects learning outcomes.

### **2.3 Why physically active language lessons?**

The idea of incorporating movement or physical activity with language teaching is relatively new. It has really started to raise interest and develop only in the past few years. The most significant factors for this progress have been the development of new technological research methods in the field of neurology, and the increasing concern over the effects of students' immobility to their physical health. Unexpected indicators that physical activity might have positive effects on learning have, however, been seen in some studies already in the 1970s.

The first studies to indicate such positive effects of movement on learning were by no means conducted with such a hypothesis. According to Tomporowski et al. (2011), the primary idea was that too much physical activity during a break will over-stimulate the children and will therefore have a destructive effect on the children's classroom behavior and academic achievements. One such study was conducted by Gabbard and Barton (1979). Contrary to the general belief of the time, the results showed that the computational performance of the children improved significantly after 50 minutes of physical activity (Gabbard and Barton, 1979). According to Hansen (2017), in the mid-1990s a group of scientists set out to find out which part of the brain is most affected by physical activity. Their theory was that the biggest effects should show in the motoric cerebral cortex and the cerebellum, as they are the parts of the brain to coordinate bodily movements. However, the most neurotrophic growth factor BDNF was not found in the parts of the brain controlling motoric functions, but in the hippocampus, which is the memory center of the brain (Hansen, 2017). Hansen sees this finding as one of the most important clues on the path to finding out just how big an influence physical activity has on our memory and in that way, learning.

As mentioned above, some pedagogical directions such as the ideas of kinesthetic or functional learning and teaching can be seen as stepping stones on the path towards physically active language lessons. More effectively than any of the pedagogical ideas, the idea of movement as a teaching method has been advanced by the concern over the negative effects immobility and too much sitting has on the young. As concern over this negative trend arose into societal discussions all over the world, people started to look for different ways to get children and youngsters to move more. A variety of projects aimed for example to increase after-school sport clubs, to make school breaks more active and to encourage children to make use of functional exercise on their way to school. Some such projects will be presented later in chapter 2.6. In Finland, the number of physical education lessons was also increased.

As in so many sociological questions, the restricting factors in these endeavors were time and money. In some other countries, such as the USA, the pressure to achieve well academically is so great that it is hard to increase the amount of physical activity as the time spent on it is easily seen to be directly away from studying and therefore to have a negative effect on academic achievement. The idea thus arose that adding movement in the classrooms during lessons would be a time and cost efficient way of increasing the students' physical activity. This strategy was also a way to go around the objection based on the decrease of study time. Many projects and a lot of research was conducted based on this idea, and even though the reason to include physical activity in academic lessons was only to improve the physical health of the students, a lot of new information was gained on the effects of physical activity on learning, academic achievement and on the cognitive functions of children and youngsters. Over time, the focus of many of these projects has, in fact, started to shift towards the idea that physical activity should be brought into classrooms not only for the health benefits, but specifically because research has shown it affects learning positively in many ways. Regardless of the starting points of these projects and studies, they have been in a major role in providing evidence and raising awareness of the positive effects physical activity has on learning and academic achievements.

However, perhaps the most important factor in the development of the idea of physically active language lessons has been the newly developed equipment for brain research. Next I

will discuss these developments, the various brain research methods and their significance to exploring the connection between physical activity and language learning.

## **2.4 The significance of brain research methods**

Technological advancements in the field of brain research have greatly influenced the development of the idea of physically active language lessons by revealing how physical activity influences the brain positively, including changes that have positive results in brain functions that are important basic aspects of learning a language, such as information processing, holding memories and attention. Some findings relative to the connection between physical activity and language learning, which have been made with the developed brain research methods, will be presented later in this chapter. How physical activity influences language learning through changes in the brain will be more thoroughly explored in chapter 3.1.

Thanks to the newly developed equipment for brain research, the amount of information has increased immensely in the last few decades (Hansen, 2017). Also Moilanen and Salakka (2016) note that the present-day brain-research methods have also given us evidence of the positive effects physical activity has on the brain and of the connection to learning. According to Hillman et al. (2008), the effects of exercise on cognitive processes have been the main focus of the research with humans. They also state that with these recent technical advancements, researchers have “sought to understand the mechanisms that underlie the influence of exercise participation on cognition” (Hillman et al. 2008:58). For example functional imaging techniques have also provided new possibilities for resolving neurolinguistic questions. Ingram (2007) calls these developments in brain imaging “little short of spectacular” and notes how these new techniques have “provided a new window on ‘on-line’ language processing and how language is represented in the brain” (Ingram 2007:42). Nyyssölä (2012) states that all this cognition- and neuroscientific research creates new opportunities and perspectives for developing education/schooling. One such perspective definitely is the use of movement in teaching languages. Brain research techniques have represented us with yet stronger evidence on the connection between physical activity and cognitive functions.

The various neural imaging techniques that allow us to study the human brain can be classified as structural or functional (Ingram, 2007). Structural imaging techniques, such as x-rays, computerized axial tomography (CAT scan) and magnetic resonance imaging (MRI), create anatomical pictures of the brain (Longstaff, 2011). Functional imaging techniques, such as positron emission tomography (PET scan), functional magnetic resonance imaging (fMRI) and magnetoencephalography (MEG), make it possible to monitor brain activity in different brain regions by imaging electrical or metabolic changes in neural tissue (Demitri, 2018). For example PET scan and fMRI can detect increased regional cerebral blood flow, therefore showing which brain regions are more active than others (Ingram, 2007). According to Ingram (2007), metabolic functional imaging techniques, such as fMRI and PET scan, are limited by the fact that when metabolic brain activity is increased locally, the resulting vascular changes happen over time frames of seconds to minutes. These limitations have to be taken into consideration when, for example, observing neural correlates of online cognitive and language processing (Ingram, 2007). Magnetoencephalography (MEG) and event-related potential recording (ERP), however, provide a finer time resolution by measuring moment-by-moment changes in brain electrical activity, and therefore make it possible to draw conclusions about neural events in on-line processing (Ingram, 2007). Ingram also states that “Hybrid systems that combine the spatial resolution of structural brain imaging with the fine temporal resolution of functional encephalographic imaging provide exciting new windows on brain activity” (Ingram 2007:63).

These technological advancements and research methods have made it possible to reveal new information on how physical activity induces changes in the brain, which in turn influence learning a language. According to Hillman et al. (2008), for example event-related brain potentials (ERP), MRI and fMRI are being used to examine the link between exercise and cognition. For example Colcombe et al. (2006) used MRI images in their study and found “significant increases in brain volume, in both gray and white matter regions” (Colcombe et al. 2006:1166), as a result of a 6-month aerobic fitness intervention. The most advanced tasks of the brain, for example information processing and holding memories, happen in the gray matter, whereas white matter transfers information between different brain regions (Hansen, 2017). These brain functions are of course extremely important basic aspects for learning a

language. In another study, Colcombe et al. (2004) found using fMRI that aerobic fitness training increased activation in the middle frontal gyrus and superior parietal cortex. These changes were related to considerable improvements in the performance of a selective-attention task. According to Kujala (2012), EEG based research has given us precise information about which speech sounds are difficult to distinguish for dyslexics. Evoked responses revealed via EEG give us precise information on how the brain reacts to for example two different speech sounds, if /e/ receives a different response than /i/, the brain's auditory system is able to distinguish the two sounds. Pereira et al. (2007) found increases of cerebral blood volume in the dentate gyrus of the hippocampus in their 3-month fitness training study. These increases were associated with enhanced memory and verbal learning. In a study by Chaddock et al. (2010), MRI data revealed that aerobically fit had larger bilateral hippocampal volume and more advanced relational performance. Clearly, these new brain research methods have revealed us a wide variety relevant information when considering the connection between physical activity and language learning.

Sajaniemi and Krause (2012) state that through these new brain research methods, increasingly strong evidence has been attained about the connection between physical exercise and cognitive competence. For example, physical exercise has been shown to increase the amount of neurotrophins, a growth factor for the nervous system, which influences brain plasticity. This growth factor advances the formation of new connections between nerve cells, which in turn speeds up the transmission of information (Praag 2008). Through the new brain research techniques physical activity has been observed to have a positive influence on the brain's metabolism, function and structure (Moilanen and Salakka, 2016). Jaakkola et al. (2013) list such positive effects physical activity has been shown to have in various studies, as an increased amount of capillaries, and therefore better circulation and oxygen intake in the brain, and the amount of transmitters and neurotrophins. Kantomaa et al. (2013) also mention the increased number of nerve cells especially in the hippocampus, the memory and learning centre of the brain. Ingram (2007) notes that "imaging methods have breathed new life into old questions of localization and modularity of language functions" (Ingram 2007:64).

As has been seen above, the vastly developed brain research has had and still has a great influence on many fields, including linguistics, learning, teaching and how we see ourselves as humans. Many researchers and writers have put into words the significance of these developments, for example Lengel and Kuczala (2010) write: “One hundred years from now, historians may look on current life as an age where the exciting possibilities of the brain-body relationship were finally realized” (Lengel and Kuczala 2010:16) and that it “may indeed be the most exciting scientific advance of the 21<sup>st</sup> century” (Lengel and Kuczala:17). They also note how it “has largely been left on the shelf as a viable educational tool that enhances both teaching and learning” (Lengel and Kuczala 2010:17). Also Hillman et al. (2008) state that these findings “could have important implications” for future education policies (Hillman et al. 2008:58).

## **2.5 Language teaching and movement in the Finnish National Curriculum**

In Finland basic education is guided by the National Core Curriculum (Perusopetuksen opetussuunnitelman perusteet, 2014), which is drawn up by the Finnish National Agency for Education. It deals with the concept of learning, working approaches, pupil assessment, as well as the objectives and core contents of different subjects. The purpose of the core curriculum is to ensure the equality and quality of basic education, and to promote favourable conditions for the pupils’ learning and growth (National Core Curriculum for Basic Education, 2014). Working within the framework of the National Core Curriculum, the local education providers make their own curriculum. The local curriculum contains decisions on the implementation and organisation of basic education, complementing and emphasising from a local perspective the goals, policies and key contents found in the core curriculum.

Various parts of the system steering the organisation of education in Finland, including the National Core Curriculum for Basic Education, have been updated to respond to the changes in the world around the school and to strengthen the school’s role in building a sustainable future (National Core Curriculum for Basic Education, 2014). The renewed National Core Curriculum for Basic Education was created in 2014, and has been implemented in schools from August 2016. In an overview by the National Agency for Education, Kantomaa et al. (2018) state that increased research results have for one led to the fact that the significance of

physical activity in supporting learning as well as the functionality of the learning process have been taken into account in the new National Core Curriculum. According to Moilanen and Salakka (2016), the national core curriculum highlights a student's capability to take care of one's own physical wellbeing and the will to maintain it. The new core curriculum also aims to increase the amount of movement during a schoolday: the amount of physical education was increased compared to the old National Core Curriculum. PE should be taught in classes 1–2 altogether for at least four annual weekly lessons, and for at least nine annual weekly lessons in the classes 3–6. Four annual weekly lessons means two PE lessons a week on average. The new curriculum also emphasizes functional working methods and engaging learning.

The National Core Curriculum for Basic Education has been drawn up based on the conception of learning that sees the student as an active agent (Perusopetuksen opetussuunnitelman perusteet, 2014). In the Core Curriculum language, physical elements and the use of different senses are seen as essential to thinking and learning, and experiencing positive emotions and the joy of learning are seen to motivate the students and to promote learning. Experiential and functional methods, using different senses and moving increase the experientialism of learning and pupils' motivation (Perusopetuksen opetussuunnitelman perusteet, 2014). All in all, varied methods increase the joy of learning and the pupils' experiences of success. The curriculum states that moving and joint activities that promote mental wellbeing should be a natural part of each school day and the school community should recognize the diversity of learning and it should function flexibly. It should encourage experimenting and give room for functional and creative methods, movement and play, as is characteristic to different learners and age groups (Perusopetuksen opetussuunnitelman perusteet, 2014).

## **2.6 Projects to increase physical activity in schools**

In the past decade, in Finland as well as in other countries, varying projects to increase movement have been carried out in schools. Alongside these projects, research and different intervention experiments have been carried out. These projects were created because of the concern for the students' decreased physical activity and increasingly sedentary lifestyle. Sadly, the idea of integrating physical activity into actual teaching has been widely



overlooked as a method, even though it would effectively address many of the problems these projects have encountered, for example the lack of time for physical activity and the large amount of sitting time during school days. As research on the link between physical activity and learning has developed and knowledge on the matter has increased, the objectives and goals of many of these projects have been revised and developed, and they have started to focus more on the influence on learning, rather than just physical health. Many of these projects have played a role in the development of the idea of physically active language lessons, as well as accumulating valuable experience about promoting more physically active school practices. As was mentioned earlier, in Finland the renewed national core curriculum as well as the government's top initiatives aim to increase the amount of movement during a school day (Moilanen and Salakka, 2016). Liikkuva koulu (Finnish Schools on the Move) is one such initiative.

Since 2010, an internationally exceptional national program to support educational institutions in developing a more physically active school culture has been built in Finland. Liikkuva koulu was launched as an initiative in the spring of 2010, based on the White Paper to develop the physical exercise conditions of kids and youngsters by the second government of prime minister Matti Vanhanen (Laine et al, 2011). After a two-year pilot stage in 2010-2012, the initiative was continued as a program. From autumn 2015 on, Liikkuva koulu program has been a part of the Finnish government's top project in the Ministry of Education and Culture. The objective of the government platform is that every child in basic education (approx. ages 7-15) should move for an hour every day. In the autumn of 2017 the program had reached over 2000 participating schools (Tutkimus ja seuranta, n.d).

The goal of the program is to increase physical activity during and in pursuance of the basic education school day and to establish a more physically active school culture as well as the guidelines for physical activity in Finnish schools: every child in basic education should move for at least one hour a day (Tammelin et al., 2013b). The idea of the program is to make the school culture more active from the schools' own offset. The Liikkuva koulu program is funded by the Ministry of Education and Culture. Each school and municipality carries out a more physically active school day in their own way. In "moving schools" things are looked at in a new way: there is for example less sitting, learning is supported with functional methods

and recesses are physically active. Schools that participate in the program get support from regional and national networks, which contain a variety of operators that are interested in the wellbeing of children and youngsters (Jokainen koulu on tärkeä, n.d.). According to Tammelin et al. (2013a), from the very beginning it was decided to include a significant assessment and follow-up section to the project. This was to ensure objective evidence of the influence of the projects, as well as to collect basic information on the physical activity of Finnish school children. LIKES, Research Centre for Physical Activity and Health is in charge of the follow up and research on Liikkuva koulu, with participation of the Faculty of Sport and Health Sciences of the University of Jyväskylä.

In the spring of 2011 an interim report on the pilot stage of the program was released. The report looked at the operations of 21 pilot projects that had started in the autumn of 2010, as well as the first research results. The project started from the premise that a majority of Finnish children move too little relative to their health (Laine et al., 2011). According to Tammelin et al. (2013b), the goal of the pilot was to find out how the projects got started and were materialized and how the projects influenced the school culture, the students' physical activity, and the school community, for example bullying, the schools' atmosphere and social relationships. It is interesting that at this point no mention was made about a possible influence on learning. When looked at the focal operation models of the pilot projects, following methods were found to have been the most used ones: special theme days or events, different forms of training to advance knowledge on increasing physical activity, acquisitions, recess activities and field trips (Laine et al., 2011). Most mentions were given on special theme days or events, which are unfortunately mostly non-recurring.

In the interim report about the pilot stage of the program it is also said that "time will tell what kind of means will be found for increasing physical activity and for promoting a more active school culture" (translated from Finnish. Laine et al., 2011:9). The pilot projects revealed that the participating schools did not increase physical activity by integrating it with the teaching of theoretic subjects, but in the main program the idea already existed: "The aim of Liikkuva koulu is also to develop a more physically active culture in the entire school, which can be carried out for example by integrating into other subjects. It means concrete moving, that can relate to the subject and learning it" (translated from Finnish. Laine et al.,

2011:17). However, at this point the offset of the program was that the amount of physical activity should be increased for the physical well being of the children.

For the interim report, the coordinators of all the pilot projects were surveyed on the phone in January 2011. Half of the interviewed said a positive atmosphere towards increasing physical activity to be one of the most important effects and successes of the project. Those interviewed also recounted experiences of a decrease in the restlessness of the students. “The teachers’ attitudes towards physical activity and movement is changing and they better understand its significance for the school routines. Schools are focusing more on how to activate students and less on making sure no one does anything forbidden. In one school for example the school’s rules and regulations had been reflected on how they prevent or enable students to move during a school day” (translated from Finnish. Laine et al., 2011:18).

At the end of the pilot stage (2010-2012), LIKES published a final report. In the report, it is stated that there is still work to be done as only a few of the students fulfil the minimum recommendation for physical activity. Liikkuva koulu was experienced as a positive and successful ensemble of projects, but the effects on the students’ physical activity were still at this point relatively small (Tammelin et al., 2013a). Tammelin et al. (2013) also state in the report that decreasing the amount of sitting during a school day would also be an important goal. The list of things that should be focused on in the future include the time allocated for moving during the school day and the more permanent practices instead of short lived events (Tammelin et al. 2013a). However, integrating physical movement into teaching in classrooms is not mentioned here, even though it effectively addresses both of the points above. Luckily, the program has since evolved to take into account the effects of physical activity on learning (see Syväoja, 2015).

One similar, long-lived program from the United States is TAKE 10! The International Life Sciences Institute (ILSI) Research Foundation has been working to promote PA and impact children’s obesity (Kibbe et al. 2011). As opposed to the Liikkuva koulu project in Finland, TAKE 10! has from the beginning focused on integrating PA in the academic classroom. On account of the decline in the quality and quantity of PE time, ILSI saw a need for an intervention that integrated PA with academics in the classroom (Kibbe et al., 2011). In 1999, the TAKE 10! program was created. Kibbe et al. (2011) describe it as a system-fit

intervention to promote structured, 10-minute activities in the elementary classroom. Since then, TAKE 10! has been revised and spread in the United States as well as around the globe (Kibbe et al. 2011). TAKE 10! was designed “to get students moving without sacrificing time dedicated to academic learning” (About TAKE10, n.d.). As mentioned before, TAKE 10! began from the same concern for children’s physical health as Liikkuva koulu, but has from the beginning focused on integrating PA in the academic classroom. However, where Liikkuva koulu has since its creation shifted focus towards the positive effects movement has on learning, TAKE 10! has maintained its original objective. However, research around the TAKE 10! program has found and acknowledged improvements in students’ readiness to learn as well as grades. In the United States, TAKE 10! has reached a million children. As a widely spread, researched and long-lived program, TAKE 10! has been the basis for many other studies and interventions around this subject. Variations on TAKE 10! have been implemented in, for example, the following three studies that have examined the impact of classroom-based movement on academic achievement: the PASS&CATCH project by Murray et al. (2008), the PAAC research study by Donnelly et al. (2009), and the HOPS initiative by Hollar et al. (2010).

The PAAC (Physical Activity Across the Curriculum) project was a 3-year intervention that looked at the influence of physically active academic lessons on academic achievement as well as Body Mass Index. PAAC endorsed 90min/week physically active academic lessons delivered usually in the classroom, but also on other sites, such as hallways and outdoors (Donnelly and Lambourne, 2011). The physically active lessons were distributed intermittently throughout the school day. The PAAC intervention was successful in enhancing academic achievement (Donnelly and Lambourne, 2011). PASS&CATCH examined the connection between increased PA during the school day and academic achievement among 932 3<sup>rd</sup> and 4<sup>th</sup> graders in eight elementary schools in Texas. Classroom physical activities ranged from 5 to 20 minutes, used to meet the goal of 60 minutes per day. Elementary students in the intervention demonstrated significantly higher academic achievement in math, and children with poor adaptation to school improved significantly both in maths and reading achievement (Murray et al. 2008). HOPS (Healthier Options for Public Schoolchildren) was an elementary-school based 2-year intervention, the effects of which on BMI and academic performance were assessed (Hollar et al. 2010). Hollar et al. found that “overall, intervention schoolchildren had significantly higher math scores both years” (Hollar et al. 2010: 646) as

well as higher reading scores. In summary, the investigators of all three studies reported improvement in various measures of academic performance.

### **3 THE BENEFITS OF INTEGRATING PHYSICAL ACTIVITY AND LANGUAGE TEACHING**

As has been realized before, it is constructive to increase the amount of physical activity during a school day to promoting schoolchildren's physical health and well-being. Attending to children's physical health is also sociologically profitable. As mentioned before, in many countries efforts have been made to introduce more PA in every school day in order for the children to reach the daily recommendation of 60 minutes of physical activity. However, increased research on the subject has shown that physical activity has also other positive effects that go beyond physical health. One significant connection is the one between physical activity and learning outcomes (Jaakkola, 2012).

The influence of physical activity on the well-being of the body, brain and the human more comprehensively is undeniable (Moilanen and Salakka, 2016). According to the latest research, physical activity also enhances children's cognitive functions, learning and academic performance. Kantomaa et al. (2018) state that physical activity during a school day has a positive influence on the learning process and outcomes of school children. Especially active breaks during lessons and combining teaching with physical activity have been found to have a connection with good learning outcomes. In their research Mullender-Wijnsma et al. (2016) found that physically active language lessons considerably improved the spelling performance of elementary school children. Physical activity during a school day promotes the children's cognitive functions, especially executive functions and has positive influence on factors that enable learning, such as focusing on tasks, behaviour and contentedness, as well as strategic learning, for example the assessment and controlling of thinking, motivation, emotions and behaviour (Kantomaa et al. 2018). Also Syväoja et al.(2012) state that physical activity during a lesson has a positive influence on learning outcomes through factors that enable learning, such as memory, focusing and classroom behaviour. Lengel and Kuczala (2010) say movement enhances the learning process in many ways: it enhances brain functions, helps restore focus, alleviates stress and improves motivation. As Mullender-Wijnsma et al. (2015) state, "In sum, combining learning activities with physical activity may lead to favorable academic outcomes as well as health improvements (Mullender-Wijnsma et

al. 2015:366). For these reasons it is surely valuable to integrate movement and physical activity with language teaching, specifically because it advances learning.

As shown above, research shows that there is a strong connection between physical activity during a school day and positive academic outcomes, but there is a lack of clear proof of the causality of the relation (Kantomaa et al., 2018). As Moilanen and Salakka (2016) note, it is challenging to study the relation between learning and more physically active teaching, because of the multidimensionality of the learning process. It is not easy to prove that simply increasing physical activity during a lesson improves learning outcomes, as learning as a process is influenced by biological, psychological as well as social conditions. Therefore, despite the advances in technological methods and the increase in interest, the specific influence mechanisms between physical activity and learning are not yet completely clear. Actually, physical activity is thought to influence learning through a variety of different routes and factors. According to Kantomaa et al. (2018), it might not influence learning results directly, but through some mediating factors. Next I will explore more closely the variety of ways in which physical activity influences learning.

### **3.1 The influence of physical activity on learning through the brain**

One of the most important of these routes, through which physical activity influences learning, is the effect it has on the structure and functioning of the human brain. This particularly has increased interest in the connection between PA and learning in the last decade, as the possibilities offered by technological advances and new brain research methods have produced a great deal of new information on how physical activity influences the human brain. In fact, research on the matter has grown exponentially in the last decade, and as Jaakkola (2012) notes, research reports have systematically supported the connection between physical activity and brain development.

An expanding body of literature shows the positive effect physical activity can have on many aspects of cognition (Hillman et al. 2008). According to Sibley and Etnier (2003), research

has shown that energetic daily physical activity improves the cognitive skills of school-aged children. Lengel and Kuczala (2010) note that “as brain researchers continue the important work of understanding how children learn, there are signals that brain development is enhanced through movement” (Lengel and Kuczala 2010:5). “Researchers have found cross-sectional associations between levels of cardiovascular fitness and cognitive function in children” (Donnelly and Lambourne 2011:537). For example Hillman et al. (2009a, 2009b) have found connections between fitness and aerobic exercise and cognitive functions. Physical activities have a great significance on the development, functioning and well-being of the brain (Sajaniemi and Krause, 2012). In their article Hillman et al. (2008) conclude that “there is converging evidence at the molecular, cellular, behavioural and systems levels that physical activity participation is beneficial to cognition” (Hillman et al. 2008: 64). As a matter of fact, many of the positive effects physical activity has on various learning factors derive from changes in the brain.

Evidence shows that physical activity is linked to both brain function and academic achievement in children (Bartholomew and Jowers, 2011). According to Donnelly and Lambourne (2011), cross-sectional studies support the association between physical activity and academic performance in elementary school children. The connection between physical activity during a school day and cognitive functions may in part explain the positive effect physical activity has on academic outcomes (Kantomaa et al., 2018). For example memory, attention, concentration and executive functions are cognitive functions critical for learning, that have been detected to be positively influenced by physical activity. Next I will explore more closely the effects physical activity has on the human brain and learning, by first looking at the physical activity induced anatomical and physiological changes in the brain and then examining how these changes influence a variety of learning factors.

### **3.1.1 Physiological changes in the brain**

There is strong evidence that physical activity improves cognition. Neurophysiological studies have uncovered changes in cognitive function that are connected to physical activity (Hillman et al. 2008). Hillman et al. also note that with animal studies, we have started to reveal the molecular and cellular changes which seem to underlie the effect fitness has on



cognition. According to (Jaakkola, 2012), multiple influence mechanisms have been discovered between physical activity and brain development. New evidence confirming the positive effects of physical activity on the brain, enabled by the new, more advanced brain research methods, show that exercise influences the metabolism, functions and structures of the brain (Moilanen and Salakka, 2016). According to van Praag (2009), research on the effects physical activity has on brain function has focused on changes in vasculature, neurotransmitters and neurotrophins. Physical activity has strong effects on brain activation and regulation (Tomporowski et al., 2011). As special areas of interest Tomporowski et al. (2011) list “exercise-induced changes in new cell development (*neurogenesis*), cellular morphology (*synaptogenesis*), brain capillary growth (*angiogenesis*), and metabolic factors (*neurotrophins*)” (Tomporowski et al. 2011:57). Next I will present these many ways in which exercise affects the brain. These changes in turn are significant in learning a second language. The impact these changes in the brain have on language learning are explored more closely in the chapters that follow.

Some of the links between physical activity and cognitive functions are based on the development of *brain structures* (Jaakkola, 2012). One such structural development induced by exercise is *angiogenesis*, the formation of new capillaries. Ding et al. (2006) observed that exercise enhanced angiogenesis. In fact, vascular growth factors mediate the benefits of exercise to the brain (Dishman et al. 2006). Thus, physical activity influences brain vasculature by increasing angiogenesis, new capillary growth, in the brain (van Praag, 2009). These changes in capillary growth enhance circulation in the brain and therefore help the brain function more effectively. According to Kantomaa et al. (2013), physical activity increases the amount of new capillaries especially in the hippocampus, the learning centre of the brain.

Alternatively, some of the links between physical activity and cognitive functions are based on changes in the *metabolism of the brain* (Jaakkola, 2012). Exercise advances circulation, oxygen uptake and the production of transmitters in the brain (Moilanen and Salakka, 2016). When blood circulates faster, the hippocampus gets more energy and functions more effectively (Hansen, 2017). Exercise improves the oxygen uptake of the brain also by speeding up the maturing of the circulatory system (Sajaniemi and Krause, 2012). Pereira et

al. (2007) conducted a 3-month fitness training study and found increases in measures of cerebral blood volume (CBV) in the hippocampus. The CBV changes were associated with improvements in memory and verbal learning. On the molecular level physical activity increases the release of transmitters like dopamine (Hansen, 2017). This affects the students' learning by influencing for example their ability to focus and possible depression (discussed in more detail later on). Physical activity also increases the amount of *neurotrophins*, a neural growth factor that influences the plasticity of the brain (Sajaniemi and Krause, 2012). Plasticity is a characteristic of the brain that is very relevant to learning a new language. For example Berchtold et al. (2005) found that exercise increases neurotrophic factors in the rodent brain.

Hansen (2017) discusses in length one such neurotrophic factor, the brain-derived neurotrophic factor (BDNF). He describes it as the brain's natural fertilizer that is highly important for the brain's well-being. BDNF plays a role in the creation of new brain cells, helps the new cells to survive the critical stage and protects them also later on. It increases the brain's plasticity, slows down the aging of the brain cells and consolidates connections between them. Therefore it is important also for memory and learning. Hansen has come to the conclusion that when it comes to increasing the amount of BDNF in the brain, there is nothing as effective as physical activity. As soon as you start to move, your brain starts to produce BDNF and the rise continues for a few hours after you stop exercising. Already 20-30 minutes of physical activity is enough to influence the plasticity of the brain. (Hansen, 2017) Plasticity is very important for learning a second language. It seems that learning a second language is possible through functional changes in the brain. (Mechelli et al., 2004) found that the left inferior cortex is larger in the brains of bilinguals. Both neurogenesis and synaptogenesis play a role in neuroplasticity, and are both in turn influenced by BDNF.

In addition to angiogenesis, *neurogenesis* is a link between physical activity and cognitive functions that is based on the development of brain structures. Neurogenesis means the production of new brain cells. As mentioned above, BDNF speeds up the formation of new cells. Exercise and physical activity can double the formation speed of new brain cells (Hansen, 2017). The beneficial effect exercise has on cognition is likely to be mediated in part by enhanced hippocampal neurogenesis (van Praag, 2009). In fact, according to Jaakkola et al.

(2013), physical activity increases the amount of new nerve cells especially in the hippocampus, a brain area important for memory and learning. In addition to speeding up hippocampal neurogenesis, exercise increases the volume of the brain tissue (Jaakkola, 2012). In fact, Ratey and Hagerman (2008) call exercise “Miracle-Gro” for the brain. Fitness improvements have been connected with larger volumes of grey and white matter in the brain (Colcombe et al., 2006). Also Chaddock et al (2010) found using MRI that aerobically fit children had larger bilateral hippocampal volume. There is increasing evidence indicating that hippocampal neurogenesis has a role in memory and learning and that increased neurogenesis is associated with improved cognition (van Praag, 2009). van Praag also states that “the strongest neurogenic stimulus is exercise” (van Praag 2009: 4). With rodents exercise resulted in significant increase in the production and survival of new neurons in the hippocampus (van Praag, 2008). According to Kantomaa et al. (2018), physical activity increases the volume and activity of the brain especially in the regions where memory and executive functions reside. Both are important factors for learning a second language.

*Synaptogenesis* refers to the formation of synapses, the connections that enable signals to pass between neurons in the brain. As mentioned before, physical activity increases the amount of neurotrophins. Through this neural growth factor physical activity increases connections between brain cells and structures and makes the existing neural networks denser, thus speeding up the transferring of the information impulses (Sajaniemi and Krause, 2012). van Praag (2009) says that “there is large a body of research showing that physical activity can change the function of neurotransmitter systems in the brain” (van Praag 2009:6). Through the increase in BDNF levels physical activity is an excellent way to strengthen connections between brain cells as well as brain regions (Hansen, 2017). According to Hansen (2017), this presumably explains many of the positive effects physical activity has on the brain. For example Voss et al. (2010) found that walking had strengthened the connections between lobes, and for example the temporal lobe was now better connected to both the frontal lobe and the occipital lobe, and therefore the whole organ was working more effectively.

As shown at the beginning of this chapter, there is strong evidence that physical activity improves cognition at the molecular, cellular and systems levels. The many ways in which exercise affects the brain were presented above. These changes in turn are significant to

learning a second language. As Kantomaa et al. (2018) state, the exercise-induced changes in the brain's structure and functions create more opportunities for learning. According to Jaakkola et al. (2013), physical activity improves circulation, oxygen uptake and the amount of transmitters as well as increases the amount of new nerve cells and capillaries especially in the hippocampus, the learning centre of the brain. Hansen (2017) has summed up well the meaning of exercise and all the changes it induces for the hippocampus: through angiogenesis and increased circulation the hippocampus gets more energy and functions better. Increased neurogenesis slows down shrinking or even makes the hippocampus grow in volume. If you continue to be physically active, the hippocampus – and the entire brain – starts to work better and more effectively. Next I will explore more closely how these changes affect learning – they increase a human's learning potential: develop attention and focus and improve information processing and memory.

### **3.1.2 Memory**

As van Praag (2009) states, “physical activity improves learning and memory in humans and animals” (van Praag 2009:1). Also according to Kantomaa et al. (2018), physical activity has been shown to support children's cognitive functions, especially memory. Many of the exercise-induced changes in the brain mentioned above mediate the positive effects physical activity has on memory. As mentioned, physical activity increases the volume and activity of the brain especially in brain regions where memory functions (Kantomaa et al., 2018). According to Hansen (2017), neurogenesis slows down the shrinking of the hippocampus or even makes it grow and strengthens memory. Chapman et al. (2013) found a connection between an exercise-induced increase in circulation in the hippocampus and improved memory. Hansen (2017) states that during the last few decades research has proved that memory does get strengthened by physical activity and comes to the conclusion that when it comes to memory there seems to be nothing more important than moving one's body. According to him, physical activity improves many different sections of memory, for example both short and long term memory, and even light exercise is enough to have a positive effect. The influence is also immediate. Hillman et al. (2009b) found that after physical activity there were higher levels of indicators that are thought to represent processes involved in activating the working memory. Schmidt-Kassow et al.(2013), found that even 20 percent more of new vocabulary were remembered when learnt during or after physical activity. Improving the

acquisition of new vocabulary by 20 percent should be quite the incentive to integrate physical activity into EFL classrooms. Hansen (2017) suggests that one key element in how exactly physical activity helps us learn might be the consolidation of a memory. Consolidation is the process where a memory – for example new vocabulary- moves from short term memory into long term memory. Consolidation happens in the hippocampus, usually during the hours or day following the learning situation. As discussed above, participating in physical activities before or during learning increases the amount of the growth factor BDNF in hippocampus, which strengthens the connections between brain cells. This is thought to improve the conditions for consolidation and also strengthen the memory, making it easier to be retrieved from long-term memory when needed (Hansen, 2017).

### **3.1.3 Executive functions**

The effect physical activity has on the brain reflects positively on learning also by improving the executive functions. According to Sajaniemi and Krause (2012), an increasing amount of high-quality research shows that physical activity improves specifically executive function. Various forms of physical activity have been observed to result in improved executive control (Davis et al., 2007; Voss et al., 2010; Hillman et al., 2009b). As mentioned above, physical activity increases the volume of brain regions, also the one that holds executive control (Kantomaa et al., 2018). The nerve cell density in the orbitofrontal cortex, the activeness of which is essential to executive control, is greater in a physically active person (Sajaniemi and Krause, 2012). Also the exercise-induced increase in circulation and oxygen-uptake promote brain activity. Castelli et al. (2011) state that the increase in BDNF also affects the prefrontal cortex, which mediates executive control function.

Executive control or executive functions is a term used for the “computational processes involved in the selection, scheduling and coordination of complex cognitive functions” (Hillman et al. 2008:61). According to Tomporowski et al. (2011), “executive functions are involved in planning and selecting strategies that organize goal-directed actions” (Tomporowski et al. 2011:5). Executive function also takes care of controlling voluntary actions, flexibility and evaluation. These functions are essential for making decisions, problem-solving and learning (Kantomaa et al., 2018). In sum, executive control can be seen

as the ability to make decisions (Hansen, 2017). In fact, according to Donnelly and Lambourne (2011), increased physical activity may generate the biggest enhancement in children's executive functions, which include self-monitoring, self-control and goal-directed behaviour.

Hansen (2017:186) reflects on the meaning of executive control for children and learning:

--even a child has to be able make decisions and initiatives, to plan and organize things and channel one's focus on the matter at hand despite disturbance. Children too need to learn not to follow their every impulse and for example refrain from constantly looking at the cell phone at school. It isn't at all fabricated to say that one cannot be successful in school if one cannot control one's actions. Physical activity strengthens executive control and makes children better students. (translation)

Clearly, in addition to memory, executive control is an essential factor in learning a language. Budde et al. (2008) found that physical activities devised to be also mentally engaging had a bigger positive influence on executive functions than physical activity that did not contain attention-demanding tasks. This indicates that also for improving executive control integrating physical activity with language teaching might be the most rewarding method for utilizing the positive effects of physical activity.

### **3.1.4 Focus and ADHD**

By influencing brain structure and functions, physical activity also develops attention (Kantomaa et al., 2018). The ability to perseveringly maintain attention on a specific target - be it material to be read or a teacher - for obtaining information to consolidate in memory, is an essential skill for learning a language. Research shows that physical activities during a school day affects the students' attention positively (Davis et al., 2007). Movement improves students' ability to pay attention and enables them to refocus (Lengel and Kuczala, 2010).

Physically active children did better on attention tests and the average of their grades was higher than the grades of less active children in a study by Syväoja (2014). Also the teachers and students participating in the TAKE 10! project found that the participating students' attention was improved after a physically active TAKE 10! session (Tsai et al. 2009). Walking improved the participants' attention and their brain were more active in the brain regions needed for the attention task in a study by Colcombe et al. (2004). Also Mitchell

(2009, as quoted by Lengel and Kuczala, 2010:3) found that after physical activity students were able to better allocate attentional resources. Linked to attention, researchers have also measured learners' time-on-task. Improved on-task behaviour after physically active academic lessons was found in a study by Mahar et al. (2006). Also Kibbe et al. (2011) reported a decline of over 20 percent in off-task behaviour following physically active TAKE 10! sessions.

Disturbances of attention are one of the most common causes for learning difficulties. Most of us probably have observed first-hand a child who just cannot sit still and whose attention seemed to bounce to everything but the teacher. Disturbances of attention occur in about 9 percent of children (Pastor and Reuben, 2008). ADHD – Attention Deficit Hyperactivity Disorder – manifests as difficulty paying attention, excessive activity, impulsive behaviour, restlessness and behaviour that disturbs also the surroundings (Kujala, 2012). ADHD can in fact hinder the learning of not only the person diagnosed but also other students in the same classroom. The incidence of ADHD in children aged 6 to 18 years is, based on the newest meta-analysis, between 3.6 to 7.2% (Käypä hoito –suositus: ADHD, 2019). The number of ADHD diagnoses has increased notably in the past decade (Käypä hoito –suositus: ADHD, 2019). If there was a way to teach language in a way that helped students with ADHD and other attention problems, the effects on learning results might be significant.

According to Kujala (2012), there is evidence suggesting that ADHD might stem from deviances in brain structures that are linked to executive control and how these regions are connected to the reward system of the brain. Especially the dopamine system, which plays a central role in experiencing pleasure and gratification, is thought to function insufficiently (Kujala, 2012). In fact, Hansen (2017) states that the connection between physical activity and attention lies precisely at the reward system, which guides us to act in a certain way by “rewarding us” with the feeling of pleasure. He gives a good example of how the system works: If for example the show on television does not activate sufficiently your nucleus accumbens, the “pleasure nucleus”, - and therefore the dopamine level does not get high enough – your attention wanders to find reward elsewhere, for example the cell phone. With the dopamine level too low, both concrete and mental background noise gets disturbing. In fact, the most popular ADHD medicines work exactly by raising the dopamine level and by so

improving attention (Hansen, 2017). As shown in the previous chapter, physical activity actually increases the release of dopamine in the brain and is therefore an excellent way to help students with their attention problems in the classroom. The chemical changes in the brain induced by physical activity – for example the increased release of dopamine – are immediate and increase attention (Best, 2010). Even just a single five-minute bout of physical activity improves attention and decreases the children’s ADHD symptoms (Hansen, 2017). Therefore even occasionally integrating physical activity into the EFL classroom – even for five minutes – is worthwhile to improving the children’s attention! However, it is also beneficial to continue regularly for a longer time period, as the impact grows: it seems that from one bout of exercise to the next, the brain increases the dopamine dose, that is to say the dopamine reward gets bigger each time (Hansen, 2017).

Sajaniemi and Krause (2012) note that as the disturbances of attention and executive control have increased among school children year by year, their physical activity has decreased as they spend more time in front of screens. They find it easy to believe that these two are connected. The deluge of information is nowadays immense, and smart phones bring it all everywhere with us. In media there has been talk about how using smart phones and social media constantly might affect our attention. All in all, many things threaten and hinder our ability to pay attention. However, no matter what the cause of trouble, physical activity seems to be the perfect answer to our attention problems, whether they are ADHD based or not. Everyone’s attention can be increased by participating in physical activities.

As shown in this chapter, increasingly strong evidence has been obtained for the connection between physical activity and improved cognition. As Jaakkola (2012) states, multiple mediating factors have been detected between physical activity and brain functions. All in all physical activity and movement influence our brain in many different ways, through which the positive effects show also in learning. These factors strongly support the idea of integrating movement into EFL lessons. Physically active language lessons could result in better learning outcomes in part by improving the students’ attention, memory, executive control and other brain functions. Through many of the mechanisms explored in this chapter, physical activity also supports the children’s mental health, as will be shown in the next chapter.



## **3.2 Psychological well-being**

Children's mental health and well-being is extremely important in itself, but it also influences learning. Both excessive stress and depression are mental health issues that are regrettably common also in school children. Both stress and depression can severely hinder learning. However, as will be discussed below, physical activity has been shown to relieve stress as well as prevent and alleviate depression.

### **3.2.1 Stress**

Life in the present-day world can be exceedingly stressful. As mentioned above, in the globalizing information society our brains are strained by a never ending deluge of information. According to Sajaniemi and Krause (2012), uncontrollable stress caused by overloading is known to be one factor behind many learning difficulties such as disturbances of attention. They also state that one goal of the educational system should be teaching life management skills such as consolidating the students' stress management, as they feel that for the benefit of both the individual and society this is more important than teaching separate skills and knowledge (Sajaniemi and Krause, 2012).

Excessive stress hinders learning in many ways. Under stress the parts of the student's brain that are needed for higher-level thinking strategies shut down, making it very difficult to learn new information (Lengel and Kuczala, 2010). According to Rintala and Ahonen (2005), feelings guide attention, which in turn influences memory and learning. When a student is stressed, his or her body starts to produce hydrocortisone, which triggers the defence systems (Rintala and Ahonen, 2005). All this hinders the student's ability to separate irrelevant and relevant things to memorize. Emotions influence memory through the working memory: for example when experiencing anxiety, a part of the working memory capacity goes to acknowledging fear and concerns, leaving fewer resources for memory processes (Sajaniemi and Krause, 2012). Problems in the development of the stress management system have been found to be connected to problems later on in school-age or adulthood, for example disturbances of attention, depression and anxiety (Gunnar, cited in Sajaniemi and Krause

2012:17). Stress starts to cause problems especially if it gets too intense and too long-lasting, resulting in constantly too high levels of the “stress hormone” cortisol. According to Gunnar (2007, as seen in Sajaniemi and Krause, 2012:11), increased cortisol levels hinder the normal maturing of the brain functions. Long-lasting stress also easily creates a vicious circle: too high cortisol levels caused by stress in turn impairs stress management and keeps the body in a state of emergency (Lupien et al. 2009). The amygdala reacts more easily and yet smaller things in the surroundings start to seem dangerous. However, physical activity has a strong positive effect on stress and anxiety (Hansen, 2017).

Physical activity influences stress strongly by calming the stress system: the cortisol levels remained lower during a stress test on those participants that had just moved (Zschucke et al., 2015). As mentioned before, exercise also activates and strengthens the hippocampus. Among other things, the hippocampus also functions as a “brake pedal” for the stress system (Hansen, 2017). Physical activity increases the volume of the frontal lobe, which prevents us from overreacting in stressful situations solely based on emotions (Colcombe et al., 2006) and physical activity develops our stress resistance making it easier to cope with stress (Hansen, 2017). As a result of regular physical activity, the fight-or-flight response will only kick in when stress levels are much higher (Hansen, 2017). Students who moved more during the day did not react to stress as strongly as those students who moved less in a study by Martikainen et al. (2012). This was also seen in their levels of cortisol. Clearly physical activity helps students so that when faced with a stressful situation, they do not react so intensely. Also neurogenesis, which is increased by physical activity, supports stress management. Hansen (2017) notes that the effects of physical activity and stress are opposite: stress hinders communication between brain cells and consolidating memories to the long term memory, and reduces brain plasticity – physical activity enhances all of them.

### **3.2.2 Depression**

Also depression hinders learning. The symptoms of depression include anxiety, tiredness and difficulty of thinking, focusing or making decisions (Huttunen, 2018b). Depression is more common in children than perhaps is commonly thought, about 2% of elementary school children suffer from depression, and before coming of age about every sixth has gone through

a period of depression (Huttunen, 2018a). Andrews et al. (2002) expect depression to be the second biggest threat to the health of mankind by 2020. As only a part of seriously depressed are getting treatment, Tamminen (2010) finds that preventing depression is now becoming even more important. According to her, for preventing depression successfully the actions should be aimed at children and teenagers. According to Barbour and Blumenthal (2005), many recent studies show that exercise reduces depressive symptoms and therefore is beneficial as a treatment of depression.

The levels of transmitters serotonin, noradrenalin and dopamine, as well as BDNF have been found to be lower in people with depression (Hansen, 2017). Also neurogenesis is slower which means that less new brain cells are being formed. Many of the antidepressant medicines are in fact based on increasing the levels of the abovementioned transmitters. As discussed in the previous chapter, physical activity increases the production of all the transmitters in question: serotonin, dopamine, noradrenalin and also BDNF. The multiple effects of BDNF were discussed in chapter 3.1.1. Moreover, physical activity increases neurogenesis as well. Actually Babyak et al. (2000) found that physical activity is as effective of an antidepressant as serotonergic medications, the most widely used medication for treating depression. According to Hansen (2017), if you give an antidepressant medicine to a person who is not depressed, it has no effect. Physical activity, instead, has a strong positive effect also on various pre-depression states of “feeling down”. Therefore physical activity could be an effective way of not only treating but preventing depression.

### **3.3 Other mediators of learning outcomes**

As has been shown in the previous chapters, physical activity, especially when integrated into the school day or lesson, has many positive effects on learning. Positive effects have been observed also in various factors that enable learning, such as classroom behaviour and lesson participation (Kantomaa et al. 2018). The process of learning is intricate, and is linked to, amongst other things, feelings, motivation and a variety of social environments and the skills to function in them (Moilanen and Salakka 2016). Learning is also an interactive process that is always bound to each situation and takes place between people socially (Kantomaa et al. 2018). In fact, some researchers regard social interaction one of the key components that

mediate the positive effects of physical activity to learning (Moilanen and Salakka, 2016). Compared to many other teaching methods, physically active lessons offer more opportunities for social interaction, which may mediate the connection between physical activity and learning (Kantomaa et al. 2013). Positive experiences gained through physical activities have long been thought to have a positive influence on children's academic performance (Tomporowski et al. 2011). It has been shown that positive atmosphere and good peer relations improve students' coping and academic achievements and that physical activities, when integrated into the school day, may improve the relationship between teacher and student, and also through this reflect positively on the child's development and academic performance (Kantomaa et al. 2018). According to Kantomaa et al. (2010), the good learning results of physically active children may in part be explained by enhanced teamwork skills and the ability to work with different people.

As has been discussed also in the chapters about stress and depression, feelings are significant to cognitive functions and various learning difficulties may be caused by emotional problems. The emotional climate in a classroom strongly influences a student's ability to learn new information (Lengel and Kuczala, 2010). Physical activities offer excellent opportunities for learning emotional skills in a way that is natural for children (Kantomaa et al., 2018). Physical activity may also offer opportunities to release and process emotions (Kantomaa et al. 2008). Using a variety of teaching methods, such as utilizing physical activity, creates possibilities for creating positive emotions and increasing the impressiveness of the learning experience (Moilanen and Salakka, 2016). A positive and encouraging atmosphere increases learning and physical activities make learning fun and motivating (Pulli, 2001).

The effects of physical activity on factors that enable learning have been observed especially in students' behaviour (Kantomaa et al., 2018). The results of a review by the Department of Health and Human Services of the USA (2010) showed that increasing movement in schools in all forms improves the students' classroom behaviour. Jaakkola (2012) finds this very interesting and especially noteworthy today as many feel there are more behavioural problems in schools than ever before. The self-esteem of a student is also a key factor in achieving learning goals (Rintala and Ahonen, 2005). Daily physically active moments can help in

promoting a child's positive experience on oneself (Pönkkö, as quoted by Rintala and Ahonen 2005: 30).

Tactile (touch) and kinaesthetic (movement) sensations are highly significant to a child's learning, and primary school children need functional and physically active learning opportunities (Pulli, 2001). Physical activities also help to prepare the brain for receiving and processing information (Sajaniemi and Krause, 2012). All in all, physical activity affects positively behaviour, social actions, focusing on assignments and motivation. Through all these factors using physical activities supports successful learning.

### **3.4 Summary**

As has been explored and discussed in this chapter, research shows that physical activity improves learning outcomes through a variety of mediators. One of the key mediators is the effect physical activity has on the human brain. Physical activity induces positive changes in both the structure and function of the brain. It increases the production of neurotransmitters and the growth factor BDNF, improves circulation and oxygen uptake, and increases the number of neural connections through synaptogenesis as well as the volume of the brain through neurogenesis, the production of new brain cells. These changes in turn influence many important learning factors: through the changes in brain physical activity improves attention, memory and executive control. As discussed in the previous chapters it also helps with stress, ADHD and depression, all of which can severely hinder learning. By creating opportunities for social interaction, physical activity also enables developing social and emotional skills. Physically active teaching methods have also been observed to have a positive influence on factors that enable learning, such as classroom behaviour. Learning through physically active methods is also fun.

## **4 FRAMEWORK OF THE MATERIAL PACKAGE**

In this chapter, the material package is presented by discussing the starting points, aims, target group, structure and content of the material. The material package itself, including a foreword and instructions for teachers can be found in the appendix of this paper. There are altogether 24 exercises to inspire teachers and to demonstrate how one could integrate movement and English as foreign language lessons. As shown in the previous chapters, research proves that physically active EFL lessons could be effective for improving learning outcomes, as physical activity – especially when integrated with the teaching content – improves cognitive functions such as memory, executive control and attention, as well as alleviates depression and stress.

### **4.1 Starting points**

Even though present literature supports the connection between physical activity and improved learning outcomes, hardly any planned physical activity is integrated into elementary school classrooms (Kibbe et al. 2011). Despite the increasing amount of research supporting the benefits of physically active language lessons, it seems this knowledge has not yet reached the majority of teachers and education professionals, and physically active teaching methods are still rarely used in the academic lessons. According to Kujala et al. (2012), an interesting and worthwhile challenge and aim for the school of future is increasing physical activity also in the classrooms. The realization of this goal will require instructing teachers, developing new practices and creating materials (Kujala et al. 2012). This thesis with its material package will answer this need in its own small part.

In the material package, the aim of physically active EFL lessons is considered to be having the students move as much as possible during each lesson by integrating the movement to the teaching and learning of the language whenever possible, for the specific goal of improving learning outcomes. Any form and level of physical activity is accepted, from reducing sitting time by having the students stand up to straining activities like running. As any physical activity – even if not integrated with teaching – can improve learning, simple movement

breaks are also utilized in the material, but the main focus of the package is on integrating physical activity and EFL learning.

## **4.2 Aims**

The aim of this material package is to lower the threshold and encourage teachers to try the method of physically active language teaching as well as to inspire and support teachers in utilizing movement for teaching and learning. The background section aimed to introduce the benefits of integrating physical activity and language teaching by presenting evidence from brain research that shows the positive effect physical activity has on the brain and how these effects in turn influence language learning. The material package aims to give the teacher concrete examples of how to make the language lessons active and integrate movement with teaching language content.

Other goals for the exercises in the material package are decreasing sitting time in the classroom, having the students move more during each lesson and to successfully combine physical activity with each piece of language content being taught or practiced. The long-term goal for these physically active exercises is to improve the learning outcomes by positively influencing the students' attention, memory, motivation, executive control and emotional state.

## **4.3 Target group**

The material package is aimed at teaching EFL in the elementary school, so approximately for ages seven to twelve. However, all the ideas can easily be modified and utilized for language teaching at any level. The language contents used in the exercises are such that are commonly taught during the elementary school EFL lessons; hence the exercises are suitable for beginners. For most of the exercises it is preferable to first go through the language content in question with the teacher. Other than that, the materials do not set any requirements for the level of skills. As the material is meant to function as a collection of ideas and examples that

can easily be adapted and used in different ways, they do not form a coherent and complete unity. Therefore, the exercises should be used together with some other, more extensive material.

#### **4.4 Structure and content**

The material package begins with a foreword with instructions for teachers and a guide to the symbols used. The 24 exercises are organized by the level requirements for equipment, space and preparation time, moving from level one (no requirements) to level four (most requirements). Purposefully most of the exercises in the material package have no or only some requirements, as the aim was to keep the threshold low to encourage teachers to try the new teaching method.

At the beginning of each exercise there is a set of symbols to describe the requirement level (1-4), the type of the exercise (practice, learning new content or homework), the language content (vocabulary, grammar or oral language skills) and the physical activity level of the exercise. The symbols are followed by a short description and information on the possible requirements. After clear instructions and possible examples, some of the exercises also contain ideas for enhancing or further developing the exercise as well as inspiration for adapting the exercise for other contents. Each exercise idea ends with a list of keywords.



## 5 DISCUSSION AND CONCLUSION

The inspiration for this thesis came from the quickly increased knowledge about the positive learning effects of physical activity, and the fact that this new knowledge is not yet fully taken advantage of. Utilizing physical activity in teaching is a very current topic, and research on the subject has increased significantly in the past decade. Integrating teaching and movement would improve learning outcomes as well as help to reach the national physical activity goals for school children. However, despite the increasing amount of research supporting the benefits of physically active language lessons, it seems that the many ways in which learning can benefit from physical activity are not yet commonly known by the professionals of the Finnish educational system and physically active teaching methods are still rarely used in the academic lessons. Even though present literature supports the connection between physical activity and improved learning outcomes, hardly any planned physical activity is integrated into elementary school classrooms. It seems that combining physical activity and language lessons is a very unutilized yet effective way to improve learning outcomes. To get teachers trying physically active language lessons, they need to have knowledge about the positive learning effects of movement, and easily approachable materials to help them get started.

The aim of this thesis is to answer that need by showing how, based on research, it would be beneficial to promote physically active English as foreign language lessons and why, as well as to give examples of how it can be done. The material package aims to lower the threshold and to encourage teachers to try the method of physically active language teaching as well as to inspire and support teachers in utilizing movement by giving practical and easy examples on how to combine movement and language content in the EFL classroom. The exercises in the material seek to decrease sitting time in the classroom by having the students move more during each lessons and to successfully combine physical activity with each language content being taught or practiced. In the long term, the material package aims to reach the goal of improved learning outcomes through the positive effect physical activity has on many learning factors.

The many ways in which physical activity influences learning were presented in the first part of this thesis. The theoretical background for the material package discussed matters of terminology, explored how movement during language lessons has been regarded before and how the idea of physically active language lessons has come to be. The paper also reviewed how language teaching and movement is regarded in the Finnish National Curriculum and what projects have aimed to increase physical activity in school. In chapter three the research based reasons to integrate physical activity and language teaching were explored. Research shows that physical activity improves learning outcomes through a variety of mediators, one key factors being the effect physical activity has on the human brain. These changes in turn influence many important learning factors: physical activity improves attention, memory and executive control. It also alleviates stress, ADHD and depression. Physically active teaching methods can also enable developing social and emotional skills, and have been observed to have a positive influence on classroom behaviour. Therefore, physically active EFL lessons could be effective for improving learning outcomes.

In the material package, the aim of physically active EFL lessons was considered to have the students move as much as possible during each lesson, by integrating the movement and teaching and learning the language whenever possible, for the specific goal of improving learning outcomes. Any form and level of physical activity was accepted. The material package was designed to function as a collection of ideas and examples that can be easily adapted and used in different ways, to give teachers inspiration on how one could incorporate movement into EFL teaching. The exercises were created with these goals in mind. To keep the threshold low, most of the exercises in the material package have no or only some requirements for equipment or preparation time. The themes and language contents used in the exercises were chosen among those commonly taught during elementary school EFL lessons. To guide teachers in using the material and to ease approaching the material, a foreword for teachers was written at the beginning of the material package, followed by the collection of 24 easily adaptable exercises.

One of the main strengths of the material package is in fact its adaptability, which together with the low threshold and minimal requirements make the material easily approachable and useful for a very wide audience. As in the exercises the language contents have been readily

chosen and prepared, elementary school EFL teachers can choose an exercise and execute it right away. However, the ideas in the exercises are designed to be adaptable and inspiration for adaptation has been given in most of the exercises. Hence the material package can be useful for almost any teacher and level. Physical activity has a positive influence on learning no matter the subject or age of the students. One weakness of the material package could be that most of the exercises have not been tested in practice. Therefore, when teachers are implementing the exercises problems might arise that have not been predicted when writing the instructions and planning each exercise.

To conclude, this thesis aims to enhance a situation in which a method proven to improve learning outcomes is not being used in the EFL classrooms. Increasing physical activity would also have a positive effect on many factors students struggle with in the modern world: increased time spent sitting and its effect on physical health, attentional problems, stress, depression and emotional skills. As teachers are feeling strained and constricted on time, the material package offers an easy way to try physically active EFL teaching.

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**APPENDIX**

# **MOVED BY ENGLISH**

**A material package for elementary schools**

**- How to incorporate movement into**

**English as foreign language lessons**

Anna-Reetta Kontkanen

## *Foreword*

Welcome! This is a material package for physically active EFL lessons in the elementary school. Research shows that physical activity improves learning outcomes through a variety of mediators, especially through the effect physical activity has on the human brain: it induces positive changes in both the structure and function of the brain. These changes in turn influence many important learning factors: attention, memory, executive control as well as stress and depression. Physically active teaching methods also enable developing social and emotional skills, and they have been observed to have a positive influence on classroom behaviour. Interested yet? I invite you to try physically active language teaching with the exercises in this material package.

Physically active EFL lessons aim to have the students move as much as possible during each lesson by integrating movement to the teaching and learning of the language whenever possible. The goal of using physically active methods is to improve learning outcomes. Any form and level of physical activity from reducing sitting time by standing up to straining activities like running has positive influence. Even just a few minutes of physical activity makes a difference, so just get your students moving – you can't go wrong!





The aim of this material package is to lower the threshold and to encourage and inspire teachers to try physically active language lessons. It seeks to give practical and easy examples of how to combine movement and language content in the EFL classroom. The 24 exercises in this package do not form a coherent and complete unity, but are meant to function as a collection of ideas to be used together with some other, more extensive material such as a book series. The material is aimed for elementary school, but all the ideas can easily be modified for and utilized in language teaching in any level. The language contents used in the exercises are commonly taught during elementary school EFL lessons.

Each exercise is constructed as follows:

- The number and name of the exercise
- A set of symbols to describe the requirement level, type, language content and physical activity level of the exercise (The symbols are presented below)
- A short description of the exercise
- Description of the possible requirements
- Instructions and examples
- Possible extra idea for enhancing or developing the exercise
- Possible inspiration for adapting the exercise
- A list of keywords




### **The symbols used in the materials**

For describing the level of requirements (equipment, space, time for preparations):

-  Has no requirements
-  Has only some requirements
-  Has requirements
-  Has many requirements

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For describing the type of the exercise:

-  Practising and revising
-  Homework
-  Learning new content

For describing the language content:



Vocabulary



Grammar

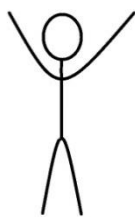


Oral language skills

For describing the level of physical activity:



Standing



Moving



Walking



Running

For marking the different parts of the exercise:



Info: a short description of the exercise



Requirements: a description of the equipment, space and preparations needed



Extra: an additional idea for increasing the difficulty of the exercise or for other further developments



Inspiration: suggestions for adapting the exercise



Keywords

## Contents

Exercise 1: The comparative show	Learning adjectives and their comparatives
Exercise 2: Preposition-spotting	Paying attention to prepositions
Exercise 3: Weather movements	Learning weather vocabulary
Exercise 4: Well what do you know	Homework: revising vocabulary, recognizing existing skills
Exercise 5: High five!	Adding movement to doing exercises in the book
Exercise 6: I don't like carrots!	Practising food vocabulary and I like / I don't like – phrases
Exercise 7: Know your animals	Practising animal vocabulary
Exercise 8: I can run!	Practising I can / I can't – phrases and verbs
Exercise 9: Ready, set, hobbies!	Practising hobby vocabulary
Exercise 10: One, two, three sisters	Practising numbers
Exercise 11: Nice to meet you!	Practising phrases when meeting and greeting new people
Exercise 12: Classroom pantomime	Practising school vocabulary
Exercise 13: The vocabulary circle	Practising vocabulary
Exercise 14: Find me something shiny!	Practising adjectives
Exercise 15: Making contacts	Introducing and talking about oneself
Exercise 16: A game of tenses	Practising tenses
Exercise 17: Do you have fur?	Practising animal vocabulary and asking questions
Exercise 18: A weekday -tag	Practising weekdays
Exercise 19: Blue is safety!	Practising colours
Exercise 20: Think fast and jump!	Practising word classes and revising vocabulary
Exercise 21: Let me guide you	Practising giving and following directions
Exercise 22: Arranging words	Revising vocabulary and practising parts of speech
Exercise 23: Remember me?	Learning new vocabulary
Exercise 24: An adventure in the Hundred Acre Wood	A Winnie the Pooh –themed gymnastic track

## Exercise 1: The comparative show



### Learning the comparatives of adjectives by enacting them

For each adjective, get three volunteers to come to the front of the class and assign one of the comparative forms of the adjective in question to each student. Their task then is to enact these forms to the rest of the class.

long	longer	the longest	small	smaller	the smallest
fast	faster	the fastest	slow	slower	the slowest
big	bigger	the biggest	hot	hotter	the hottest
young	younger	the youngest	old	older	the oldest
strong	stronger	the strongest	sleepy	sleepier	the sleepiest

### Example:

Student 1: Moves slow and then says “slow”.

Student 2: Moves even slower and then says “slower”.

Student 3: Moves slower than the previous two and says “the slowest”.



Have the three volunteers line up in front of the class and present their forms at the same time and without saying out loud their word. Have the other students guess, what word each volunteer is enacting.



Practise, adjectives, the comparative form, pantomime, guessing, social interaction

## Exercise 2: Preposition-spotting



### Paying attention to prepositions

At the beginning of the lesson, ask your students to pay attention to the prepositions listed above during the lesson. You can also write the prepositions on the black or smart board to make sure they are not forgotten during the lesson. The students' task is to stand up from their seats and make a squat whenever they hear or see one of the prepositions listed by the teacher.

In On Under Behind Next to

**Example:** Teacher: “Okay, now leave your books ON your desks...”

Students get up make a squat.



You can make the exercise more demanding and movement more varying by assigning different movements to different words.



You can apply this idea to get the students to take notice of any language content you want.



Prepositions, movement, paying attention, taking notice, bodyweight exercise



## Exercise 3: Weather movements



### Learning weather vocabulary.

In this exercise you go through new vocabulary while connecting the new words to movements, which makes the memory traces stronger. Put a list of the new words on the wall both in English and Finnish so that the students can see them. Ask the students to stand up and make sure they have some room to move. Go through the list of words by first saying out loud the word in English and at the same time showing the movement you want to use for that word. You can come up with your own ideas or use the list below. Then ask the students to repeat the movement and at the same time say the word aloud. Then move on to the next word.

Hot	Wipe your forehead as if you're sweaty.
Cold	Cross your arms as if you're cold.
Rain	Raise your hands just above your head and bring them down while wiggling your fingers to mimic rain falling down.
Wind	Sway from side to side like a tree in the wind.
Snow	Hands come down like for the word 'rain' but slower and not in a straight line but more resembling the letter s.
Hurricane	Turn around 360* a few times, like the hurricane goes around itself.
Sunshine	Turn your face upwards, close your eyes and smile like you're enjoying the warming rays of the sun.
Fog	Raise one hand to your forehead and squint your eyes like you're trying to see through a thick fog.
Lightning	Jump like you have just been surprised or scared by lightning.



You can use this idea to go through any list of vocabulary. You can think up the movements beforehand or you can ask the students to come up with their own, based on their own associations of the words!



Learning, vocabulary, embodiment, whole body

## Exercise 4: Well what do you know



### Homework: revising vocabulary, recognizing existing vocabulary skills

As homework, ask your students to take a short walk around their house, in their garden or some other familiar environment. While doing this they are to write down in English the things they come across and that they know the English word for. The idea is to revise vocabulary and make the students realise how much they already know. Make sure to go through the students' lists in the classroom, in one way or the other.



You can also ask the students to write down 5-10 things they come across but don't yet know the English word for, but would like to find out. You can do this right away the first time or as a separate homework for the next lesson. In the classroom, have the students look out the words they listed. Make sure to check the students get their new words right.



Vocabulary, homework, revising, recognizing existing skills, linking language to the real world, motivating

## Exercise 5: High five!



### Adding movement to doing exercises in the book

This is an easy way to add movement to the lesson and decrease sedentary time even when you feel you need to have the students do some exercises in their exercise books. Give the students a clear goal: for example completing exercises 1-5 in their books. Then give them movement related “rewards” or tasks to do after completing each exercise. Go through these instructions together before starting the exercise in the book, so that everyone knows what to do and you can avoid unnecessary commotion. Also, leave the instructions on the wall so that the students can check each step if needed.

### Example:

After completing exercise 1, run to the blackboard and draw a quick emoji of your choosing!

After completing exercise 2, stand up and pat yourself on the back to congratulate yourself!

After completing exercise 3, run to the front of the class to give the teacher a high five!

After completing exercise 4, stand up and do some happy dance moves!

After completing exercise 5, stand up and do your own wild celebration move, as if you just scored a goal!



Book, break, motivating, fun, movement, expressing self

## Exercise 6: I don't like carrots!



### Practising food vocabulary and I like / I don't like -phrases



You will need masking tape and enough room for all your students to stand in a queue and move from side to side.

Using masking tape make a long line on the classroom floor. The line should be long enough for all your students to stand along it. Tell your students which side of the line means “yes” and which “no”. Then start to say sentences like “Do you like carrots?” and ask the students to jump to the side of the line that shows their answer. You can also ask the students to answer the question aloud with a full sentence, after choosing a side. Or you can say sentences like “I don't like carrots” and the students have to show whether the statement is true or false for them by choosing sides.

“ I like carrots!”

Lemon  
Carrot  
Melon  
Tomato  
Pineapple  
Spaghetti

“I don't like carrots!”

Strawberry  
Cherry  
Chocolate  
Cake  
Bread  
Cucumber

“Do you like carrots?”

Cheese  
Juice  
Banana  
Pear  
Milk  
Mushroom

Salad  
Hamburger  
Pizza  
Apple  
Broccoli  
Raspberry

**Example:**

- Teacher: “Do you like carrots?”
- Students jump to the appropriate side of the line and answer by saying the correct sentence for that side of the line: “I like carrots” or “I don’t like carrots”.
- Teacher: “Do you like chocolate?” and so on.



Ask your students to take your role one by one and say a sentence the others then have to react to.



You can use this idea for almost any type of language content: phrases and vocabulary of your choosing, or you can test the students grammar skills by having them decide if your sentences are grammatically wrong or correct.



reacting, listening, producing, comprehension, vocabulary, phrases

## Exercise 7: Know your animals



### Practising animal vocabulary



For this exercise you will need soft balls about the size of a tennis ball, one for every pair of students in your class.

Divide your students into pairs and give each pair a small and soft ball. The objective of this exercise is for the students to come up with as many animals as possible while throwing and catching the ball. You can ask the students to stand during this exercise. The student in turn will name an animal and then throw the ball to the other, who will catch the ball and in turn come up with another animal's name and then throw the ball back.

Sheep	Bull	Cow	Horse	Chicken	Pig
Donkey	Fox	Lizard	Hedgehog	Squirrel	Frog
Bear	Rabbit	Gorilla	Elephant	Wolf	Lion
Seal	Rhino	Shark	Tiger	Deer	Bat
Dog	Cat	Hamster	Parrot	Mouse	Snake

### Example:

- Student 1: "Dog"
- Student 1 throws the ball to student 2
- Student 2 catches the ball
- Student 2: "Horse"
- Student 2 throws the ball back to student 1



You can also turn the exercise into a competition between the pairs by asking them to count the number of animals they come up with during the exercise and in the end compare and find out which pair came up with the most animals.



vocabulary, revising, producing, reacting

## Exercise 8: I can run!



### Practising I can/ I can't -phrases and verbs.



For this exercise you will need some masking tape and enough room to form a circle of all of your students.

Choose one volunteer and ask all the other students to form a circle so that they are spaced evenly. Pass the masking tape around and have the students mark their spot in the circle with a piece of the tape. This is so that as the circle reforms during the game, the available spots remain visible. The volunteer will stand in the middle of the circle and come up with a I can/ I can't phrase of their own liking, for example "I can knit." At this point all students who can knit are to leave their spots in the circle and find another spot that has become available. At the same time the person in the middle will try to get to one of the free spots in the circle. The one person who is not fast enough to find a free spot will be left in the middle of the circle and will then have to say a new phrase and see if any spots will become available.

Example verbs:

Dance	Swim	Sing	Cook	Run	Paint
Write	Knit	Sew	Walk	Eat	Ride a bike
Ride a horse		Play piano etc.		Play ice hockey etc.	



You can play this game with many other vocabulary themes and phrases, using other tenses... For example I want to.. / I have... / Yesterday I ... / During the holidays I will...



Phrases, listening comprehension, producing, speaking

## Exercise 9: Ready, set, hobbies!



### Revising hobby vocabulary



For this exercise you will need enough black or whiteboard space or similar for your students to write words on in groups of three.

Divide the students into teams of three. Assign each team a space from the blackboard/whiteboard or tape large papers on the wall. Their task as a team is to write as quickly as possible ten hobbies to their assigned slot. Ask one member of each group to take time. The fastest team wins. Then together as a class go through all the answers, correct all the mistakes and see if you could come up with any more hobbies.



As an extra you can give the teams one minute to go around the classroom checking the other teams' lists trying to mentally collect as many new hobbies as possible and then racing back to add them to their own list.



This exercise works well for going through any vocabulary homework or revising some older themes.



vocabulary, revising, adding movement, reducing sitting time, hobbies



## Exercise 10: One, two, three sisters



### Revising and practising numbers.



For this exercise you will need enough space for all the students to walk around in.

Ask all the students to stand up. The idea of this exercise is that the teacher asks the students a “how many?” -question, in English or in Finnish depending on the group, and the students are to answer the question by taking the appropriate number of steps while counting them out loud.

### Example:

Teacher: Kuinka monta sisarusta sinulla on? (How many siblings do you have?)

Students: Take as many steps as they have siblings and count out loud the steps they are taking.



After a while you can tell the students to change the way they walk: to walk on tiptoes, to take very long or small steps or walk as low as they can.



This exercise can be adapted according to the level of the group and the space you have. If you have a lot of space, for example the school gym, you can ask questions that will probably be answered with higher numbers and therefore revise or practise a larger variety of numbers. If it is suitable for the skill level of your group, you can also ask the questions in English, adding the element of listening comprehension and revising vocabulary, for example using a specific vocabulary theme, such family words, in your questions.



Vocabulary, listening comprehension, counting, numbers, physical challenges

## Exercise 11: Nice to meet you!



### Practising phrases when meeting and greeting new people



For this exercise you will need enough space to form a circle of your students and an easy way to play and pause music.

Split your students into two equal groups. If the groups aren't even, assign two students to work together as a team. Ask the students to form two circles, one inside the other, so that the students aren't too cramped but so that the students in the inner circle can easily tell who is their counterpart in the outer circle and vice versa. The idea is that you will start the music and the two circles will start to walk around in different directions, one clockwise and the other counter-clockwise. When you stop the music the students are to stop and turn to face whoever has stopped in front of them in the other circle. Then they are to greet the other in some way and have a short exchange before you turn the music on again and the students walk around to find a new conversation partner when you stop the music again. It might be helpful to tell the inner circle to be the ones to start the conversations first and then after some time reverse the roles. Also, remember every now and then to ask the students to change the direction so that they won't become dizzy. To help the weaker students and to encourage the students to use different phrases you could put conversation examples on the wall where the students can easily see them when facing that way.

- Hello, I'm Anna!  
 - Hello Anna, nice to meet you. I'm Matti.  
 - Nice to meet you too.

- Hi, how are you!  
 - I'm fine thank you! How are you?  
 - I'm good.



This exercise can be used many ways. You can use it for any conversation practise.



Moving, oral skills, phrases, greeting, introducing yourself, practising

## Exercise 12: Classroom pantomime



### Practising school vocabulary by playing pantomime



For this exercise you need to prepare word slips.

Write the words below, or ones of your own, on small pieces of paper, and have the students draw one word each. Then give them time to make sure they know their word. You can also put the vocabulary on the smart board/wall for all the students to see. This will also make it easier for the students to guess each other's words, so decide what to do depending on the level of your group and how difficult you want the exercise to be. Then the students are to come and express their word in pantomime while the others try to guess it.

pencil	pencil case	rubber	notebook
book	ruler	chair	desk
school bag	scissors	glue	stapler
tape	sharpener	pen	calculator
student	teacher	classroom	hall
gym	corridor	lunch room	blackboard



Pantomime is a classroom classic, which can be used in many ways, not least for any vocabulary content. Vocabulary pantomime works well for revising vocabulary homework.



Vocabulary, pantomime, practising, guessing, social interaction

## Exercise 13: The vocabulary circle



### Revising and practising vocabulary in a yard game



This exercise requires a larger empty space, for example the yard or school gym.

This is a modification of the yard game known in Finnish as “tervapata”.

Divide the students into groups of about 6-10 students. The easiest option is to play on surface on which you can draw a circle with your foot, for example gravel. To draw a circle on pavement you can use for example large chalk. To play the game in a gym, you can use masking tape or consider if your students could play the game with just an imaginary circle.

One person from each group is chosen to start the game. Other members of each group need to form an even circle, with some space between them. The circle can be drawn on the ground, with the spot of each circle member. The idea is that if a person leaves his/her spot in the circle, the available space can easily be seen by anyone. The person chosen to start the game starts to walk around the circle, passing the others behind their backs. For each person he/she must say a word that fits the chosen rule, for example different buildings and places in a city. If he/she says a word that does not fit the chosen rule, the person he/she is passing behind at that moment has to leave his/her spot and run around the circle to the opposite direction as the person who said the word. Both running, the students race to be the first to reach and therefore claim the spot in the circle. The one who is left without a spot continues to walk around the circle while saying a word for each person in the circle.



You can play using any word group you want to: for example animals, edible things or words that begin with a specific letter.



Game, running, outdoors, vocabulary

## Exercise 14: Find me something shiny!



### Practising adjectives



This exercise is best played outside, but can also be played in the classroom.

In this exercise, the teacher tasks the students with finding him/her something that can be described by the adjective given. When the teacher states the task, all the students run to find something they think fits the adjective and then bring it to the teacher. If you want, you can say the fastest student wins each “round”. When all or most students are done, or you see fit, move onto the next task. Keep the pace quite brisk. Also comment on the students’ finds. If you want to, you can also portray each adjective with your hands or body, or point at the colour in question, to ensure all students understand each adjective.

For example:

Find me something red/new/old/long/small/hard/cold/soft! etc.



You can also divide the students into smaller groups and have one student at a time give tasks to their own groups. You can have them change turns after each or every few adjective.



You can form teams from your students and have them depict something as a team by using their bodies. For example: “Build me a house!”



outdoors, game, running, fun, creativity, adjectives

## Exercise 15: Making contacts



### Introducing and talking about oneself



For this exercise you need a ball of yarn and enough room to form a big circle of all the students.

Have all the students form one big circle. The student to begin the exercise holds a ball of yarn and wraps the end of the yarn a few times around his/her hand to make sure not to lose it. He/she then introduces him/herself and tells one thing about his/herself. Then he/she holds on to the yarn from the appropriate point and throws the remaining ball to someone else in the circle. As the turn and ball of yarn move from one person to the other, they each in turn introduce themselves and tell something. As the game goes on, a web of yarn forms inside the circle. When everyone in the circle has had a turn to introduce themselves and are holding onto the yarn, the second phase of the exercise begins. Now the person holding the ball of yarn starts by telling something new about his/herself and then follows the yarn through the web back to the person the ball came from, while reeling the yarn back onto the ball. This way the game continues following the yarn in the opposite direction as everyone has to tell something new about themselves and collect the yarn back to the ball through the web.



You can also task the students to invent a story so that each one on their own turn comes up with a sentence that fits and continues the story.



producing language, sharing, get to know, social interaction

## Exercise 16: A game of tenses



**Practising the tenses commonly learnt in the elementary school: present, the simple past and the present continuous.**



As a preparation, you need to choose one verb for each student and write them on small pieces of paper. This exercise requires enough room for the students to move around, so go to a hall space, outside or a school gym.

The students should already be familiar with these tenses, and preferably also with the words used in the exercise.

Give each student one of the pieces of paper so that everyone has a verb. They should check the word but not show it to others. Their task is to pass through the three stages of the game. In each stage they will need to use a correct tense of the word given to them. When the game starts they should start moving around the space while acting the verb as well as saying it out loud in the present tense. They should get together with another student with the same tense (so in the beginning any other student, as they all begin with the present tense), say their verbs to each other and play a game of rock-paper-scissors. The winner moves on to the next stage and tense, and the loser stays on the present tense. When rock-paper-scissors is played on a higher stage, the loser always goes back to the previous stage. When a student on the third and last stage wins a game of rock-paper-scissors, he/she wins the game and leaves to watch the remaining students play.

### **To summarize:**

- Throughout the game each student moves around the space, somehow expressing their verb with their movements as well as saying it out loud in the right tense.
- Three stages: 1. Present tense, 2. The present continuous, 3. The simple past
- The students seek out another student who is using the same tense, and say their verbs to each other.
- Whether you get to move on to the next stage is determined by playing rock-paper-scissors against another student on the same level. The winner moves on to the next stage (or has finished the game altogether) and the loser goes back to the previous stage, unless he is already on the present tense, in which case he just stays in that level.

**Examples** of regular verbs you can use:

1. I jump – I am jumping - I jumped
2. I paint – I am painting – I painted
3. I cook – I am cooking – I cooked
4. I bake – I am baking – I baked
5. I clean – I am cleaning – I cleaned
6. I laugh - I am laughing – I laughed
7. I smile – I am smiling – I smiled
8. I move – I am moving – I moved
9. I dance – I am dancing – I danced
10. I hug – I am hugging – I hugged
11. I notice – I am noticing – I noticed
12. I talk – I am talking – I talked
13. I stop – I am stopping – I stopped
14. I turn – I am turning – I turned
15. I wash - I am washing – I washed
16. I watch – I am watching – I watched
17. I listen – I am listening – I listened
18. I walk - I am walking – I walked
19. I touch – I am touching – I touched
20. call – I am calling – I called
21. I step – I am stepping – I stepped



This game could also be played using the three comparative forms of adjectives.



tenses, walking, levels, challenge, repetition



## Exercise 17: Do you have fur?



### Practising animal vocabulary and asking questions



To prepare for the exercise, write on small pieces of paper various animals, each animal on two pieces of paper, one slip of paper for each student. (Divide in two identical piles.)

Divide the students into two equally large groups. Give each student one slip of paper with an animal name on it. Each student should have a secret pair with the same animal in the other group. All the students should spread around the room and start walking around. The students from the first group are to ask questions to find the person with the same animal, without saying the actual word. The person answering the questions can only answer with either yes or no. When the student asking questions has become convinced he/she has found the person with the right animal, the one answering the questions reveals his/her animal. If they had the same animal, they won and can go and sit down. If not, they have to keep moving around the room, asking or answering questions. Do another round so that the ones who only answered questions now get to ask.

Farm animals	Forest animals	Pets	Exotic animals
Cow	Fox	Dog	Lion
Horse	Owl	Cat	Tiger
Rooster	Rabbit	Parrot	Elephant
Chicken	Bear	Hamster	Giraffe
Sheep	Moose	Goldfish	Zebra
Goat	Badger	Turtle	Peacock
Alpaca	Hedgehog	Bunny	Dolphin



This exercise works also with any other words you want to practise!



questions, answers, guessing, challenge, game, interaction, producing language

## Exercise 18: A weekday -tag



### Practising weekdays



For this exercise you will need a large space, so play this game outside or in the school gym. If you go outside, remember to define the boundaries for the area you are using before starting.

This exercise is a modification of a game known as “the Donald Duck –tag”.

The basic rules of tag apply, but when the person trying to catch you is approaching, you can save yourself by quickly squatting and shouting out one of the weekdays. If you are too slow or shout out the same weekday twice in a row, you become the tag.

You can have more than one tag to keep the game interesting, and even change the number of tags during the game if you see there is a need for it. Having more than one tag can ensure that saving oneself isn't too easy, but there is enough pressure to keep the game interesting. It can also help in making sure no one gets stuck being the tag but the roles change quite quickly.



You can increase the challenge by changing the “safe words” after a while. For example after playing for a while using the weekdays, you can switch to months, family members, seasons, farm animals...



tag, running, outdoors, quick thinking, fun, vocabulary

## Exercise 19: Blue is safety!



### Practising colours



For this exercise you will need a larger cleared area, for example a hall area or the school gym, A4 sized cardboards in every colour you want to practice, and masking tape.

Yellow

Orange

Red

Pink

Purple

Blue

Green

Before the lesson tape the cardboards in a random order securely to the floor with masking tape so that they form a circle large enough for your students to run inside it. The idea of the game is for the students to play a game of tag so that one colour at a time is named a safe spot. Choose one student to be the first catcher. The game starts when you shout out in English the colour that the students can run to and touch with their feet to be safe from the catcher. If the catcher manages to touch another student, they reverse their roles and the student touched will become the new catcher. As the students run around and try not to be touched by the catcher, change the colour working as a safe spot in a tempo you find suitable, by shouting out a new colour.

If you are playing this with students who do not yet know the names of the colours very well, you can make the game initially easier by holding out a card in that colour you shout out and then leave these clues out when the students seem to become familiar with the colours.



Use different colours, some that the students aren't so familiar with.



You can also use this game with any other words so that you tape to the floor cardboards with the words in one language and then shout them out in another.



game, reacting, fun, vocabulary, colours, running

## Exercise 20: Think fast and jump!



### Practising word classes and revising vocabulary



For this exercise you will need a larger cleared area, for example a hall area or the school gym, masking tape, 36 pieces of A4 sized cardboard and some time for preparations beforehand:

Before the lesson, write the words below or ones you have chosen yourself (12 words for each word class) on A4 cardboards with a thick black marker so that the words are easily seen. Then tape the words to the floor so that they form a grid of approximately 5m x 5m, that is 6 x 6 words. Make sure the different word classes are mixed and evenly distributed. If you want to, you can then draw yourself a matching grid with the words in it and perhaps even mark the different word classes with different colours. This may help you during the game to notice if someone makes a mistake and chooses a wrong word.

Ask the students to randomly take places in the grid, standing on/by a word on the floor. The idea is that the teacher shouts out a word class and the students should jump to a word that belongs to that class. You can tell the students that each word may have 2, maximum 3 students on it at a time, to ensure the game goes fluently.

#### **Example:**

- Teacher: "Verb"
- Students jump to word Run/Jump/Write etc., whichever they find near their previous word.

Verbs	Adjectives	Nouns
Run	Tall	Table
Jump	Hot	Car
Write	Short	Shoe
Sing	Hard	Banana
Play piano	Soft	Dog
Eat	Cold	House
Walk	Big	Pen
Sit	Small	Door
Play icehockey	Wet	Bread
Drink	Dirty	Hamster
Give	Slow	Book
Listen	New	Chair



When you have played for a while you can reduce the number of students who can be on the same word, so that those who are not fast enough or can't reach a suitable word by jumping start to fall from the game.



You can also make the grid from some other words and develop your own criteria for grouping the words for testing the students' knowledge of the vocabulary: things that are edible, living things, hobbies...



Jumping, reacting, quick thinking, word classes, vocabulary

## Exercise 21: Let me guide you



### Practising giving and following directions



For this exercise it may be best to use some space that doesn't have the limitations of a classroom, for example the corridor or a hall. You will need masking tape, blindfolds and some preparation time beforehand. Before the students arrive, mark at least one route with various turns on the floor with masking tape. If you have lots of space, you can make more than one route.

Pair your students. One of them will be blindfolded and will then be guided to walk the route you have marked. The other student has to give the blindfolded student directions and instructions verbally to get them correctly through the route, but they cannot physically touch each other, for example guide the other by holding their hand.

Examples:

- Turn right. Take three steps forwards.
- Stop! Now turn right and move slowly forwards until I tell you to stop.
- Turn slowly clockwise.... stop! Now take about five steps forward.



moving, giving and following directions, listening comprehension, oral competence, practising vocabulary

## Exercise 22: Arranging words



### Revising vocabulary and practising parts of speech



For this exercise you will need to prepare small word cards. You will also need a chunk of blu-tack for each group.

Write the parts of speech you have chosen (and the students are familiar with), each on one paper. Tape the papers on walls so that there is a clear, designated space for each word group.

Divide your students into groups of about three. Give each group a pile of small word cards with words from all of the word groups. Below is an example of words you can use. Their task is to go and attach each word on the space designated for the correct word group. When attaching each word the groups should also go through the correct translation for that word i.e. check all group members know what that word means. When all groups are done, you should go through all the words and check if they all have been placed correctly.

	Verbs	Nouns	Adjectives	Prepositions
Group 1	Dance Put Wash	Dog Carrot Mother	Red Happy Big Tired	In
Group 2	Sing Write Learn	Cat Apple Sister	Blue Sad Small Angry	On
Group 3	Run Love Speak	Bear Cucumber Father	Yellow Cold Round Young	Under

Group 4	Jump Hate Think	Fox Potato Brother	Green Hot Hard Old	Behind
Group 5	Swim See Understand	Cow Tomato Cousin	White Slow Soft Short	Above
Group 6	Kick Hear Sit	Horse Banana Grandmother	Purple Fast Tall Hungry	Between



If you want, you can mark the designated areas for each word group with for example masking tape in a way that will have the students crouching or reaching when they are attaching the words.



You can also do this with different tenses, so that the students need to recognize in which tense the verb is and place it on the correct wall.



vocabulary, word groups, physically active classroom, group work, social interaction



## Exercise 23: Remember me?



### Learning new vocabulary



For this exercise you will need enough room to move by the walls. If needed, move the desks in your classroom. Make word cards and attach them on the walls beforehand.

Choose a list of new vocabulary you want to teach. You should choose at least as many words as there are students in your classroom. Write the words on cards beforehand. If you have black or whiteboards on several walls in your classroom, you could be able to play without word cards. Using blu-tack, attach the words on the walls around the classroom so that there is enough space to fit one student under each word.

Start this exercise by explaining the game to your students. Then go through all the words together. Explain the meaning and practice the pronunciation. Then give the students some more time to really try and memorize the words on the walls. Then choose one of the students to be blindfolded in the middle of the room. All the other students then go and stand under one of the words on the wall. The task of the blindfolded students is then to try and remember words from the walls. When she/he remembers a word, the person standing under that word drops out and goes to sit down. The others switch places before the blindfolded student says the next word. The last man standing wins.



Memory, learning, vocabulary, game, challenge

## Exercise 24: An adventure in the Hundred Acre Wood



**A Winnie the Pooh –themed gymnastic track.** The suggested linguistic themes to be revised using this exercise are: greetings, tenses, numbers, colours, prepositions, giving the time, body parts and vocabulary of the students’ own choosing. Before the actual physically active track you can shortly present and discuss the Winnie the Pooh books and characters.

As the final exercise of this material package, this is a larger unit of combining language and physical activities. In contrast to the other exercises, this one has more requirements for space and equipment, as well as for the number of adults to oversee the execution. It also need more preparations and preferably time all in all. It could work especially well for some special day or occasion. Of course you can choose to use those ideas and parts of the track you can easily implement, or modify everything to fit the equipment you have at hand.

Hopefully these ideas inspire you to sometimes do something bigger and fully taking advantage of the gymnasium and equipment of your school. In my experience this kind of track of linguistic and gymnastic exercises will get the children really excited. As they race through the track again and again they will get to repeat the chosen linguistic material many times, and the excitement and physical activity will strengthen the memory traces.

The track consists of eight stations, each with a character from the books.



To implement this exercise as presented here, you will need:

(The specifics for preparing each station are presented later on.)

- the school gym
- Printed pictures of the characters
- For “Owl’s station”: stall bars and a few mattresses for safety
- For “Piglet’s station”: a flip chart or some such and markers for playing “Pictionary”

- For “Eeyore’s station”: Blu-tack, cards with words for body parts and a bench or other better suitable gym equipment for balancing on.
- For “Winnie the Pooh’s station”: beanbags and ten small buckets or other containers suitable for precision throwing.
- For “Rabbit’s station”: a tunnel to crawl through and other gymnastic forms or pieces to go over, under and behind.
- For “Tigger’s station”: Pieces of different colours, if your school gym does not have anything suitable, you can use A4 sized cardboards and attach them with masking tape
- For “Kanga’s & Roo’s station”: A small trampoline and a small mattress to land on, or if you don’t have a trampoline use a larger mattress or other to jump on.
- For “Christopher’s station”: masking tape and a clock face –either one made of cardboard or a real one, as long as you can easily change the time by moving the clock hands with your finger.
- For preparations: masking tape, cardboard, markers, paper, scissors...

Before starting the exercise, go through the course with all the students explaining the rules and how to act in each station.

### Owl’s station - Greetings

Attach the picture of the Owl above or high on the stall bars. For safety, place mattresses on the floor in front of the stall bars, in case someone falls.

The students’ task is to climb up to the Owl to touch the picture and greet it using one of the phrases they have learnt. For better flow in this station, it is best to have the students climb up on one side of the owl, then move sideways to it, do the greeting task, continue to the other side and then down (see picture below). You can mark the specific points for going up and coming down.

### Eeyore’s station – Body parts

If possible, print the picture of Eeyore in a larger size than A4. Attach the picture on the wall and using a bench or other equipment leading to the picture build a path that requires

balancing. At the beginning of the path leave a stack of cards with body parts written on them, as well as some blu-tack.

At this station the students' task is to randomly pick a card and then balance their way to Eeyore and attach the word in the right place with blu-tack. When all the cards have been used they need to be collected back to the beginning of the path.

Words to use:

Nose	Ear	Eye	Tail	Foot	Tummy
Back	Head	Hair	Neck	Mouth	Eyebrow

### Piglet's station – Vocabulary of the students' own choosing

Attach the picture of Piglet on the wall to mark this station. Set up the flip chart with whiteboard markers of paper and normal markers for playing "Pictionary".

At this station the students' task is to play Pictionary: one student at a time comes up with a word and then draws a picture to describe it as other students present try to guess the word. Before continuing to the next station each student must participate both in guessing someone else's word and drawing a picture to describe his or hers own word.

### Kanga's & Roo's station – Tenses

Attach the picture of Kanga and Roo on the wall to mark this station. Place the trampoline or a larger mattress suitable for jumping on by the picture. If needed, place next a smaller mattress for coming down from the trampoline.

At this station the students' task is to go through tenses out loud as follows:

Going up to the trampoline: "I jump!"

Jumping on the trampoline: "I am jumping!"

Coming down from the trampoline: "I jumped!"

### Rabbit's station – Prepositions

Attach on the wall the picture of Rabbit to mark this station. Using a tunnel and other suitable gym equipment build a short path where the students need to go **over, behind, through** and **under** something.

The students' task is to pass the path and say out loud the correct prepositions when going over, behind, through and under obstacles.

### Christopher's station – Giving the time

Attach the picture of Christopher on the wall to mark this station. Place your clock face on the wall or on a chair by the picture so that you can easily move the hands with your finger and so that it is clearly visible to the students. Using a masking tape, mark on the floor a zigzag path leading to the picture.

At this station the students' task is to follow precisely the masking tape without stepping aside. When they reach Christopher, they have to correctly tell the time on the clock. It would be good to have one adult here to change the time between each student and to make sure the students get their sentences right, at least for the first round.

### Tigger's station – Colours

Attach the picture of Tigger on the wall to mark this station. Make a path of colour patches or cardboards. Make sure they stick or are attached to the floor so that it is safe for the children to jump on them without them slipping from under their feet.

At this station the students' task is to follow the path, jumping on one foot and stepping only on the pieces of colour, while saying each correct colour out loud.

## Winnie the Pooh's station – Numbers

Attach the picture of Winnie the Pooh to mark the station. Set up a precision throwing station using small buckets or other containers, with the numbers 1-10 marked on them (the symbols). Using masking tape and a marker, mark also the bean bags with the same numbers (the words). Using masking tape mark on the floor where the thrower must stand and leave the bean bags there marked side down.

At this station the students' task is to randomly pick up one of the bean bags, say the number out loud and try to throw it in the bucket that is marked with the corresponding number and then move on to the next station. When all the bean bags have been used they need to be collected back to the throwing point.

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After starting, while the students are on the course, there are few stations that benefit from adult supervision:

- On Eeyore's and Winnie the Pooh's stations, every once in a while the cards and bean bags need to be collected and returned to the starting points. (If you feel you can easily trust these tasks to your students, you can of course do so).
- On Christopher's station, there should be an adult to change the time between students and to check they are getting their sentences right.
- Generally it is best to have more than one adult in the room: all the stations benefit from adult supervision to make sure the students follow through with the language content and tasks. It is also a safety measure that climbing and jumping and such is better to be done under watchful eyes to prevent any accidents.
- Supervising adults can also "shower" the kids with phrases of guidance, encouragement and compliments, giving the children an opportunity to repeatedly hear sentences and vocabulary that might be new to them, in relaxed and exciting surroundings.



You can change and adapt any of the stations or the language contents to suit your own needs, or plan your very own gymnastic track for learning language. Get inspired by the equipment in your school gym!



Gymnastic track, theme, literature, challenge, running, practising, fun