

## **ROLE OF MOTOR ACTIVITY IN THE TEACHING-LEARNING OF THE ENGLISH LANGUAGE (L2) IN DEVELOPMENTAL AGE: SYSTEMATIC REVIEW**

### **RUOLO DELL'ATTIVITÀ MOTORIA NELL'INSEGNAMENTO- APPRENDIMENTO DELLA LINGUA INGLESE (L2) IN ETÀ EVOLUTIVA: SYSTEMATIC REVIEW**

**Manuela Valentini<sup>1</sup>**

University of Urbino Carlo Bo  
[manuela.valentini@uniurb.it](mailto:manuela.valentini@uniurb.it)

**Giulia Delbene**

University of Urbino Carlo Bo  
[g.delbene@campus.uniurb.it](mailto:g.delbene@campus.uniurb.it)

#### **Abstract**

The aim of the review is to analyze scientific studies that have tested the effectiveness of teaching-learning of the second language through motor activity, the movement in developmental age. After in-depth research, 28 international studies were selected, highlighting the use of different approaches: Content and Language Integrated Learning in Physical Education lessons, Asher's Total Physical Response. The results show a greater predisposition, motivation and confidence by the students learning a foreign language with the body in motion, since motor learning makes the lesson more engaging and easier to memorize, improving oral comprehension and target vocabulary.

L'obiettivo della review è valutare gli studi scientifici che hanno sperimentato l'efficacia dell'insegnamento-apprendimento della seconda lingua attraverso le azioni e l'attività motoria in età evolutiva. Sono state prese in considerazione 28 ricerche che hanno evidenziato l'utilizzo di diversi approcci: Content and Language Integrated Learning nelle lezioni di Educazione Fisica, Total Physical Response di Asher e giochi motori e gesti senza seguire una metodologia specifica. I risultati dimostrano maggior motivazione e fiducia da parte degli allievi nell'apprendere una lingua straniera in quanto l'attività motoria rende la lezione più coinvolgente. Inoltre, è evidente il miglioramento della comprensione orale e del vocabolario target.

#### **Keywords**

Physical activity, Second language acquisition, Primary school, Preschool  
Attività fisica, Acquisizione della seconda lingua, Scuola Primaria, Scuola dell'Infanzia

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## Introduction

According to Eurostat data (2018), English is the best known and studied foreign language in Europe in primary/lower secondary schools (Eurostat, 2018; European Commission/EA-CEA/Eurydice, 2017) and the interest in its teaching-learning in Europe and Italy is increasingly growing, especially since 2006 when the key competences for lifelong learning were defined by the Council of the European Union (Recommendation of the European Parliament and of the Council, 2006/962/EC). It is the combination of knowledge, skills and attitudes necessary to each individual for personal fulfillment, employability, social inclusion; etc. Among these eight we find “communication in foreign languages”, which with the 2018 update has become “multilingual competence” (Recommendation of the Council of Europe, 2018/C 189/01). The European Commission itself, in 2019, defined it as “[...] the fulcrum of the idea of a European education area” (Council of Europe Recommendation, 2019/C 189/03, p. 15) noting the importance of a global approach to language teaching and learning and stating that training systems must reconsider the challenges related to language education as unfortunately still limited.

In fact, some international reports, such as that of Education First (2020), place Italy (together with Spain) behind most of the European economic powers - such as Germany and France - and this is because the level of linguistic competence reached by the population does not live up to the fees requested and established by the European Commission. So far, society is increasingly mobile and digital and children and young people need to explore new ways of learning. It is no coincidence that starting from the 1960s didactic design models for e-learning were born, including the new Blended Unified Design which pays particular attention to the learning / teaching of English L2 (Khadimally, 2018). Even the multisensory approach, and therefore a visual, auditory and kinesthetic involvement, can represent an answer to this need (Cappa et al., 2012). In this sense, movement and motor learning represent a potential channel to be exploited for learning the various subjects, including the second language. For example, the Swiss Confederation has introduced the “School in Movement” program for several years, increasing the daily physical activity time and creating a combination with other study subjects (including L2). This is because the movement carried out during learning simultaneously opens the sensory channels, stimulating attention and concentration, helping the memorization and retention of information and - more importantly - encouraging children and young people to learn thanks to a more pleasant and favorable atmosphere (Bellinzani, 2016, p. 309). There are numerous studies that underline how much the body, movement and motor activity are fundamental in physical, psychic and social development and in school performance in developmental age. Altenburg and collaborators (2016) conducted an experiment by inserting moderate intensity physical activity of 20 minutes twice during the school morning, demonstrating beneficial effects on the selective attention of learners. Still on the attention, Palmer and his working group (2013) confirmed that the commitment to physical exercise in children of preschool age greatly improves this ability. As for the “movement-foreign language” connection, this has been an object of interest since ancient times, if we think of Aristotle’s school of equality (De Angelis & Botes, 2016). The interaction between movement, memory and learning lies in the fact that the language enjoys movement, as the act of speaking constitutes a motor skill; communication also includes body movements such as gestures, mimicry, to which the emotional component of motor skills is added (De Angelis, 2013). With respect to this theme, Macedonia and colleagues (2011) started from scientific evidence demonstrating that the gestures accompanying words influence the memorization of verbal information in the native language of the speakers, as well as in the learning of foreign languages. Pesce and collaborators (2009) also suggested that acute physical exercise facilitates the memory of words in a foreign language vocabulary thanks to the arousal it induces, as well as from the intellectual activation driven by the requests for cognitive exercise. However, the effects that gestures and movements have on the acquisition of the second language do not only concern cognitive functions such as memory and attention, but also involve the communicative aspect, motivation and intrinsic trust, as well as less stress in the learning (Alías, 2011; Chiva-Bartoll et al., 2015; González-Villora, 2013; Tomlinson &

Masuhara, 2009). Think of motor play as a means that can facilitate the student in activating not only physical, but also cognitive, affective and social mechanisms (Alías, 2011); motivation is intrinsic in movement (Coral, 2010) and it is thanks to it that children and young people can practice and strengthen language activities (Solomon & Murata, 2008).

In the twentieth century we recognize some methods of teaching foreign languages that are based on the use of the movement for the learning of students. These include Asher's Total Physical Response (TPR) (1970s), Suggestopedia or glottodidactics musical methods (Maule et al., 2006). The first, based on the coordination of speech and action, has contributed in particular way in outlining the role of the movement on language learning, primarily representing an alternative method of teaching; at a later stage its effective incentive towards long-term memorization of contents was also demonstrated (Spitzer, 2009, quoted in De Angelis & Botes, 2016). More recently, we have begun to study and experiment with the integration of homework in the language within the physical education hour or even the performance of the entire physical education lesson speaking only the second language. In the latter case, we talk about physical education in Content and Language Integrated Learning (PE-in-CLIL, Physical Education in CLIL). In this regard, several authors in Spain argue that physical education can contribute to the development of multilingual competence as it favors multiple moments of interaction between peers, which presuppose verbal and non-verbal exchanges, together with a specific vocabulary to communicate ideas and feelings (Figueras Comas et al., 2016); it is therefore a privileged space for the acquisition of foreign languages.

The purpose of this review is to evaluate scientific studies that relate the teaching-learning of the second language through actions and motor activity in developmental age. This can be useful for Primary school and Kindergarten teachers especially to evaluate, or rather become more aware, of the importance of the role of motor activity in this aspect of teaching. Salvador-García and collaborators (2017) conducted a systematic review of the literature on this topic, but in addition to having taken as a reference all levels of education, they decided to give greater importance to the physical component by excluding studies relating to the Total Physical Response method. In the present, interest has been given equally to both the motor and linguistic components and space has only been given to experiments proposed to the Primary schools and Kindergarten. Thanks to the early stages of research, the focus was more on: Total Physical Response (TPR) and physical education lessons in Content and Language Integrated Learning (CLIL). Some experiments that do not explain a particular methodology have been added to these, but which present the learning of the L2 vocabulary through physical activity and gestures. Of the 28 studies selected, most of those dealing with Total Physical Response, come mostly from the Asian continent, followed by physical education in CLIL and by those without specific methodology conducted in Europe, with only one research carried out in Australia - there are not any studies coming from Italy.

## **Method**

### **Search strategy**

The bibliographic search began in October 2020 and ended in March 2021. A first phase was conducted through the EBSCO database thanks to which various databases were consulted: Academic Search Index, British Library Document Supply Center Inside Serials & Conference Proceedings, China Science & Technology Journal Database, Complementary Index Database, Directory of Open Access Journals, ERIC, Gale Literature Resource Center, Gale Academic OneFile, Scopus, PubMed. The parameters on which the research was based were three: 1) second language through the use of the keywords "second language acquisition", "second language learning", "foreign language acquisition"; 2) physical education and movement with the words "physical activity", "motor activity"; 3) the target age of the research subjects with the terms "primary school", "elementary school", "preschool". The descriptors were combined with the use of the Boolean operators "AND" and "OR". The goal was to find experiments conducted exclusively in school environments and hours, specifically in Primary schools and Kindergarten.

A time frame between 2014 and 2021 was chosen and the option of only research reviewed by experts was selected - so that they were all reliable - and in English as a matter of practicality. At first, the results appeared too dispersed and inconsistent with the survey question, so much so that only 5 studies highlighting the learning of the second language through movement and gestures, could be considered potentially valid, without declaring a particular methodology. However, the potential presence of articles referring to the CLIL methodology in physical education and the Total Physical Response method immediately emerged. Therefore, a second phase began in which the keywords “CLIL” and “Total Physical Response”, “TPR” were added and used at different times.

**Inclusion / exclusion criteria**

After excluding duplicates and irrelevant results, 10 trials for Physical Education in CLIL (PE in CLIL) and 10 for Total Physical Response (TPR) were considered; it was also decided to consult Scholar, so that 9 studies for the TPR were selected, to which a further one found on Semantic Scholar was added. After verifying that these 10 had also been subjected to peer-review (of which 1 did not pass the check), we moved on to a second level of exclusion. Of the 10 studies on PE-in-CLIL, 7 were rejected as they concerned methodological or unfinished discussions, referring to secondary school samples or focused only on the motor aspect and not on learning the L2 language; the last one was excluded, because referring to the use of a web application. Of the 20 studies on TPR, 5 were excluded because of the difficulty of identifying the age of the sample or because they were aimed at secondary school children. In the last step of manual research encouraged by the reading and deepening of the articles previously included, 5 researches on PE in CLIL, in Spanish, were found and added (including one from 2010 and one from 2013, so before 2014), considered very valid for the purposes of the review and therefore included.

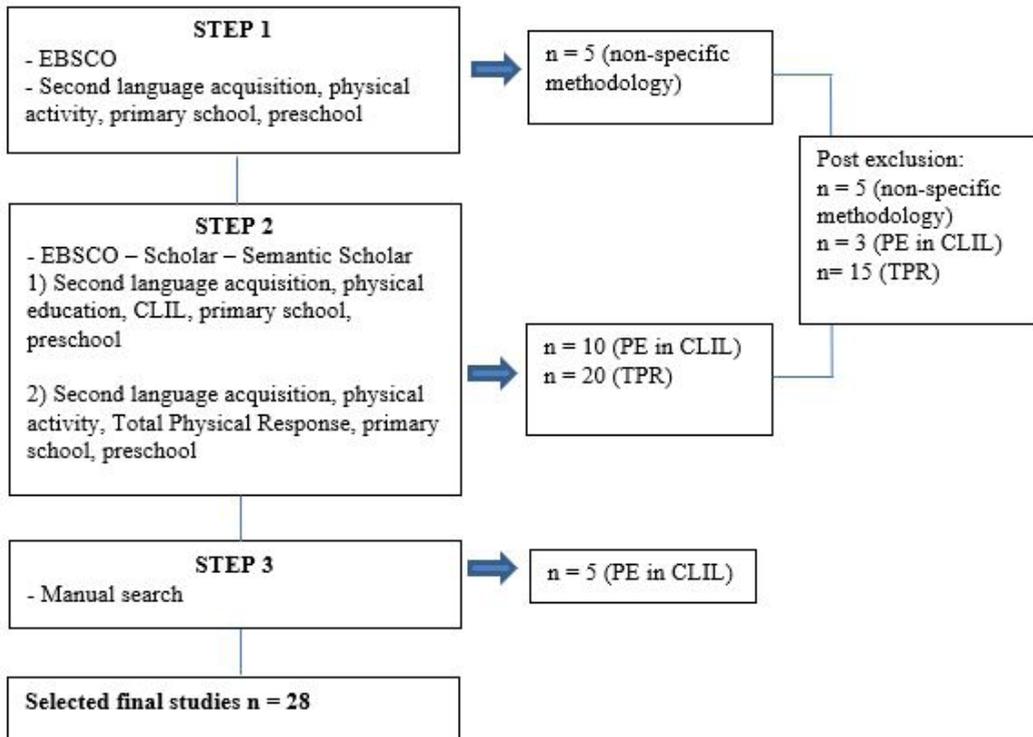


Figure 1 - Flow chart of the research phases: own processing source

## Results

At the end of the research, 28 studies were valid, of which 8 related to PE in CLIL, 15 on TPR and 5 on non-specific methodology. These have been divided into two tables based on the grade of school involved: in Table 1 you can find the Primary School research (21 studies), while in Table 2 those of Kindergarten (7 studies).

Table 1 - Selected studies related to Primary School

Author (Year) Search engine	Country Methodology L2	Sample- Children Age/Duration	Type of study	Focus	Results
Coral (2010) EBSCO-RACO	Spain PE in CLIL English	30 of 11-12 years/2 months; 78 from 10 to 12 years/4 months	Quasi- experimental research	Find ways to improve L2 competence through physical education	PE in CLIL with cooperative strategies has proved efficient in L2 learning
Coral & Lleixà (2013) EBSCO-Directory of Open Access Journals	Spain PE in CLIL English	27 of 10-11 years/not specified	Action research	Identify activities relevant to L2 and those that arouse more interest in students	Cooperative group games accord physical education and L2; the most interesting are those chosen by the students
Coral & Lleixà (2014) Scopus	Spain PE in CLIL English	27 of 10-11 years/1 year	Action research	Find practical solutions to operational problems	Merger for attractive and effective tasks; make sure they involve each component
Coral & Lleixà (2016) EBSCO- Academic Search Index	Spain PE in CLIL English	26 of 10-11 years/6 months	Action research	Verify the improvement of oral comprehension; identify the strategies that improve it	Notable improvements in listening comprehension; 6 strategies that promote it
Ó Ceallaigh et al. (2017) EBSCO- Complementary index database	Ireland PE in CLIL Irish	110 of 9-10 years/8 weeks	Qualitative research	Collect information on the use of this approach	More confidence to learn; positive impact; focus on vocabulary; balance challenge physical ed. and L2
Coral et al. (2018) EBSCO- Gale OneFile: News	Spain PE in CLIL English	11-12 years of 85 schools (traditional/ CLIL/ 1 with PE in CLIL)/3 school years	Quasi- experiment (ex post facto)	Assess the level of L2 in schools in Catalonia following the period 2009- 2012	General L2 improvement; low in CLIL classes; notable in classes with PE in CLIL

García-Calvo & Salaberri (2018)	Spain	39 of 10-11 years/1 year	Action-research	Assessing learner satisfaction: translation grammar approach vs PE in CLIL	With PE in CLIL students feel more satisfaction
EBSCO-OAlster	PE in CLIL				
	English				
Gil-López et al. (2019)	Spain	51 of 8-9 anni/4 lessons	Experimental research	Comparing learning, motivation and home study: traditional versus PE in CLIL	PE in CLIL more effective in learning and motivation, also study for less time at home
ResearchGate	PE in CLIL				
	English				
Zuri & Hanim (2014)	Malaysia	48 of 7-8 years/not specified	Quasi-experimental research	Evaluate the effectiveness in students who are slower to learn L2	Significant improvement, therefore TPR valid as a method
Semantic Scholar	TPR				
	English				
Nekoui & Shahrokhi (2016)	Iran	40 of 9-10 years/12 weeks	Quasi-experimental research	Effectiveness of TPR vs direct method	TPR more effective in learning L2 vocabulary
EBSCO-ERIC	TPR				
	English				
Toghyani & Khanehgir (2017)	Iran	34 of 6-7 years/una tantum; check after 2 weeks	Experimental research	TPR vs key words method for L2 words	Keywords method was found to be more effective than TPR
EBSCO-ERIC	TPR				
	English				
Fahrurrozi (2017)	Indonesia	40 of 9-10 years/4 months	Action research	Evaluate L2 vocabulary improvement	The vocabulary improves and the method amuses the students
EBSCO-ERIC	TPR				
	English				
Feng (2017)	China	60 from 8 to 10 years/ not specified	Case study	Analyze the advantages of TPR vs traditional method	TPR motivates students more by making learning more efficient
EBSCO-China Science & Technology Journal Database	TPR				
	English				
Tingting (2018)	China	20 of 9-10 years/2 months	Experimental research	Evaluate the effectiveness and understand the advantages vs the traditional method	TPR is more effective and improves student learning
EBSCO-Gale Literature Resource Center	TPR				
	English				

Uthaya Kumar & Sandaran (2018)	Malaysia	7 of 10 anni/ not specified	Experimental research	Analyze the functionality of songs and TPR	Songs and TPR improve listening and understanding skills
Scholar	TPR				
	English				
Nuraeni (2019)	Indonesia	30 from 5 to 11 years/ 1 month	Qualitative research	Describe the use of the method on a group of young students	Improvement of vocabulary and comprehension
EBSCO-Directory of Open Access Journals	TPR				
	English				
Husanović (2020)	Bosnia Herzegovina	35 of 10-11 years/ 1 intervention and test after 7 days	Quasi- experimental research	Demonstrate the effectiveness in the acquisition of L2 vocabulary vs traditional method	TPR is essential for learning L2 vocabulary, especially in students with a lower level
EBSCO-Directory of Open Access Journals	TPR				
	English				
Fadiana et al. (2020)	Indonesia	23 of 9-10 years/ 1 week	Quasi- experimental research	Improve vocabulary with the TPR	TPR has proved efficient in teaching L2 vocabulary
Scholar	TPR				
	English				
Rong (2021)	China	2 of 10-11 years, 2 parents and 2 teachers	Case study	Determine validity; how the teacher implements it; what are the difficulties of use	Valid and supported by textbooks; non- formative evaluation
EBSCO-Gale Academic OneFile	TPR				
	English				
Krüger (2018)	Germany	66 from 6 to 10 years/ 5 months	Quasi- experimental research	Analyze the effects of physical activity with L2 activity	Improvement of vocabulary and oral comprehension
EBSCO-Scopus	Non specifico				
	English				
Andrä et al. (2020)	Germany	148 of 8 years/6 months	3 Experimental researches	Check the effectiveness of gestures in the L2 vocabulary and long-term retention; evaluate gestures vs images	L2 vocabulary improvement and short and long term retention; equal effectiveness between gestures and images
EBSCO-Scopus	Not specified				
	English				

Source: own elaboration

Table 2 - Selected studies relating to the Kindergarten

Author (Year) Search engine	Country Methodology L2	Sample children- Age/Duration	Type of study	Focus	Results
Krishnavani et al. (2017) Scholar	Malaysia TPR English	10-age not specified/5 lessons	Naturalistic observational research	Analyzing the learning of L2 through the TPR	TPR helps students' cognitive development
Coşar & Orhan (2019) Scholar	Turkey TPR English	36 of 6 years/8 weeks	Quasi-experimental research	Analyze the effect of TPR on lexical competence	It is effective for learning words; more efficient than the traditional method
Siti & Tadkiroatun (2019) EBSCO-Directory of Open Access Journals	Indonesia TPR English	15 of 5-6 years/3 lessons	Naturalistic observational research	Describe how TPR can improve L2 in kindergarten pupils	Children are very enthusiastic, they master nouns and verbs better; they don't know how to use adjectives in communication
Cahyawati & Antara (2020) Scholar	Indonesia TPR English	35-age not specified/ second half of the school year	Quasi-experimental research	Determine the significant effect on the L2 vocabulary	The method is more effective than the traditional one usually proposed
Malividi et al. (2015) EBSCO-ERIC	Australia Not specified Italian	111 of 5 years/4 weeks + follow up after 6 weeks	Experimental research	Evaluate the effect of using body movements and gestures on the L2 vocabulary	Movements and gestures positively influence the L2 vocabulary
Toumpaniari et al. (2015) EBSCO-ERIC	Greece Not specified English	67 of 4 years/4 weeks	Quasi-experimental research	Analyze if physical activity and gestures influence the L2 vocabulary	Movements and gestures encourage the learning of L2; children like it
Padial-Ruz et al. (2019) EBSCO-PubMed	Spain Not specified English	88 from 4 to 7 years/5 weeks	Quasi-experimental research	Check the effects of physical activity and gestures on motivation and L2	Motor activities are a resource for students

Source: own elaboration

## **Discussion**

### **L2 teaching through physical activity in primary schools**

The results of the trials conducted in Primary Schools (see Table 1), show a prevalent interest in Spain for the teaching of L2 English integrated into physical education hours through the CLIL methodology (PE in CLIL). In fact, of the 8 studies considered, only one was conducted elsewhere, more precisely in Ireland (Ó Ceallaigh et al., 2017). In the first case there are authors who have activated various researches on the subject not only in an attempt to verify the effectiveness of this approach in teaching English (L2) (Coral, 2010; Coral & Lleixà, 2016; Gil-López, 2019), but also to understand which are the most relevant tasks for learning and the most attractive proposals from the children's point of view (Coral and Lleixà, 2013; Coral and Lleixà, 2014). Since few before them had sought scientific evidence in this regard (the first one ever was Rottman, 2007), these works together are valuable and unanimously confirm their potential. First of all, physical education has appeared as a particularly suitable discipline to welcome CLIL, as playing, especially cooperative game, involves children by making them have fun and leading them to experience greater satisfaction and motivation to learn a foreign language (García-Calvo & Salaberri, 2018; Ó Ceallaigh et al., 2017). Gil-López and colleagues (2019) proposed a teaching unit of 4 lessons consisting of 45 minutes of physical activity to third grade students (8-9 years) thanks to which different topics were addressed in English in a transversal way ( various classifications of animals: what they eat, how they move, where they live, how they reproduce, etc.): higher scores on motivation emerged compared to the group that continued to participate in traditional L2 lessons; self-study time at home also decreased in the experimental group. With regard to linguistic competence, Coral and Lleixà (2016) focused on verifying whether there was an improvement in oral comprehension (oracy) in 26 fifth grade students with whom the teacher had adopted different strategies. They started by using Total Physical Response, in which the pupils' actions confirmed the understanding of the commands, and then encouraged them to communicate thanks to specific organizations in the class group. For example, asking them to explain the games; carving out moments for team games with attackers, defenders and referees; conducting games in small peer teaching groups, but also cooperative games for the whole class. The descriptions of the activities, as well as the reports on the attitudes they had during their participation, encouraged understanding and communication. In addition, the ability to choose the game to play was very important for the students and for learning purposes, as the desire and satisfaction of performing that particular task outweighs the difficulty of explaining them in the target language; on the contrary, in such a context, students are more likely to try to speak in L2 (Coral & Lleixà, 2013). As regards the operational problems related to this methodology, Ó Ceallaigh and collaborators (2017) expressed the difficulties of the teachers involved in balancing the motor and linguistic tasks as the students found themselves particularly difficult in oral communication. Coral and Lleixà (2014) had previously reflected on this aspect: if a linguistic task is too demanding the learner is discouraged, if it is too simple it is not stimulated enough from a cognitive point of view; in the same way, if the motor task is too simple, the student loses motivation in the game because he thinks about the difficulties of the target language, but if it is very demanding from a physical point of view, he concentrates only on that, thus interfering with the learning of L2. Based on this perspective, the Spanish authors have come to the conclusion that the tasks must be balanced in the 4 components: motor skills, communication, cognitive and social / personal skills. The effectiveness of motor activity on L2 learning was also confirmed in the two experiments that can be consulted at the end of Table 1, respectively conducted in Primary Schools in Germany (Andrä et al., 2020; Krüger, 2018) and in which no particular methodology was used, but gestures, movements and physical games. Thanks to them there has been an improvement in the vocabulary and even Andrä and collaborators (2020) have noted the effects on the retention of words, not only in the short term, but also in the long term.

More than positive results also emerged in the trials on Total Physical Response conducted almost exclusively in Asia (China 3, Indonesia 3, Iran 2, Malaysia 2) with the exception of

one made in Bosnia and Herzegovina. Zuri and colleagues (2014), for example, tried to use this approach with 48 pupils aged 7-8 who were slower in learning; they found significant improvement. Similarly, Husanović (2020) also found particular support for pupils with a lower L2 level. Feng (2017), Husanović (2020), Nekoui and Shahrokhi (2016) and Tingting (2018) compared TPR with the traditional method, ascertaining that the former has proved to be more effective, as it is fun and motivating to learning for the children; in particular, it is used to encourage the understanding, knowledge and acquisition of vocabulary (Fadiana et al., 2020; Fahrurrozi, 2017; Nuraeni, 2019). Toghyani and Khanehgir (2017) were the only ones who compared TPR with the keyword method, through a research carried out on 34 children with a one-off meeting and a check carried out after two weeks; from the results that emerged from the survey they declared the effectiveness of both, but the second method to a greater extent than the first one. The most recent study by Rong (2021) instead suggests that this methodology has a prestigious position in China, since it is supported by specially created textbooks that report exercises, songs, images, etc .; however, as the author himself states, the evaluation based on profit tests contradicts the spirit of this approach, so a formative evaluation would be more appropriate.

### **Movements and gestures: the first approaches to L2 in kindergarten**

Looking at Table 2 related to the experiments conducted in kindergartens, it is possible to immediately notice that these are fewer than the previous ones just analyzed. One explanation could be that in many countries, including Italy, the teaching of the second language is compulsory starting from Primary School, thus bringing out interest in the issue in more advanced stages of schooling. Another finding is that the CLIL methodology is not taken into consideration for this age group, instead the Total Physical Response is present with 4 studies presented in Asia with the exception of one carried out in Turkey (Coşar & Orhan, 2019) and researches that do not concern particular approaches, but require movements, gestures and physical activity for the acquisition of L2 (Malparmi, 2015; Padiál-Ruz, 2019; Toumpaniari, 2015). Among these, the study by Malparmi and collaborators (2015) is very interesting; they took a sample of 111 children aged 4-5, dividing them into 4 groups to verify the learning of L2 (Italian). In relation to Italian words, the students of one group had to perform movements, while others belonging to the second group had to perform movements regardless of the language content; finally, a third group had the task of accompanying the words to pantomimic gestures performed while seated and a last group only to repeat them verbally, always remaining seated. Supporting words with movements and gestures positively influenced the learning of L2 and the authors stated that this approach appears to be an effective strategy with preschool children. Also Padiál-Ruz and colleagues (2019), after applying a combination program of physical activity and gestures for learning English vocabulary on 88 schoolchildren aged 4 to 7, have established that physical activity is an important resource for such small pupils. Furthermore, the movement is widely appreciated and encourages the acquisition of a foreign language (Toumpaniari et al., 2015). As for the experiments on TPR, as for the Primary School, the advantages of its use have been confirmed, including the fact that it is more engaging than the traditional method (Cahyawati & Antara 2020; Coşar & Orhan, 2019). Despite this, Siti and Tadkiroatun (2019) found that it is true that this method increases enthusiasm and facilitates pupils in mastering nouns and verbs, but pupils of this age are unable to connect them in communication through the adjectives.

### **Conclusions**

It is possible to argue that all the experiments carried out have proved the effectiveness of the teaching-learning activities of the second language through movement: both the CLIL programs in the area of physical education and the Total Physical Response method; as well as approaches without a specific method but focused on activities and movements, motivate the student and help him to face the acquisition of L2 with pleasure and without stress. In this review of the literature it has become clear that the role of motor learning is fundamental in

encouraging the learning of the second language in primary school and kindergarten students. Although there are several studies that have investigated this aspect, to date they are limited to certain geographical areas and this makes us understand how much the issue is underestimated and not adequately investigated. As emerged from the review, the CLIL methodology applied to the area of physical education is the subject of research limited to Spain, which in recent years has “pushed on the accelerator”, rightly, trying to understand the repercussions not only on the learning of language, but also on maintaining the regular achievement of physical education goals (e.g. Coral et al., 2017). Salvador-García and collaborators (2019) concluded that the data collected (on a sample of 48 pupils) suggest that CLIL may be a valid approach to be integrated without compromising the aforementioned aspect. Therefore it is impossible not to evaluate this methodology as favorable, in agreement with the different authors (Coral, 2010; Coral and Lleixà, 2016; Coral et al., 2018; Ó Ceallaigh et al., 2017; García-Calvo & Salaberri, 2018; Gil-López et al. 2019). They highlighted the ability to involve and motivate students thanks to the playful aspect of the activity; the possibility of improving communication skills thanks to collaboration with peers in cooperative and group games; the focus on the motor task rather than on the linguistic one, decreasing the stress load caused by facing an unknown subject and often considered by the students themselves as difficult, gaining greater confidence and self-esteem. Research on Total Physical Response also confirms what was stated by its creator Asher, who on several occasions recalled how this method is particularly suitable thanks to the fact that it recalls the natural process of acquiring the mother tongue language. In addition, performing movements and actions stimulates the right side of the brain, encouraging playfulness and fun, making L2 study time more enjoyable and engaging. All the research comes, also in this case from specific geographical areas such as China, Indonesia, Malaysia, etc., and supports its use not only with Primary School children, but also with the little ones of Kindergarten, in what is considered a favorable approach to understanding and acquiring vocabulary. We agree with Toumpaniari (2015) and Padial-Cruz (2019) that in general physical activities not only promote the learning of the second language and other subjects, but they can promote an increase in the amount of movement and therefore improve physical and mental health of the students. It is hoped that a more widespread application of these L2 teaching approaches will take place in the school, which can be integrated with methodologies already used by teachers in order to remedy those curricular gaps of which physical activity is still today “victim”. A concept that fortunately in the schools of different nations, also thanks to legislative interventions, training, research, goes towards a definitive overcoming. In Italy there is still a need to commit to this, overcoming even the unjustified idea that sometimes equates it to a “loss” of disciplinary hours to be allocated instead to subjects that are still considered more important today - such as Italian and mathematics neglecting the knowledge that thanks to an adequately designed physical education it is possible to teach and make better learn even these subjects considered more difficult.

We are for a *culture of movement* that contributes to the training of the pupil-Person in its entirety, with its own scientific dignity, to be enhanced and encouraged in schools. Surely both pupils and teachers would benefit.

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