

How our Bodies can Support the ‘Weight’ of Cognition: The Role of the Body in the Second Language Classroom

Alex Murphy

Professional Master of Education (Post-Primary)
Trinity College Dublin



My name is Alex Murphy. I am a newly qualified French and English teacher currently working in Lucan, Co. Dublin. My undergraduate degree in Drama, Theatre and Performance Studies in NUIG was the springboard for my keen interest in the use of the body in the classroom. Our bodies create meaning through interpreting the world around us; thus, meaning ceases to exist without them. Aside from second language acquisition, my other interests lie in the areas of sociology of education and guidance. I am very interested in the idea of conducting further research in any of the above fields. Thank you to STER for this wonderful opportunity to share my research!

KEYWORDS: Language, The Body, Body-centric, Second Language Learning, Kinaesthetic

INTRODUCTION

This paper will discuss the role of the body in the second language classroom. This short article is part of a larger study that examined *What role the body holds, if any, in the second language classroom?* The main aims of this research were as follows:

- Explore existing literature pertaining to body-centric classroom techniques;
- Interpret and analyse literature from a perspective that considers how we use our bodies to acquire a second language;
- Critique and challenge existing norms surrounding standard classroom practice and discuss potential outcomes of a body-centric practice, where possible.

The rationale for this paper stems from the role of the body in modern society becoming more prevalent. It appears that from the end of the twentieth century leading into the start of the twenty-first, sociologists have become interested in the physical body for a variety of reasons. These include “the influence of feminism, debates over control of the body, the growth of consumer culture and an apparent increase in reflexivity about the body contemporary society” (Horne, 2000, p.73). Considering the body’s importance in society as a whole, it is necessary to examine what role it plays in one of society’s longest-standing institutions: the school. An examination of the body in the classroom draws attention to questions of “regulation”, such as “how the movement and habits of human bodies have been confronted, challenged, accommodated, and re-formed in educational institutions and settings” (Rousmaniere & Sobe, 2017, p.1).

This paper developed from my own personal interest and engagement with the kinaesthetic aspects of language learning. I was exposed to these techniques under the instruction of Dr Erika Piazzoli, Dr Carmel O’Sullivan and Dr Ann Devitt during my PME. The application of some of these techniques to my own teaching practice, particularly within the confines of the new Junior Cycle specifications, illuminated a passion for movement within my own classroom. I saw this study as an opportunity to conduct further research into areas such as embodied cognition, gesture and the physical manipulation of objects and to consider how impactful these can be within the realm of second-language acquisition.

CONTEXT

The field of embodied cognition, put simply, refers to a “learning experience grounded in the mind, senses, body, imagination, reflection and social sphere” (Piazzoli, 2018, p.25). Duffy, states that a basic premise within theatre is that ‘drama is doing’, with embodiment being the study of how that doing influences and enhances the actual learning (2014, as cited in Piazzoli, 2018). Embodied cognition has been defined elsewhere as a multimodal playful process that requires the involvement of the human body in the cognitive process (Folgia & Wilson, 2013;). Unlike a great deal of cognitive activities associated with schooling, learners are placed at the centre of their learning through embodiment, as it provides opportunities for tangible, physical interactions with the content of the lesson (Ayala, Mendivil, Salinas & Rios, 2013). This is exemplified by simple human processes, such as breathing, that form an integral part of the embodiment process. Piazzoli (2018) argues that in educational contexts where “learning is equated with the mind only”, that fundamental aspects of speech, such as breathing, “can become completely overlooked” (p.30). Nguyen and Larson (2015) nuance this argument further

in saying that being physically aware is essential to the embodiment process but that this alone does not “constitute embodied learning consciousness” (p.338). They conclude that mindful action should form part of the process, but that reflection is the key ingredient in refining “ensuing mindful action” (p.338), a belief shared by Piazzoli (2018). It is not enough to get students up playing a game which involves passing a ball and conjugating the verbs as the ball is passed, for example. The students should subsequently engage in a discussion as to why and how this was beneficial to their learning. The teacher can prompt reflection in an oral or written format, before allowing learners to apply their knowledge subsequently to a more ‘concrete’ exercise e.g. filling out a verb table. Essentially, individuals can only operate internally through having first operated externally, as all of our mental processing is a derivative of our external reality (Ellis, 2008). What is most interesting about embodied cognition is its boldness in challenging educational norms and seeking an amalgamation of various teaching styles. It does not look to move away from what already functions, but instead invites us to assess our pre-existing ideas about learning through engaging in, for example, “unexpected physical/manual exercises” or using “objects and learning space arrangements from other disciplines” (Nguyen & Larson, 2015). Embodiment can be viewed, essentially, as a theory that grants the body its rightful role within the learning process.

METHODOLOGY

The literature review provided a broad overview of the available literature surrounding theories that link the physical body to language learning. This was carried out not only to familiarise the reader with the background necessary but also to provide the researcher with sufficient information to undertake a novel study and not to replicate the work of others.

Following on from this, the steps of the SLR were laid out and explained clearly. Using Siddaway’s (2014) five-step process, an SLR was carried out to yield a set of results that would address the Research Question. The literature was scoped, meaning that a wide search was carried out to determine what search terms would be used. It was decided, based on this wide search, that ‘embodiment’ and ‘second language learning’ (and their synonyms/composites, included in the Boolean phrase) were the two most appropriate terms. It was at this point that the research questions were reduced from the original three to one.

Based on the scoping, the Research Question was set out, which is as follows: What role does the body hold, if any, in the second language classroom? The change in Research Question happened for a variety of reasons, including the fact that the word ‘body’ was yielding too many irrelevant papers while the idea of conducting a study centred on ‘Modern Foreign Languages’ was simply too limiting. Inclusion and exclusion criteria were then generated in relation to the findings of the scoping process and were also based on Ryan’s (2010) proposed guidelines. Based on the Boolean phrase generated, there were a total of 199 results from the two databases selected (BEI and ERIC). These were screened based on the title, abstract and by then reading the full text if necessary. Having completed the screening process, the study was left with 14 articles for consideration in the analysis and interpretation chapter.

Author(s)	Title
Hald, de Nooier, van Gog & Bekkering (2015)	Optimizing Word Learning Via Links to Perceptual and Motoric Experience
Macedonia & Knösche (2011)	Body in Mind: How Gestures Empower Foreign Language Learning
Holme (2012)	Cognitive Linguistics and the Second Language Classroom
Li, Chen, Cheng, Tsai (2016)	The Design of Immersive English Learning Environment Using Augmented Reality
Tomczak & Ewert (2015)	Real and Fictive Motion Processing in Polish L2 Users of English and Monolinguals: Evidence for Different Conceptual Representations
Shiang (2018)	Embodied EFL reading activity: Let’s produce comics
Toumpaniari, Loyens, Mavilidi & Paas (2015)	Preschool Children’s Foreign Language Vocabulary Learning by Embodying Words Through Physical Activity and Gesturing
Lan, Fan, Hsiao & Chen (2018)	Real body versus 3D avatar: the effects of different embodied learning types on EFL listening comprehension
Cannon (2016)	When Statues Come Alive: Teaching and Learning Academic Vocabulary Through Drama in Schools
Saéz (2015)	Enhancing the Role of Meaning in the L2 Classroom: A Cognitive Linguistics Perspective
Atkinson (2015)	Extended, Embodied Cognition and Second-Language Acquisition
Gorham, Jubaed, Sanyal, Starr (2019)	Assessing the efficacy of VR for foreign language learning using multimodal learning analytics
Huang & Huang (2015)	A scaffolding strategy to develop handheld sensor-based vocabulary games for improving students’ learning motivation and performance
Si (2015)	A Virtual Space for Children to Meet and Practice Chinese

Within the research pertaining to the body's role in the classroom in general, there is a noteworthy absence of post-primary level students. This moved the study in a different direction when it was uncovered that little to no research exists that links 'Modern Foreign Languages' to 'Secondary Education'. If this gap was addressed by researchers, post-primary teachers would have more theoretical background in which they could ground teaching and learning practices that make explicit use of the body. It is also worth mentioning that there was a disconnect between some of the bodily-related practices and that there is a need for more empirical and evidence-based international research. The effectiveness of explicit use of the body and its immediacy to teaching and learning is difficult to dispute but requires further research and development.

FINDINGS AND DISCUSSION

For the purpose of this article, four of the findings will be presented and discussed to shine some light on what role, if any, the body holds in the second-language classroom. The first central theme emerging from the research was the concept of 'cognitive load' (referred explicitly in 42% of the 12 articles consulted), which pertains to the amount of effort required for a learner to assimilate a topic successfully. Researchers argue that the way in which information is presented to the learner can impact the cognitive load of the task and that methodologies making explicit use of the body can sometimes overwork a student. For example, relay races are popular among language teachers. These ask students to race and retrieve information to fill in the blanks of a text, moving from one end of the room to the other and recalling chunks of text. This is only helpful if the students if the vocabulary has been pre-taught or the students are exposed to it repeatedly before use, otherwise it poses too much of a load on their working memory.

The most interesting example comes from Gorham, Jubaed, Sanyal and Starr (2019), who analysed the efficacy of multimodal learning to assess students' acquisition of Japanese script. While the participant group was arguably too small and too narrow to produce a fully comprehensive set of results (3 educated women in their 20s), an interesting conclusion was suggested by the researchers. In their results, the woman who acted as the control participant (i.e. did not learn Japanese script using interactive technologies) actually scored best on the recall test. They attributed this in part to the fact that the test mimicked her learning conditions while it stood in contrast to those of the other two learners. However, the more important suggestion was that the two test participants were distracted by other features of their interactive learning environment such as the sounds, images and background provided in the game. While the control participant performed better because she was working in a 'true' physical

environment (i.e. using her hands and eyes to interact with the real material in front of her), Lan, Fang, Hsiao and Chen (2018) contradict this point in a separate study, by saying that working with a screen can prove to be less distracting than manipulating real-life objects. The main issue facing the body in the language classroom in relation to 'cognitive load' seems to be the idea of processing the right information, at the right time (Hald, de Noojer, van Gog & Bekkering, 2015). Following this logic, it is not necessarily the amount of times a student is exposed to information that helps them to retain it, but rather the type of information they are exposed to and how they are exposed to it.

What is also briefly considered in some of the papers is how cognitive load affects higher and lower ability students. Speaking generally of students in the classroom, it is made clear that those with a higher working memory will perform better, thus producing better outcomes overall (Sanchez & Wiley 2006, as cited in Lan, Fang, Hsiao & Chen, 2018). However, through a deeper analysis of the works, it can be seen that this is a somewhat sweeping statement, and that students' performance is also affected by the techniques employed. For example, Rowe et al. (2013) write that the use of gestures in the classroom, and specifically the effectiveness of their usage, should be considered in relation to the characteristics of the learners involved (as cited in Hald, de Noojer, van Gog & Bekkering, 2015). One paper argues that while practices such as hand-held games may enhance vocabulary ability, it does not have a proven effect on retention of vocabulary (Huang & Huang, 2015).

It can be seen in Shiang's (2018) work that low-ability students are given more consideration in general when it comes to body-related practices, as they write that weaker students could benefit from being exposed to concepts such as situation models. However, there is no mention of how these styles of learning could benefit high-achievers (p.124). The distinction between 'high' and 'low' ability in these instances merely lies in the individual student's ability to retain and re-use vocabulary and structures over an extended period. Oftentimes, body-centric activities are normally geared at students with a reduced lexical range, to allow them to build confidence in the basics of the language. This could be a simple exercise such as matching pairs physically with sheets of paper or identifying images stuck around a classroom wall. It is more challenging to curate kinaesthetic activities that suit students who are attempting to, perhaps, build sentences independently or work with more complex grammatical structures. Students who are at this stage could feel frustrated by tasks that do not meet the stage at which they are in the language. Given the body's somewhat unstable stance within second-language learning, it is important that it can cater to a wide demographic rather than a subsection of the classroom if it wishes to establish itself within an already saturated field of

practical pedagogy. Cognitive load is an essential aspect of teaching and learning and should be considered by practitioners and researchers alike when contemplating the explicit use of the body in the classroom to avoid overworking, or perhaps underworking, learners.

The body is inextricable from learning and should be used as a companion tool to regular teaching and learning practices. For example, Shapiro and Leopold (2012) share that drama should be used to “promote” the acquisition of vocabulary structures as well as more spontaneous use of language (as cited in Cannon, 2016, p.387). The verb ‘promote’ is an interesting choice here, as it does not necessarily commit to the process being effective for all students, but rather proposes that it could create a differentiated path to learning. Lightbown and Spada (2013) say that embodied practices improve motivation and attitudes, which in turn “may” improve learning outcomes (as cited in Gorham, Jubaed, Sanyal & Starr, 2019, p.12). Again, they are not making concrete promises to educators that this will be universally effective, but instead encourage them to consider alternative options. Activities explicitly involving the body may also be used to attract students’ attention, which in itself is positive, as this can have an effect on their short-term memorisation of vocabulary (Huang & Huang, 2015). This notably small outcome or change could benefit weaker students, but it is not at any point suggested as a process that has to replace ‘regular’ teaching and learning.

CONCLUSION

In light of this research, second language policy makers and teacher could consider making the body a more integral part of the learning process. By first basing their practice on student age, proficiency and interests, teachers could then exploit the wealth of knowledge the body holds in a variety of ways. Students would in turn, create highly personalised, individual work that they take pride in, while developing a sincere and authentic engagement with the subject matter in question. Instead of vaguely acknowledging its existence in curriculum outlines, it should instead be considered as a vital asset to both the teacher and student toolkit. This study has highlighted that the body is very much a fundamental component in the acquisition of a second language, as well as other processes, and should be treated as such by policy makers, practitioners and students alike.

Notably, in the context of the Coronavirus pandemic, it has been difficult to apply these findings to classroom life. One element that has worked well however is dividing work between what is physically in front of students (i.e. the book/iPad on their desk) and what is displayed on the screen. This dual display of information involves their bodies, as they move between two visuals to build on their learning. This is used regularly in our ‘Bingo’ activities. The students have

the French words in front of them, while the French and English of each word is projected onto the board. The teacher then calls out the words in English, providing multiple modes of entry for the language, allowing for repetition and translation of key vocabulary.

The research indicated that the body's role in the classroom is in fact ever-present in learning but can be exploited by practitioners and students alike through thoughtfully planned lessons and a more open perspective towards movement and working with the body. At no point within the studies did any researcher suggest a divide being drawn between the mind and body but instead continuously recommended that we consider them as entities that operate in tandem within the realm of Second Language Acquisition.

ACKNOWLEDGEMENTS

I wish to extend my sincerest gratitude to my thesis supervisor, Dr Erika Piazzoli, for her expert guidance and kindness. I would also like to thank the academic and administrative staff of the PME programme in Trinity College Dublin for supporting and developing my passion for education.

REFERENCES

- Andrews, R. (2005). The Place of Systematic Reviews in Education Research. *British Journal of Educational Studies*, 53(4), 399-416. Retrieved from <https://www.jstor.org/stable/3699275>
- Ayala, N.A., Mendivil, E.G., Salinas, P., & Rios, H. (2013). Kinaesthetic Learning Applied to Mathematics using Kinect. *Procedia Computer Science*, 25, 131-135. doi: 10.1016/j.procs.2013.11.016
- Cannon, A. (2016). When Statues Come Alive: Teaching and Learning Academic Vocabulary Through Drama in Schools. *TESOL Quarterly*, 51(2), 383-407. Retrieved from <https://doi.org/10.1002/tesq.344>
- Ellis, R. (2008). *The Study of Second Language Acquisition*. Oxford: Oxford University Press
- Gorham, T., Jubaed, S., Sanyal, T. & Starr, E. (2019). Assessing the efficacy of VR for foreign language learning using multimodal learning analytics. *Professional development in CALL: a selection of papers*, 101-116 doi: 10.14705/rpnet.2019.28.873
- Hald, L., de Nooijer, J., van Gog, T., & Bekkering, H. (2015). Optimizing Word Learning via Links to Perceptual and Motoric Experience. *Educational Psychology Review*, 28(3), 495- 522. doi: 10.1007/s10648-015-9334-2
- Horne, J. (2000). Understanding Sport and Body culture in Japan. *Body & Society*, 6(2), 73- 86. doi: <https://doi.org/10.1177/1357034X00006002004>
- Huang, Y. & Huang, Y. (2015). A scaffolding strategy to develop handheld sensor-based vocabulary games for improving students' learning motivation and performance. *Education Technology Research and Development*, 63, 691–708 (2015). doi: <https://doi.org/10.1007/s11423-015-9382-9>
- Kosmas, P., Ioannou, A. & Zaphiris, P. (2019). Implementing embodied learning in the classroom: effects on children's memory and language skills. *Educational Media International*, 56(1), 59-74. doi: 10.1080/09523987.2018.1547948
- Lan, Y., Fang, W., Hsiao, I.Y.T. & Chen, N.S. (2018). Real body versus 3D avatar: the effects of different embodied learning types on EFL listening comprehension. *Education Technology Research and Development*, 66(3), 709–731. doi: <https://doi.org/10.1007/s11423-018-9569-y>
- Nguyen, D. & Larson, B.J. (2015). Don't Forget About the Body: Exploring the Curricular Possibilities of Embodied Pedagogy. *Innovative Higher Education*, 40(4), 331-344. doi: 10.1007/s10755-015-9319-6.
- Piazzoli, E. (2018). *Embodying Language in Action*. London: Palgrave Macmillan.
- Rousmaniere, K. & Sobe, N.W.(2018). Education and the body: Introduction. *Paedagogica Historica*, 54, 1-3. doi: 10.1080/00309230.2017.1409774
- Shiang, R.F. (2018). Embodied EFL reading activity: Let's produce comics. *Reading in a Foreign Language*, 30(1), 108-129. Retrieved from: <http://nflrc.hawaii.edu/rfl/April2018/articles/shiang.pdf>
- Zawacki-Richter, O., Kerres, M., Bedenlier, S., Bond, M., Buntins, K. (Eds.). (2020). *Systematic Reviews in Educational Research*. Netherlands: Springer.