CORPORALITY AND DIGITAL EDUCATIONAL ENVIRONMENTS

CORPOREITÀ E AMBIENTI EDUCATIVO-FORMATIVI DIGITALI

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ABSTRACT

The body conception, in its relationship with the mind, has undergone many changes throughout human history. An increasing use of technology has been further accelerated due to the pandemic and pedagogists were involved in re-design the educational processes. Taking into account the neuroscience study, the article reports a research project carried out to investigate the role of the body in e-learning. Main findings have been analysed aimed at spreading the lifelong, lifewide and lifedeep learning.

La concezione del corpo, nella sua relazione con la mente, ha subito molte trasformazioni nella storia dell'uomo. Il progresso tecnologico, acceleratosi a seguito della pandemia, ha indotto i pedagogisti a ripensare i processi educativi. Muovendo dalle neuroscienze, l'articolo riporta i risultati di un progetto di ricerca realizzato per indagare sul ruolo del corpo nell'*e-learning*. I risultati principali sono stati analizzati con lo scopo di implementare il *lifelong, lifewide* e *lifedeep learning*.

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[1] The whole research project and the article are the result of joint work. Anyway, specifically, G. Aleandri is the Author of Introduction, 1, 2, 3 and Conclusions and perspectives paragraphs.

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Introduction

Over the centuries, the relationship between body and mind has been the subject of numerous studies and reflections coming from various fields; from the sociological and the historical-cultural through to the psychological-philosophical. Wanting to narrow the field to western culture, to outline a brief historical excursus, it was decided to start from the Classical Greek civilization, which practiced body care for the purpose of war, as well as to strengthen Greek athletes in preparation for the Olympic games.

In this historical period, Aristotle's concept of body and mind unity contrasted with Plato's philosophy of body and mind dualism; Aristotle also considered the education of the body to be equal to other forms of education (Aleandri, 2004). Then came the classical Roman civilization, during which education was no longer the main goal of the culture of the body. Instead, it was hygiene and health care (Sarsini, 2013).

Later on, in the Middle Ages, with the spread of the Christianity, the body was, in a way, overlooked because it represented evil and sin, and it was in fact chastised with torture (Le Goff, 2016). After the Middle Ages, with the new trend of Humanism, some intellectuals, including Erasmus of Rotterdam, glorified the educational and moral value of physical movement. In Italy, this idea was shared by Vergerio and Vittorino da Feltre, supporters of the importance of physical education (Aleandri, 2004).

Then follows the cultural movement of the Renaissance that, thanks to the doctor and pedagogue Girolamo Mercuriale, gave the body the educational value that had been forgotten in the Middle Ages (Isidori, 2002).

Throughout the 1600s, the concept that physical education, particularly in young people, improved body function even in terms of learning, began to strongly establish itself. Belonging to this century is Locke, known as the main exponent of empiricism, which recognises that experience lived through the senses is the only way to access knowledge. In the 18th century, Pestalozzi believed in the importance of the education of the body for the achievement of a "perfect" human education (Isidori, 2017).

Between the 19th and 20th centuries, intellectuals of different movements glorified the unity of body and mind: Marx maintained that body and person are one and the same and that, also in agreement with Herbert and Froebel, it was not possible to distinguish between body and mind without it being to the detriment of both. During the 1900s from the fascist regime to now, while recognising the dual subjective and objective dimension of the body, it turns out that the dimension of

had been emphasised by virtue of the identification of psychological well-being (Sarsini, 2013).

Subsequently, in modern society, physical activity moved beyond the aesthetic aspect of the body, playing a leading role in the recomposition of the psychosomatic unity of the person (Popper, 1984; Giddens, 1991; Varela, 1996).

From an existential, philosophical point of view, there was a move from Cartesian dualism, which Husserl (2008) criticised for not attributing a degree of consciousness to the body, through the Sartrean perception (Sartre, 2002) founded on the idea of the body as an elusive element, as opposed to that of Merleau-Ponty (1945), whose theory was based on the immediacy of the body in the world, which makes knowledge possible (Mariani, 2004).

Nowadays, in order to deal with the complicated issue of the role of the corporality in educational processes, it is appropriate to take into account all the situations when educational activities took advantage of technology.

Post-modernity has allowed us to improve and broaden our opportunity thanks also to the technological progress (Aleandri, 2007).

In fact, in the last decades digital transformation and technological innovation have led to an increasingly, interconnected society and have revealed positive and negative aspects of this new reality.

If, in fact, educational practices were able to renounce to the carnal dimension by settling for the virtual dimension, the body/flesh could have experienced its alienation with suffering, if one thinks of the body as the protagonist of knowledge and perceptive experience (Dewey, 1938).

If the body-mind dichotomy has been surpassed, as previously stated, it seems a new duality is emerging, regarding the body in the real dimension and the body in the virtual dimension.

This research project intends to understand if and in what way the increase in the use of virtual environments for educational activities can lead to physical and mental suffering, and if this is the case, which is felt more strongly.

The research also intends to understand what has been, and continues to be, the role of the corporality in training-educational activities carried out in digital environments, and at the same time, to analyse possible positive aspects resulting from pedagogical strategies that make use of digital technologies.

Further research aims to understand how adult students experience and understand the distance teaching-learning and to analyse if and how digital technologies have made educational processes more effective.

1. Novel Corona Virus: the added value of e-learning

The different technologies have undergone an additional increase in use due to the Covid-19 pandemic crisis that unfortunately has been added to the already existing global crises (Morin, 2020).

Among the strategies that were immediately implemented by almost every country in the world, was enforced home confinement.

Educational processes in particular, had to reorganize their methods in a very short time by changing from face-to-face educational-teaching activities to doing the same through digital platforms. It should be pointed out that even before the spread of the Coronavirus, educational processes took advantage of e-learning to achieve innovative and productive learning (Gallino, 1995; Rivoltella, 1999; Calvani, 2005; Rivoltella, 2008; Galliani, 2012; Aleandri, 2019; Torales, O'Higgins, Castaldelli-Maia & Ventriglio, 2020; Aleandri & Politanò, 2021).

The artificiality of digital platforms has anyway represented a different way to express a kind of sociality anyway, which can certainly not be considered to be a substitute for a live sociality where bodies can also communicate directly and non-verbally. According to Bateson (1995), at the heart of every form of learning is the relationship within which non-verbal language is a priority (Pati, 1984; Pinto Minerva, 2004). Physical distance between people, in fact, has put to the test the union of body and mind - called pathos by Aristotle - that encourages the emotional involvement of the other and that is fertile ground for empathy (Aleandri, 2017); an empathy that, in turn, is crucial to escape egocentricity and to create an ethical personality, dedicated to listening (Bellingreri, 2005; 2013) that nowadays represents a skill, among others, that is functional for a collaborative and fair society, and that should be promoted in schools just like the teaching of cognitive skills (OECD, 2021).

Pedagogical studies and researches, in fact, have implemented some considerations in order to welcome the ongoing changes and protect educational processes (Corsi, 2020; Musaio, 2020; Blumenstyk, 2020; Murphy, 2020; Aleandri & Battista, 2023) because "education goes through life like a river making it more fertile. Like a river that flows, education carries in itself the change. It moves forward, while lasting, in an experience that extends between the past and the future" (Iori, 1988, p. 183).

Today and future's education cannot, and must not, keep out the numerous advantages of technology and learning virtual environments. Last decades' twistings have been characterising an undefined future, and by doing so the biggest international organizations (UNESCO, 2021; Eurydice, 2022; OECD, 2023) have agreed on a need of a lifelong learning education that, while going beyond the

singularity of formal education and pressing on diversification of learning settings and the necessary skills, is able to define new horizons of meaning that will lead, first and foremost, future education toward inclusion and fairness (UNESCO, 2015). The triple setting of Lifelong Learning, which is therefore Life-deep and Life-wide, is the concept in which this paper goes in and that takes into consideration the aspects of e-learning that, while merging into the current web 4.0, needs people ready to adapt to it and, moreover, to move up social, professional and future educational demands (Aleandri, 2019). Online education has long recognised to be as one of the tools more adequate for lifelong learning pedagogy as it allows to create personalised spaces, times and methods (Trentin, 2001; Maragliano, 2021; 2022).

2. A body-mind unity for a participated education

The value of body-mind connection represents a significant idea since it is increasingly common the need to consider the man with a holistic vision suitable for making a person able to deal with constant changes throughout life (Morin, 2020; Unesco, 2021). It is important to ask ourselves: what were and are educational-pedagogical strategies adopted by man to better deal with the ongoing changes? What are the strategies he needs to learn? What is the role of the pedagogy in this world and how can it be helpful?
Among the various "tools" by which people can protect themselves from vagueness and confusion, typical feelings of an hectic post-modernity (Balandier, 1993; Arendt, 2012; Fook & Gardner, 2017), is the importance of connection between experience and learning; since last century it has been supported by important exponents such Dewey (2014) in his famous postulate *Learning by doing*, Piajet (2000) in which the thought is internalised action, and Bruner (2016) who was persuaded of the preciousness of experiential practice in educational-didactic practice. More relevant and contemporary researchers supported the efficacy of experiential activity while training over the life cycle in the light of the innumerable modifications that seem increasingly and without restraint come in succession in today's society (Santomauro, 1967; Kolb, 1984; Aleandri, 2011; Bertagna, 2019; Tramma, 2019); the Engestrom's expansive learning theory (2019) as well, founded on the idea that educational processes were constantly evolving because were influenced by the social-cultural trends of that time, argues that a kind of deterministic and universalistic learning risks no longer able to deal with today's

changes by hindering people to invent and reinvent adequate patterns of life planning (Mencarelli, 1964; Rogers, 1998; Gendlin, 2001; Aleandri, 2022).

Studies and theories of *Embodied Cognition*, developed at the end of the '80s, are in favour of these observations; according to them learning should be experienced with the body (Damiani & Paloma, 2021); in learning, the overcoming of dualism body-mind allowed to go beyond the division between theory and practice and put first corporality and its importance within all cognitive processes that, because of their abstract nature, seemed to be ruled by mere theory (Gamelli, 2006; Cunti, 2015; Peluso Cassese & Torregiani, 2017; Gamelli, 2019).

The scientific model of *Embodied Cognition*, on the issue of American pragmatism (Gibson, 1979), underlies the dependence of cognitive processes on the sense-motor system (Gomez-Paloma, 2013). The body-mind unity, within educational processes, revealed efficient solutions since learning through corporality made it easy to protect students from risky determinisms and outdated abstract theories. The concept of Embodiment was born from the discovery of valuable insertion between body-mind-environment dimensions and wishes for its more widespread because its goal is to encourage active learning methods in which every student is not a passive onlooker but an undisputed protagonist of their own educational success (Delors, 1997; Gomez-Paloma, 2017; Aleandri & Battista, 2023).

The above-mentioned pandemic experience and, first and foremost, the consequent lack of human contacts, led to a sort of loss of ourselves gaving a new importance to the feelings of body (Gamelli, 2019; Corsi, 2020; Milani, 2021).

Such conditions revealed the "felt sense", that is to say a feeling that arose inside ourselves that confirmed man cannot "rule his body" but is rather called to listen to and question it. It is a proposal inspired by the philosophy of the focusing (Gendlin, 2001) that aims to a future in which persons are more developed and aware now than in the past.

It is not expected nor wished a limitation or an elimination in using technology that is continuing to ensure positive aspects and valuable results for people and communities when used in certain ways (Aleandri, 2003; Domenici, Margottini & Cajola, 2006; Domenici, 2009; 2022; Paparella, 2015; Rivoltella, 2021; Costa, 2021) and in educational-pedagogical areas (Gamelli, Ferri & Corbella, 2020; Aleandri & Politanò, 2021).

Considering the valuable contribution of practical experience in cognitive processes, one must wonder if these two methods, face-to-face and remote, can together enhance or, on the contrary, destabilise learning processes, and therefore understand the kind of contribution, and its extent, that corporality can give in educational activities that have been increasingly carrying out online.

3. Research project

While acknowledging that university is a physical place and being relieved that scholarly activities are face-to-face again after the pandemic, we should get the chance to remember the valuable digital opportunity given to learning activities (Aleandri, 2020). The key of this research is to understand how students experienced the compulsory learning distance and to reflect on possible positive aspects that emerged in online scholarly activities. Starting from this scenario and in order to answer to some doubts consequently arose about, a research project was carried out at the beginning of the second term of the academic year 2022-2023 with the aim of examining students' experiences and feelings about corporality in virtual educational environments, and particularly during the pandemic. It is also in light of positive results recently obtained (Aleandri & Fiorentini, 2023) that this research wants to understand if and in what way virtual environments are a good chance for a new learning methodology that offers a different dimension, but certainly not less productive, to corporality for cognitive processes e for implementing the Lifelong, Life-wide and Life-deep Learning point of view. In addition, specific goals have been developed as following:

- Analysing the idea of the role of body in virtual learning;
- Analysing the idea of the role of digital technology in face-to-face learning;
- Understanding if and in what way physical restrictions by law increased the ability to reflect;
- Identifying new effects of the pandemic, if any, in regard to body-mind connection;
- Understanding if the body-mind bond has changed after the pandemic;
- Understanding the role of technology in learning and in personal, relational and working life of a person;
- Studying the idea of "inclusion/exclusion" in e-learning training.

3.1. Participants

For this research project 20 students - male and female - of a postgraduate course in the educational field of University of Roma Tre have been chosen. The average age is 28 years old (from 23 to 56). 84,2% are female, 10,5% are male and 5,3% are genderqueer.

3.2. Methodology

To carry out the research project, which is part of a case study (Yazan, 2015), it was decided to use an open-ended questionnaire by Google Forms so students could answer digitally. The case study is strong in reality and some parts of the students' answers will be reported here (Mortari, 2007). With the aim to analise data obtained from the questionnaire, a mixed quality/quantity methodology was used, but, since the open-ended nature of questions a qualitative and interpretative methodology was mainly used; to do so, a special original model (Aleandri, 2012) inspired by the theoretic method of the Grounded Theory (Glaser & Strauss, 2009) was used. The method GT gives a chance to define an abstract conceptual explanation and is an added value because it can be applied to a number of different disciplines, especially in education.

4. Main results

Taking into account the main focus of the research it has be chosen to analyse only some of the questions given in the questionnaire (Table 1).

1. During lockdown and its consequently movement restrictions, did you experience any body suffering? If yes, how did you feel? Describe in detail adding your solution to the problem.
2. During your home isolation, did you have more chances and time to reflect? What were your most significant reflections?
3. Do you think body and mind are to be considered as… (e.g. separate units because…or they are connected because…)?
4. During your home isolation, did you take part to any educational activities?
5. How much does the body matter for the purpose of learning and for its related experiences?
6. Describe in detail the role that technology played in your personal, relational and working life and in learning during lockdown.
7. Describe in detail the role that technology have been playing in your personal, relational and working life and in learning after lockdown and up until today.
8. How much does the body matter in e-learning and how can we give the due consideration to the body?
9. Have you had e-learning experiences recently? If yes, please describe differences, if any, with face-to-face learning.
10. According to your e-learning experiences, do you think they led to a greater inclusion or exclusion.

Table 1. Questionnaire's questions

5. Discussion

35% of participants answered to the first question and reported a body suffering, that is their need to make physical movement outdoors or indoors by using apps to do exercise and to escape from home lockdown. A student girl wrote "During lockdown, I experienced a body suffering with anxiety and active boredom; I mean, this active boredom turned on my body as it wanted to run or escape from my house, a hyperactivity that I tried to release by doing exercise. Taking advantage of some free apps available during lockdown, I switched between the Nike app and the HeadSpace meditation app which offered relaxation exercises".

Gradually movement restriction was accepted as an opportunity to stop the hectic routine (15% of participants) and to enjoy more rest (15% of participants). 10% of students claimed that lockdown led to loss of appetite and weight; another 10% experienced physical problems such as cervical pain and back pain and another 10% didn't experience any suffering at all. Only 5% claimed they felt a disconnection between body and mind with a consequent psychological suffering.

Among the most frequent answers to the second question, it can be noted how participants could take advantage of isolation as an opportunity to enjoy more space and time to reflect on different matters. 30% reflected on themselves: "Yes. Sometimes I needed to find a place, such as my bedroom, where to be alone with myself and my thoughts. In other occasions I talked about the current situation we were living in with my friends or relatives through video calls". 25% reflected on their educational and working future and another 25% on being part of a community and some global matters (e.g. global warming).

100% of participants answered to the third question by asserting that body and mind are two interconnected units. They gave different reasons: 35% explained that one depends on the other and vice versa, 35% believed that their connection is evident because feelings and actions influence one another. Within this point of view, a participant wrote: "I believe that body and mind are connected units. An active and healthy mind makes a body healthy. A psychological problem or some stress can lead sometimes to body pain". Then 20% believed the two units as one the mirror of the other. 5% of the participants asserted they have experienced this connection while studying at university and the remaining 5% wrote they can see first-hand the unity of body and mind while working in the rehabilitation field.

Regarding the fourth question, there is a very high percentage (60%) of students who, during lockdown, participated in university educational activities or in training courses for job purposes. 15% took part in online art and dance courses. Some of them (10%) created videos for people to exercise or radio shows. 5% took part in online artistic-therapeutical courses and another 5% practiced new activities as we

can read from this answer: "Yes, in a way, by watching a video and doing thai-chi exercise, which I had never done". The remaining 5% didn't do any educational activity while isolated. In the fifth answer, nearly all the sample surveyed believed the body is important in learning; specifically, it can be noted that 60% of participants wrote it is "very" important, 15% wrote "very very important" and the answer that follows is illuminating: "It matters very very much. I learn by experience, I learn a lot more when I "do" and when I experience physically and mentally rather than studying on a book; therefore, in my opinion, while learning and experiencing the body is everything". 15% thought body is as important as mind and only 10% claimed that the importance of the body depends on what you want to learn.

70% of participants answered the sixth question by describing the key role of technology during lockdown, because they could keep their relationships with family and friends, their studies, their jobs and/or their personal interests. Within this percentage, some students implemented the use of technology reluctantly; some of them, though, learned to enjoy the less known positive aspects, as we can read in the following answer: "During lockdown I learned the great possibility of technology". 15% didn't notice any growth in the use of technology and the remaining 15% underlined they tried to limit its massive use because, according to some, had led to a physical and mental fatigue.

It was interesting to read how they answered to the seventh question; technology is still a key role in people's life, since half of participants wrote they had been using technology as much and frequent as during isolation. 30% wrote that technology, after the first pandemic critical period, had even increased in people's life, as one student girl wrote: "Since lockdown, technology has become more relevant in my daily routine, I lose myself in it more easily and without too much mental involvement". Only a small part of participants (20%) claimed they reduced the use of technology.

The eighth answer revealed that a considerable number of participants (40%) maintained that learning by digital technology is an additional resource because "Body is important in the digital experience, as well, but I think we are using it automatically and not consciously enough. Body and mind are not separated, and as I could notice during some online dance classes, the best way to give it the right consideration is to focus more on your feelings rather than on a movement that can be felt as automatic".

A minor percentage (20%) affirmed that body matters very little in e-learning, while 15% wrote that a body might be felt differently in e-learning because of its need to move after too much time spent in front of a screen.

Another 15% affirmed that body is not favoured in e-learning. The remaining 10% did not give an answer.

While reading the ninth answer, it can be noticed that 35% of the sample suffered from the limited human contact in e-learning, while another 30% noticed, among the positive aspects of e-learning, they would be able to better combine their studying activities with work and personal activities. 15% didn't participate to any recent e-learning education.

With a percentage of 5% there are those who affirmed that e-learning and face-to-face classes are similar; another 5% believed that e-learning involved a less concentration, while another 5% noticed dual perceptions as we can read in the following answer: "Personally, I'm less distracted online because my concentration is entirely on the screen; on the other hand, taking part actively is a big effort because this methodology is more impersonal and makes me feel more inhibited".

Regarding e-learning, again, the last question highlighted that 35% of the sample perceived e-learning as a chance to enhance inclusion, but another 35% saw a greater risk of exclusion.

20% of the sample noticed the same ambivalence and this is one answer: "On the one hand e-learning allowed a greater inclusion of people who live far away or that have particular family and/or health problems, and let them participate to those experiences. On the other hand, some people have been excluded because of their lack of digital devices". 10% didn't give an answer.

The perceived exclusion was especially linked to the lack or the inadequacy of digital devices useful to participate to e-learning experiences.

Conclusions and perspectives

Physical limitations due to the Coronavirus pandemic caused negative effects to people from a physical and psychological point of views.

Gradually, people began to be more aware of the "positive" effects of isolation, such as the chance to get a greater space and time for consideration about themselves and their educational and working future.

This consideration also concerned the interdependence of body and mind. Regarding the consideration on the educational future, nearly all the sample surveyed affirmed that body matters a lot in learning and e-learning.

From an educational point of view, again, we should underline that nearly all the sample surveyed believed that the added values of educational processes, promoted and created by means of digital technology, include the inclusion and that digital divide facilitates the "exclusion".

Pedagogy as pedagogy of corporality might arrange, even for adults, teaching plans that will take into account the body also in virtual learning environments, in order to encourage self-respect and recognition of the other.

Today more than ever, it is important to promote a constant consideration on the various forms of hybridization between body and mind that are sensitive to inclusion and that should protect from the risk of an online depersonalization, as well as bring out the person potential and enhance a feeling of community (Aleandri, 2022; OECD, 2022; UNESCO, 2022).

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