

*All educational practice implies a theoretical stance on the educator's part. This stance in turn implies – sometimes more, sometimes less explicitly – interpretation of man and the world.*

– Paulo Freire (1970a, 5)

*Whatever we do in teaching depends upon what we think people are like.*

– Arthur Combs (1962, 1)

These two quotations are the major impetus behind the present work. They highlight the pre-requisite of understanding human nature in education, forming an essential foundation for effective educational discourse. Our beliefs about people's learning, their motivations, and their natural tendencies, directly influence the approaches and methodologies we adopt in education. On the one hand, if we believe that people are naturally passive and required to be coerced into learning, we may use a more authoritarian teaching style, focusing on control and obedience. On the other hand, if we believe that people are naturally curious and driven to learn, we may use a more student-centered approach that emphasizes autonomy and creativity. Another instance would be if we believe that people have fixed abilities, we may design a teaching approach that emphasizes rote memorization and grades. Therefore, it is important to reflect on our assumptions and beliefs about human nature and to strive for a deeper understanding of how people learn, grow, and develop. Perhaps this should be the starting point for a discussion about education.

Human nature has been a topic of discussion for centuries among philosophers, theologians, and scientists. It is commonly defined as the shared characteristics of all humans. Human nature can be seen as having intrinsic traits that set humans apart from other species. It encompasses the fundamental dispositions and ways of thinking, feeling, and acting that are considered innate to humans (Duignan 2016). The idea of 'human nature' is explored by various disciplines in the sciences and social sciences, including but not limited to biology, sociology, psychology, anthropology, and philosophy. However, there is no specific definition of human

nature, which makes it a concept for debate and discourse. Science attempts to understand human nature through shared physiologies, the social sciences through shared behaviors, and philosophy through metaphysical concepts. It is noteworthy that these different approaches don't necessarily provide an all-encompassing or accurate view of human nature. Each theory is limited by its own set of assumptions and methodologies unique to the discipline, resulting in discipline-specific explanations. A brief examination of the various theories of human nature reveals that they are often based on speculative thinking and may not offer a holistic understanding of human nature. Historically, human nature has been generally viewed through a dualistic lens, with the belief that humans possess two distinct substances: a physical body and a non-physical mind. This view is also reflected in the educational system. Even today, many educational institutions maintain a dualistic view of humans, assuming a separation between the material body and the immaterial mind.

Manuela Macedonia notes that modern mainstream education systems are largely influenced by Western principles, which are heavily rooted in mind-body dualism (Macedonia 2019). She claims that many educational programs embrace mentalistic theories, viewing the mind and body as separate entities. This kind of mentalistic education leads to an exam-oriented and achievement-based approach to learning, which does not promote critical thinking or a desire for exploration among students. Despite numerous pedagogical advancements in recent decades, the overemphasis on mentalistic education remains prevalent in many schools. On the contrary, in recent years, mentalistic theories have been heavily challenged. Mentalistic theories are essentially preconceived judgments without much empirical evidence to support them. However, with the emergence of scientific theories, particularly the theory of evolution, this perspective has gradually shifted.

Humans are now considered to be embodied beings rather than primarily mental beings. The current empirical evidence also supports the fact that humans are inherently embodied beings. This shift has been largely influenced by advancements in cognitive science, which highlight the interconnectedness of the body and mind. The embodied perspective recognizes the importance of the body in shaping human cognition, emotion, and behavior, and holds that the body is central to understanding what it means to be human. This new perspective on human nature has far-reaching consequences, particularly in the field of education. If humans are primarily embodied, then education must take into account the crucial role the body plays in cognition, emotion, and behavior. Additionally, education must acknowledge the significance of embodiment in human growth and provide opportunities for students to develop their physical, emotional, and social abilities. Furthermore, even though there is evidence showing that humans

are embodied beings, it is crucial to question why the dualistic concept continues to be prevalent in our daily lives. This dualistic perspective still has a significant impact on our educational discourse and practices. Hence, it is necessary to consider how to overcome this dominance. By keeping in mind the embodied nature of humans, it is important to redesign our educational systems.

In this thesis, I broadly engage with the following four questions:

1. How does a particular assumption about human nature impact the way education is conceived?
2. How can we formulate a comprehensive theory of human nature based on available evidence?
3. How does embodied cognition theory offer a compelling explanation of human nature?
4. In what ways can we restructure our educational practices based on the evidence-based (embodied) theory of human nature?

These questions are primarily intended to assist us in realizing our inherent, embodied nature and its impact on education. They explore the relationship between our self-awareness and educational practices and suggest ways to align pedagogy with the latest theories on human nature. Through embodied education, students are expected to form stronger connections with their environment. They gain a deeper understanding of themselves and their inner experiences, which enables them to interact with the physical world in a healthier way. Ultimately, this awareness may lead students to understand that they are not isolated from nature, but rather, an integral part of it.

### **Overview of the Chapters**

The present work is divided into seven chapters. The first and last chapters are an Introduction and a Conclusion, respectively.

The second chapter, "**Finding a Connection between Education and Human Nature**," offers a brief overview of education as a social institution in society. It argues that education is a deliberate practice aimed at shaping human behavior. This leads to the investigation of the initial hypothesis that certain beliefs about human nature shape educational practices. To test and validate this hypothesis, I analyze the views of three educators from different continents. These thinkers, John Dewey, Paulo Freire, and Jiddu Krishnamurti, are discussed along three dimensions. Firstly, their perspective on human nature is presented, followed by their view on education, and finally, the connection between the two is analyzed. The analysis demonstrates

that the educational philosophy of all three educators is based on their philosophy of human nature. As a result, it is concluded that a deeper understanding of human beings is necessary before making changes to education.

The third chapter, "**Understanding Human Nature**," begins with a brief historical overview of major theories about human nature. It covers philosophical and religious theories, as well as contemporary views such as evolutionary theories. The review reveals that two key themes are present in most depictions of human nature: the relationship between "mind and body" and the "nature vs. nurture" debate. Further analysis of these two debates suggests that the solution lies in their reconciliation. The emerging framework of embodiment indicates that humans are embodied beings rather than possessing a separate mind. This sets the stage for a more in-depth examination of embodied human nature in the next chapter.

In the fourth chapter, "**Building the Case for Embodied Human Nature**," I delve into the embodied cognition theory in detail. The chapter begins by outlining the motivations behind the emergence of this approach in cognitive science. The embodied cognition approach emerged as a challenge to traditional cognitive science, or cognitivism, which viewed human cognition as symbolic computation. However, this view was later challenged as it failed to provide a complete explanation of human cognition. Furthermore, the embodied approach has roots in phenomenological theories. Today, it is widely supported by empirical evidence and offers a credible explanation of complex human cognitive processes. The chapter cites empirical studies to reinforce the major claims of embodied cognition. In conclusion, it is argued that mental properties are not separate from bodily basis, but rather emerge from our bodily interactions with the world. The key themes of embodied theory are outlined, and the chapter provides an overview of how it offers a comprehensive view of human nature through various empirical studies. The objective of this chapter is to demonstrate that traditional understandings of the human mind and cognition are flawed and need to be reevaluated in light of embodied cognition.

The fifth chapter, "**Theoretical Foundations of Embodied Education**," focuses upon the educational implications of viewing human beings as embodied in nature. A quick examination of mainstream education shows that it is rooted in a dualistic view of human nature, which sees mind and body as completely separate entities. This results in an overemphasis on mentalistic approaches in education. This chapter delves into the origins of mentalistic biases that continue to persist in the educational system. The reasons for this dualistic perspective in education can be traced back to philosophical, psychological, socioeconomic, and political factors. Additionally, our brains are divided into two hemispheres, which tend to create two modes of reality, leading

to a dualistic approach in our thinking and actions. The chapter identifies the main obstacles to fully adopting an embodied perspective in education. The fundamental dualistic assumption about human nature is reflected in educational practices and reinforces the dualistic notion of ourselves. To address this, I propose two ways of intervening in the educational system. The first is an "outside-in" approach where education is designed and imparted in line with embodied theory. The second is an "inside-out" approach aimed at realizing our inherent embodied nature. This chapter serves as a theoretical precursor for embodied education, laying the foundation for further discussion on both the outer and inner curriculum in the next chapter.

In the sixth chapter, "**Practical Implications of Embodied Education**," I extend the discussion of embodied education with the aim to create a pedagogy that recognizes the embodied nature of humans. The chapter is divided into two parts. The first part focuses on designing a pedagogy that appreciates humans' embodied nature. Using various empirical studies, I show that human thinking is not a purely mental and isolated activity but is instead closely linked to our bodily features and environment. For example, gestures, which are used implicitly in any kind of learning process, demonstrate this. I also provide examples of two subjects, English and mathematics, to show that linguistic and mathematical learning is embodied in nature, even though these subjects are typically considered abstract and mental.

The second section delves into the more complex issue of realizing our own embodied nature, which is reflected in our educational discourse and hinders the design of instruction that takes embodiment into account. This section is related to the inner curriculum and aims to help us become more aware of our embodied nature. It has been found that by increasing self-awareness, we can develop this ability, and mindfulness practices can aid in this process. The chapter concludes with a note that incorporating mindfulness activities into the regular classroom curriculum can help students realize their embodied nature.

Finally, the seventh chapter, "**Summary and Conclusion**," summarizes the main points of the thesis and highlights its major outcomes. The chapter also acknowledges the limitations of the study and offers suggestions for further research in the field.

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