Review of: "Teaching the seasons of the year to kindergarten students using desktop virtual reality. A comparative study"

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Potential competing interests: No potential competing interests to declare.

Research on technology-mediated science teaching in kindergarten, especially in the field of virtual reality, is of great importance. This study highlights the relevance of interaction, exploration capacity, explanation, reflection, and immersion as key elements to analyze learning outcomes. This work invites us to reflect on the contributions of cognitive psychology as a framework to understand and explain the analogy between virtual reality and physical reality, providing a valuable perspective. Virtual reality could be conceived as a new educational ecosystem, where students can immerse themselves and explore in a deeper and more immersive way than through conventional static media. The ability of virtual reality to offer interaction, exploration, and explanation resembles the way students learn in the real world, but with the addition of an extra layer of immersion and presence, enhancing the creation of the classroom context. Immersion, as described in this research, is similar to the experience of immersing oneself in a book or engaging in a hands-on activity in the real world. On the other hand, presence adds an emotional and cognitive dimension, creating a compelling sense of existence within the virtual environment. Considering reasoning by analogy between virtual reality and physical reality offers an illuminating view of how these two educational worlds can complement each other. Comparing the depth of immersion in virtual reality with improved educational outcomes highlights the importance of designing virtual environments that foster meaningful immersion. We could think of it as building a three-dimensional educational landscape where students can explore, interact, and learn more effectively. In short, this work compellingly highlights how virtual reality, by simulating and amplifying aspects of physical reality, can transform the educational experience. The analogy between these two worlds provides a solid foundation for understanding the effectiveness of virtual reality in science education. I would suggest further considering how combining elements from both worlds can enhance student learning and understanding in future studies.