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RESEÑA / RESENHA / REVIEW

Serrano, J.L. (2022). *Pensamiento computacional en educación*. Amazon

Jesús Acevedo-Borrega *

«Pensamiento Computacional en Educación: Kit de conocimientos para antes de comprar y programar un robot / Computational Thinking in Education: Kit of knowledge before buying and programming a robot» (download) by José Luis Serrano, a recognised expert in educational technology, is an essential compass for teachers, tutors and anyone interested in the integration of Computational Thinking as part of education.

Serrano is Associate Professor of Educational Technology at the University of Murcia, Ph.D. in Educational Technology, Master in Educational Psychology, Bachelor in Pedagogy and Senior Technician in Early Childhood Education. He uses his extensive experience in the field to demystify and correctly convey Computational Thinking. Far from being a ready-made recipe, Serrano provides a toolkit based on scientific and experiential knowledge so that the reader can make informed decisions and design their own activities that include programming and robots.

The book is divided into three main sections, exploring a different dimension of Computational Thinking. In the first section, the author focuses on the theory and foundations of Computational Thinking, providing a solid basis for understanding what it is and how it can be applied in education. In the second section, he delves into the complex and essential questions and answers surrounding Computational Thinking, presenting the 5PC Model, a step-by-step approach to its development. This section also addresses the potential difficulties that can arise from optimising and automating solutions, providing a more nuanced and realistic view of the implementation of Computational Thinking. And finally, in the third section, he provides practical resources for action, offering readers the necessary tools to correctly implement Computational Thinking in their educational practice.

In the first pages, Serrano begins by explaining the purpose of the book and demystifies Computational Thinking, showing it as more than just a tool for solving problems. The author stresses the importance of differentiating between components and peripheral skills, providing a clear vision of what Computational Thinking really entails. Chapters on teaching and learning Computational Thinking, as well as how to activate it, offer practical and accessible strategies for educators. A vital first few pages to solidify a well scaffolded theoretical foundation.

In the second part, Serrano delves into the complex and essential questions and answers surrounding Computational Thinking. The author presents the 5PC Model, a step-by-step approach to developing Computational Thinking, which will be of great use to educators looking for a structured guide. Five steps starting with learning by thinking, moving through real problems, unplugged activities and robot programming, and ending with exposure to resources. Five steps that anchor problem solving through practice, peripheral and cross-cutting skills and methods. The author also addresses the possible difficulties that can arise from optimising and automating solutions.

For the last part, Serrano provides practical resources for taking action from a rich variety of 34 educational resources, including websites, presentations, videos and other resources. This chapter is especially useful for those who are ready to start implementing what they have learned in the first two sections.

All in all, «Pensamiento Computacional en Educación: Kit de conocimientos para antes de comprar y programar un robot / Computational Thinking in Education: Kit of knowledge before buying and programming a robot» is a must-read for anyone,

professional or amateur, seeking to understand and implement Computational Thinking in an educational context. Serrano not only demystifies the concept, but also provides a practical and accessible guide to its implementation, allowing readers to make informed decisions and design their own teaching strategies.