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Design of Digital Content Units: Core and Peripheral Elements for Flexible Education

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Abstract

This study presents a design and transformation model for learning objects into digital content units, focused on higher education and developed at the Faculty of distance studies of the Universidad Militar Nueva Granada in Colombia. The proposal is based on structuring digital content into two components: (i) core elements, representing essential, stable, and disciplinary knowledge, developed using high-production multimedia tools; and (ii) peripheral elements, including activities, examples, and complementary resources created with easily accessible tools to enable adaptation by teachers according to context and time. This modular “lego block” configuration supports the reuse of foundational content and the personalization of learning without compromising conceptual integrity. Peripheral activities are aligned with cognitive taxonomies (Bloom, DOK, SOLO) and are integrated with virtual platform tools to adjust the depth of learning through teacher mediation. The methodology combines a qualitative, technical-descriptive, and technological development approach, analyzing the production of 35 courses. Results show that: (i) the tutor's expertise in modular design enhances pedagogical mediation, and (ii) students demonstrate greater practical appropriation of content when engaging with flexible, dynamic, and co-created materials. In conclusion, the digital content units model fosters sustainable educational innovation by strengthening the teacher’s active role as a designer and the student’s role as a builder of their own learning process.

Keywords: Adaptability, Co-Creation, Flexibility, Mediation, Prosumer