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Active and passive technology integration: a novel approach for managing technology's influence on learning experiences in context-aware learning spaces.

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Summary: Technology integration is the process of overcoming different barriers that hinder efficient utilisation of learning technologies. The authors divide technology integration into two components based on technology's role in the integration process. In active integration, the technology integrates learning resources into a learning space, making it adaptive to the changes in the context. In passive integration, the technology is integrated into a learning space so that it does not disturb the learner and the context. Using this division, the authors investigate technology integration in context-aware learning spaces (CALs), which emphasise context-sensitiveness and utilise surrounding resources. UFractions is a CALs combining a mobile-based story and fraction rods. The authors analyse active and passive integration in UFractions among 305 middle schools pupils in South Africa, Finland and Mozambique. In the analysis the authors support quantitative questionnaire data with qualitative insights from questionnaires, interviews and observations. The findings indicate that technology integration, particularly active integration, in UFractions is incomplete. The concepts of active and passive integration are necessary in order to manage technology's influence on learning experiences in CALs. Active and passive integration can also be helpful in CALs design, deployment and evaluation, and they could be applied in other learning technology scenarios in the future.

Classification: U70 U50 F40

Keywords: technology integration; context awareness; mobile learning; game-based learning; evaluation
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