Teaching How to Program With a Playful Approach: A Review of Success Factors

Abstract:
Programming has become a vital skill in today's society and economy. Therefore, it is important to teach programming in early stages of the education. Since learning how to program differs from other, more traditional courses in schools, an application oriented approach to teaching and learning is required. The playful approach, as a part of self-regulated personalized learning strategies, offers the possibility to engage students, and teach students how to program hands-on. In this paper, we investigate the success factors that need to be satisfied for an efficient course of teaching how to program with a playful approach. We conducted a literature review, evaluating and analyzing the academic contributions to this relatively new topic of edutainment in the last 10 years. Based on the literature review we were able to identify the success factors for teaching how to program with a playful approach: the motivation, the integration and involvement in class, the audience-centered focus, giving feedback and
enhancing interaction, and the fluent integration of the educational content into the gameplay. The identification of these success factors allow educators in the future to structure and carry out a lecture, based on the playful learning technique.

Stichworte: edutainment; playful learning; learning how to program; success factors

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