

Tutorials for Tutorials: Guidelines for Creating Video Tutorials on Teaching Structural Morphology to Architecture Students

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Abstract

Audio-visual tutorials have been employed to convey teaching materials to students in several fields of studies for more than half of a century. Video tutorials significantly contribute to demonstration-based training where the student acquires the knowledge, skills, and attitudes by observing some easy-to-follow examples of performing a task. The “do it yourself” approach among today’s young generation and extensive development of video streaming websites have made video tutorials a popular educational tool. Software companies, social media, professional associations, and online learning centers provide online courses using instructional videos on how to use some software systems. Although video tutorials are widely used and disseminated nowadays, still little is known about the effectiveness of the produced videos as well as the design characteristics of an effective tutorial. Some empirical and theoretical studies have addressed some measures that can improve the effectiveness of instructional videos. The scope of these studies mainly includes secondary level education or undergraduate studies in the field of linguistic or biology.

This paper aims to provide a guideline for the creation of software training tutorials with specific consideration of architecture students’ needs and backgrounds. This study begins with describing the theoretical research on the measures that can support students’ attention, retention, production, and motivation within a demonstration-based training. Accordingly, a guideline for designing instructional videos are described regarding three different aspects of video production: the configuration of the whole body of the video, presentation techniques, and considerations regarding the interaction with the users. Considering architectural field, and specifically the instructional videos on computational aided design (CAD) modeling, environmental assessment of buildings and structural analysis, three open-access, well-known, high-quality series in each field are selected for evaluation using the measures described in this paper. These include Windows Tutorial for Rhinoceros which is a NURBS modeling CAD software, the tutorials for the DIVA 4.0 plugin for Grasshopper which is used for daylighting analysis, and tutorials on Karamba 3D plugin for Grasshopper respectively. The main objective of this evaluation is to highlight the potentials for improvement of these tutorial series and other similar instructional videos to serve architecture students better. In the end, a series of video tutorials on configuration processing of spatial structures using Grasshopper are introduced. The design and production of these instructional videos are based on the principles presented in this paper.

References

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