Technology and Process Requirements for eLearning Platforms

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Abstract: Computer-Based Testing (CBT) is extensively used in large-scale objective tests (like GRE, TOEFL) for learner assessment and has become a norm in eLearning Systems, with the presumption that the learners who take the test know their subject and are competing. However, a majority of eLearning Systems today use the same assessment techniques to test a rather different audience comprising of entrylevel students, who are still in the learning process. We believe this to be a crucial factor why eLearning is not as effective as it should be. In addition, technology platforms associated with eLearning have focused more on the infrastructure for assembling courseware and administering the effort in eLearning exercises, rather than its content.

In this paper, we explain our experience in designing eLearning Systems for Adult Literacy. As teachers playing with a new teaching medium, serendipity had it that we focused on content. Our focus assumed the cognitive capabilities of learners. The content was fashioned to suit the learning capabilities of learners rather than the technological felicity of trainers and content makers. Over 9 years, this effort evolved into design of an eLearning framework. In summary, the eLearning framework should be invariant with respect to the domain being taught, should emphasize the use of knowledge being imparted for which there is a problem-solving model, should express the parameters that create variety, should componentize representation of knowledge with respect to its use, should represent the learning-process to be embedded in the eLearning system, and should have an organized process for assembling the variety needed from standard components. In short, it is an application of ideas emerging in software reuse, software product lines, and software manufacturing. Fundamentally, our focus is on effectiveness of learning, and is predicated on the choice of learning elements grounded in cognitive abilities of learners. This influences the way we package the content. Another strong influence is the extreme needs of variety, scope and scale of eLearning.

Remarks: The full paper may be found in www.elearningap.com