

Learning Development versus Software Development

Abstract

You don't need an instructional design background to manage learning product development. Most development activities generally use the same approach and common sense activities to create the desired product.

Article

I am always interested at the various methodologies used to develop different things for different uses. There are rapid development techniques, techniques that are better for developing network solutions, techniques that are used by engineers, techniques that are used by building developers, etc. Regardless of what we developing, there are some fundamental common activities that must be performed.

Most *Learning Development* uses a process classified as an Instructional Systems Design (ISD) or Instructional Systems Development. The process usually follows the common ADDIE methodology or another approach which contains similar phases. ADDIE stands for Analysis, Design, Development, Implementation and Evaluation.

During the Analysis Phase, the business problem is identified, the learning needs are determined and the tasks associated with the particular job function are analyzed. From this analysis, the business goals are identified. These goals are related to the job tasks and identify the performance behavior changes that are required to address the business problem.

During the Design Phase, the Learning Objectives are identified, the instruction environment is chosen, the instructional strategies are selected and the components are designed. The learning components must contain the best instructional strategy that can be used to teach a particular information type. For example, Concepts uses examples and non examples to instruct the learner to identify or classify the different classes of information properly. Sequencing within a learning component is also influenced by the type of information being taught.

The Development Phase activities are pretty straight forward. All of the components identified in the design phase are developed. A prototype may also be developed first. Various testing activities such as Unit Test, System Test, Integrated Test and User Acceptance test are used. It is important to mention that the learning components are designed and developed with reuse in mind. This will allow the learning components to be reused again in future learning solutions, with minimal effort.

The Implementation Phase is where the Learning Product is packaged and distributed to the appropriate Learning Management System (LMS). A Sharable Content Object Reference Model (SCORM) object could be created and packaged during this phase. Using the SCORM standards, the component could then run on any SCORM-compliant LMS. A LMS will provide a classroom type electronic environment for the delivery of the learning products.

The Evaluation Phase is used to evaluate the effectiveness of the Learning Product. This phase could impact all the other phases by introducing changes and recommendations for enhancement to existing learning components.

Software Development uses a software development methodology. This Software Development activity uses a process commonly known as a Systems Development Life Cycle (SDLC). This process usually follows a common set of steps. These steps are Analysis, Design, Development and Implementation.

At first glance, the main difference appears to be that the ISD Learning process includes an Evaluation step, while the SDLC Systems Development process does not. An evaluation step is required to determine the effectiveness of the Learning product. The best way to determine the effectiveness of a Learning Product is to observe and measure the performance behavior of the learner after the training has taken place. If the behavior changes were not significantly noticeable, the Learning Product should be modified.

A Software Development methodology produces software solutions. The effectiveness of these solutions can best be determined by various testing and quality assurance steps included in the Development phase of the SDLC. This testing would ensure that the products function as required and operates as efficiently as required. Learning Products can only be “tested” after it has been deployed and after the learner has been “evaluated”.

Another characteristic that is unique to Learning Product development is the creation of Learning Objectives. Learning Objectives are the objectives of what the Learning Product must seek to “teach” the Learner with the product developed. These objectives are very subjective and could be difficult to measure. Systems Development need only test how the system responds to certain human interactions with the System. For example, if one of the Learning Objectives was to train someone in a new skill so that the number of errors could be reduced, it is difficult to isolate the affect of the training. Other influencers would be experience, changes in the environments, etc. In a software product, we can measure how the product performs once it has been completed.

In conclusion, there are a lot of similar functions between software development and learning product development. Simply put, they both use a similar development methodology to ensure an effective product has been developed.

About the Author

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