The Usability of eLearning: Designing for Effective Performance or Not

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I. INTRODUCTION

eLearning solutions are being increasingly churned out incredible rates, for use across all industry and education sectors globally - touted as the ultimate solution to a huge variety of learning and performance needs in workplaces, and indeed, in society itself.

But how effective is the application of the eLearning as a performance and learning enhancement medium in our frantic world? Countless web sites, business applications and a vast range of eLearning materials are constantly being developed, delivered and launched. And being touted as life, career and performance enhancing. The sheer volume means that there is generally quite a challenge to adequately train users in real time- hence the viewpoint that eLearning will be the saviour.

II. WHAT USERS WANT TO/NEED TO ACHIEVE

For eLearning solutions, whatever their final format, to be successful, they must enable users and learners to achieve their learning goal or goals.

The goals might be finding specific workplace related information, or assistance in completing various tasks in their workplace - what the user is trying to achieve.

In order to achieve these goals, the eLearning materials that will be designed to support the web site, application, product or processes have to be easy to use.

If not, users are likely to become frustrated because they can’t achieve what they expect. If this happens, effective learning and knowledge transfer will not occur.

More and more, usability of eLearning solutions is finding out about users needs, habits, requirements and values, and building these into the learning solutions.

Activities that find out what users want and value are critical not only for e-commerce, technical, educational, recreational and business sites, but also for sites and applications that deliver training, educational content, performance support and workplace-related knowledge.

From the user’s perspective usability is important because it can make the difference between gaining the knowledge to perform a task accurately and completely or not, and enjoying the process; or being frustrated.

From the developer’s perspective usability is important because it can mean the difference between the success and failure of a system.

From a management point of view, software with poor usability can reduce the productivity of the workforce to a level of performance worse than without the system.

So – how do we find out what the user learning goal or goals are?

III. INFORMATION GATHERING

To facilitate defining the purpose of the eLearning solution, and the performance activities it will be supporting, a process of information gathering or discovery needs to be undertaken. Information needs to be collected and from the organization and stakeholders of the project.

You should plan to find out as much as you can about the potential users learners(users) that the eLearning solution/s are to be designed for.
A number of tools can be used to gather more information about users and their goals.

Survey techniques can be used for gathering information from a large number of users.

Questionnaires are a major information gathering tool used in surveys, and can be administered via email, web or paper, depending on the desired sample size as well as technical and time constraints.

Interviews, consultation and observation with stakeholders and learners will assist in understanding the project mission, goals and background. Questions should be framed to obtain an understanding of the learners (users) and their workplace activities and needs.

Before starting the survey activity, you need to set the parameters.

- What information do you want to capture?
- Who will you ask?
- What will you ask?

Since you also need to understand the Some effective questions to ask users may include:

- What sort of tasks they have to undertake and complete in their workplace
- Which are the critical tasks
- How they expect to complete their task/tasks
- Their thoughts on how their productivity could be improved
- What performance support content and/or functionality would be useful

Users in their work context, arrange to visit, observe, and directly interview users in their everyday work environments.

- Observe users accomplishing tasks
- Record the sequence and techniques they use
- Ask users to explain what they are thinking as they accomplish tasks.
- Find out which tasks they carry out most frequently and why
- Find out which tasks are the hardest and why

This knowledge will offer greater insight into their behaviours, habits, preferences, likes, and dislikes

This will give a greater understanding of how they use, or may use, the performance support materials when required.

IV. TASK ANALYSIS

From these activities, task analysis can be completed that will prioritise the required content for the eLearn modules, which will lead to an:

- Outline of eLearn modules required and their curricula
- Content to be included

V. CONTENT GATHERING

An important part of determining content is to gather as much information as possible that is relevant to the eLearn modules proposed for development.

This is accomplished through a variety of processes, including:

- Researching the organisation’s knowledge base/archive system
- Observations and consultations with key users, stakeholders and project leaders.

Once the content and workflow information has been gathered, and tasks and performance needs assessed, a Learning Module outline, or similar script is created.

This document, together with the initial Content document, is presented to the users/stakeholders as the basis for the eLearning development. This will eventually be signed off, perhaps with updates and enhancements.

Sometimes there is an initial kick-off meeting, with the main internal sponsor, project manager and stakeholders present to commence to strategise and scope the project.

This may or may not be a successful beginning, depending on a vast array of internal business factors. In terms of eLearn development, it’s always an enormous positive to be able to secure funding. It seems there is always a greater willingness to participate, and give cooperation and knowledge more freely when funding is assured.
VI. SCENARIOS

The next stage is to build typical scenarios of use for the eLearning materials, based upon the profiling information, that create compelling stories that will assist in understanding user behaviors. Scenarios assist in understanding tasks and issues from a user perspective.

A User Scenario is a realistic description or narrative about how a user may interact with a system, application, process or product in the workplace. Each scenario should describe a user, a setting, a workplace situation a sequence of steps forming an interaction.

User Scenarios can be used to explore and communicate the likely actions of users when interacting with the eLearning materials.

Development of User Scenarios helps the design team understand the motivations of users and the functions that will compliment their motivations. User Scenarios can suggest new functional requirements.

A User Scenario tells a story about how a user will interact with the eLearning materials in the workplace or learning environment. This narrative description should include information about the user, a history of the situation, and written descriptions.

User Scenarios can be illustrated to enhance the effectiveness of the story. A set of User Scenarios can be created to describe the majority of user interactions with the eLearning materials.

User Scenarios are excellent tools for client communication since they are usually very easy for the client to understand. Typically, these scenarios represent positive aspects of the eLearning materials as it is desired, but they can be used to illustrate negative aspects of the eLearning materials in order to confirm requirements that may place severe restrictions on the application.

When testing of the application begins, the User Scenarios can provide valuable input into the test plan, illustrating the way that the application is supposed to work from the users’ perspective.

It is critical that the navigation structure of the eLearning materials is one that is easy and intuitive to follow. Instructions must be clear and any icons used simple to understand.

After all, this is the cognitive model that is critical to the success or failure of the eLearning and the performance enhancement and productivity that is expected to flow from it.

Incorporating and describing the navigation structure into the user scenarios and initial low fidelity prototypes will provide valuable feedback from users as to whether the initial design does/don’t meet their needs, and what enhancements are required.

VII. SIGNOFF FOR BUILD

Once stakeholders have reviewed and are satisfied with the Learning Module outline and Content storyboard, signoff is given and this leads to the build phase of the eLearning module.

VIII. SCHEDULING

A development schedule should be created to ensure that adequate timelines for development, prototyping, in fact all required steps in the development process are covered.

Development Schedule

Build in enough time for user involvement, testing and review at the appropriate stages needs to be included. The best time to involve users is early in the planning and design stages of the eLearning development, allowing time to make changes based on user feedback and still meet deadlines.

Ensure that representative panels of users are involved in testing low-fidelity and high fidelity prototypes.
IX. DEVELOPMENT PROCESS

It is important to be aware of, and to apply the design conventions of the organisation to the eLearning materials being developed. This ensures that the various visual elements of the corporate or business identity are incorporated and branding maintained.

A. Accessibility

Design eLearning materials so that they are accessible to a full range of users. Design to support a variety of browser types. Test design for accessibility on a variety of browser types.

B. Version Control and naming conventions

It is critical to setup the following development process steps at the outset, and monitor and maintain through the scheduling process.

Project Management
- Communication of project requirements
- Resource allocation – the right team & software /hardware requirements
- Scheduling has already taken place
- Copyright compliance

Usability Engineering
- User and task analysis
- User involvement
- Manage user evaluation of design

Design
- Information structure design
- Prototype design
- Design of interface, navigation, interaction
- Style guide writing

Content Management
- Gathering and collating appropriate content
- Writing and editing

Implementation
- Hardware and software requirements
- Programming and scripting
- Producing/acquiring imagery, sound and other content elements
- Performance testing
- Deploy to server

Maintenance
- Maintenance of content
- Server maintenance
- Content updates
- Customer/user support and communications
- File administration

X. SUMMARY

The usability of eLearning materials can be considered successful if users can navigate and use them as tools to achieve their specific workplace performance requirements.

Successful eLearning should meet user needs, be easy to access and intuitive to navigate, and should have a clear cognitive model.

By involving users from the target audience group as much as possible in a process of user-centred design, and using on their inputs in workplace based scenarios that focus on job task activities, effective performance support will flow from the resulting eLearning materials.

REFERENCES


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