

MindBuilder

MindBuilder's

E-Learning Development Checklist

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January 1, 2002

Understanding E-Learning Today

Can you find the
courses you need?

Have you taken a
demo course, tested
an entire course?

What kind of plug-
ins does it require?

Do the graphics
enhance or annoy?

Introduction

If you are looking for the best e-learning solution for your company or organization, sit back because there is a lot to think about. Today, e-learning comes in a wide variety of shapes, sizes and flavors so, depending on what you need, there are many issues for you to consider.

The first question is whether or not you can use one of the plentiful off-the-shelf courses available in the market. If you can that's great because it will likely save you time, money and a lot of headaches. However, before you jump into this time saving alternative, let's think about what you need and what's available?

Technology Courses

If you are looking for technology-oriented training, for example, on computer networks, or software training for programs like Microsoft Word or Excel then off-the-shelf programs will likely be your best alternative because there are literally hundreds of programs already on the market, and there is no reason to recreate the wheel.

While some of the programs are very good, the quality is widely divergent so it is important that you investigate the alternatives. How do you investigate? Take a demo course. While on-line demo courses are typically abbreviated versions of the real course, they will give you some important information.

Evaluate Quality

Was it easy to get to the demo course? Amazingly, we've tried demo courses that didn't work. If the demo course doesn't work, don't expect much from the real one.

Software Downloads: If it worked, did you have to download something? If you did that's not unusual, but remember your students will have to download it too. What kind of internet connections will your students be using, and will it be difficult for them to download the player?

Navigation: Was it easy to find the navigation buttons? Did they make sense? Did they work? Navigation should be easy and self-evident. If your students have a learning curve on how to use the course, you may lose some of them before you even start.

Graphic Design: What did the graphics look like? Graphic design is typically a big problem for many of the off-the-shelf courses. With an on-line course, what students see is critically important because they don't have an attentive classroom instructor who can snap them back to attention. Therefore look at course graphics thoughtfully. Are they meaningful? Do they add

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Do the animations
overwhelm,
underwhelm or
complement the
course material?

What is the audio
quality?

Does the instructor
sound like he
understands?

instructive value to the course? Do your eyes gloss over when you look at them? Do you want to divert your eyes?

These questions are important because your students are going to be spending a lot of time on-line and if the course's graphics are poorly done, you will lose knowledge transfer and knowledge retention.

The other extreme is too much animation? It is easy to distinguish between the courses that have a pedagogically-sound design and those which were developed by graphics houses. The latter are the ones with flying text and soundtracks that sound like they came out of Hollywood. These courses are more fun to make than to take. However, your students will suffer because they won't be focused on the subject matter of the course and your budget will suffer because you will have wasted precious budgetary resources.

Voice-Over: Both the audio quality and the instructor's understanding of the material are important to student comprehension. After 12+ years of school, we have been trained to listen to an instructor's words. Therefore, courses without an audio component are little more than poor imitations of books, and usually more expensive. If the on-line course you are evaluating doesn't have an audio component, then look for a less expensive alternative.

If it does have a voice-over, there are two questions you should ask. First, what is the quality of the sound? If it sounds muddied or hisses then you have to ask yourself what it would be like to listen to that for six or twelve hours. That's what your students will have to do. While streaming audio is never as good as CD-quality, good e-learning companies have figured out how to minimize the problems.

Second, does the instructor sound like he knows what he's talking about? This is a more difficult evaluation. Almost all e-learning companies hire voice-over talent for their instructor's voice, but you can hire good talent and bad. We've heard "instructor's" voices that were excellent. The emphases and inflections were correct and it certainly enhanced our learning experience. On the other hand, we've also heard voice-overs done by people who were obviously ignorant of the material. The result was a big turn-off and it will turn-off your students too.

Tracking Student Performance

Another problem with off-the-shelf courseware can arise if you need to track student performance. Many of the programs on the market were not built with student assessments or make such assessments optional at the student's option.

If you need to know whether or not student's have taken the course and

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Do you need to
track student
performance?

Are there
supplemental
materials?

Does the company
offer customer
support?

understood the course material, these programs obviously will not work. If you need to track student performance, you'll need to investigate both the quantity and quality of the company's student assessments and what the industry calls "learning management systems" or "LMS" for short.

If you or your company is planning to have or has a large number of programs then purchasing your own LMS might be a good idea. However, they can be expensive so investigate fully before you make your purchase. On the other hand, if you are building or purchasing one or just a few courses, look into whether or not the company that you are purchasing from or is building your course has the ability to track student data for you.

Supplemental Materials

If the course has been well designed, supplemental materials shouldn't be critical, but there are always some students who desire more information than what is contained in a course so such supplemental tools can become quite valuable for your best students.

In addition, however, whether or not such supplemental materials exist is an indication of how thorough the e-learning company prepares its courses. The better the preparation, the better the course.

Student Support

Finally, test the company's support mechanisms. If there is a telephone number to call, call it and ask a question. If there is an email address, send an email and see if you get a response. Your students will probably use such support mechanisms, so why not find out ahead of time how well they work?

Developing Custom E-Learning Programs

Know Your Audience

Is your student body
similarly or
diversely skilled?

What kind of
technology will your
students be using?

Will all your
students have the
same Internet
connection speeds?

If you or your organization needs specialized training then your chances of finding it in the market are less likely. The companies that develop courseware for the general market typically avoid specialized courseware because it is difficult to achieve a reasonable return-on-investment when course subjects are highly focused. An indication of that difficulty is that almost none of the publicly-traded e-learning companies are profitable.

So if you have determined that you need to develop your own course, here are the questions you need to ask and the issues with which you need to be concerned.

Student Backgrounds

Experience/Education: Do your students have approximately the same level of education and/or professional experience? If they do, then your writers and subject matter experts (SMEs) will be able to develop courses that include a great deal of specificity. It will also make it easier to write the script. If they don't, then your writers will need to take into account these differing student levels, and you may want to break a single course into multiple levels such as "Beginners," "Intermediate" and "Advanced".

Student Technology: Is your entire student population going to use the same type of technology to take the course? Will they be sitting in a classroom with the same computers and the same Internet connection speed, or will some of them be using dial-up connections from home and others T1 connections at the office? If the course is to be on CD-ROM or DVD, do all your students have comparable CD-ROM and DVD players, the same video or graphics cards, use the same browser?

The answers to these questions will give you a good indication of what you can do with your course. The more diverse your students' access to technology the more you have to shoot for the lowest common denominator. With better technology, you can develop a more sophisticated and more effective e-learning program.

If you've taken any on-line courses and been dissatisfied, don't dismiss e-learning altogether. On-line courses created for a general audience are targeting the lowest common denominator and, therefore, are not only disappointing but also misleading. There are very exciting programs that can be developed if your student body will be using comparable and relatively modern technology.

Developing Custom E-Learning Programs

Know Your Objectives

What are your
course objectives?

Are you developing
a skills or a theory
course?

What kind of
exercises will best
transfer knowledge
to my students?

What are your course objectives? Are you training workers to be more effective on the job (a skills program) or teaching students about the history of political activism in 17th century Europe (a theory course) or helping them meet certain regulatory requirements (a prep course). While all courses will have some combination of all of these elements, typically any particular course will focus on one of them.

Skills Program

In a skills course, your students must walk away with an improved ability to perform certain tasks. To accomplish this skills transfer, you should consider how you can effectively develop those skills on-line.

Some techniques to consider include: (1) Creating software simulations (2) Developing a series of branching questions that returns or compares an optimum path to the one chosen by the student, or (3) Implementing off-line "labs" which require the student to perform off-line tasks and return with certain information before they can proceed.

The key is to create exercises that test and retest the skills you want your students to possess because acquiring skills is typically achieved through doing not studying.

Theory Course

The purpose of a theory course is to give students a beginning or advanced understanding of a particular subject. Theory courses are not so much concerned with imparting usable skills as in providing a framework to use those skills. As a developer, your focus should be on developing tutorials that really illustrate course concepts. Visual animations when done well will be invaluable.

In addition, you'll want to use exercises that develop a grasp of core concepts as well as ones that challenge the student to take those core ideas and apply them to new situations. Games like crossword puzzles can facilitate retention of key concepts while challenging quiz and essay questions will help a student to think outside the box.

It is especially important in theory courses to have a glossary of key concepts, to integrate reading assignments and, when possible, to have a means for students to converse with other students or with an instructor.

Prep Class

Prep classes are really focused on meeting regulatory standards. These programs typically mix both of the above but with a greater emphasis on quizzes and exams as well as documenting student activity.

Developing Custom E-Learning Programs

Know Your Project

What is your project
timeline?

What is your
budget?

Should you hire an
outside writer?

Has your script been
finished, and put
through a detailed
peer review?

With all of the exciting e-learning technology and capabilities on the market, it is quite easy for a course development project to veer out of control. While defining your project clearly from the start is often one of the hardest tasks, from the standpoint of delivering a real product that your company or organization can use, it is often the most important.

Project Timeline

What is the project's timeline? Knowing your deadline is important for many different reasons. If you have a tight timeline, you won't want your staff to be learning how to use new development tools because many of them have significant learning curves.

Conversely, if your timelines are loose, your staff good and you have several courses that need development, you may want them to get competent with various development tools because it can give you greater control over the final product.

Budget

If you are hiring an outside firm to work with you on course development, it is important you share your budget with them. While this recommendation may make your purchasing manager turn blue, courses really can be created for \$10,000 or \$1,000,000 or anywhere in between. If your outside developer understands your budgetary constraints, then it can develop the best course for your budget. As a check on your vendor or potential vendors, once you share your budget with them, ask to see a sample of the quality of the course you can expect with that budget.

Hiring a Writer

There are many reasons to hire a writer. Internal staffs typically work on multiple projects, so it may be difficult to stay on schedule if your writer is not exclusively focused on the course you are developing.

The biggest mistake you can make is not starting with a well-crafted script. While some of the course development can begin before the course is written, the bulk of the multimedia, animation, exercises, quizzes, and glossary cannot be developed in earnest until there is a script and a storyboard.

Nothing is more certain to cause you to veer off budget and off deadline than an incomplete, unvetted script.

Nearly as important is hiring a writer who understands both your subject *and* multimedia on-line learning. A writer who has never written for multimedia development can cause a project to veer off-schedule and off-budget when the inevitable changes come two-thirds of the way into the project. An inexperienced writer can demand costly changes while shying away from other changes that could take five minutes.

Developing Custom E-Learning Programs

Know Your Technology

What is your
company's
technology
platform?

What is your
learning platform?

Is there pedagogical
soundness to the
one you're
considering?

In addition to knowing the technology available to your students, you need to know the kind of technology your company uses internally and the kind of technology you're going to use to develop your courses.

Corporate Technology

When you start thinking about course development tools, one of the first things you should find out is the type of technology your company uses. Find out if your company has standardized on Netscape or Internet Explorer browsers? What version of those browsers? How much bandwidth do you have? Will IT allow multimedia programs to stream over that bandwidth?

Does your company use Oracle, SQL Server, DB2 or another database? Do you need to integrate records into SAP, PeopleSoft or another human resources program?

These questions are important because you don't want to purchase any tools or components that won't integrate with the rest of the company. IT departments frequently act as gatekeepers and sometimes as gateclosers.

But, if you are tasked with developing an effective training solution for your company, learn to work with the IT folks rather than try to do an end run around them (tempting as that might be sometimes). While their support is often difficult to enlist, without it you are looking at best with a short-term solution. At some point, they will get involved and if the system you've chosen doesn't integrate, you'll end up purchasing another one. We've seen it happen.

Learning Platforms

When you start evaluating learning platforms, look for capabilities and pedagogical soundness. Is there a way for students to take notes? Can they contact instructors from within the program? How will you integrate a glossary? Can you build a student discussion group? Can you include extra-curricular resources?

The other thing to look for is what we call "balanced perception." Many course tool developers haven't considered how the brain works when building a user interface. If there are asymmetries in the interface, the brain requires extra time to process and resolve those asymmetrical patterns thereby taking focus away from the course content. Look for a user interface that stays in the background, not by being small or hidden but by integrating organically with the interface's other visual components.

Developing Custom E-Learning Programs

Know Your Technology

Are the course
development tools
vendor neutral?

How well do they
create both on-line
and off-line media?

How do you
aggregate disparate
media into a
coherent program?

How will you track
student activity?

Do you have to
purchase an LMS?

What kind of reports
on student activity
can you see?

Course Development Tools

The most popular of the media development tools are the environment neutral products from Macromedia -- Director, Shockwave, Flash and Dreamweaver. While there may be some reason to use more proprietary systems, we can't think of them. Why get locked into any proprietary media development tool when the vendor neutral ones are so good?

However, these tools simply allow you to create good streaming media, they don't necessarily allow you to codify and publish that media into a coherent course. For that you'll need a course publisher.

There are many course publishing systems on the market. These systems coordinate the media and timings, build content into a learning path and then publish it into an LMS. Ease of use, publishing into multiple management systems and compliance with various industry standards are some of the primary issues to consider when reviewing course publishers.

Learning Management Systems

Learning Management Systems are the linchpin to e-learning because they perform several vital functions including: (1) Course management (2) Student registration (3) Tracking company, group and student activity and (4) Reporting and analysis. Without an LMS, there is no way for instructors to manage course material, students to view their progress or administrators to confirm program completion.

Purchasing an LMS can be quite costly both from the standpoint of buying the software and implementation throughout the organization. Determining buying criteria is also quite involved.

If you are not planning on developing a wide selection of courses, ask your course developer if they have an LMS which you can use as part of the development program. At MindBuilder, our clients gain free use of our feature-rich LMS when we develop a course for them. The only cost is when a client requests a customized company interface for their students.

Developing Custom E-Learning Programs

Know If Your Students are Learning

Are you planning
to include student
assessments?

Should you include
both an entrance
exam and a final
exam?

How do you
reinforce the same
message to get
through to your
students?

How do your
address different
learning styles?

Student Assessments

We have reviewed hundreds of e-learning courses and seen many courses developed either without student assessments or with optional student assessments. We also hear many reasons why student assessments are not included: *“Students won’t do them.” “Management doesn’t want to make employees feel like they are back in school.” “Our students are adults; they don’t need them.”*

As an instructor or administrator, if your students haven’t taken an assessment then you don’t know if your students have learned anything from the course. If you don’t know if your students are learning then you don’t know if your course was poorly designed, if the time spent developing it was worthwhile, or if the time your students spend with the course was wasted.

We understand that not many people like taking tests, but a course without a student assessment is a waste of time both for the student and for the organization.

A well-designed course should have both an entrance exam and a final exam. Why? Because it is the improvement between the two scores that will tell you whether or not the course is working to transfer knowledge to your students. If students aren’t improving then the course was poorly designed or poorly implemented.

At a minimum, the course should have a final exam. Lots of resources are spent on training not only in course development but also in employee time so if students can’t pass a final exam then those resources have been wasted.

Learning Principles

Whether you are developing a course in-house or are hiring an outside firm, make sure that you or they are implementing sound pedagogical principles in the course design. The bottom line for any course is knowledge transfer. If students don’t acquire and retain usable knowledge then the course has not fulfilled its purpose.

Reinforced learning is the key to e-learning success. With reinforced learning, the same kernel of knowledge is repeated in a wide variety of formats to address the different ways that people learn. While there are many theories on adult learning, in general people learn from concrete experience, reflection, conceptualization and experiment. Course development should address as many of these approaches as possible.

Developing Custom E-Learning Programs

Know How to Manage Your Project

What are the different phases of the project?

Have you implemented effective checkpoints?

Can you adapt to midstream changes?

Do you understand streaming technologies?

How will you handle course updates?

Project Management

In the trenches project management is crucial to keeping your course on-time and on-budget. The importance of completing the course script once again can not be over-emphasized. Do not begin the other phases of your course development before the writing has been completed because it will result in redundant efforts.

Break the Project into Steps: A course development project can be broken into the following steps.

- (1) Course Outline;
- (2) Script;
- (3) Storyboard;
- (4) Voice-Over;
- (5) Tutorial Development
Quizzes, Exams
Interactive Exercises
Glossary
Extra-curricular resources;
- (6) Course Publishing;
- (7) Testing; and
- (8) Distribution

Each of these phases follows from the last and there really are no short-cuts. There may also be intermediate steps if, for example, your course requires hiring actors to perform a simulation. There are also implied steps such as reviewing and interviewing writers, hearing voice-over samples and the like.

Project Coordination: Make sure everyone working on the project understands the end result, especially any subcontractors. Development of media for CD-ROM delivery is different than media development for on-line streaming.

Know How to Adapt: It is rare that a course development project doesn't undergo some mid-stream corrections. Anticipate those changes and make sure that your team knows how to adapt their technology to the situation. Before you begin the project seek to understand the technology that you've chosen and which parts of it are flexible and which are not.

Developing
Custom
E-Learning
Programs

*Know
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How can we help?

Food for Thought

We hope these questions and answers have been helpful in guiding you on your course development project.

If you would like further assistance, please don't hesitate to contact us at info@mindbuilder.com or 1-877-753-8889.