



Fundamentals of Learning Technologies Part 1

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Excerpt

This article is a primer for those of you new to learning and eLearning technology. Maybe it is just me, but some of the terminology thrown around in articles, books, and blogs force me to hunt down definitions in Wikipedia. And we all know that Wikipedia can't be wrong. Part 1 of this two-part article explains what's involved with planning, development, and delivery of training using modern technology. In preparation of part 2 I'm going to ask you to take in a short online survey.

Fundamentals of Learning Systems Part 1

Think of how much of your life has been spent learning? Daily learning comes from a variety of sources including coworkers, family, and friends. In schools, learning is much more structured consisting of books, whiteboards (blackboards?), teachers, and class schedules. And to ensure that learning material is retained, the teacher uses a combination of individual exercises, group exercises, and quizzes. Creating this learning material was time consuming and tedious. However, the benefit has always been scalability. Once learning material is created, it can be used over and over again. Not just for one school—lots of schools throughout the country.

Enter digital software and computer hardware technology. Books no longer needed to be typeset, learning material could be updated instantly in the cloud, 35mm slides gave way to PowerPoints, and so on. The restriction of mandated scheduled learning has been displaced by curriculum that can be delivered anytime, anywhere. How we learn in the workplace is undergoing a massive transformation.

And it all starts in the classroom.

The Elements of Classroom Learning

There are typically three stages involved with the lifecycle of live classroom training from conception to class presentation.

	Instructional Design	Production	Delivery
<i>Function</i>	Create the learning material	Create the learning material for the course	Schedule and hold training with students in a classroom setting
<i>Role</i>	Instructional designer	Production manager	Instructor
<i>Participants</i>	Subject matter experts, and compliance reviewers	Production staff, suppliers and vendors	Students, venue staff, registration managers
<i>Output</i>	Slides and associated documents, code, or other artifacts are created.	Produce final courseware material and prepare for printing.	Scheduled class of the course in a classroom setting. Each student receives course material (like handouts of the slides, exercise task descriptions, and so on). Slides are projected onto a screen.
<i>Sample tools and technology</i>	Microsoft Office apps (PowerPoint and Word) to produce initial storyboards and courseware material. [1]	Adobe , Microsoft , and Autodesk tools can be used to finalize professional graphics and layout. Everything to be printed can be exported to PDF format using Adobe Acrobat .	PowerPoint, Inateck wireless presenter (WP1002), Casio Green Slim Line Projector (XJ series) equipment. Online student registration logistics are provided by vendors like cvent and RegOnline .
<i>Schedule</i>	Takes some period of time	Usually takes less time than instructional design stage	Set class times, highly structured

My company, Leading Software Maniacs, creates and presents innovative live workshops for software developers and managers. Workshops are usually presented as a set of slides that are accompanied with printed handouts for students during a class. Highlights of live training include:

- Classes take place at a set time and location.
- Interaction is expected between the instructor and students. Table arrangement usually accommodates 4-6 attendees per table (round tables work best). Food and beverage service should be provided.

- Marketing and promotion for live workshops are performed by city and usually with the help of local professional organizations hosting the event ([PMI](#)[®] comes to mind). Armed with a trusty laptop and a lightweight projector, there are literally hundreds of agile consultants presenting agile workshops at [PMI local chapters](#) throughout the world.
- Inexpensive software tools and hardware devices gives new meaning to DIY. Now, most anyone can create world-class learning material.
- There's considerable effort in handling the logistics: venue selection, registration, and attendee fee collection. Working with vendors, partners, and attendees takes considerable personal interaction. Even with online software tools.

There can be different folks responsible for each of the three phases, however for most of us, the creator of the course is usually the person producing and presenting the material.

Enter eLearning

Just like so many industries have gone through massive automation through software, learning has gone through a similar transformation. Learning through educational technology, or eLearning, has redefined how we learn based on two basic technologies: personal computers and the Internet. As a result, software apps have risen out of nowhere to provide integrated solutions that enhance how to connect learning with computing devices. This software-driven approach allows self-direction, mobility, and even collaboration and evaluation.

Originally known as computer-based instruction (CBI), eLearning offers key dramatic benefits.

	Live classroom	eLearning
Creation of presentation material	Use PowerPoint to create slideshow.	Use PowerPoint to create slideshow. Use screen recording software/devices to produce a video for viewing.
Storyboard outline and presentation flow	Optional	Mandatory [1]
Marketing and promotion	Local for the event	Social media
Class setting	Classroom or conference room	Work desk, coffee shop, or home
Class schedule	Must be scheduled	Can be scheduled online or self-directed
Expenses	Travel, venue, and registration	Registration only
Handouts	Printed	View in browser, downloadable
Student/Teacher collaboration	Yes	Limited, perhaps through chat room or forums
Computing device	Rarely required	Desktop, laptop, and mobile (tablet)

There must be great opportunity to supply technology for eLearning. According to Capterra, there are at least 500 learning management systems providers in the market. [2]

eLearning tools can provide a mechanism to evaluate how well students are learning in addition to offering more guidance if they fall behind. Even the use of games has become an accepted way to motivate and aid in the retention of information learned. I've posted a quick survey on how you like to learn (https://www.surveymonkey.com/r/howwelearn2016_lsm). The survey is anonymous and will

take no longer than a couple of minutes to complete. An analysis of survey results will be included in part 2 of “Fundamentals of Learning Systems.”

References

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Bio

Ken Whitaker, of Leading Software Maniacs, has more than 25 years of software development leadership and training experience. He has written books on leadership and is an innovator in instructional design and agile project leadership workshops. Ken is the creator of PM Chalkboard, a software company VP, and the editor for *Better Software* magazine. He is creating a unique gamification product that redefines learning.