

Information Architecture: E-Learning Critique



IA Design & Usability: E-Learning Critique

Topic: Information Architecture: E-Learning Critique

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Information Architecture: E-Learning Critique

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E-learning Critique of Information Design Program at Ohio University

Source: http://www.online-learning.com/course_id_0.html (see Figure 1).



Figure 1: Online-learning.com—Online Courses For Tomorrow's Information Design Professionals

E-Learning Program at Ohio University

In a word, I would like to say why I am interested in this particular e-learning training program. After I graduated from college with an emphasis in Information Architecture, (“IA”), I realized that many professionals have a lot of difficulty in finding high-quality IA programs. In addition, learners want a program that includes actual hands-on classes.

In my opinion, because I have reviewed the curriculum for this program, I believe it delivers a basic IA training program. Providing a learner foundational skills in IA, for example: user interface analysis, user interface design, usability testing, and Web-based training (instructional design) courses (or other relevant courses), however. I feel that this type of training supplements any graduate-level program related to IA or other related fields—instructional design, graphic design, human-computer interaction, interaction design, information design, technical writing, so on and so forth.

Since IA is such a new field and considered a highly-specialized niche field, many training programs *do not exist—in arguendo*, many training programs have pseudo IA training programs that *do not fully* teach students what real IA work involves or providing IA vocational training and skills. The reason why I know this information is that I have surfed online, doing research and found a lack of college programs or training programs. The Multimedia Studies Program (part of San Francisco State University) no longer teaches a program for IA. Looking on this (<http://ia institute.org>) Website, I found a PDF handout that lists only a few colleges that offer real IA programs. An IA has to demonstrate his or her vocational skills by being able to perform tasks on his or her job. Because doing IA work is so involved, a person wanting to be an IA has to know *what to*

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do and *how to do* it in the real world on the job. Fortunately, the Graphic Design Department at San Francisco State University offers a multidisciplinary program in design, so I was able to get high-quality training that prepared me to be a professional practitioner.

This e-learning training program is for students who desire to learn about Information Design (Information Architecture—commonly referred to as IA) by completing an online e-learning program at Ohio University. This program combines standalone e-learning with instruction from professors via email as well as online interactive chat sessions with students. The program encourages students to “engage” the teacher to mentor. Being an Information Architect, makes me interested in this program. The training program can be completed within 18 months or sooner. It provides current researched information about information architecture. Ohio University refers to their IA program as an Information Design program. It provides relevant training to an end user that could be applied while working on the job as an Information Architect.

What is Information Architecture?

Information architecture (often abbreviated “IA”) is the practice of structuring information (knowledge or data) for a purpose. These are often structured according to their context in user interactions or larger databases. The term is most commonly applied to Web development, but also applies to disciplines outside of a strict Web context, such as programming and technical writing. Information architecture is considered an element of user experience design.

The Information Architecture Institute (<http://iainstitute.org/en>) gives this definition for **Information Architecture** as:

1. The structural design of shared information environments.
2. The art and science of organizing and labeling Websites, Intranets, online communities and software—to support usability and findability.
3. An emerging community of practice focused on bringing principles of design and architecture to the digital landscape.

The term **Information Architecture** describes a specialized skill set, which relates to the interpretation of information and expression of distinctions between signs and systems of signs. It has some degree of origin in the library sciences. Many library schools [and graphic design schools] teach **Information Architecture**.

(Source: http://en.wikipedia.org/wiki/Information_architecture)

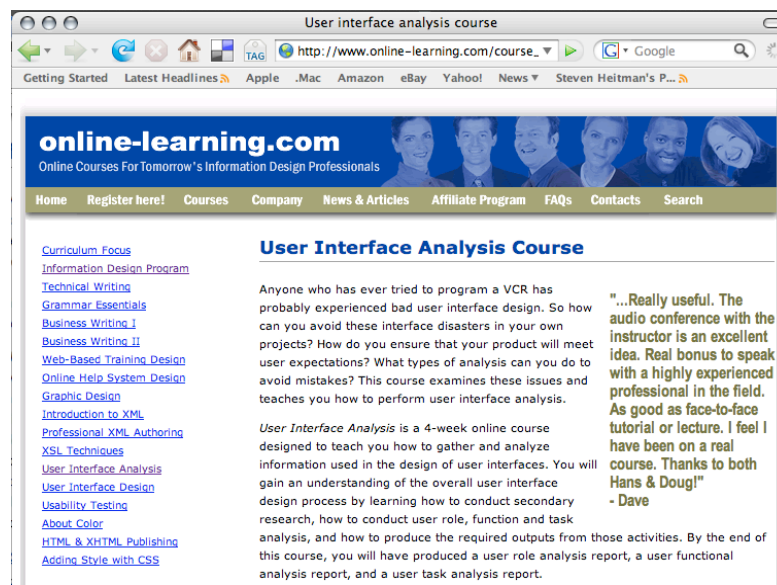
If a student has had prior training in IA, it would be significantly meaningful to such an end user. After reviewing the training program (see Figure 2), I think most end

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users could easily follow the program and *learning by doing* Schank (2002). The reason I like this e-learning training program is they give students direct feedback in written communication combined with an online or e-learning experiences using the Internet. It includes training in:

...the core information design disciplines of writing, graphic design and human factors design. No other institution offers this broad skill coverage in one program!

Upon completion of the program, participants will be able to employ systematic processes and newly acquired knowledge to increase the usability and performance of their information products, interaction designs, user interfaces, web products, and training systems.



(Source: http://www.online-learning.com/course_id_0.html)

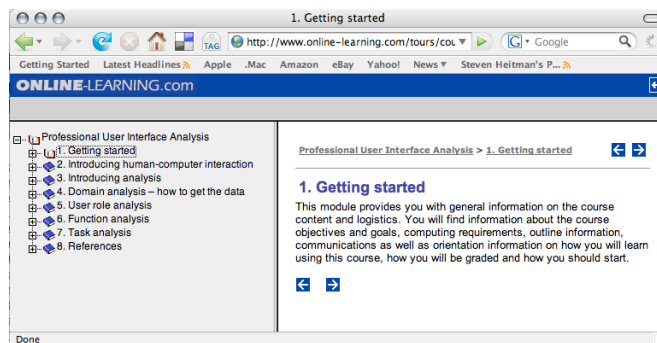
Figure 2: User Interface Analysis Course

In my opinion, this online e-learning training program is a well-thought out, systematic approach to providing a high-quality program to learners who choose to access online learning. Because the curriculum design in these modules is on target for learners, any end user could easily learn from this course. For every course, a well-thought out introduction explains to end users what the course is about and why it is relevant to a learner (see Figure 2). My critique of this e-learning program includes sections on: Curriculum Design of Training Program; User Interface & Navigational Systems Designs; Relevant Content Developed at Online-Learning.com; and Conclusion of E-Learning Critique.

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Curriculum Design of Training Program

I am showing (see Figure 3) part of the online tutorial **1. Getting started**. As you can see, it is very easy to use for an end user to learn about how to get started on a project. The end user gets started by navigating through the Getting started section and reading it. After reviewing the contents outlined on their Website for this course, I believe it is relevant to any learner desiring to learn about IA. The good thing about this e-learning training program is it provides real training in IA (via project components). With regard to how the curriculum plan is designed, it prepares a learner to understand what he or she is going to be doing in this training program. Ohio University has clearly mapped out their learning objectives as discussed below.

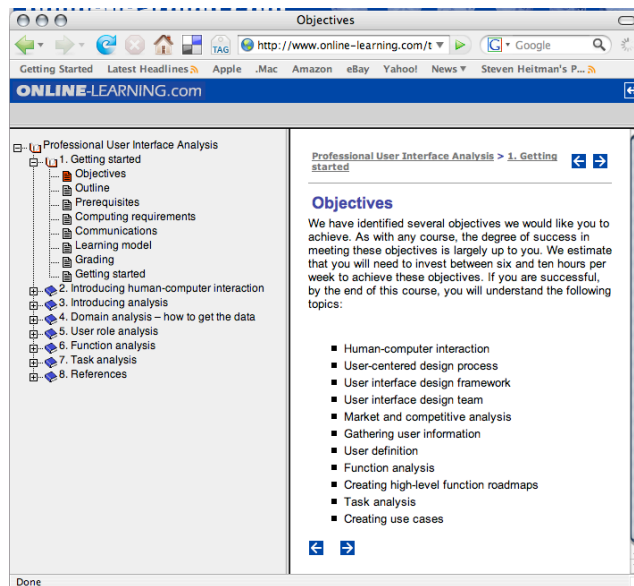


(Source: <http://www.online-learning.com/tours/courses/PUIAdemo/index.html>)

Figure 3: 1. Getting started

In addition, it gives an end user ability to view pertinent knowledge and information while surfing online. The reason it is clear is that when an end user clicks on the Objectives icon a sub navigational system appears; it is easy for any end user to use this sub navigational system. The **learning objectives** are quite clear to any end user new to this program (see Figure 4):

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(Source: <http://www.online-learning.com/tours/courses/PUIAdemo/index.html>)

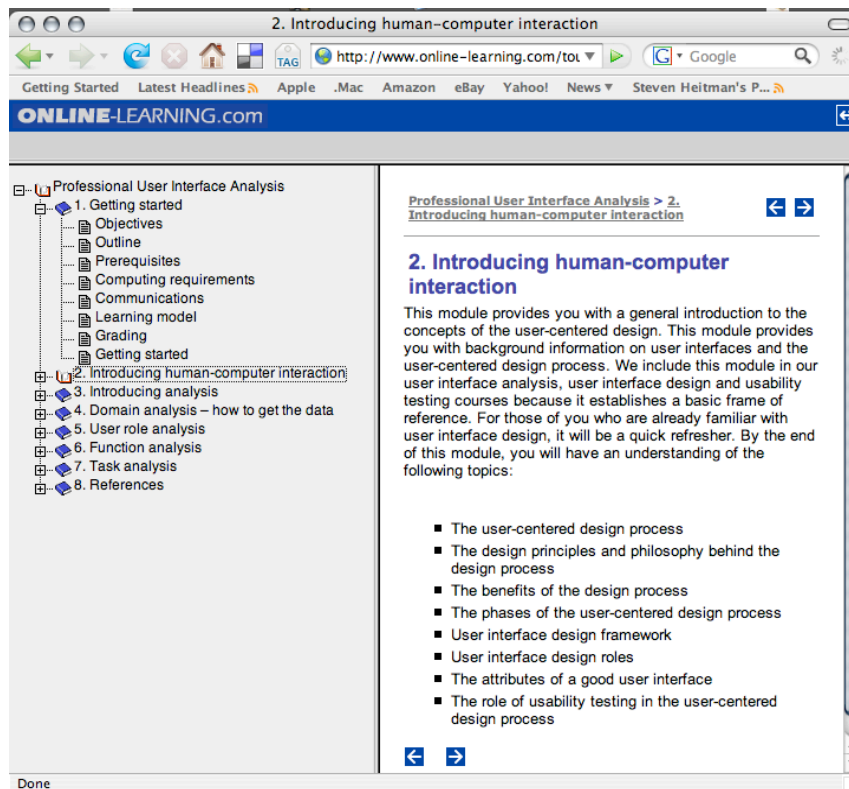
Figure 4: Objectives

User Interface & Navigational Systems Designs on Website

The interface design is quite clear in my evaluation. An end user can understand quickly learn how to navigate through Web-pages in training modules. No unwanted graphical images are used in their design (see Figure 4). The navigational systems design is very clear, in terms of navigational elements (sub and main navigational systems). An easy-to-use main navigational system is used in this design. Icons used for navigating are clear indicators about where an end user is located on any Web-page.

Right and left arrows are used consistently throughout the Web-page design across the Online-Learning.com's user interface design. In addition, an arrow on the top right is redundant and unnecessary for navigational systems. The reason is that main navigational systems are already in place, however. A flaw in the navigational systems design is that there are no *affordances* built in for end users; where Online-Learning.com is located—image should be made into an image map and linked to the homepage—the rationale for this design is that this type of information architecture provides: *findability, wayfinding, and built-in navigational systems to end users.*

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(Source: <http://www.online-learning.com/tours/courses/PUIAdemo/index.html>)

Figure 5: 2. Introducing human-computer interaction

The main navigational system used on the Web homepage is consistent, and it is an excellent example of a high-quality user interface designs, including main navigational systems that work quickly, easily (see Figures 5, 6). The reason this main navigational system works is that it is consistently placed on every Web-page in each section (see Figure 6). Two main navigational systems are used on this Website (see Figures 5, 6). The main navigational system (see Figure 6) is the main system used throughout the design on this Website. When an end user uses the tutorial, another main navigational system is on this Web-page in conjunction with a sub navigational system, which makes navigation quite easy for any end user. The path for an end user is delineated clearly (see Figure 5). Other ad hoc links are used throughout their Website.



http://www.online-learning.com/course_id_0.html

Figure 6: Online-learning.com

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Relevant Content Developed at Online-Learning.com

This is a good example of *not violating* Clark and Mayer's rule about avoiding usage of irrelevant images (2003), referring to the diagrams used in training modules (Figures 7, 8, 9). I think their diagrams clearly communicate to end users the IA process talked about in the modules. On their main Website, Ohio University uses (see Figure 6) smiling faces, which may not be a good use of graphics. This use of graphics violates Clark and Mayer's rule regarding usage of images.

Though an instructional designer might argue, these e-learning modules break the rule of having too much text on the screen—*these are my thoughts*: After evaluation, the tutorial is simple and easy to use, providing easy delivery of knowledge to end users. The modules are well written and provide meaningful knowledge to learners (see Figure 7).

Professional User Interface Analysis > 2. Introducing human-computer interaction

What is a user interface?

To understand what is meant by the term *user interface*, you first need to understand the term *human-computer interaction*. Human-computer interaction is the interaction that takes place between a human and a computer system. The user interface represents the "face between the human and the system". It is the place where the user enters information into the system (input) and receives information from the system (output). It can take many forms (e.g. phone dial pad, computer screen, VCR controller), but the underlying structure is always the same. There is a user, a system, input and output.

```
graph TD
    User[The User] --> Input[Input]
    Input --> System[The System]
    System --> Output[Output]
    Output --> User
```

Done

(Source: <http://www.online-learning.com/tours/courses/PUIAdemo/index.html?hideOutliner=true&page=File-11.html>)

Figure 7: What is user interface?

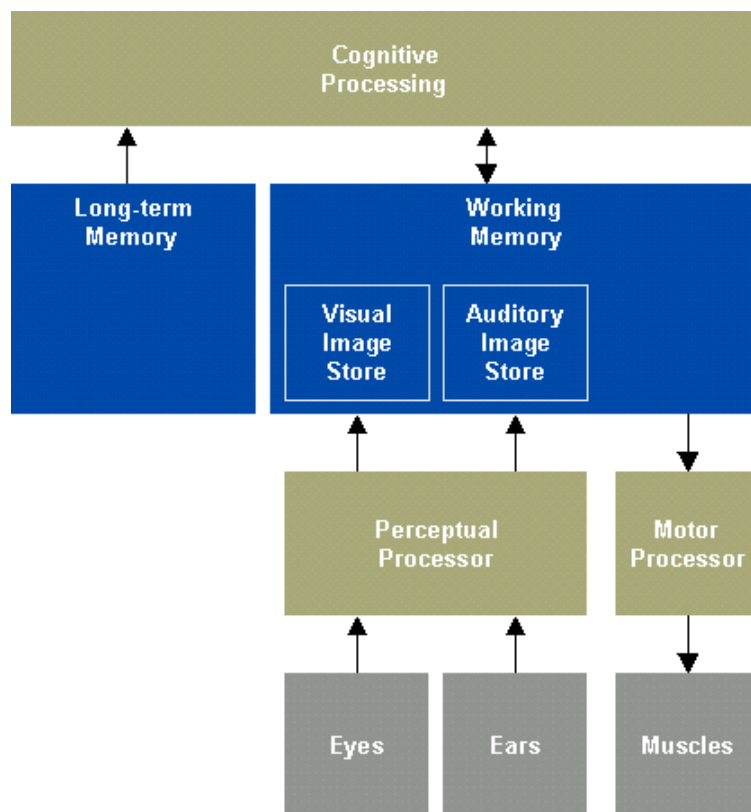
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Going to the next page, another useful diagram explains **how people work**. The diagrams are really good used in combination with relevant text (see Figure 8). Diagrams give a learner an easy way to grasp the main idea in order to absorb the information. After reviewing every sub section of the main sections in this e-learning course, they include diagrams almost in every sub section of the learning module as well as relevant text. I did additional testing of their product, and I found that most of their Web-pages printout in 1-2 pages—not too much text for end users. One caveat is that sometimes the text was designed in a type size too small for end users to read easily.

How people work

In order for you to design an interface, you need to have a basic understand of how people function. The diagram below illustrates a model developed by Card, Moran, & Newell in 1983 outlining how we process information. This diagram illustrates the interrelationship between perceptual processes, cognitive processes and memory.

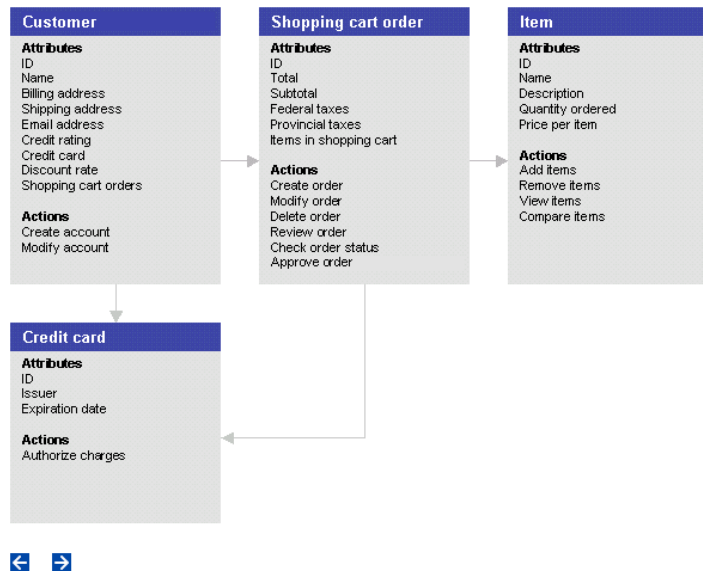
.... (Entire text from Web-page, not included here.)



(Source: <http://www.online-learning.com/tours/courses/PUIAdemo/index.html?hideOutliner=false&page=File-14.html>)

Figure 8: How people work

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(Source: <http://www.online-learning.com/tours/courses/PUIAdemo/index.html?hideOutliner=false&page=File-14.html>)

Figure 9: How systems work

In this module, I noticed that relevant, pertinent diagrams (see Figures 8, 9) are included with text. Diagrams are important to e-learning courses because diagrams can provide meaningful information to end users—a *picture is worth a thousand words*. When an instructional designer uses relevant graphics, it *enhances* the learning. Because graphics used for merely decorative purposes tend to *confuse* learners with irrelevant use of graphics, not graphical diagrams or images relevant to the training program, according to Clark and Mayer (2003). The reason I have included Figure 9 is that it shows an end user how to do interaction design on *business-to-business Websites*, therefore. Relevant information is provided to an end user that wants to learn how to do the interaction design for an end user's transaction on a Website and understand solid interaction design principles.

This information is really useful, relevant to end users. In addition, it tells a learner that this e-learning training program is project-based. In order to get the Certificate, a learner must complete quizzes as well as complete projects. The quizzes help learners by assessing if they learned the material or did not learn it. According to Schank (2002), *learners learn by failing* and getting a wrong answer would then help a learner to remember the correct answer—if he or she answered the questions on the quizzes correctly. Online learning tends to be safe since a learner can fail, without others seeing their failure.

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Instructors at Ohio University provide useful feedback via email, as projects are turned in to Ohio University. This e-learning program is a combination of using online technology as well as professors that provide feedback to learners. In other words, it is not just learning from using online resources. An e-learning component as well as feedback from instructors, including online interaction with peers is part of the curriculum design. End users learn by doing per Schank (2002). The curriculum designers did an excellent job because they provide framing in each lesson, including learning objectives as well as summarization of what is required and objectives covered in the course (see Figure 10)—*clear directions to learners* Clark and Mayer (2003).

User Interface Analysis Outline Here is a detailed table of contents of the course: Getting started Context Prerequisites Objectives Detailed content outline Deliverables Internet requirements Computing requirements	Project 1: Introduction Notes: Introducing user-centered design User-centered design User-centered design process Design iteration Analysis phase High-level design phase Detailed design phase Verification phase Benefits of the process Notes: About interface analysis Why analysis is needed How analysis is different from design Analysis definitions Analysis process Key outcomes of the analysis phase Quiz Deliverable: Introduce yourself
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<p>Project 2: Domain analysis Notes: About domain analysis What is a domain analysis Business perspective User perspective Marketing and competitive perspective User interface technology analysis Development constraints Notes: Gathering information Web searches Expert heuristic evaluations Quiz Deliverable: Conduct a web search</p>	<p>Project 3: User role analysis Notes: About user roles The purpose of user roles Determine the broad user segments Case Study – Museum digitization project Determine specific user segments Identify the primary and secondary roles Specific user role description information form Case Study – Web portal publishing tool Notes: Gathering information One-on-one interview method Field study method Self-guided questionnaire or survey method Quiz Deliverable: Prepare a user role report</p>
<p>Project 4: Functional analysis Notes: About functional analysis What is functional analysis Identify the most important functions Case Study – Web portal publishing tool Quiz Deliverable: Prepare a functional analysis report</p>	<p>Project 5: Task analysis Notes: About task analysis How to capture user task information Identify the most important tasks Case Study – Web portal publishing tool Creating user-task matrixes Identifying use cases Use case template Case Study – Web portal publishing tool Pulling it all together Quiz Deliverable: Prepare a task analysis report References Recommended websites Recommended readings (Source: http://www.online-learning.com/course_puia.html) Figure 10: User Interface Analysis Outline</p>

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Conclusion of E-Learning Critique

In conclusion, after reviewing this e-learning program: It is affordable to most end users at a cost of approximately \$1,500 to complete program; they also will take a few classes to count towards the Certificate, if from an accredited university. The approximate cost of another program, at a well-known college, for completing a Certificate in a computer-human interaction program is about \$10,000 to \$15,000, which is quite expensive compared to this e-learning program. It does not take a long time to go through the modules (about 4-8 weeks in length for each module). This means that the training can be completed easily and quickly and inexpensively. The curriculum is totally relevant to information architects or information designers because it provides skills that could be used on the job. They use the term information designer in error—it should really say information architecture since IA is the correct classification. Since IA is such a new field, I can understand why they say it is an information design program.

Ohio University is very responsive to students about questions sent to them via email, even returning telephone calls quickly. The people at Ohio University are courteous and answer all questions about the program, without a hassle. Ohio University tells online e-learners the requirements for taking online e-learning classes. The reason I know this information is that I have communicated with Ohio University and know from talking with them. The navigational systems on their Website work very well for end users as well as easy to navigate. End users have easy access to current researched information about IA. The content and training modules are well thought out for end users, since the writing and diagrams are a good combination (text and graphical elements) to help end users absorb the materials. In my opinion, the curriculum design is solid for this e-learning program. While I was not allowed access the entire online e-learning for free, Ohio University allows an end user to view enough information about their program to get a flavor for the e-learning program.

It offers a high-quality training program for professionals who desire to learn how to do IA work on the job. The curriculum (for a short-term training program) is on target and meets the requirements for IA jobs. The caveat is that a Certificate does not replace doing relevant coursework during one's undergraduate career or replace getting a graduate degree. This e-learning training program supplements other degrees and other training programs, enabling a learner to better understand how to do IA work on the job. I think this e-learning course is an excellent example of *learning by doing* according to Schank (2002). Feedback is relevant because it gives a learner a chance to figure out what to do and actually do it. Thus, this method satisfies Schank's approach to e-learning. After reviewing some samples of feedback from Ohio University to learners, they provide feedback that improves a learner's design choices—*improving his or her design*. The projects that are part of the training program supplement what students learn by attaining hands-on experience, doing IA in their designs and structuring content. This also reinforces a learner's ability and confidence to perform in an IA job after completing the training. To conclude, Ohio University says that "75-85%" of learners actually do complete their online e-learning program.

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