Application of the **Thiagi 4-Door Model**

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Table of Contents

Overview of the 4D Model..... 4
- Library..... 5
- Playground..... 6
- Café..... 7
- Evaluation Center..... 8

Why Is This Important?..... 8

Pros and Cons of the 4D Model..... 10
- Pros..... 10
- Cons..... 10

Sun's Experience with the 4D Model..... 11
- Designing Sales Training..... 11
- Design Issues..... 12
- Technical Issues..... 14
- Success..... 14
- Anecdotal Pilot Feedback..... 15
- Critical Feedback..... 15

Top 5 Recommendations/Lessons Learned..... 16

How Can I Learn More?..... 17

Presenter Biographies..... 18

Background

The Four-Door eLearning model helps training and non-training professionals build interactive eLearning programs that address the needs of many types of learners relatively quickly and cheaply.

Sun has a global Sales operation with over 3,000 Sales Managers. Each Sales Manager is responsible for a team of Account Managers whose primary job is to find, win, and grow new customers. The Sales organization uses a specific sales methodology, but noticed that the sales teams are not performing in a consistent manner with proper documentation across all phases of the sales process as prescribed by the methodology.

Each Sales Manager, although responsible for the performance of his or her own team, also works as a sales person themselves. In fact, many Sales Managers are top performers, and may have obtained their position because they land in the top 10 percent of sales volume (they are often referred to as the "Elite Sales Force"). This affords them little time to coach and mentor their Account Managers, or even to follow closely the behavior and performance of each Account Manager in their own day-to-day work.

The Sales organization brokers training through a vendor that also provides the sales methodology. The training is offered periodically in classroom settings. After spending significant sums of money and investing time to send staff to class, the organization is not seeing increased performance in sales, and/or increased accuracy in documentation.

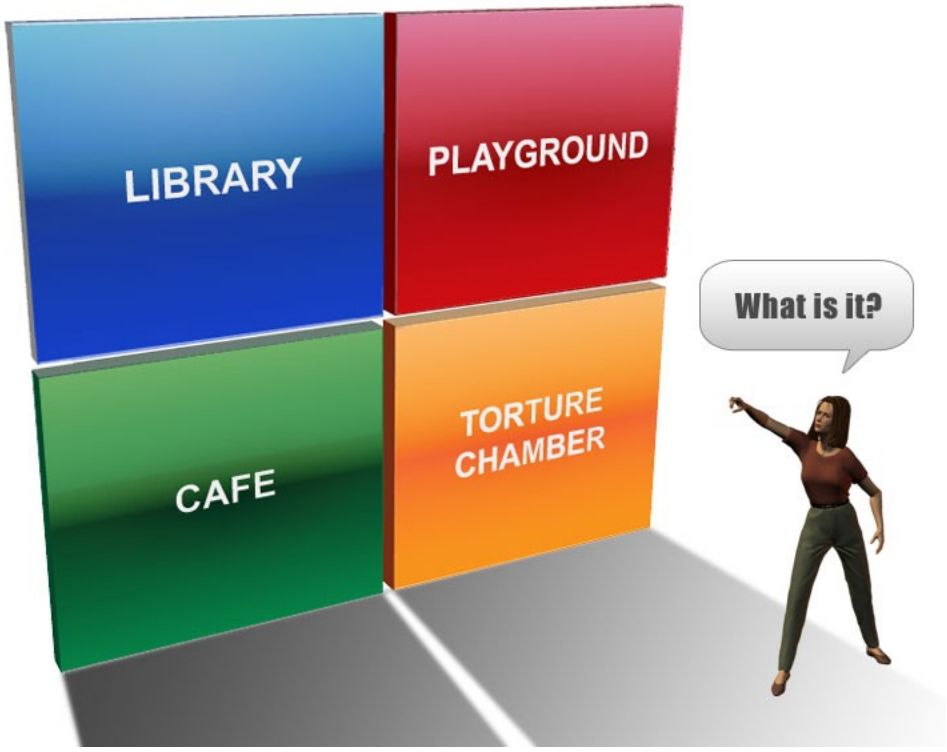
Frustrated, the Sales organization asked Sun Learning Services to conduct a performance analysis to try and uncover the root cause of the performance problem and identify how to help increase performance while reducing the cost of the classroom training.

The Four-Door eLearning model was developed by Dr. Sivasailam "Thiagi" Thiagarajan.

In 2008, the Director of Sun Learning Service's Employee Training was introduced to Thiagi's 4-Door eLearning model. He felt this design model would help bridge the gap between the high cost of classroom training and the lack of performance improvement that the business was suffering.

In this paper, we present a fully-formed discussion of our application of the 4-Door model – an application that has met with much initial success including kudos from all major stakeholders, and requests to have more courses designed in this format – as well as lessons learned and recommendations for enhancements for future users.

Overview of the 4D Model



The Four-Door (4D) eLearning model, developed over the last few years by Dr. Sivasailam “Thiagi” Thiagarajan, is a simple instructional design model that helps training and non-training professionals build eLearning programs that address the needs of many types of learners relatively quickly and cheaply.

The “four-doors” represent four different areas or components of the learning environment:

Library

This area contains the content of the course or module—the information required to master the learning objectives and to successfully complete the final performance test. It typically contains pre-built or existing content: videos, documents, slideshows, photos, audio files, etc. Learners are invited to study the content in any sized chunks that they prefer.

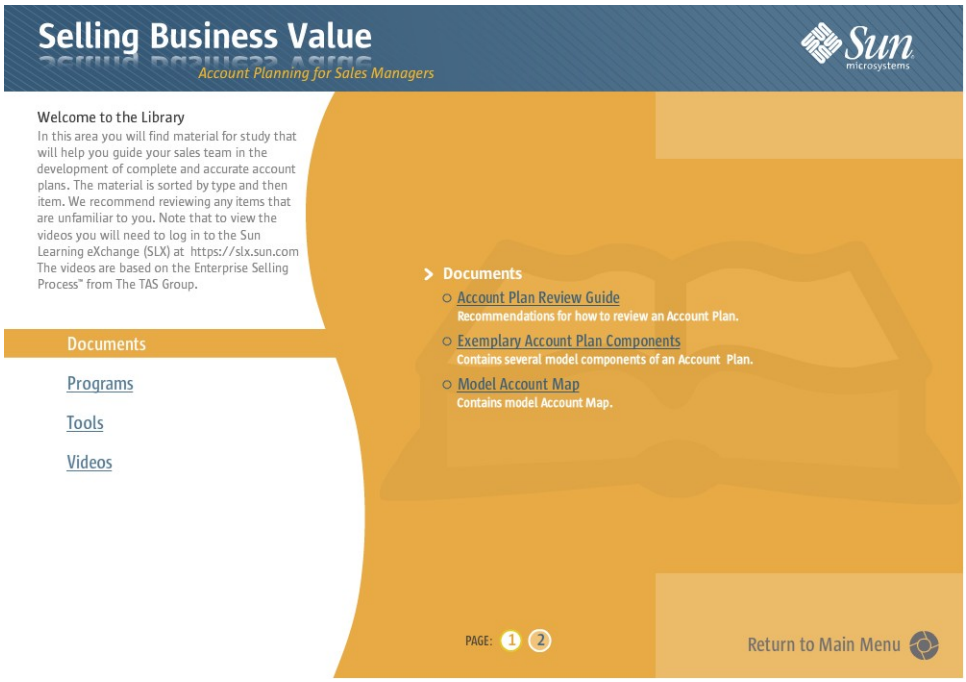


Figure 1: The Library

Playground

This area contains fast-paced frame-games that provide practice in recalling and applying the content from the library. The frame-games typically require the learner to type or choose short answers. Learners can play each frame-game repeatedly at up to three levels of difficulty to increase fluency.

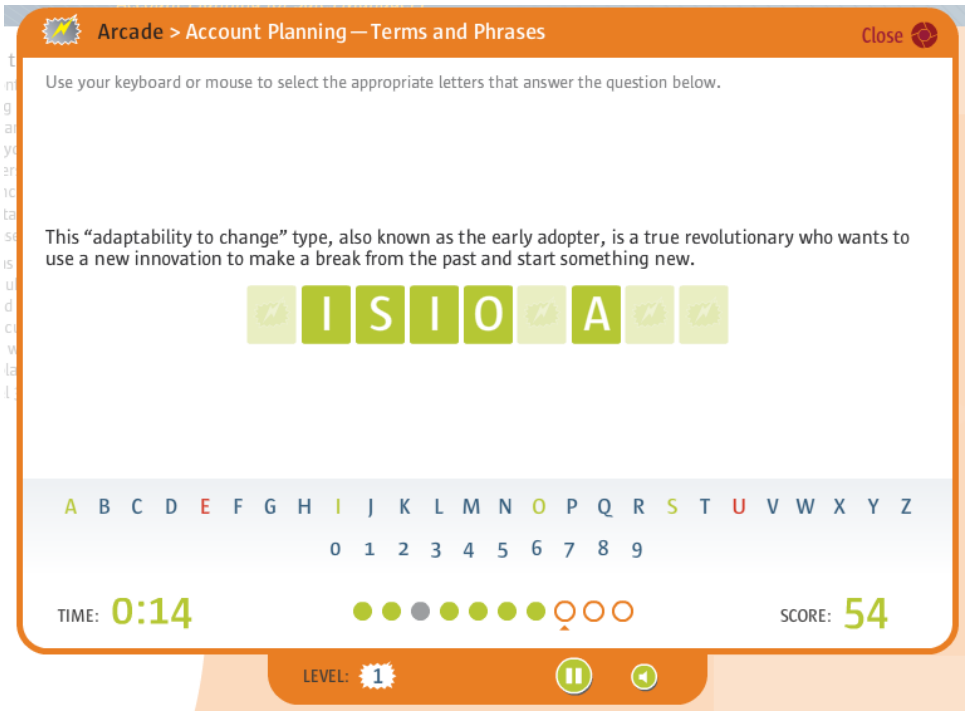


Figure 2: Hangman game in the Arcade

Café

This area contains social learning activities. One common activity is the open-question game which uses open-ended questions to encourage the learner to reflect on the content presented in the library. Learners respond to each question by typing an answer in a text box. When complete, the learner can review the answers given by experts and fellow participants. The café may also include other social-learning components such as wikis, blogs, message boards, etc.

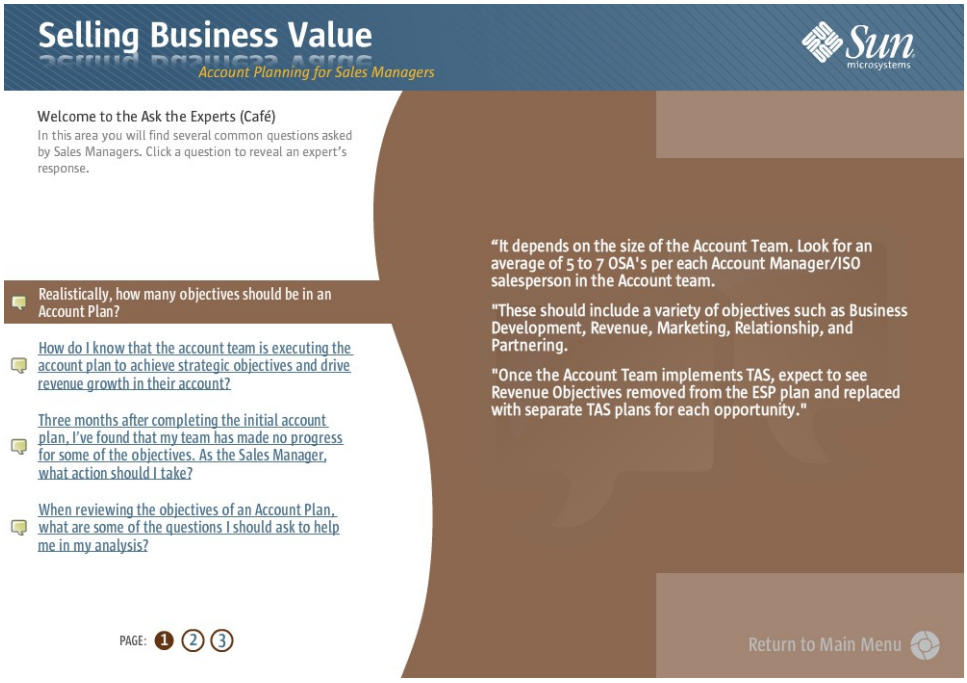


Figure 3: Cafe

Evaluation Center

This area, sometimes affectionately referred to as the Torture Chamber, contains the performance test. Typically, instead of using multiple-choice questions, the evaluation asks the learner to complete or participate in an actual job-related assignment.

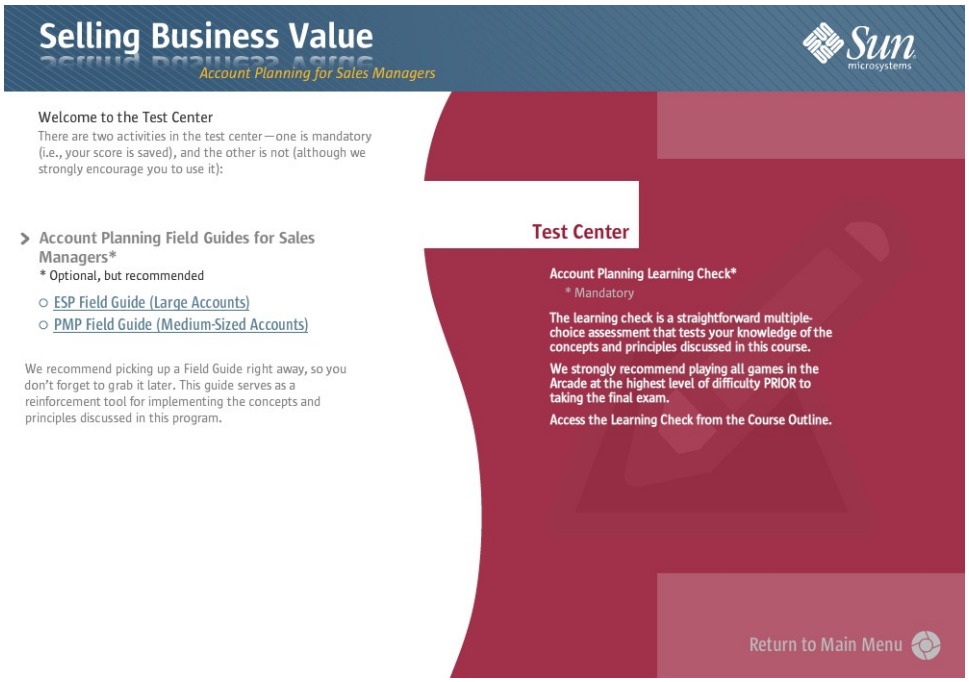


Figure 4: Evaluation Center

Why Is This Important?

In 2008, U.S. Companies spent $56.2 billion on training (Bersin).

Training professionals are looking for, and learners are demanding, alternatives to what has become traditional a eLearning format—PowerPoint slideware souped up with an audio component. These programs are typically very linear and do not offer much control to the learner. Audiences grow bored quickly with this form of passive "learning by listening" which leads to the already high eLearning attrition rate.

In today's economic situation with severe fiscal constraints, businesses are seeking more flexible learning options to help cut costs, but are also providing opportunities for higher levels of engagement. Thiagi's 4D approach offers a fresh and relatively inexpensive alternative that can be very effective.

The model, depending on how it is implemented, offers almost total control to the learner. *They get to choose how they learn based on their preferences*. According to Thiagi, "If you...

- ...are a law-abiding type of participant, you may begin at the library and proceed through the playground and the café to the torture chamber.
- ...are a wild and impulsive participant, you may hop, skip, and jump your way among the modules and sections. You may go to the playground first, get trounced, find out what types of questions are asked, and then work your way through the library.
- ...feel lucky (or have a bloated sense of self-esteem), you may skip all of the studying, go directly to the torture chamber, and complete the assignment.
- ...are a grasshopper, you may skim through the library, jump to the café, enjoy the frame-games in the playground, and then return to library for some serious studying."

The frame-games in the playground provide review and practice opportunities. The frame-games may not be sexy, but they offer the designer an easy way to help learners engage with the content, and the learner an addictive way to test their knowledge of the content. Well-crafted game items help learners to, among other possibilities:

- Recall and organize factual information
- Associate components with different stages and steps
- Emphasize critical features
- Identify major differences among concept classes
- Gain fluency in recalling information

The café approaches Learning 2.0 in its purest form, learning through social interaction and is more and more what Gen Y and the Millennials are demanding. They tend to see this as the most profitable educational experience, especially since most people learn by *sharing*.

The evaluation center contains the assessment instrument. For the learner it provides a final opportunity to test their knowledge of the library's content. In an ideal situation the assessment simulates the real life scenario the learning is based on.

To summarize, the 4D model combines the effective organization of online documents (in the library), with the motivational impact of frame-games (in the playground), the power of collaborative learning (in the café), and authentic performance tests (in the assessment center).

Pros and Cons of the 4D Model

Pros

- It is faster and cheaper than traditional models. One of the best things about this model is that, with the right tools in place (i.e., a good game generator, Web 2.0 tools such as blogs and chat rooms, etc.), training professionals can put together instructionally savvy eLearning programs quickly and inexpensively. It provides a lot of bang for the buck and gives learners a great deal of control over how they learn.
- Students engage with the content more directly, more closely simulating content-interactions in the real world. There is an old adage that suggests that in any given instructional project the person who learns the most is not the student but the instructional designer—the person who combs through the content, parsing and sorting as they go. In this model, instead of the instructional designer chopping up the content into appropriate chunks optimized for a mythical average learner and disrupting the flow with questions of trivial value, the learners are permitted to read the content in any sized chunks that they prefer.
- The playground, for Gen X and Gen Y who grew up on Nintendo and Playstation, offers a way to learn though the channels programmed since childhood.
- Allows trainers and subject-matter experts to design, develop, and deliver frame-games in a matter of minutes without any complex programming requirements.
- The model in its simplicity offers a great deal of flexibility for how it is applied.

Cons

Many of the drawbacks to the approach are merely the flip-side of some of the advantages. Some of the drawbacks include the following:

- If not planned well, the 4D learner environment can be a challenge to navigate. The learner may need to learn the user interface in order to figure out where to begin. If the content in the library is extensive, navigation and search components should be added.
- The frame-games reinforce basic knowledge components (the cognitive domain of Bloom's taxonomy). They do not provide a high-level of simulation. Typically they should be paired with a simulation that more closely

approximates real life (field-level work) with a well-planned final activity in the Evaluation Center.

- If you do not have a game generator, or the game generator is limited (i.e., it produces only closed question items, and not open-question items), you may need to invest in game development efforts.
- At first glance, simple models of the 4D approach are not well received by audiences used to more glitz and glamour in their online experiences. And it often costs a little extra to make the approach look and feel attractive to users. The instructional approach may be sound, but if it does not look good and function well, it may be tough to get learners to participate.

Sun's Experience with the 4D Model

Designing Sales Training

As we stated above, our primary goal was to deliver online training that provides the learner with an enriching self-paced experience adaptable to their specific skills and learning preference. Since this model had not been delivered to this audience before, and since most of the target audience were used to classroom training, we wanted to roll-out a pilot program first.

When deciding to use the 4D model, one of the biggest challenges is to determine the learning environment in which to disseminate the content. We were constrained by not having access to a regular web server, and by needing to track learner completion in the company LMS. Without a web server to build the course with, we decided to use Flash to produce self-contained course modules. At the time we were designing the pilot, we were not sure if there would be multiple courses using the same interface, but we did want the design to be as “reusable” as possible. There are pros and cons to using a Flash-based design approach in our environment:

Pros	Cons
1. The Flash web player is present on 98% of the operating systems in the world. 2. Flash enables rich and dynamic interaction. 3. Flash makes it easier to enable branching within content objects. 4. With an “engine-based” system, some content objects can be updated without having to go into the Flash authoring environment.	1. It's more difficult to customize the “page types”. For example, if an ID wants to have on screen objects animate, it has to be authored in Flash, which may require authoring tool expertise. 2. To successfully integrate social networking and game leaderboards, you may need a database, and advanced Flash authoring skills. In wiki platforms, social networking is usually built in by default. 3. Flash content by default is not SCORM-compliant, which some organizations require. 4. It may take more time to modify and/or maintain content embedded into authoring environments such as Flash (however, the same can be said for PowerPoint as well).

Design Issues

Instructional and User Interface Issues Arose

While we designed the Flash-based content container, we also began a comprehensive audience analysis. Our learner profile included a global audience, so we wanted to compile as much information about our learners as possible to ensure the course was as relevant as possible. To complement the basic sales methodology content, we added authentic case studies to provide real-world examples of how to apply the methodology. The analysis was difficult because access to target audience members was spotty at best, and at times there were competing “agendas” among some of the

participants. Once we complete our analysis, we were confident we had the information we needed, but two factors concerned us: the culture at Sun is one of “do it yourself”, so we were not confident that our best practices would be adhered to, and finally, the global audience had little exposure to eLearning, let alone a new eLearning model.

From the user interface standpoint, the most challenging aspect of the 4D model is how to build in an easy-to-understand guidance system for the learner. Since, the model encourages learner autonomy, self-discovery, and investigation, it can be somewhat disconcerting to some individuals who are used to “being instructed on where to start”. We rolled out the pilot with the user interface below, which mimics real-world “doors” that the learner can freely enter in any order (although we thought most North American audiences may go from left to right). After some user testing, we had feedback that there needed to be more focus on the assessment instrument since the model allows the learner to immediately “test out” if they are confident of their mastery. Otherwise, the visual design in the second example is meant to express how each “door” (and you'll notice that there are really FIVE doors in this iteration) reinforces the assessment.

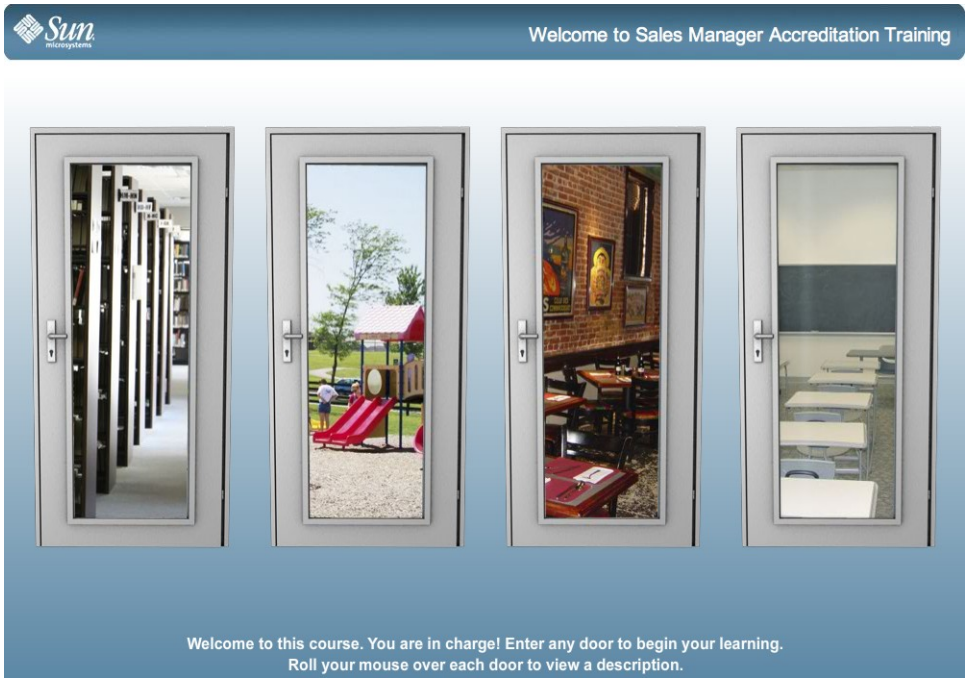


Figure 5: Pilot 4D Interface

Figure 6: Revised Post-Pilot Interface

Because of the deep analysis, the pilot took three months to complete. Once we went into revision, and the user interface was approved, we were able to complete the first course in less than a month. The time-consuming element is the authentic case studies. Those require more time with subject-matter experts, and more programming time, however, that is a general design issue not related to the 4D model – it would take considerable time to produce the case studies regardless of the learning environment.

Technical Issues

If any type of data tracking is required, be sure to complete a functional specification (regardless of whether you decide to use Flash). Along with an instructional design document, a functional outline of desired features and the technology infrastructure required to facilitate them will serve you well through your design effort.

Success

After the pilot, and the first course was delivered, we have been able to "modularize" how we design subsequent courses using the 4D model:

- We have built a case-study Flash engine to allow for quicker case study development.

- We have constructed an instructional design template for 4D designers that enables instructional designers new to the model to get started quicker.
- We have optimized out Flash engine so that once content storyboards are submitted to production, we can have a course Alpha in ten days.

Anecdotal Pilot Feedback

Here are some anecdotal responses from participants in our pilot:

- “Good synthetic documents in the Library section. Original presentation.”
- “This is the first time I had used this non-linear approach to learning. While it takes a while to get used to, I think it is much better for sales management, allowing them to pursue the learning they feel they need in the time they need it. Overall the experience was excellent. I was interrupted by calls or meetings twice while taking the course and because of its modularity, was able to easily reenter the course and my mental learning state.”
- “...very interesting, especially the notes alongside the various documents and the 'Ask-The-Experts' recommendations and best practices. These add a real-life situation that in my mind is important for the adoption of this methodology...”
- “Easy to navigate. Quality presentation layout. Organized. Rich in content.”
- “Arcade concept is brilliant.”
- “Very slick user experience, nice aesthetics and graphic elements. The Arcade was a great idea for fun and interaction. The Case Studies were by far the most valuable part of the course.”
- “Material is presented in a clear, concise and organized way to better understand the methodology, and the process to build a plan. I like the way this course is set up for different types of learners.”
- "The Guide Me section is a nice touch."

Critical Feedback

- “Take into account that a lot of users will be non-English native speakers who will have difficulties with speed, especially in the test center and arcade.”
- “For me, I would have liked more visual/organizational/process structure to the resources in the library.”
- “I thought the cafe was going to be more interactive [such as] the ability to ask real questions to real SMEs or other students.”

- “Is there a way to know what sections one has completed? There is so much information spread across different areas, it would be helpful to [know] that you've completed a section (closed the door if you will).”
- “I'd like to see more simulation-like interactions that require some use of skills in library.”

Top 5 Recommendations/Lessons Learned

Here is a list of recommendations and lessons learned from our application of the 4D model:

1. This type of eLearning may be a “paradigm shift” for your organization—a shift in the way eLearning is designed and delivered. In order to have any degree of success with an implementation of this nature, you should have or create organizational buy-in (help the organization learn what is involved, what the costs and payoffs are). You shouldn’t do this if you don’t have the support.
2. The first time you implement the 4D model, it may take more time than traditional eLearning design—be prepared for it.
3. Early on in the conceptual phase, recruit a technology representative to your design team. Make them fully aware of the model so they can determine how to integrate it into the organization's technology infrastructure. You may need to sell them on the value of this type of program. You should work with them to create functional specifications for complex components such as a leaderboard or social networking features. Create a prototype, and test early and often, to ensure the integrity of your data tracking as well, especially if tracking assessment data is important.
4. Pay close attention to the design of your guidance system. Use good visual design to assist learners in determining their learning own path. This is a common issue with new 4D learners.
5. The instructional design team must have at least one person who is skilled at creating good game items, they must have good question/test-writing skills.

How Can I Learn More?

- thiagi.com - You can find articles about the 4-D approach here.
- **4d-elearning.com** - Thiagi has posted a basic example at this site. I think registration is free.
- **http://mlearningworld.blogspot.com/2006/10/choose-right-door.html** - Matthew Nehrling provides a nice summary with notes re use with Millennials.
- A Google search for "Thiagi's four-door approach to eLearning" brings up a host of articles, most of them speaking favorably of the approach.

Presenter Biographies

Russ Powell (russ.powell@sun.com, russ@svn.net, 707/324-3122)

Russ is a Lead Instructional Designer for Sun Learning Services, and has been designing, developing and facilitating training programs and other performance improvement interventions for almost 20 years. He has worked with hundreds of managers and dozens of training departments to build learning programs marked by ample amounts of both style and substance—programs that don't just look and feel good but also deliver impact to the bottom line. Russ joined Sun Microsystems in 2008 and specializes in the building of eLearning courses and web-based performance support tools.

Over the course of his career, Russ has worked with organizations such as U.S. Coast Guard, AT&T, NASA Space Flight Center and Bröderbund Software, and served on the faculty of Georgia State University and the American Management Association. He's received several outstanding achievement awards for his corporate learning programs. Russ holds degrees in the behavioral sciences from Georgia State University and Loyola University as well as training certifications from Blessing White and Development Dimensions International. Russ is also a member of the International Jugglers Association and continues to perform regularly.

Brandon Carson (brandoncarson@gmail.com, 650-867-9289)

Brandon is currently managing the Cloud Computing training curriculum for NetApp sales and customer audiences. In this position he architects and implements customized training to help drive awareness and adoption of NetApp's Cloud Computing solution offerings. He brings to his position more than 15 years of instructional technology and education experience.

Prior to joining NetApp, Brandon lead Sun Learning Service's efforts around eLearning, and the integration of social media into learning initiatives. He managed the team responsible for media design and also served as the Chief Learning Architect for Cloud Computing.

Prior to Sun, Brandon operated a consultancy focused on the design and development of eLearning for various organizations, including Oracle, eBay, Intel, Siemens, and others. Brandon serves on the board of the North American Simulation and Gaming Association (NASAGA), and is a frequent facilitator and presenter at industry conferences. Brandon holds an M.Ed. in Educational Technology and a B.A. in Business Communications as well as advanced ISPI certification in analysis. He and his family reside in the San Francisco Bay area.

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