



Infogix Insight e-learning Training Report

GOAL: To provide customers of Infogix Insight training that will quickly educate them on the basics of using Insight and continue to serve as a job-aid when they need it. Infogix aims to provide training support that will reduce the number of level 1 calls into customer support and result in cost savings for the company. At the same time it will increase customer satisfaction.

This document provides details of steps used in the creation of the computer based training for the product, Infogix **Insight**.

What is Infogix Insight?

Infogix Insight is a portal into the hundreds or thousands of analytical business rules that monitor your data. Infogix Insight provides the dashboards that monitor the performance of a process. When a business rule detects an anomaly, you have instant visibility into the issue along with the ability to drill down into the details to view the root cause of the issue. In essence, Infogix Insight is your portal, for real-time monitoring and historical trending to see which business rules are creating exceptions that require immediate attention to maintain your goal of maximum data integrity. With process visualization capabilities, you can create context into the end-to-end data flow that is being monitored. Being able to view the business rules that monitor your data in an easy to use, customizable interface gives you the insight you need into the performance of your business processes.

The steps, analysis, design, development and evaluation have been conducted over a period of three months. Further evaluations will be conducted over the next few months to obtain data on the training effectiveness, as customers begin to use it. These evaluation metrics will be of different levels will provide valuable feedback for future updates and creating training on other products.

1.0 ANALYSIS

The training designer was given access to Target Corporation's line Managers whose teams were going to be using Infogix Insight. The following information was collected by the training designer in conversations with the client side and Infogix's Management and Engineers who were developing the product, Insight.

These customers are being provided with training on this product for the first time.

The training is to be completely computer-based and no percentage of it is instructor-led.

The product users will not have access to the application at the time of receiving the training (this is true for the customer, Target Corp, but may not be so for every client).

The intent of is to not overburden the learner with information when they cannot interact with the product.

Expectations/Outcomes

Infogix has never developed e-learning training before and so this is the very first one. Want to create a really good impact on the customer and also see reduced support calls!

Timeframe: 3 months from 15 May to August 15, 2007

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Assigned Resources: Training designer has free rein to perform analysis, design and development activities with periodic updates to Project manager of Insight. SMEs assigned are Angsuman Dutta, Rachael Narel and Venkat Potnuru.

Project Manager: Karina Anderson

Training Needs Analysis, Design, Development and Evaluation: Jyothi Shankar

Risks: Jyothi has to learn Captivate as a developer and using an image editing software (which has to be acquired first). She also has to complete all phases of the project in 3 months. Since it is the first time we are using these tools, not sure if the time estimates are going to be perfect.

Target Audience:

- Adult learners who are in the category of "Viewers' or 'Administrators'
- Current: Target Corporation's IT (administrators) and Business users (viewers)
- Future: Other clients, within U.S and International
- All English language
- No pre-requisites required. Many users are new to using Infogix Insight
- Some want classroom training since it will force them to complete training in a couple of days. But they want the e-learning as it will always be with them to access when they need.

Motivation and Roles:

Leamer motivation was told to range from 'medium' to 'high' because use of this product is a requirement for performing the job and some users are looking forward to having a self-help kind of aid at their disposal. Some learners use Infogix Insight as their primary job function and others use it as one of many other functions. Therefore, training motivation will depend on the user role also.

There are two types of learners - Viewers and Administrators. Within the administrator role, there is further classification of the users into View Builders, Controls Administrators and overall Administrators (all tasks). Viewers are more likely to be managers and people who want to have a grasp of overall scenarios with interest in some or all results and reports. The administrators will be the ones making it possible for the viewers to get the information they need. It is assumed that at the time of training they may not know what their role is (view builder, administrator, controls admin etc.). Therefore, the design approach taken will be to focus more on the tasks than the user roles.

What pre-existing knowledge are learners supposed to have?

While no prior knowledge of the product is necessary, it may help if users know the business space they are responsible for. It will be useful if users have some knowledge of where the controls need to be in the business process. Knowledge about the business organization itself will help them make decisions on who is assigned to which views what business friendly names to give the controls etc. Familiarity with Web navigation is assumed.

Why CBT vs. instructor-led? Where are the learners located geographically? Are they all in one place or different?

The learners could be in different geographic regions. CBT would be more efficient, and cost-effective for them. This training may be made accessible from the Infogix website as part of product support or be provided on CDs. The goal of the training is to enable anyone to use it with ease, regardless of whether they have taken CB Ts before or not. How many hours of training should exist on the CD (although self-paced)? The viewer training takes about an hour. Admin training takes about 3 hours.

What does success look like? i.e. How do we know they learned?

The plan is to follow up with Kirkpatrick level 3 evaluation 3-4 months of learners being on their jobs. The goal is to evaluate how useful training was, its positives and negatives, and what we can learn from it.

2.0 DESIGN

The Kemp, Morrison and Ross model was used broadly as a basis (there was some variation based on our needs). This model uses the following steps:

- a) Instructional problem
- b) Learner characteristics
- c) Identify subject content and analyze task components
- d) State instructional objectives
- e) Sequence content
- f) Design instructional strategies
- g) Develop evaluation instruments
- h) Select resources to support instruction and learning

The items (a) and (b), instructional problem and the learner characteristics were identified in the analysis phase. The evaluation instrument, item (g), will be developed after the training.

Other items were addressed in the design phase.

Based on the information from the analysis phase, the following design approach was taken:

Training is self-paced, e-learning. The example(s) do not access any real databases.

Presentation is short text for most part and is complemented with illustrations and screen shots as much as possible.

The training aims to get the user quickly to perform the tasks they need to. Training is divided into "Viewer Training" and "Administrator Training". The viewer training is shorter than the administrator training. Viewer training involves topics on how to interpret results and how to create reports. The Administrator training is more complex and have more topics. In order to ease learning, the absolute essentials will be dealt with before more complex topics or those that are not immediately required. Based on this reasoning, training will be divided into two parts, Basics and Advanced Training.

The learners will have additional detailed information in the form of a quick reference guides and online help once the application is shipped to them.

It is assumed that at the time of training they may not know what their role is (view builder, administrator, controls admin etc.). Therefore, the design approach taken will be to focus more on the tasks than the user roles.

The training has been divided up as follows:

Viewer training

Task based

Administrator training

Basic topics

Task based

Advanced topics

Task based

Overview training with Basic modules is going to be provided. The training will always be available at any time later and can be used as a job aid with access to more advanced modules.

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The method of presenting a task is demonstrated via simulation (a feature possible by use of the tool, Captivate).

The training uses a Behaviorist model which means that learners will follow set paths with no self-guided discovery. This approach was also taken because the application is not available to them at the same time as the training.

Along the same lines of using a Behavioral theory, assessment and feedback issued because it is seen as a good strategy to retain interest and increase confidence of the learners. In this training, assessment is not graded but is used as a means to provide challenge to the learners. Instead of testing them on what they have learned, the trainer has devised a way to enable learning by exploring what they have not been explicitly taught.

Based on the information in the analysis step, a job/task-oriented approach was used. This focuses training on the most frequent jobs the users perform on an everyday basis. The training does not access any database but will demonstrate how a task is done via simulation. The learner has a choice to view the demo or simply follow the summarized steps in each topic.

Within each module, the events of instruction used are

- Objectives
- Instructional message (or purpose) that informs the user why the information is important to the learner. Why are we doing what we are doing? eg. Why name a control or why create a rule for a Control (short text)
- Overview
- Case presentation. The case weaves through the course. In each module we build a little more of the case. The case shows the chain of events this topic resides in so that the learners have the context in their minds.
- Presentation - How do we do it?
 - Summary steps
 - Detailed steps with screen shots
 - Simulation demo
- A not-for-grade short self-assessment (system provided feedback)/quiz. Interactive learning quiz with some tips at the end of the module. The point of the quiz is not to question what they learned but to make it a more interesting format by making them think. So if concepts 1 and 2 were presented in the body of the lesson, then the quiz will be about concepts 3 and 4 which they will extrapolate from what they have learned in 1 and 2.
- A review and practice module is provided where appropriate. The Review and Practice section provides various possible scenarios for the learner to practice on once the application becomes available to him/her.

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Navigation - On each module, there are links on the first page to enable the user to jump to any section in that module. There is a one-click access to return to the module/chapter beginning. Learners will also have a left navigation bar in order to access other parts of the training.

The training first recommends that the learner go through the Introductory Module. This informs the learner on

- How to navigate the course
- Commonly used buttons and icons
- Training format
- Technical support
- Additional resources such as reference guides and online help
- The list of Modules/Lessons
- The **Overview** explains very basic concepts of a control, control group, sub view and view with an example. A relationship between products is shown diagrammatically. Also, the case/example is started in this module and worked on through the rest of the modules.

Most Frequently Performed Tasks

In order to determine what the content should be, how many chapters/ modules would be required, and what the sequencing should be, the training designer spoke to subject matter experts (developers and engineers) to determine which tasks were performed most often and the nature of the task. The table below gives a list of those tasks, as in the initial design phase. As the design and development progressed, the training designer made decisions on final content and collapsed some topics into others. O indicates Optional. These kind of topics have the potential to be rolled into others or warrant less attention.

It was decided to treat each task as a module or chapter. The final version of modules can be referred to in Section 3, Development.

	Tasks	Subtasks or Topics	Type of User
1	How do I View Controls Results?	Results link Details link	Viewer
2	How do I View Reports?	(A) ACR Reports Accessible only by "Details" drilldown: History report User report Control report (B) Other Reports Accessible via left nav Operational Trend Control Information	(A)Viewer (B) All
O	Note History/Notes Search Left navigation description of Notes	<ul style="list-style-type: none"> • Enter search criteria • Add or view notes for resulting executions 	All
O	User Preferences Left navigation description User Preferences	Change password Select view columns	All (internal auth only) Viewers
3	How do I Administer users?	Create, update, delete users for CI	Admin

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4	How do I Administer controls? (or what can I do with controls)	<ul style="list-style-type: none"> • Provide business-friendly name • Establish result rules • Assign contacts • Describe compliance scope/obj and add compliance attachments • Assign to compliance progs • Control items • Result codes 	Controls Admin Administrator
5	How do I Create Control Groups?	Name the group Add/remove controls <ul style="list-style-type: none"> • Assign authorized users • Set CG rules 	Controls Admin, Administrator
6	How do I Build Views?	Name top-level view Create subviews, as needed Assign CGs to levels Assign viewer	View Builders, Administrators,
7	How do I Create Trend Groups (for trending)?	<ul style="list-style-type: none"> • Name the group, • Assign controls 	Controls Admin, Administrator
0	How do I Create system-wide contacts?	Business and technical references for viewers about specific controls	Admin
0	How do I Identify compliance programs?	<ul style="list-style-type: none"> • Enter system-wide programs • Assign related controls 	Controls Admin, Administrator
0	How do I perform Roll offs?	Data maintenance <ul style="list-style-type: none"> • Results, CR, UR, History 	Controls Admin, Administrator
8	How do I launch a definition loader	Maintenance	Administrator

In addition to identifying the tasks, there were periodic sessions with the Project Manager, and subject matter experts to ascertain requirements, content accuracy, and receive other feedback.

The feedback was incorporated if it was appropriate after the designer analyzed it. Training was also demonstrated to team leaders to inform them of the design direction and get early feedback on any major changes. However, the overall design direction was liked and approved both in the areas of the task based focus and the training interface.

Other Training Focus areas:

Based on the earlier usability walkthrough that was conducted as a heuristic study by the trainer, some areas were identified as requiring more intense training (see document "Heuristic study of Infogix Insight"). The User Interface of the application has certain features that go against user expectations and habits. There are other places where there is a need to let the user know if data needs to be entered or what sequence of steps to follow because it is not intuitive. There is no textual guidance provided on the interface in these difficult areas. If it is not possible to change the GUI itself, the next solution is to address it in training. The online training addresses many of these areas by showing where to begin or explains something where necessary. Some such examples are mentioned below for which training has provided additional assistance:

- Informing user of the existence of more tabs - user has no inkling of additional tabs until information in the first tab has been saved.
- Showing the user where to perform the action - for example, showing them the link to "create a new user" when it is not easily obvious. This also results from the inconsistent use of links and buttons.

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- Showing where to begin when it is not easily obvious, such as in the rule builder for the control group where the user has to start at the middle of a page.
- Explaining something that is confusing to someone who has not used the interface - example, in the rule builder, there is an "OR button and an "Add control" button – the training points out that 'Add Control' is equivalent to an 'AND'.
- Explaining the movement of tabs as the view is being built.
- Holistically showing the context and the possible paths to build views. Getting the user to understand there is more than one way of performing the same action at times.

There are more examples like the above which have been incorporated effectively in the training.

Minimal audio has been used to catch the attention and increase the comfort level of the learner in the introductory section. Audio has been used at the end to bring the training to complete the full circle.

3.0 DEVELOPMENT

After comparing Breeze, Qarbon, Camtasia and Captivate for price, features and quickly being able to get up to speed, the training designer decided to go with Captivate.

The initial design included navigation bars on the left and the bottom. The bottom navigation was to contain links to elements that are common to every page. These are Infogix Home Additional Resources, Contact Us/Support via email and Phone.

The left navigation contains links to topics that were related to the current module. The designer decided to use a html wrapper for the navigation bars. The Flash screens generated by Captivate were embedded within this html wrapper. Dreamweaver was used for the html portion. The training also involved minimal graphics - Fireworks was used to generate those.

After some time of being in the development phase, the designer decided to get rid of the bottom navigation bar for the following reasons –

1. It was determined that the access to the common elements was not required from every page. So it was retained only in the introductory module and any page that listed all modules.
2. Getting rid of the bar at the bottom increased real estate and gave space for more content.
3. The graphics at the bottom looked busy and did not seem to fit in well with standards used on other Infogix products. A UI designer on another product also gave ideas for some graphics which was used.

There were many hurdles in development. Although most of them were overcome, it was very time consuming and three quirks still remain. The knowledge gained on this project will help the designer in creating future CBT estimates. A couple of problems were solved by interacting with people on the Captivate user forum.

1. Captivate allows you to enter text using the 'transparent' option. At the same time, using this option makes the font look shadowy and unclear. So the solution is to use a non-transparent option and use a box like frame for the whole body text. There were several choices for boxes and the designer chose one that was least obtrusive.
2. The quiz pages do not allow one to introduce elements like click boxes.
3. There are other quirks with Captivate such as, the screen freezing and the software often corrupting and requiring repairs to be run.
4. Captivate text captions do not allow for any advanced text formatting such as indenting and bulleting. This is a serious limitation. Also there is no way of doing spell checks other than having it reviewed.

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5. There are still two problems that remain: (a) Browser BACK button takes you to the previous module instead of previous page. (b) Permits single click throughout except when one enters a new module.

Feedback was obtained during the development phase as well. Developers reviewed the finished content module by module and a technical writer reviewed the whole training to ensure style consistency, spellings/typos etc.

One of the main lessons learned is that the User Interface has to be completely stable before online training is developed. Online training, unlike, Instructor-led training, needs to be perfect since the instructor cannot make verbal corrections. A change in the application UI may translate to a few hours of change in online training because recordings have to be made all over again and screen shots need to be taken again to match the description.

4.0 IMPLEMENTATION OF TRAINING:

Final Table of Contents for the e-learning

Splash page

- A few lines about Infogix
- A few lines about Infogix Insight
- Options to viewer training and administrator training
- Both these involve an introductory module consisting of
 - A line or two about Infogix
 - How to use this CD
 - Navigation scheme
 - Commonly used icons, buttons etc.
 - Case/example introduction
 - Overview ... schematic diagrams ... very little text of concepts and terminology
 - Connections between controls, control groups, subviews and views
 - Connection between Infogix Insight and other ACR products and how their information is viewed in Infogix Insight
 - Types of users and their roles

Viewer Training

- How do I view Controls Results?
- How do I view or generate Reports?

Administrator Training

Basic Training Tasks (Modules)

- How do I administer Users?
- What can I do with Controls?
- How do I create a Control Group?
- How do I build a View?

Advanced Training Tasks (Modules)

- How do I administer Compliance Programs? (a continuation of the Controls module from basics section)
- How do I identify Trend Groups?
- What are the various utilities?
- Review and Practice

Audio was recorded by Rick Barkal.

5.0 EVALUATION METHODOLOGY

It is not just sufficient to create training but it is important to test the effectiveness of training for learner reaction to content, usability, presentation format and learning.

Level 1 - Did they like it? Reactions

How did participants react to it? While a positive reaction does not guarantee learning, a negative reaction almost certainly diminishes learning.

Level 2 - Did they learn it? Learning

Assessing at this level moves the evaluation beyond learner satisfaction and attempts to assess the extent students have advanced in skills, knowledge, or attitude. Measurement at this level is more difficult and laborious than level one. Quizzes and checks in the lesson will test some of that. Other methods range from formal to informal testing to team assessment and self-assessment. If possible, participants take the test or assessment before the training (pretest) and after training (post-test) to determine the amount of learning that has occurred.

Level 3 - Did they use it? Transfer

This level measures the transfer that has occurred in learners' behavior due to the training program. Evaluating at this level attempts to answer the question - Are the newly acquired skills, knowledge, or attitude being used in the everyday environment of the learner? For many trainers this level represents the truest assessment of a program's effectiveness. However, measuring at this level is difficult as it is often impossible to predict when the change in behavior will occur, and thus requires important decisions in terms of when to evaluate, how often to evaluate, and how to evaluate.

Level 4 - can we measure it? Results

Goals of Evaluation: To capture learner reactions and measure learning (to the extent possible). The designer created measures for the levels of evaluation.

Training evaluation was solely performed by the Training Designer. It has involved questionnaires, interviews, observation of tasks (including recording of interactions and video of participants using Camtasia) and survey.

The test candidates for the first round will be internal employees. It is hoped that in the next round there will be a mix of actual customers and solutions consultants.

Participants will have none or minimal knowledge of Insight.

Level 1 - Did they like it? Measure reactions. [Use steps 1, 2, 3]

Level 2 - Did they learn it? Measure learning. [Use steps 4, 5]

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Step 1: Pre-training Questionnaire

Participant name:

Infogix Team Member? Yes No

Role at Infogix:

How many months/years have you worked at Infogix?

Infogix client? Yes No

Name of Company:

Job Function:

Name products are currently working on or 'All' if you support all products:

What products have you worked on prior to your current one?

1. Have you used Infogix **Insight**? If so, circle your level of usage:

None

Minimal

Few times

Often

Almost each day

2. Have you taken an online course before? What did you/ did you not like about it?

3. What are your expectations from this online training program? Please describe/list.

4. Which other Infogix products are you familiar with and to what level (beginner, intermediate, expert)?

5. Do you know what a control is? If so, please describe its function in a couple of lines. If not, what do you think it means?

6. Do you know what a view is? If so, please describe it in a couple of lines. If not, and if you would like to guess, you may write what you think it means.

Step 2: Browse training

Day 1

Step 1: Total of six participants will take a pretest questionnaire. (10 minutes)

Step 2: Participants will be provided with a CD of the online training. They will be instructed to open the Infogix Insight Online Training folder and begin by clicking on the 'index' file'. The rest is self-explanatory. (1 hour)

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Step 3: Next, a survey will be administered immediately after they have gone through training. (20 minutes)

Days 2, 3, 4

Step 4: Participants go over the CD for each day logging in a total of 2 hours. They look at content, especially in the Basic Admin modules.

Day5

Step 5: They will take a pre-test (15 minutes) and then use the actual product to do some tasks (60 minutes) and take a final survey (15 minutes)

Total time required from each participant is 5 hours over a period of 5 days, averaging to an hour/day.

Step 3: Reactions

Please use the 'Comments' space below each question to make additional or related comments. For more space, please mention the criteria number and add your comments at the bottom of this questionnaire.

LEVEL 1 Evaluation

Rate between 1 and 6 where 1 =Strongly Agree, 6=Strongly Disagree. Mark x in box.

Criteria	1	2	3	4	5	6
1. I could begin using the course without much instruction.						
Comments:						
2. The amount of audio used was sufficient.						
Comments:						
3. The presentation format held my interest (topics sequence, explaining concepts, consistency etc).						
Comments:						
4. It was easy to navigate throughout the training.						
Comments:						
5. At no point did I feel lost or not know where I was in the training.						
Comments:						
6. Goals and objectives in each module were very clear.						
Comments:						
7. The module content was just right in detail (relevant, useful, clear, appropriate level).						
Comments:						

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8. The content was well written and easy to understand.									
Comments:									
9. The example case helped me visualize better and enhanced my understanding of the material.									
Comments:									
10. The simulations engaged me and helped my understanding of the topic.									
Comments:									
11. The quiz was a good way to help me participate and learn.									
Comments:									
12. This training gives me a good jumpstart to the use of the product.									
Comments:									
13. The training had visual appeal.									
Comments:									
14. It was clear what I could do to get help if needed.									
Comments:									
15. I could use the course without frustration of any kind.									
Comments:									
16. Overall, the training met my expectations.									
Comments:									

If you had additional comments in any of the above questions, use this space to write them along with the question number. Please be as descriptive as you can.

Did you have a preference for instructor-led or online training before you took this class? What is your opinion after you took this class? Please elaborate.

What did you like about this online training?

Anything you did not like about this training?

Any specific feedback on the two levels of training and how topics are divided between them?

Suggestions for improvement:

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None of the four participants have ever used Infogix Insight to any degree.

Two of the four participants have taken an online course in the past and have liked its flexibility and the possibility of controlling its pace.

Expectations from this course are that they get a general overview of the product, its features, an example and installation, how to use it and benefits, and a list of frequent questions.

Three of the four participants had used other products on an intermediate level - ACR/Summary, ACR/Detail and Infogix Assure. One participant (Group Coordinator) had used none of Infogix's products. Three of the four participants knew in general what a control means, with the exception of the group coordinator.

Two of the four participants could make a fairly accurate guess of what was meant by "views".

Level 1 or Reaction Survey Results - ratings and comments

At times Strongly Agree may be referred to as Excellent and Strongly Disagree referred to as Very Poor. In between are Very Good, Good, Fair and Poor.

All participants strongly agreed that they could begin using the course without much instruction.

Three out of four participants felt that the amount of audio was just sufficient (rating 2) and it did not need to be any more or any less. However, one participant (rating 4) felt it was too much.

Asked to elaborate on how one could reduce it any further, she talked more about the mismatch between the script and audio than about the quantity of audio itself. Other suggestions were to have an option to turn it on and off, change the entry music, change the speaker because of monotone and needing more enthusiasm.

The presentation format holding the participant's interest (topics sequence, explaining concepts, consistency etc) was rated good. The suggestions were to limit the text only pages; to give a choice to the user to view the steps first or demo first OR show steps before demo; need further edits.

Navigating the training was rated very good. One suggestion was that the left nav could be improved to show all modules and links.

The question, "at no point did I feel lost or not know where I was in the training" was rated very good. One comment: in the beginning (page with the building) it was not very clear and not to make the 1,2,3 boxes go away.

Goals and Objectives being clear in each module was rated excellent by three of four participants and as good by one. Suggestion was that maybe introduce a numbering system to show how far along you are like section 1 of 4.

The module content being just right in detail (relevant, useful, clear, appropriate level) was agreed upon. One comment said that it was a little over detailed; another comment was that there might be a need for installation information.

About the content being well written and easy to understand, the ratings averaged very good with the main comments being on edits.

The question about the example case helping one visualize better and enhance understanding of the material was rated very good and elicited positive comments about reinforcing the material.

The simulations were very well liked but suggestions were to place it after the steps rather than before. The speed preferences varied between participants.

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The quiz was rated excellent by three and one person did not try it. The correct explanation appearing with any incorrect answers was a very good feature. Suggestion was that we could have more questions. Everyone agreed that the training gave them a good jumpstart on the product.

Three of four participants felt the training was very visually appealing and one felt that it needed more color and jazz without which it appeared boring.

Three out of four participants felt that Help was easy enough to find and one felt it needed to be more explicitly present on the page.

All participants agreed that they could use the course without frustration of any kind.

The training met their expectations very well although one participant said she did not know what to expect.

Additional Comments:

Positive:

"I enjoy online training because it allows them to set the pace and time; start and stop when necessary."

Two of the four participants preferred online, one had no preference and one preferred instructor-led training. "I like it, especially the format of the lesson, the case building etc. Think of putting the summary of steps before the demo, however."

Other:

"I prefer instructor-led as I can ask questions as I go. In online training, I won't get instant answers."

The bullets (green and blue) should also be links.

"Can we have installation instructions?"

After a week, during which participants spent between 1.5 hours to 3 hours (with the exception of one participant who spent 30 minutes) browsing the CD, a pre-questionnaire was once again administered to them. Two of the four users answered the questions quite accurately thereby demonstrating that some learning had occurred. One of the participants said that she understood the concepts but had a hard time to put it into words. One other participant said that his whole focus was usability and not content and so did not answer the pre-questionnaire.

Testing Users on Actual Product

In the next steps, certain tasks were assigned to the participant in order to measure learning. They had access to the Infogix Insight application training (note, they used the actual product. We are not talking of the online training) using which they performed the tasks. Only three of the four participants took this part of the evaluation because one participant said that his whole focus while browsing the CD was the usability and not content.

User interactions and videos were captured using the tool, Camtasia.

The first task was to build a view. The three participants found it fairly easy to accomplish this task. They struggled to find the link but once it was found, they were able to perform the task.

They commented that the link needs to be a button. One participant said that training helped a lot in being able to perform this task and the other two said that training helped a little. The reason they did not find it so helpful at the moment is that they were trying to recall rather than use the training side-by-side.

The second task was to add a control group to an existing view. Two of the three participants performed it without difficulty but after trying to do this task from within the viewbuilder. They extracted themselves from the error and tried the other path of going to the Control Groups. Then they were able to add the control group without difficulty. The opinion was that performing the first task helped pave the way for the second and having a real world problem as in this test help crystallize the concept much better. So we can conclude that if a user performed the case, it would help his/her understanding of the concept much better. The third person was trying to add the control group to the view from within the view builder itself

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rather than going to Admire-Control Group. She had to be helped. One user said that training also helped with definitions such as what a control group is.

The third task was to add a control group rule. This was done fairly easily. However, users commented that there was an unnatural separation between the top and bottom parts of the page.

Drop down seems simple enough but it is hard to tell that feature even exists in the first place. If one tried to save the rule without a name, there is an error but because of the location of the message, it is hard to spot the fact that there is an error.

An overall impression was that the Infogix Insight application interface needed more work. The absence of SA VE, the minute font, links instead of buttons and the fact that you have to go via AD MIN all the time you want to do anything, were some of the problems that stood out.

As a final step, the evaluation participants took part in a final online survey to sum up their total experiences with the training.

Rate the length of the online course: all participants said "about right".

Rate Infogix Insight as a product: all participants said "easy to use"

The presentation format held my interest (topics sequence, explaining concepts, consistency):
More than half up favorably

The activities reflected the situations and tasks I typically encounter on the job: Half up to fully up favorably

The module content was just right in detail (relevant, useful, clear, appropriate level): three fourths to fully up favorably

The content was well written and easy to understand: Neutral to 3/4ths up

The example case helped me visualize better and enhanced my understanding of the material: more than half to 3/4ths up favorably

The simulations engaged me and helped my understanding of the topic: more than half to 3/4ths up favorably

The quiz was a good way to help me participate and learn: more than half to 3/4ths up favorably

The training gives me a good jumpstart to be able to use the product: more than half to 3/4ths up favorably

Overall, the training met my expectations: more than half to 3/4ths up favorably

Rate the overall effectiveness of the course (10 indicates excellent and 1 indicates poor): responses all came back from 7 to 9.

What did you like most about this training?

Allowed user to decide the pace for reading and applying information.

Demos were good but should have been after the actual explanation and not before.

What did you least like about this training?

The voice in the intro, the verbage, more questions needed in the end of training. Could be less boring.

Some navigation issues in left nav need fixing.

What recommendations do you have for improving the course?

Reduce some text only pages need some way of telling how much of course has been completed maybe, having an interactive option.

On the whole, learning is a harder component to measure compared to reaction because of the variable nature of what people paid attention to while going through the subject matter. Most of them paid attention to understanding the concepts than the HOW TO. It is therefore assumed that in the first round, people will pay heed to overall understanding. They will pay heed to the procedure of doing something only when confronted with a particular problem. When asked the question, participants said they would not change anything about the training format itself (other than interchanging the steps with the demo), the order of which is overview, purpose, any assumptions, case, steps, quiz and recap.

The survey tool used was cumbersome to me when it came to data interpretation. The answers came back as numbers rather than under specific questions. It was hard to make a one to one correspondence between the question and the response. The survey tool is also a less effective way of collecting information because people tend to sit on the fence and choose neutral unless pushed one way or the other and asked for reasons for their choice. That is what was noticed in this survey too. When the designer sat down and had conversations with the participants, their view points and leanings were better understood and not neutral. This has been taken into account for the redesign.

7.0 Changes to design resulting from (A) designer's view point (B) results from training evaluation:

1. We need three learning options to choose from - summary list of steps (interactive), detailed steps, and demo (simulation).

The summary list of steps should allow the user to follow along with the application using our example or their own. Having the interactive option will also address one of the comments by one study participant. Explored this idea but developers said it is not feasible to create a DB etc. at this point. The design will therefore still have three options but without the interactive component.

2. Have one page for all of the above three options. Better streamlined. Makes it easier for repeat users. They only need to look at list of steps rather than detail or demo.

3. Have the list/summary of steps show up *before* the simulation itself as was one of the points brought up in the evaluation.

4. In the pages with the box to indicate progress, change the box on left to a bar at the bottom to increase real estate and have an overall better look.

5. Have links called "Back to List of steps" on each of the detailed Steps pages to take you back to list of steps.

6. Currently I have tried to fit in all steps on one page to make it easier for the reader to see the sequence. This has meant cramming text and diagrams on many of the pages. Changing to the List of steps and Detailed steps separation allows for me to introduce more screen shots and have one or two steps in a page. Looks better and more screen samples increase clarity.

7. Left nav requiring some tweaks in terminology. It needs to be more consistent rather than change with context as people seem to be getting confused.

8. Introduction of Assure updates to match 4.0. No recordings, only screen samples.

9. Introduction of new voice for audio (identified person). Perfectly match up script and audio.

10. Man in the introductory module can be replaced by something else.

11. Edit content from a tech writer's point of view again.
12. Have one link "Support" to encompass email, phone support, access to documents
13. CD to open up immediately without needing to click on folders.
14. Increase number of questions on the quiz on some of the modules
15. Progress is indicated within the module currently but progress through the entire training cannot be shown because people can choose any order and not go linearly.
16. Opening page idea: Revolving door, 3 floors metaphor.....need Flash and a graphics designer
17. Renaming files to accommodate Firefox
18. Active-X issue – every new module brings up a popup message which is annoying.

The above 14-18 will not be implemented due to lack of time and resources.

8.0 Results and Conclusion

The training was completed in the assigned time frame but with additional hours a day. An exhaustive evaluation methodology involving regular Kirkpatrick level evaluations and Usability evaluations were performed.

Design changes were made based on the experiences of the instructional designer and the results of the exhaustive training evaluation that was performed. The responses to the level 1 or 'reaction' component were very useful. However, level 2 evaluation or 'learning' was not considered reliable because of the varying goals of the participants while looking over the subject matter. Either the testing methodology has to be changed to get a better measure or subjects be told more elaborately on how they will be tested so that they know what to focus on.

However, the performance of tasks using the application itself was insightful because it further strengthened findings that came out of the earlier usability study which was done about a week before the training evaluation. The final survey was found to be not very useful because subjects seemed to pick the middle rating. Upon further questioning, most subjects did have a preference one way or the other and so it is not clear why they chose neutral when on the online survey. All these methods used - questionnaires, interviews, survey, observation and recordings – did produce a thorough evaluation of the online training. So if there was a flaw in the results of one method, often another testing made up for it and gave us a pretty good 360 of the product.