E-Learning Project Design and Content Plans

Final Report

EDCI 569

Hector Zapata

Purdue University

Table of Contents

Table of Contents ***2***

Analysis ***3***

Project/Subject Background **3**
Learning Context 3
Project Scope 3

Front End Analysis **4**
Client and Other Target Learners 4
Intended Instructions 5
Course Prerequisites 6
Assessment Plan 6
Learning Environment / Proposed Delivery Method 6
Potential Technologies for E-Learning 6

Learning Objectives ***7***

Wireframe ***8***

Site Map ***9***

Instructional Content and Materials ***10***
Homepage (A) 10
Start Page (B) 10
Learner Sign-in (C) 11
Module Overview (D) 11
Excel Module One (E) 12
Handout (F) 12
Excel Structure: Columns, Rows, Cells (G) 13
Quiz 13
Cell Referencing Video (H) 14
Cell Referencing Practice (I) 15
Data Entry - Labels and Values (Video) (J) 16
Data Entry - Labels and Values (Practice) (K) 17
Calculations – AutoSum Function (Video) (L) 18
Calculations – AutoSum Function (Practice) (M) 19
Bar Charts (Video) (N) 19
Bar Charts (Practice) (O) 20
Column Charts (Video) (P) 20
Column Charts (Practice) (Q) 21
Pie Charts (Video) (R) 22
Pie Charts (Practice) (S) 23

Assessment (T) ***24***
Objective 1 24
Objective 2 25
Objective 3 26
Objective 4 27
Objective 5 28

Self-Evaluation ***29***

Final Report ***32***
Digital Prototype: 32

Formative Evaluation: **32**
Experiences Report: 34

Analysis

Project/Subject Background

RiseBoro Community Partnership, the client, a non-profit in NYC, seeks to develop its workforce by developing online modules for the employees of the agency to learn how to use Microsoft Excel. The agency's managers and directors use this application. However, the results of an internal survey indicated that staff members have a desire to learn Excel. Conversations with the Director of Strategic Initiatives and the Vice President of Human Resources have provided insight into the development of what they are terming "RiseBoro University." The project falls in line with this strategic initiative.

According to the client, within its strategic plan, the project will position the organization for future growth. Managers of the organization are knowledgeable of, and proficient in, Excel. The clients' goals for the staff are to "feel comfortable" with the software; that they should be able to input data, perform data analysis, and conduct data management. The goal of the instruction, therefore, is for learners to use Microsoft Excel to develop basic spreadsheets, perform calculations, create charts, and find duplicates in an address list.

The instructional strategy to develop eLearning modules is associated with the costs of sending an employee to a face-to-face class. Moreover, offering the learners the opportunity to learn on their personal schedule is intended to not take away from the critical aspects of employees' job duties.

Usage of the module can be facilitated through E-learning in a rather simple manner. Modules will be developed that present various tools within the program that serve to generate a productive workforce. For this module, consideration must be given that most of the learners are beginners or intermediate users of the program. This would imply a top-down sequencing approach with "show me," "coach me," "hint" and "show how" buttons as presented by Horton (2012).

The IDer/Developer has taught and used Excel for the past 15 years. In this time frame, his students have been primarily at the beginner's level and who subsequently moved up to the intermediate/lower advanced level. He has used Excel both in his professional career and personal life to make organize data and also for budgeting.

Learning Context

The agency is in the process of developing what they have termed "RiseBoro University" an online platform that is currently being used primarily by the Human Resources department to conduct their onboarding and the dissemination of related materials. Learners will be able to gain access via the internet. As such, they will be able to learn on their personal schedule, at any location of their choice. A classical tutorial method. In this method, according to Horton (2012), "learners will go through a series of topics, each teaching a more difficult concept or skill." (p.

Project Scope

The module will cover basic Microsoft Excel and will focus on four topics: the understanding of what is a spreadsheet, cell referencing, data entry, and calculations. RiseBoro strategic plan for

the future is to learn and use Microsoft Excel as a part of their job tasks to facilitate productivity. Given this understanding, it is expected the scope of this project to creep long after this course is complete. I expect the module to grow into a full-course with lessons ranging from beginners to lower level

RiseBoro is looking to implement Excel training as a part its strategic initiative in the development of "RiseBoro University." This determination was made following a survey of the employees. The results indicated that the staff had a desire to learn Microsoft Excel.

Excel training will serve to benefit the future growth and development of RiseBoro through the professional development of its staff. Managers will be able to assign tasks to their supervisees what they otherwise have had to complete themselves. Hence, the success of this project will relieve them to focus and work on and develop other initiatives.

Front End Analysis

Client and Other Target Learners

RiseBoro Community Partnership employees over 600 people. In conversation with the Director of Strategic Initiatives it was learned that they consist of some individuals who have only a GED, some have a high school diploma, others have earned an associate or bachelor's degree, and graduate school degree recipients amongst the managers and executive staff. The course is intended for any employee who wants to learn how to use the program. The IDer/Developer has is not privy to the results of the survey that was conducted that establish the need for this project. Never-the-less, given that an emphasis was stated on providing an opportunity for learning to those who have not learned how to use of the application effectively and efficiently, this module will target those employees of the agency who consider themselves to be beginners in Excel.

RiseBoro intends to open the module to all employees of the agency who have a desire to learn Microsoft Excel. The Director of Human Resources supported the information obtained from the Director of Strategic Initiatives; indicating that the education levels of the agency's employees are within the range of non-high school graduates to holders of master's degrees. Immediate employees who stand to benefit from this course are the administrative assistants and other personnel in a similar position of assisting a supervisor. The Director of Human Resources expressed that she uses the application but does not know how to create charts. This personal challenge on the part of a professional serves as an example of an individual in a management position who may benefit from the program. There may be others in this particular category. Most of the learners know how to use a computer. The concern relates to knowledge of business productivity software and in some cases as noted above, specific features of the program.

The IDer/Developer interviewed the Director of Human Resources and Coordinator of Marketing. Unfortunately, the Director of Strategic Initiatives could not be present at the conference; The developer will consult further with both parties to both update and gain further information as to their progress in the development of the initiative.

Intended Instructions

This module will be a stand-alone self-paced module. Participation in the course is on a voluntary basis unless mandated by a particular employee's supervisor. As such, learners are free to access the module on their schedule.

- What do I plan to include in my instruction?

Absorb Activities

Learners will have access to an online glossary containing key vocabulary terms used in the module. Horton (2012) expresses that developing a glossary for the uninitiated in the lexicon used in the materials makes it nearly compulsory that one is created and disseminated to beginning learners. (p. 189) According to Horton (2012), "the absorb part orients the learner, sets the context, establishes the vocabulary." (p. 68)

Learners will also view screenshots of the particular feature used in one specific topic for a particular objective. Screenshots will familiarize the learner with what the application will display.

The learner analysis indicated that the target learners for this module are beginners. To take "a good first step," (Horton, 2012, p. 67) the module will also contain audio/video software presentation and demonstration. Via synced audio/video instructor presentation Learner will able to view the task accomplished step-by-step. Creating this process will allow the instructor to control "the sequence of learning experiences" (Horton, 2012, p. 69). The learner will be able to observe the steps while listening to the instructor. Moreover, the learner will be able to pause and rewind the recording if necessary. Horton (2012) states that the learner will be able both hear the voice of the instructor and also follow the process of the data entry and mouse usage.

Do Activities

Functional simulation of Microsoft Excel will be embedded into the module wherein learners will be able to practice. The workbook will contain conditional formatting to indicate to the learner when they have inputted the data correctly. The interactivity of the workbook will also allow learners to create a spreadsheet. Learners will be provided access to practice files that they can use online or in locally loaded software.

Connect Activities

To, according to Horton (2012), "bridge the gap" (p.163) learners will be asked to ponder on a list of items printed on a receipt that they may have purchased at the supermarket or department store. Through this guided exercise, students will be able to connect the concept of labels, values and the calculation of values in their lives. Horton (2012) expresses the activity should generate in the learners an awareness of the application of these concepts in their lives. (p. 166)

- Assessment/Practice

Using an embedded excel workbook developed with conditional formatting, learners will be able to practice the lessons directly in the module. Also, access to additional files will serve as resources for practice and references for the learners.

The assessment will be used to determine whether learners have achieved the learning objectives of this module. The current thinking for evaluations is to generate quizzes and simulations of the skills

learned in the module. Horton (2012) expresses that in a simulation, learners can be asked to "perform a step in the procedure." (p. 222)

Via the audio/video recordings, the developer will develop a step-by-step process in consideration of the learners who are novices. The developer will place stop, pause, rewind, and fast forward buttons to make possible to review the module as needed. Additionally, resource files will contain numerically identified screenshots of the process.

Course Prerequisites

This course will require no that the learner be able to use the mouse to select cells and program features in addition to the ability to keyboard for data entry.

Assessment Plan

The developer will embed the embedded functional online Excel worksheet with conditional formatting features activated for proper data entry and calculations. The cells background and font colors will change to colors that will indicate to the learner that they have correctly accomplished the task. Additionally, if the learner makes a mistake, the developer plan to implement data validation features to guide the learners towards the proper input.

Moreover, with step-by-step numerically identified procedures via screen-shots will move the learner towards the objective. They will realize when they have reached the final step. They will be able to compare their work with the final result both in the module and on the PDF handout which they can print.

Learning Environment / Proposed Delivery Method

This lesson will be delivered online on an LMS using audio recordings of the instructions synced with video recordings of the steps. This will provide students with an opportunity to absorb the information before hands-on practice in a simulation of the software for those who do not have access to the application. If a learner has the program locally installed he or she may choose to practice on their local computer.

Potential Technologies for E-Learning

For this module there are a number of technologies that could potentially be used for its development.

- Microsoft Excel will be used to develop the original course files.
- Captivate is used to create simulations
- SharePoint provides the initial platform where the developer will load the Excel spreadsheets. From there, an embed code is generated that facilitates nondestructive sharing of the workbook on an online platform.
- Camtasia allows the developer to record screen actions in addition to audio of the instructor's narration. `
- SnagIt

With this program, the developer is able to generate screenshots that will serve to illustrate to the learner, where in the program a certain feature of the topic can be found in addition to the images of the steps they will follow in multi-step procedures.

ProProfs
ProProfs provides a "Training Maker". This service allows an E-learning developer to create and publish courses, develop assessments, get training insights, award certificates, and offers a Learning Management System. ProProfs allows the developer to embed a functional workbook into the platform. This platform also allows for multi-screen delivery.

As a novice to the world of E-Learning development, the developer has limited, but growing knowledge of this process and the various applications that can be used to develop online course. Having said that, the developer is knowledgeable of PowerPoint, SharePoint.

The module will be best viewed on a personal computer or laptop. The developer will use ProProfs' platform to deliver the module.

The list below contains websites that can be used to learn how to use the applications that are listed within. These sources of training will be used to gain knowledge of the beginners' level of the program in addition to advanced features of the application. The

- Tutorials and/or E-guides on the company pages.
- Lynda.com provides training on Adobe Captivate, Camtasia.
- ProProfs provides training on how to use their platform.
- YouTube tutorials are also available for the developer to learn how to use some of the above technologies.

Learning Objectives

The following LO's are based on the Mager (1997) method.

1) Given a computer and spreadsheet software, (C) learners will identity cell references (B) by entering data into the proper cells with no spelling errors (CR)

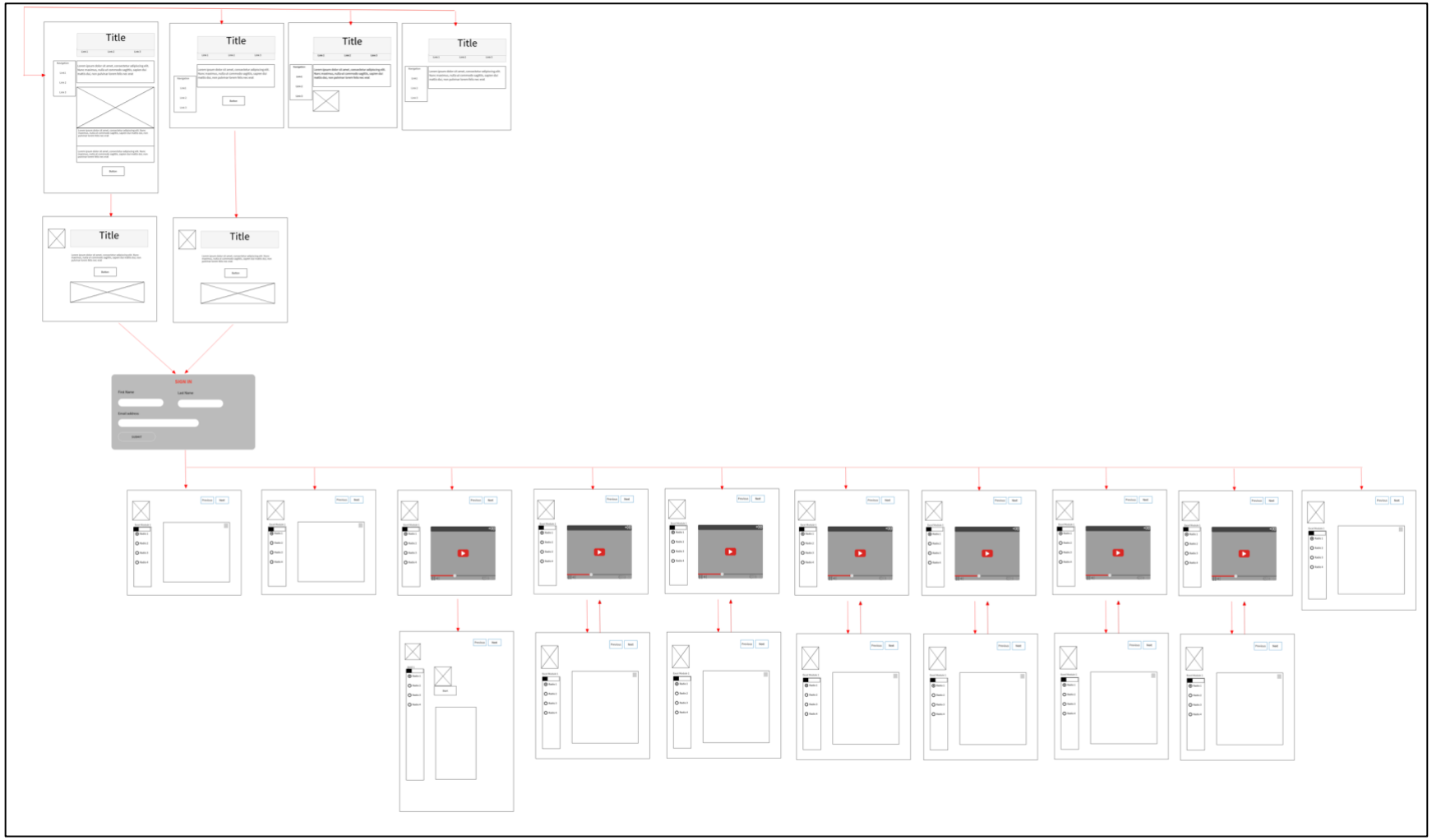
2) Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) by entering labels and values data in the proper cells with no spelling errors (CR)

3) Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) and use cell references or the SUM function to perform calculations. (CR)

4) Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) by entering labels and values data in the proper cells with no spelling errors calculate totals and create a bar and column charts. (CR)

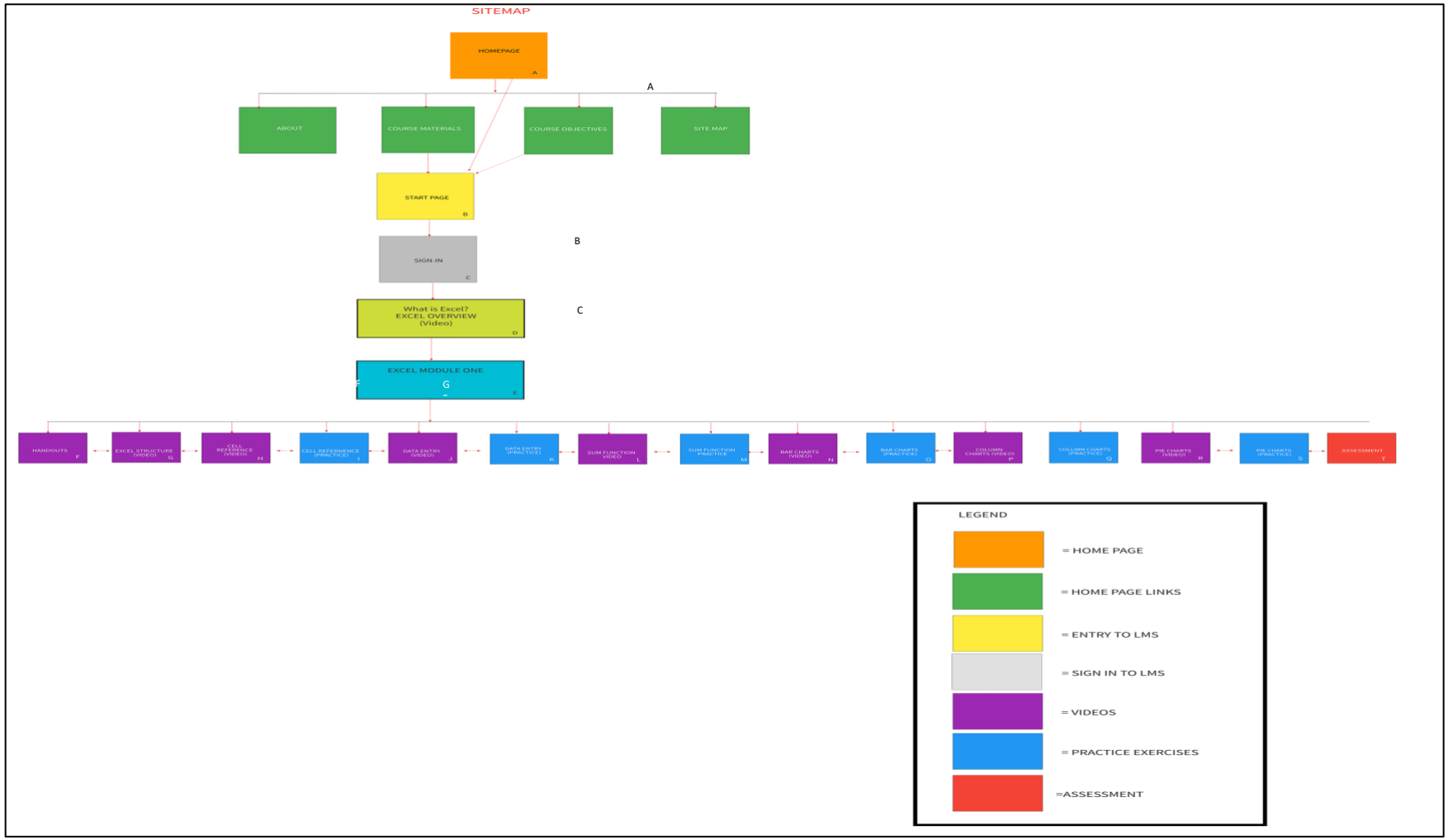
5) Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) by entering labels and values data in the proper cells with no spelling errors calculate totals and create a pie chart. (CR)

Wireframe



[Link to Wireframe]

Site Map



Link to site map

Instructional Content and Materials

Homepage (A)

This is the page that the learner will be provided to begin the process.

The URL to this page is: https://sites.google.com/site/excelntro/

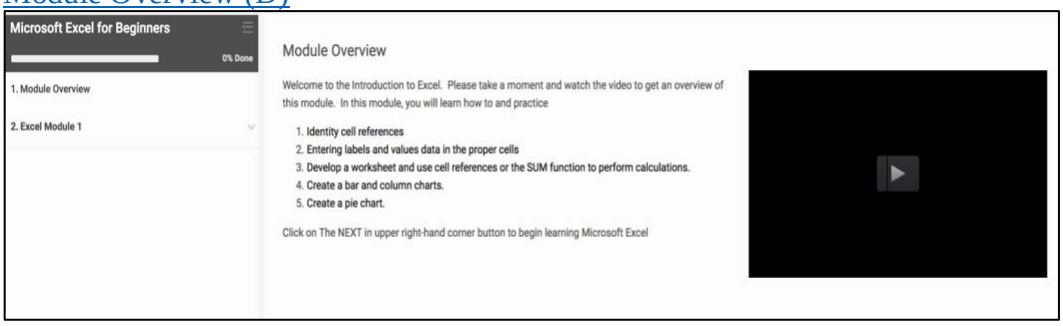
Start Page (B)

The learner enters the LMS through this portal.

Learner Sign-in (C)

At this point, the learner is prompted to provide their name in addition to their email address. The email address will allow the learner to close out the module and resume where they left off.

Module Overview (D)



Narration: Welcome to Microsoft Excel for Beginners. In this course you will learn the foundation of Microsoft Excel. This module contains four lesson structure, data entry, calculations, analysis. If you are new to this program, I suggest that you go through the module in order, that you do not skip around. If you have used Excel in the past and are here for a refresher, please feel free to choose a lesson of your liking.

In the Excel structure lesson, you will learn about what it at the foundation of Excel that makes it calculate numbers for you. We will answer the question; What is Microsoft Excel? This lesson will conclude with a clear understanding of cell references.

In the Cell Reference lesson, we will answer the question what is the one thing that makes Excel work? How are cell references identified?

In the Data Entry lesson, you will learn what you can type into the program and create a basic spreadsheet

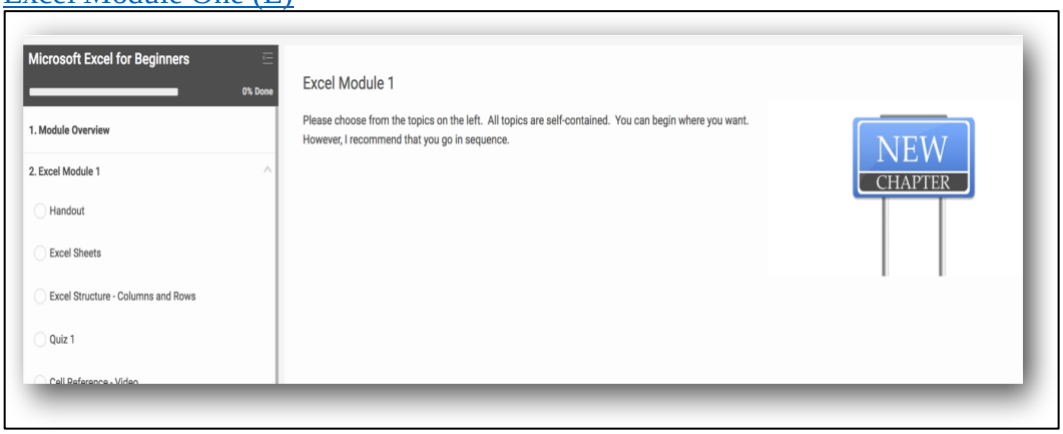
In the AutoSum lesson, you will learn how easy Excel calculates totals on a worksheet. In this lesson the value of cell references will become evident.

The analysis lesson will cover three tools that are used to analyze the worksheet. This lesson will introduce you to creating charts in Microsoft Excel.

On a note, if time is not on your side, you can exit from the module by closing your browser or tab. The next time you log into the module, you will have the option of continuing where you left off.

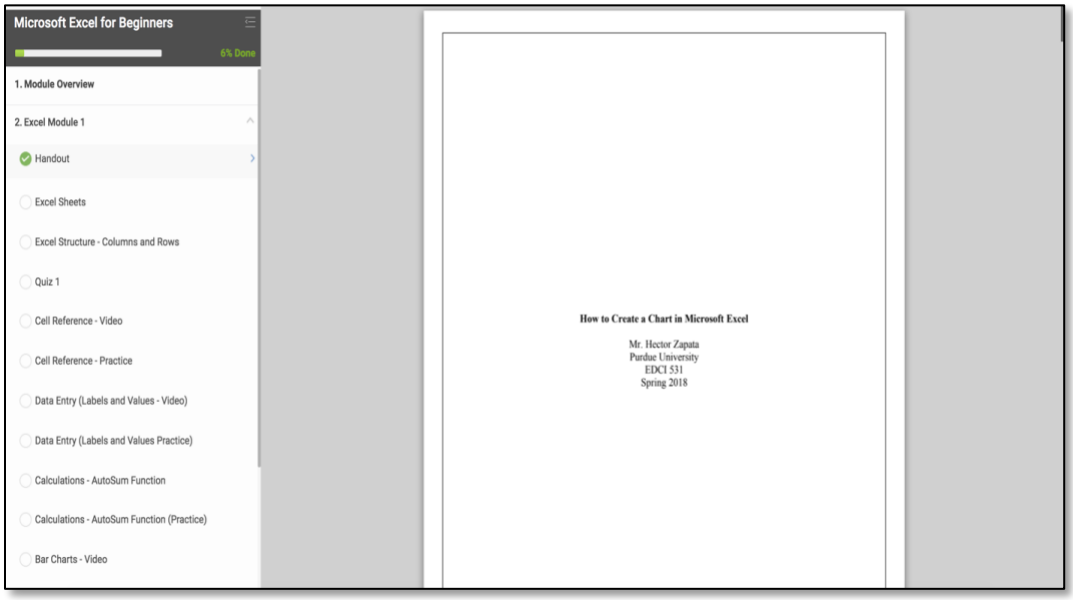
To start learning, click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page is the handout, you can download this document for your reference as you proceed through the module.

Excel Module One (E)



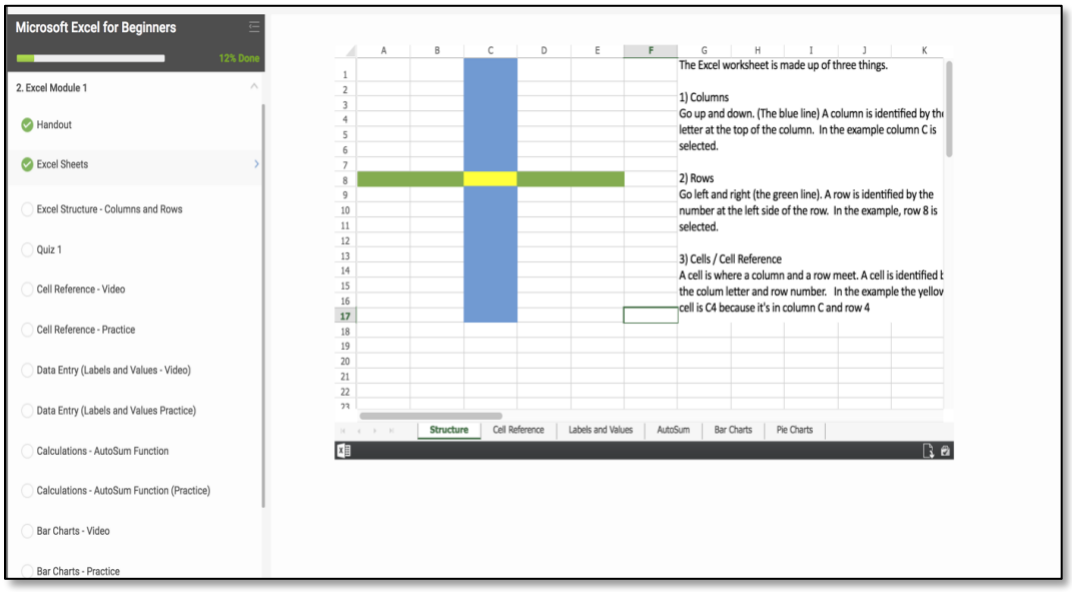
This page provides a prompt to students to choose a lesson or click the next button.

Handout (F)



Learners are provided with absorb type information that they can download, print, and read offline.

Excel Structure: Columns, Rows, Cells (G)



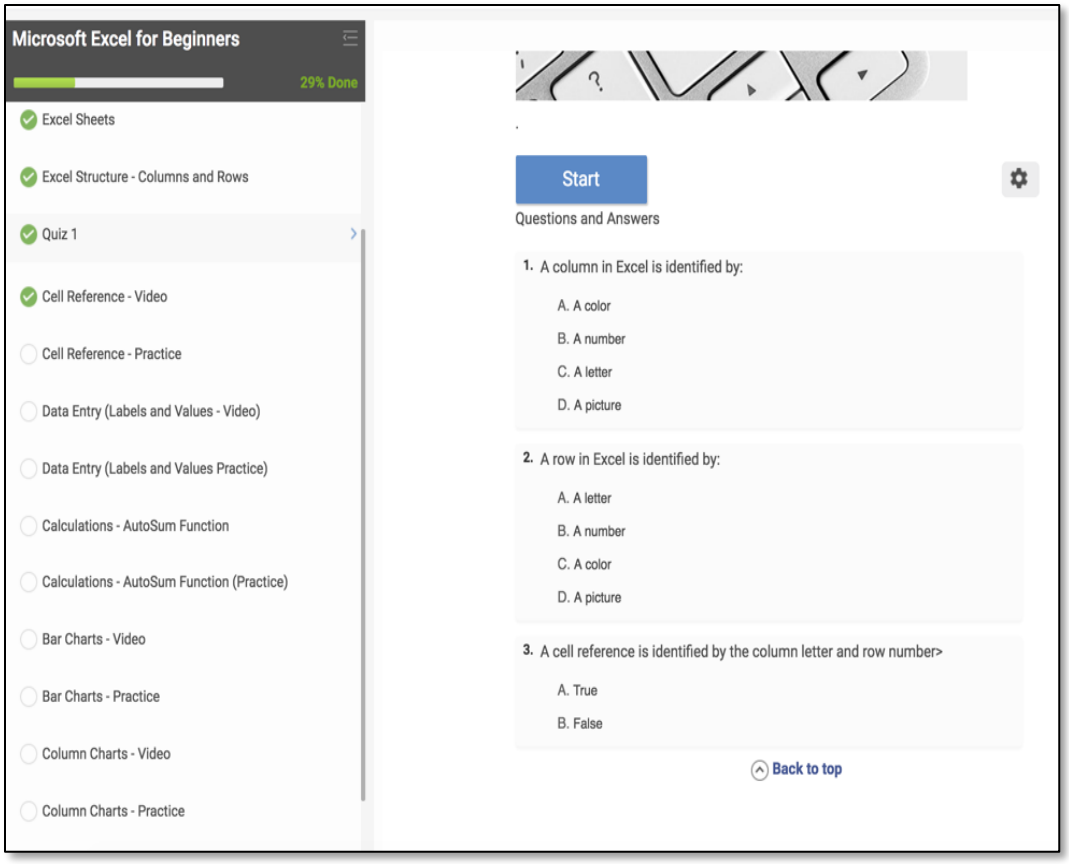
Narration: In this lesson, you will learn the layout of the Excel screen. In other words, if you are wondering what you are looking at when you see an Excel screen.

There are two major parts to the excel interface. One, columns. They are identified by the letters at the top. I have filled a column in blue in this example.

Two are the rows. They are identified by the numbers on the left side of the screen. I have filled a row in green in this example.
Where a column and a row meet is a called cell. The cell is identified by the column letter and the row number. In this example the cell E8 is filled in yellow. E8 is the cell reference. There are millions of cells in an Excel worksheet. In summary it is about columns and rows which meet to form cells. The cells are identified by the column letter and row number. An easy way to remember this is to think about R2 D2 from Star Wars. This is the end of this lesson on the Excel structure. Click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page is a quiz on columns and rows.

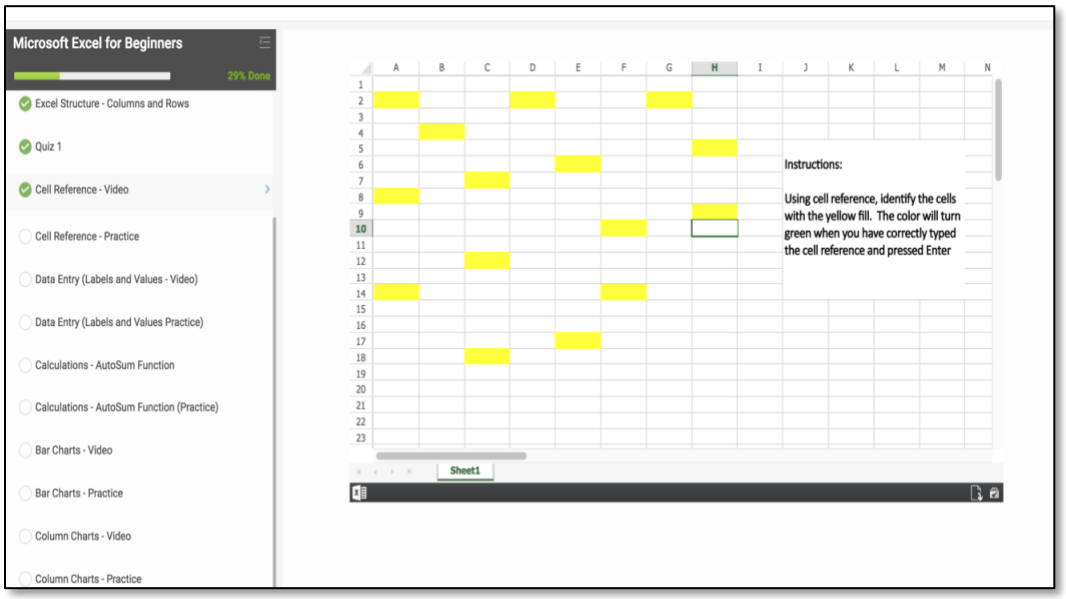
Quiz

This is an assessment of the learner's understanding of columns and rows



This quiz is intended to measure how well the learner understands concepts of columns and rows. Columns and rows are the foundation of cell references.

Cell Referencing Video (H)



Narration: In this lesson we will have fun will cell references. You will recall that a cell is identified by the column letter (above) and the row number (to the right). Cell references are what allows Excel to calculate the values that we input. It is what brings out the power of the program. The combination of a Column letter and a row number is a cell reference. For example, cell R2 is in column R and row 2. Cell D2 is in column D and row 2. Cell G3 is in column G and in row 3.

When I think of cell referencing I think about when my friends asked me to meet them on Eighth Avenue in midtown Manhattan. My question for her was Eighth Avenue and what street? I also think about my friend who lives in a high rise. When I first visited, he told me he lived on the 15th floor. Since we were in a typical NYC rush I didn't get the apartment letter.

You see in both these cases, it takes two bits of information to identify a location. It could be latitude and longitude, street and avenue, floor and door. The same goes for cell referencing… columns and rows.

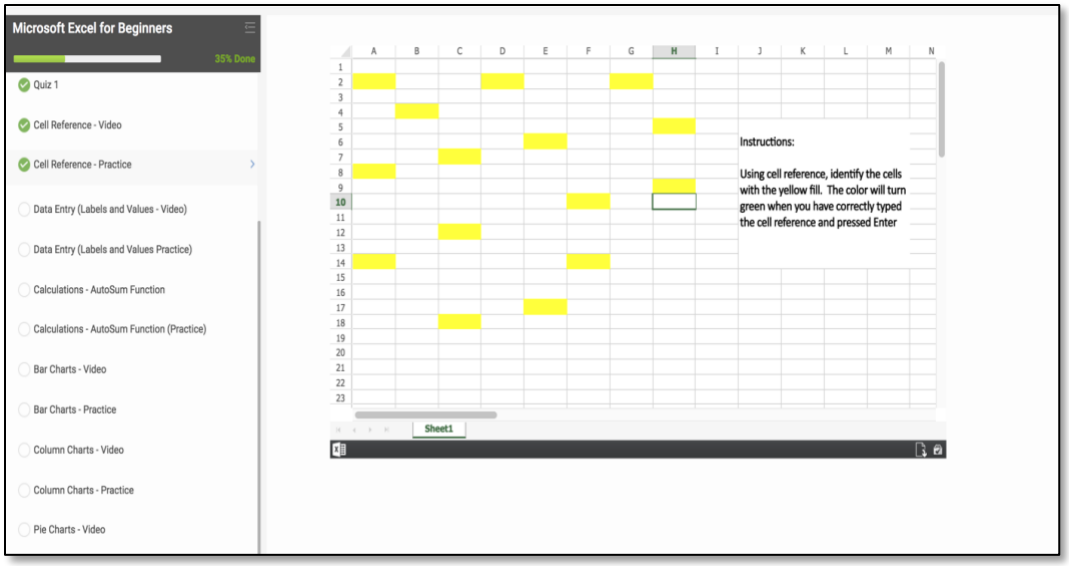
In this exercise I type the correct cell reference into each cell with a yellow fill, the cell's color will change. (pause speaking and input cells).

(continue speaking) If I input the wrong cell reference the color will not change. In summary a cell reference is the identity of a particular cell in the Excel grid structure. Columns are identified with letters at the top of the column and rows are identified with the numbers on the far left of the screen. The combination of a column letter and a row number is a cell reference.

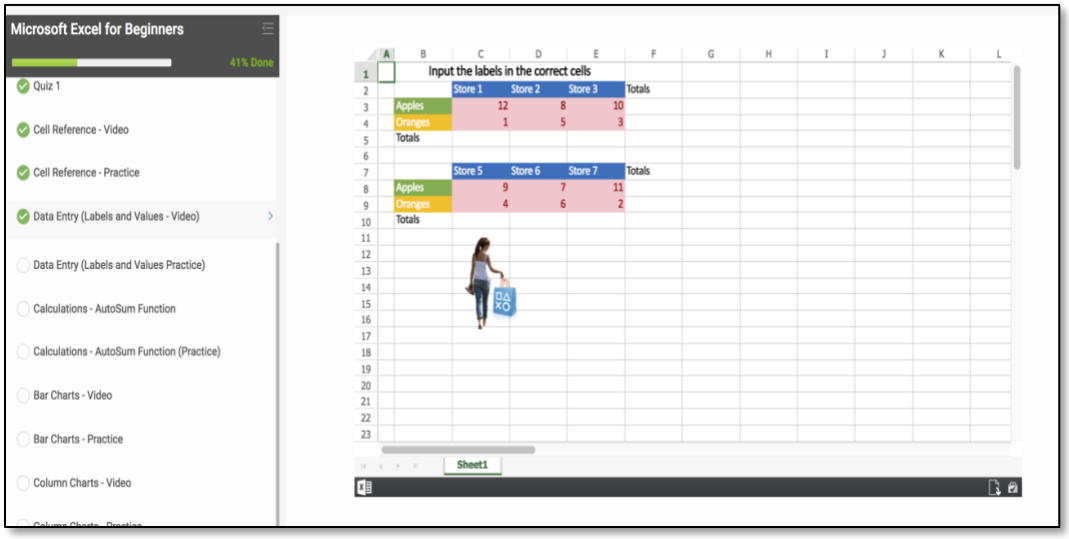
This is the end of this lesson on the cell referencing. Click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page will allow you to practice what you have learned about cell references.

Cell Referencing Practice (I)

Here learners are given an opportunity to reinforce their understanding of cell referencing. I have activated conditional-formatting features that will give the learner an indication that they have successfully completed the task.



[Data Entry - Labels and Values (Video) (J)]



Narration: What can I type into these cells? What type of data can they hold. In a very general way there are four types of data that can be typed into these cells.

1) Labels
2) Values
3) Numeric Labels
4) Formulas

Labels are text entries that identify what a value represents. We just type them, and press enter to activate the cell in the next row or to activate the cell the next column (Pause and type labels/point out usage of enter and tab key)

Values are the actual numbers that are going to be used in our calculations. Like labels, we just type them, and press enter to activate the cell in the next row or to activate the cell the next column. (Pause and type labels/point out usage of enter and tab key)

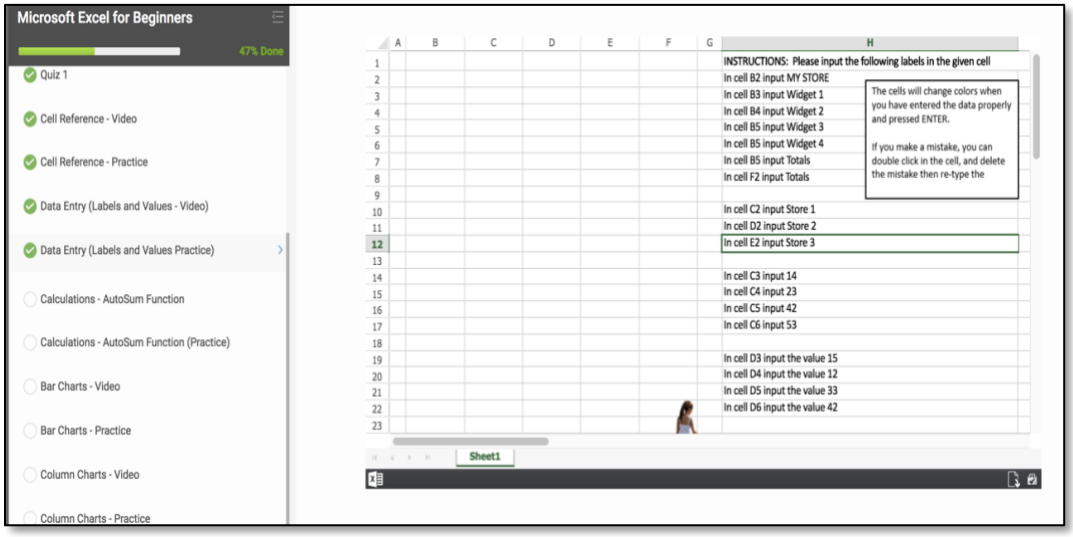
Numeric labels are numbers that are used to identify a person, place, or thing. Since both numeric labels and values are numbers, what do we do so that Excel will know the difference between the two. Here it is. When we type a numeric label, we start it with an apostrophe. That key to the left of the enter key on your keyboard.

We will cover formulas in another lesson. But for now, I will tell you that formulas are what make Excel perform the calculations.

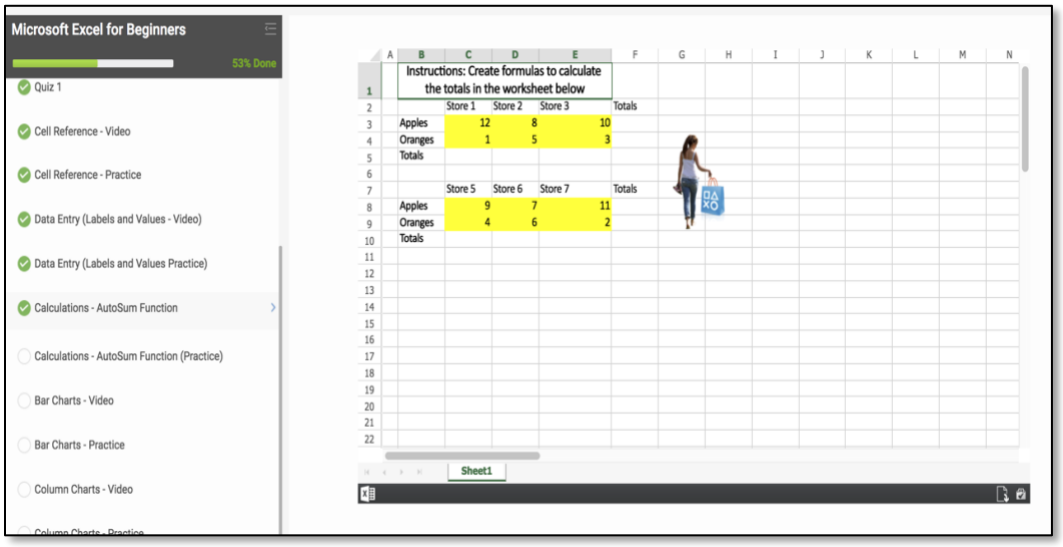
This is the end of this lesson on the data entry in Microsoft Excel. Click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page will allow you to practice what you have learned about the type of data that can go into an Excel worksheet.

Data Entry - Labels and Values (Practice) (K)

Here learners are given an opportunity to reinforce their understanding of data entry. I have activated conditional-formatting features that will give the learner an indication that they have successfully completed the task



Calculations – AutoSum Function (Video) (L)



Narration: Excel uses what are called formulas to perform calculations of the values or numbers that we type into the program. These formulas use the cell reference of the cell where the number is located and uses that instead of the number. In other words, Excel does not care what number is in the cell. In this lesson, you will learn how to calculate numbers using the AutoSum Function.

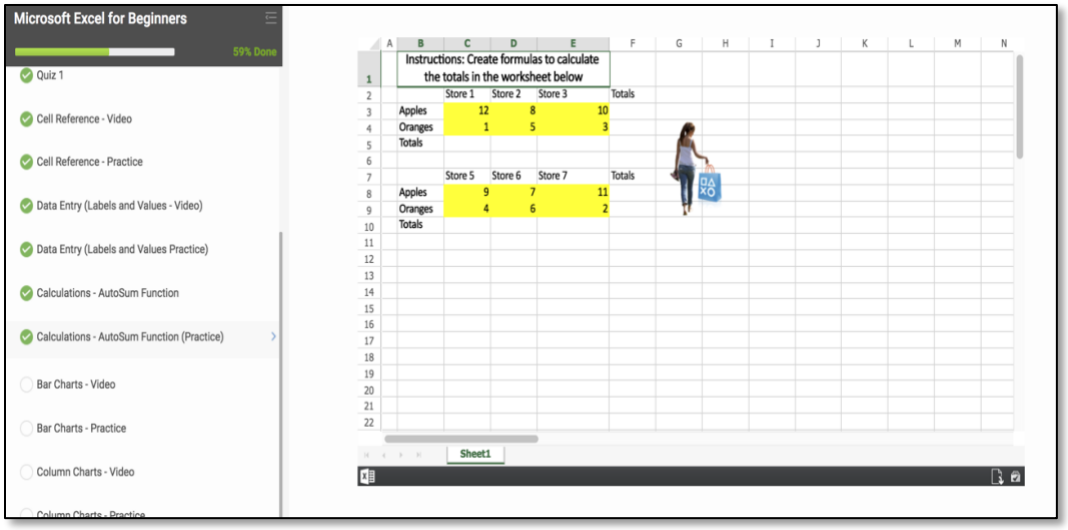
This is the easiest way to add up a set of values in Microsoft Excel. Here is the process. Notice the numbers in cells with yellow fill color. This is a two-step process in the local program. The first step is to select the first set of numbers in yellow. I will also extend the selection to the Total row and Total Column. Once these cells have been selected, I am going to the find the AutoSum command in the Home tab. It's located here in the upper-right corner. I press it once and all the answers appear where I have selected. I will now repeat the process for the items in rows nine through eleven. I will select the values I want to calculate and the location where I want the answers to appear. Second, I will go to the Home tab and select the AutoSum command.

Let's look at the one formula to see what Excel did. Let's look at the totals for cell C5, the totals for Store 1. Notices it reads =SUM(B3:B5) The ":" in the middle of the cell references means "through." In other words, it picks up all the cells not indicated in the range. The key to this technique is that there are no empty columns or rows in the selected range. With this in mind, you can also type the formula into the cell. Pressing enter after typing the formula reveals the answer and moves the active cell to the next row.

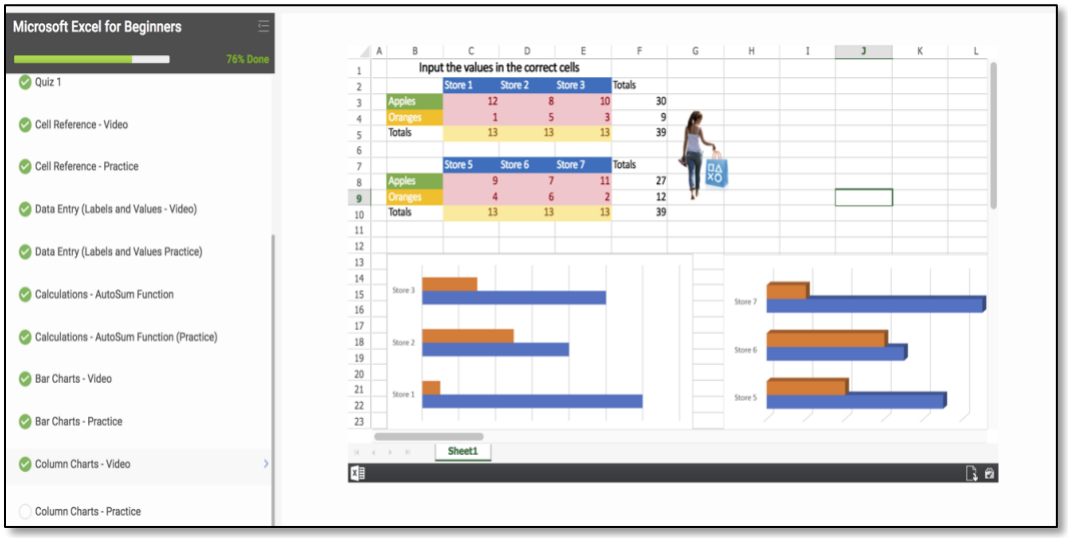
This is the end of this lesson on the calculations in Microsoft Excel. Click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page will allow you to practice what you have learned about performing calculations in Microsoft Excel.

Calculations – AutoSum Function (Practice) (M)

Here learners are given an opportunity to reinforce their understanding of performing calculations. I have activated conditional-formatting features that will give the learner an indication that they have successfully completed the task



Bar Charts (Video) (N)



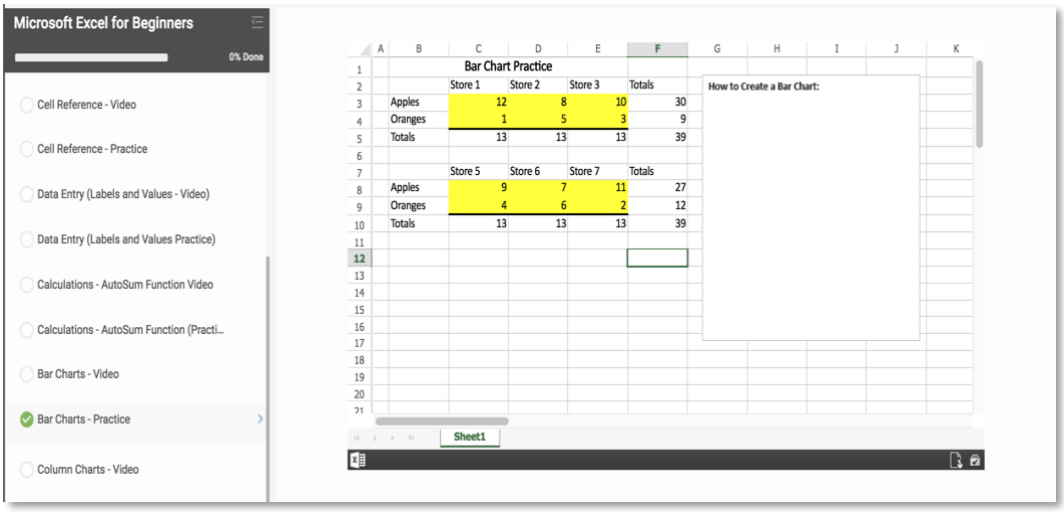
Narration: Charts are tools used to analyze the data we have typed and the values we have calculated. In this lesson you will learn how to produce a bar chart from the spreadsheet you have created. Excel allows you to produce charts in a few steps. One you have all your spreadsheet complete, select the labels and the values. I will not select the totals because I do not want them to appear in my chart.

After selecting the data, I want to chart, step two is to find the feature that will command Excel to do it. The charts feature in Excel is located in the Insert tab. Here in the Insert tab, in the middle of the ribbon, we find the charts section that starts with Recommended charts. Hovering our mouse over the icons to the left we see "Recommended Charts." Scrolling through the

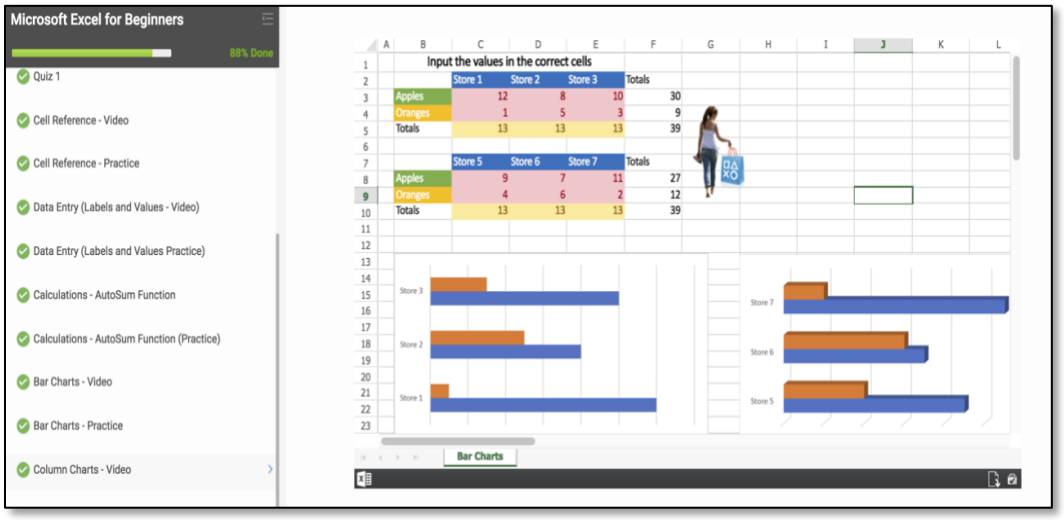
recommendation we see where our bar charts are hiding. I will pick the first one; the clustered bar chart.

This is the end of this lesson on creating bar charts in Microsoft Excel. Click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page will allow you to practice what you have learned about creating bar charts in Microsoft Excel.

Bar Charts (Practice) (O)
Students will download this document and do the work on their local computer.



Column Charts (Video) (P)
Students will download this document and do the work on their local computer.



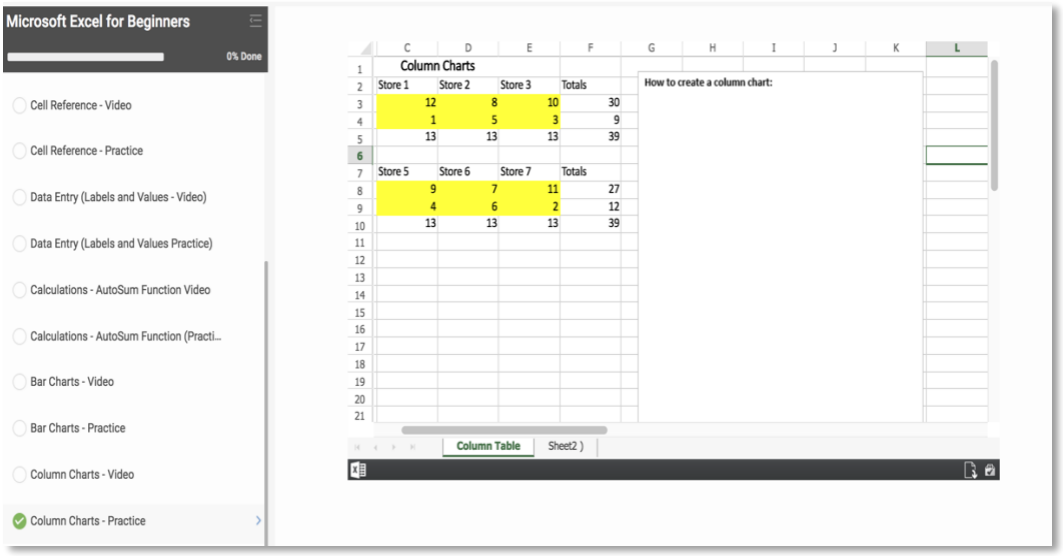
Narration: Charts are tools used to analyze the data we have typed and the values we have calculated. In this lesson you will learn how to produce a bar chart from the spreadsheet you have created. Excel allows you to produce charts in a few steps. One you have all your

spreadsheet complete, select the labels and the values. I will not select the totals because I do not want them to appear in my chart.

After selecting the data, I want to chart, step two is to find the feature that will command Excel to do it. The charts feature in Excel is located in the Insert tab. Here in the Insert tab, in the middle of the ribbon, we find the charts section that starts with Recommended charts. Hovering our mouse over the icons to the left we see "Column." This is where our column charts are hiding. Clicking on "Column" reveals ten types of column charts. I will pick the first one; the 2D column chart.

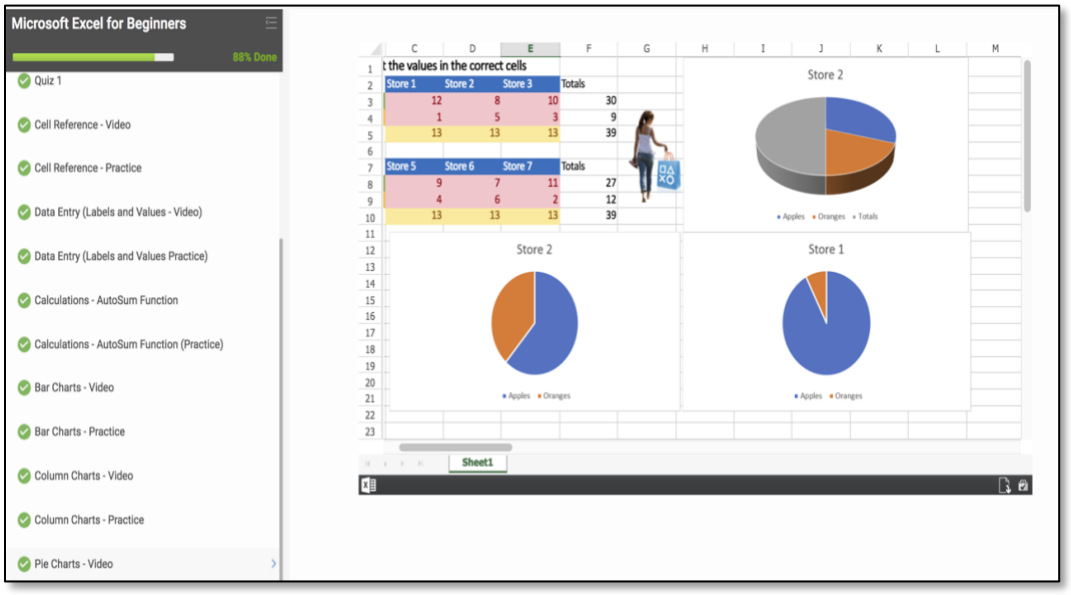
This is the end of this lesson on creating column charts in Microsoft Excel. Click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page will allow you to practice what you have learned about creating column charts in Microsoft Excel.

Column Charts (Practice) (Q)
Students can download this document and complete the task on their local computer.



Pie Charts (Video) (R)

Students can download this document and complete the task on their local computer.



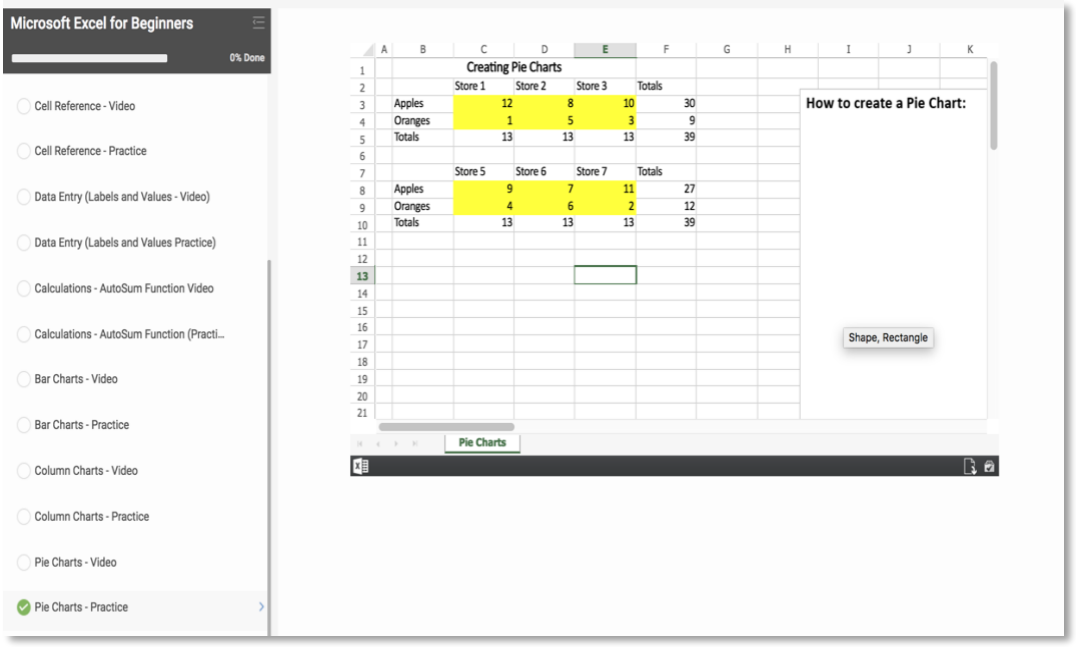
Narration: Charts are tools used to analyze the data we have typed and the values we have calculated. In this lesson you will learn how to produce a pie chart from the spreadsheet you have created. Excel allows you to produce charts in a few steps. One you have all your spreadsheet complete, select the labels and the values. Pie charts are different from bar and column charts in that they can only handle one series meaning one column or one row of values at a time. In this example I will choose the labels in column B and the values from column C. I will also pick up the label in column C.

After selecting the data, I want to chart, step two is to find the feature that will command Excel to do it. The charts feature in Excel is located in the Insert tab. Here in the Insert tab, in the middle of the ribbon, we find the charts section that starts with Recommended charts. Hovering our mouse over the icons to the left we see "Pie." This is where our pie charts are hiding. Clicking on "Pie" reveals five types of pie charts. I will pick the first one; the 2D pie chart.

This is the end of this lesson on creating pie charts in Microsoft Excel. Click on the NEXT button at in the upper-right hand or choose the lesson you wish to go to from the left side of the screen. The next page will allow you to practice what you have learned about creating pie charts in Microsoft Excel.

Pie Charts (Practice) (S)

Students will download this document and complete the task on their local computer.

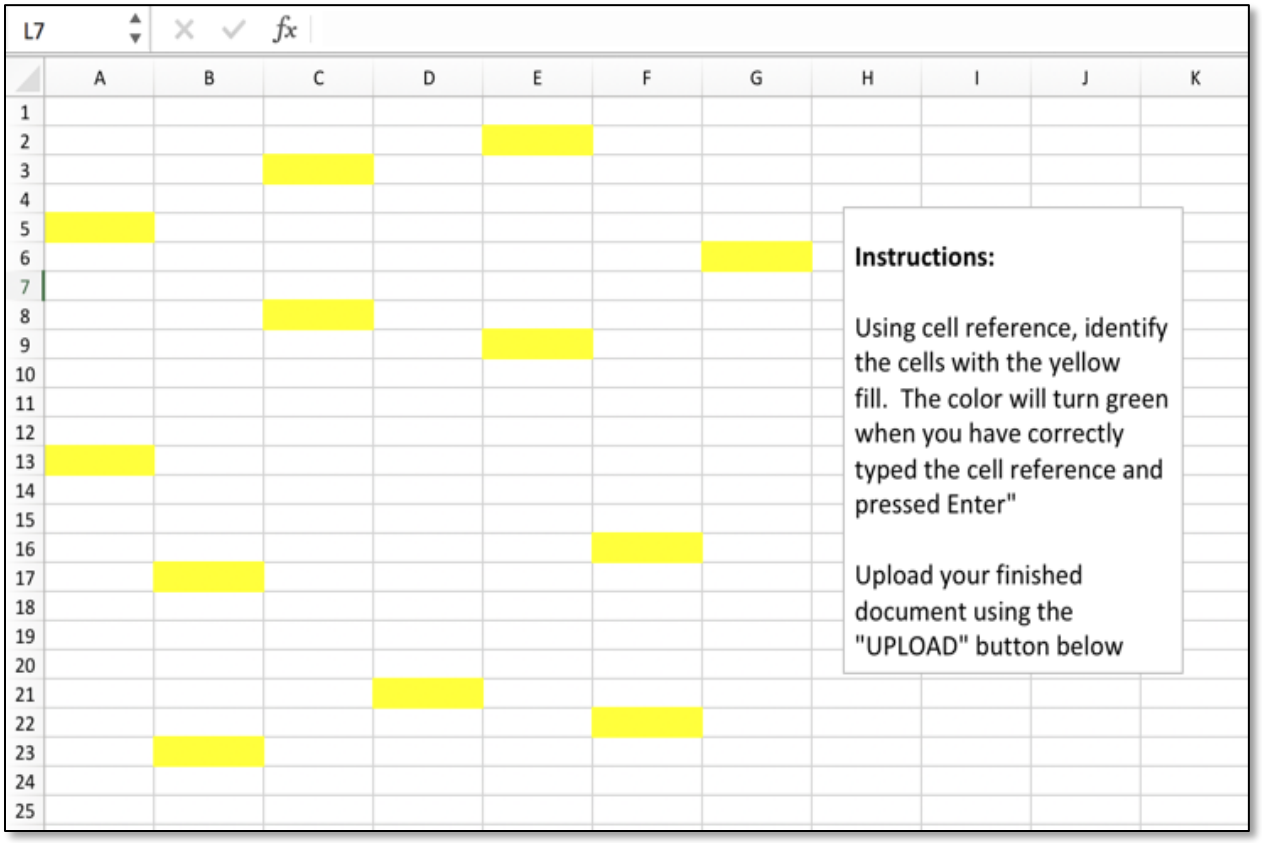


Assessment (T)

Objective 1

Given a computer and spreadsheet software, (C) learners will identity cell references (B) by entering data into the proper cells with no spelling errors (CR).

Students will download this document, complete the task, save, it, and then upload their finished work to the LMS.

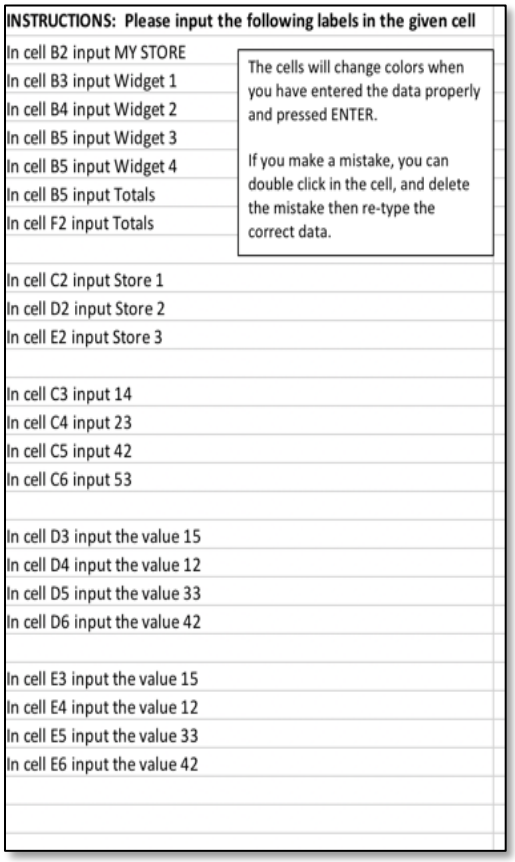


INSTRUCTIONS: For this practice you have been provided a copy of the file. Here you will enter formulas to calculate the totals for each store, each product and the grand total for all stores. You will need to download the document, complete the task, save it, and then upload it to the system.

Objective 2

Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) by entering labels and values data in the proper cells with no spelling errors (CR)

Students will download this document, complete the task, save, it, and then upload their finished work to the LMS.

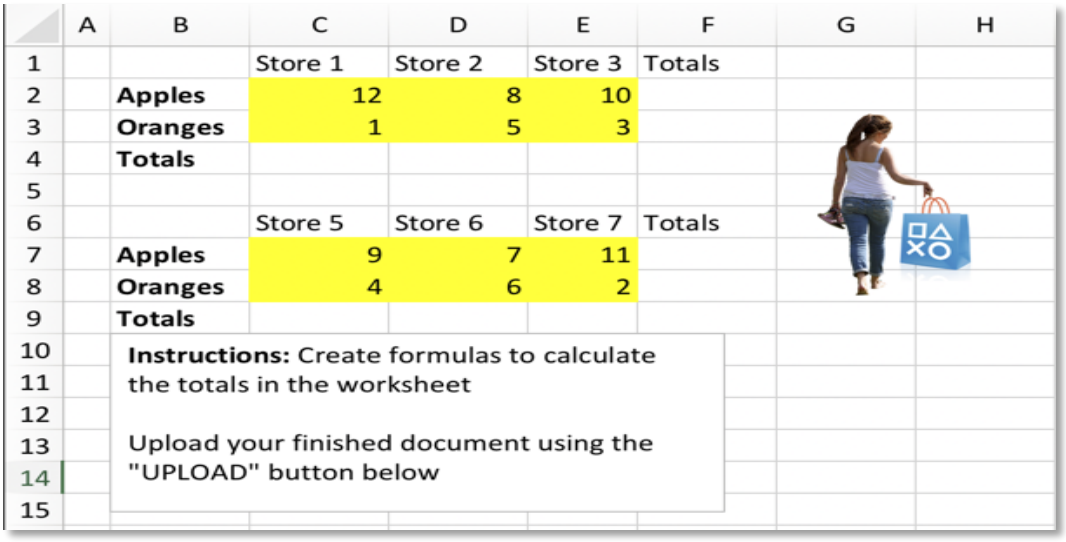


INSTRUCTIONS: For this practice you have been provided a copy of the file. Here you will enter formulas to calculate the totals for each store, each product and the grand total for all stores. You will need to download the document, complete the task, save it, and then upload it to the system.

Objective 3

Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) and use cell references or the SUM function to perform calculations. (CR)

Students will download this document, complete the task, save, it, and then upload their finished work to the LMS.

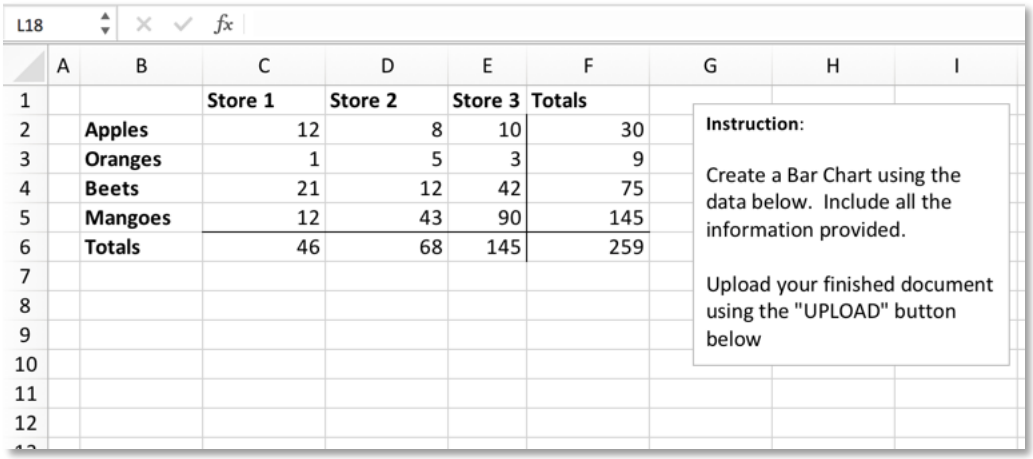


INSTRUCTIONS: For this practice you have been provided a copy of the file. Here you will enter formulas to calculate the totals for each store, each product and the grand total for all stores. You will need to download the document, complete the task, save it, and then upload it to the system.

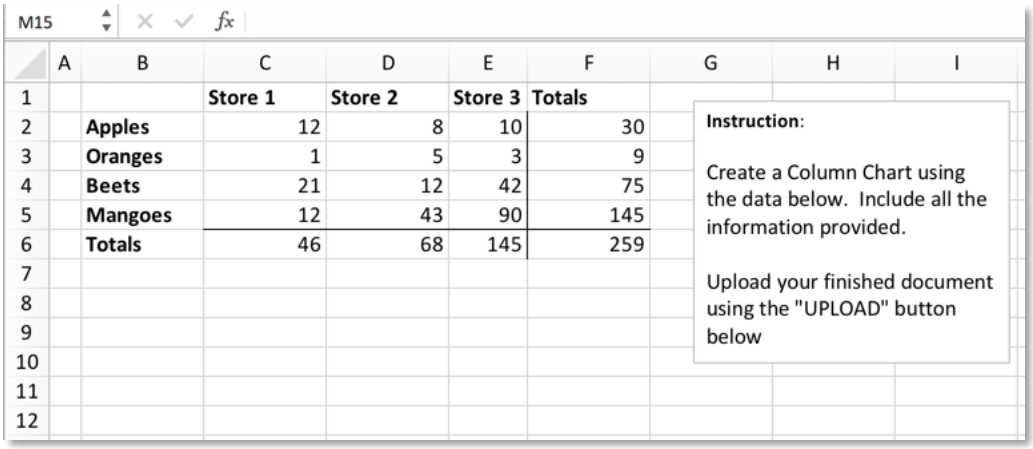
Objective 4

Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) by entering labels and values data in the proper cells with no spelling errors calculate totals and create a bar and column charts. (CR)

Students will download this document, complete the task, save, it, and then upload their finished work to the LMS.



	A	B	C	D	E	F	G	H	I
1			Store 1	Store 2	Store 3	Totals			
2		Apples	12	8	10	30			
3		Oranges	1	5	3	9			
4		Beets	21	12	42	75			
5		Mangoes	12	43	90	145			
6		Totals	46	68	145	259			
7									
8									
9									
10									
11									
12									



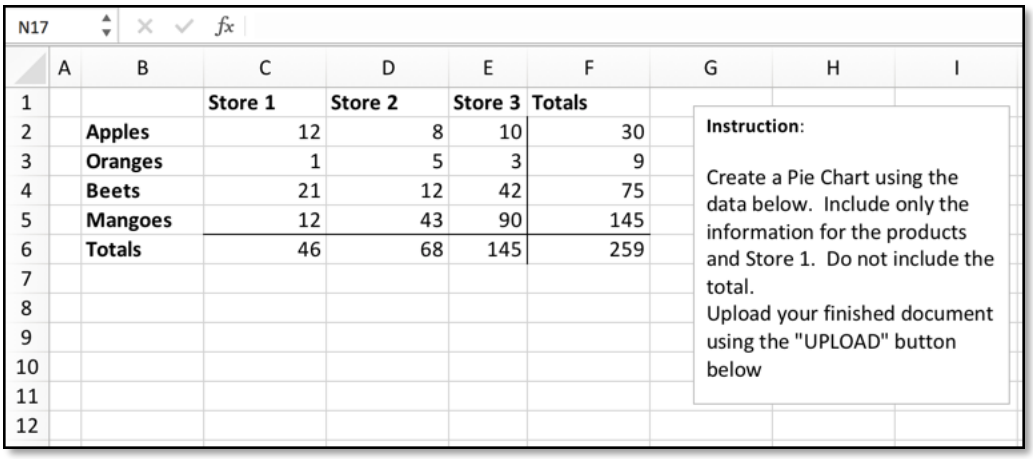
	A	B	C	D	E	F	G	H	I
1			Store 1	Store 2	Store 3	Totals			
2		Apples	12	8	10	30			
3		Oranges	1	5	3	9			
4		Beets	21	12	42	75			
5		Mangoes	12	43	90	145			
6		Totals	46	68	145	259			
7									
8									
9									
10									
11									
12									

INSTRUCTIONS: For this practice you have been provided a copy of the file. Here you will enter formulas to calculate the totals for each store, each product and the grand total for all stores. You will need to download the document, complete the task, save it, and then upload it to the system.

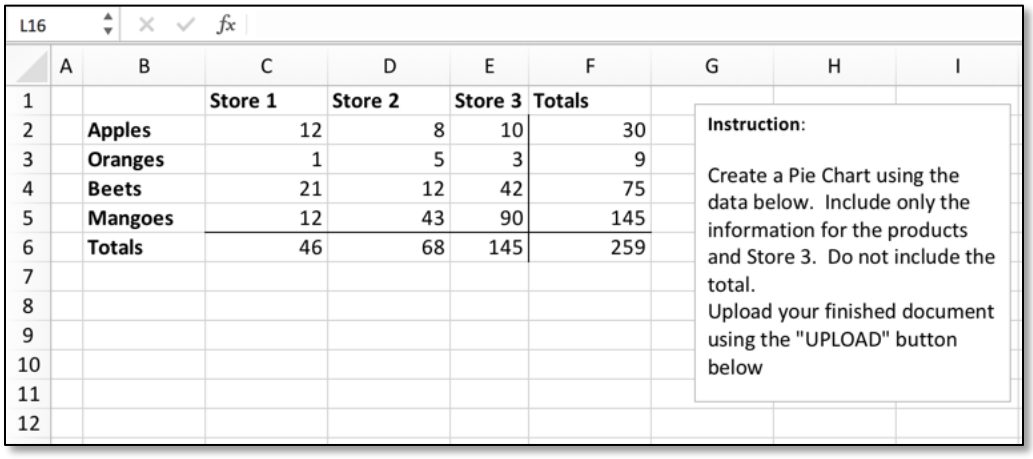
Objective 5

Given a computer and spreadsheet software, (C) learners will develop a worksheet (B) by entering labels and values data in the proper cells with no spelling errors calculate totals and create a pie chart. (CR)

Students will download this document, complete the task, save, it, and then upload their finished work to the LMS.



	A	B	C	D	E	F	G	H	I
1			Store 1	Store 2	Store 3	Totals			
2		Apples	12	8	10	30			
3		Oranges	1	5	3	9			
4		Beets	21	12	42	75			
5		Mangoes	12	43	90	145			
6		Totals	46	68	145	259			
7									
8									
9									
10									
11									
12									



	A	B	C	D	E	F	G	H	I
1			Store 1	Store 2	Store 3	Totals			
2		Apples	12	8	10	30			
3		Oranges	1	5	3	9			
4		Beets	21	12	42	75			
5		Mangoes	12	43	90	145			
6		Totals	46	68	145	259			
7									
8									
9									
10									
11									
12									

INSTRUCTIONS: For this practice you have been provided a copy of the file. Here you will enter formulas to calculate the totals for each store, each product and the grand total for all stores. You will need to download the document, complete the task, save it, and then upload it to the system.

Self-Evaluation

Stage	Criteria	Explanation
PROBLEM Is the courseware presented in the context of real world problems? Yes	Does the courseware show learners the task they will be able to do or the problem they will be able to solve as a result of completing a module or course? Yes	The courseware presents basic problems that may arise in an office environment regarding inventory. Tasks in the module present this real-world issue to the learners and provides solutions. The courseware provides scaffolding of the information such that the learners at the end have built a spreadsheet and performed at least two analyses on it.
	Are students engaged at the problem or task level not just the operation or action levels? Yes	
	Does the courseware involve a progression of problems rather than a single problem? Yes	
RATING FOR PROBLEM STAGE: Gold		
ACTIVATION Does the courseware attempt to activate relevant prior knowledge or experience? Yes	Does the courseware direct learners to recall, relate, describe, or apply knowledge from relevant past experience that can be used as a foundation for new knowledge? Yes	The module assumes that the learners are not totally new to the application taught in the lessons. If learners have used any word processing software, they are familiar with typing labels. The courseware is built with the express intention of a foundation upon which learners can gain new knowledge and skills. This module scratches the scratch on the surface of the application. The lesson on cell references does a good job of helping learners relate to a two-point system to finding a place, be it a geographic location in a major city or an apartment in a high-rise in the same city.
	Does the courseware provide relevant experience that can be used as a foundation for the new knowledge? Yes	
	If learners already know some of the content are they given an opportunity to demonstrate their previously acquired knowledge or skill. Yes	
RATING FOR ACTIVATION STAGE: Gold		

Stage	Criteria	Explanation
DEMONSTRATION Are the demonstrations (examples) consistent with the content being taught? Yes	Are the demonstrations (examples) consistent with the content being taught? • Examples and non-examples for concepts? • Demonstrations for procedures? Yes • Visualizations for processes? No • Modeling for behavior?	The courseware is presented within the context of a real-world problem. The solution to the problem is realistic. Learners are directed to external resources to obtain more information and practice on the content being taught. The media used in the courseware is relevant to the content.
	Are at least some of the following learner guidance techniques employed? • Learners are directed to relevant information? • Multiple representations are used for the demonstrations? • Multiple demonstrations are explicitly compared? Yes	
	Is media relevant to the content and used to enhance learning? Yes	
RATING FOR DEMONSTRATION STAGE: Gold		
APPLICATION Are the application (practice) and the posttest consistent with the stated or implied objectives? Yes	Are the application (practice) and the posttest consistent with the stated or implied objectives? • Information-about practice requires learners to recall or recognize information. Yes • Parts-of practice requires the learners to locate, name, and/or describe each part. No • Kinds-of practice requires learners to identify new examples of each kind. No • How-to practice requires learners to do the procedure. Yes • What-happens practice requires learners to predict a consequence of a process given conditions, or to find faulted conditions given an unexpected consequence. No	The courseware maintains congruence between the practice and the assessment. Learners are required to apply the skills they learned in the assessments. Learners will be required to re-call some of the details that were stated in the narrations. Learners are expected to be able to locate the charts feature and the AutoSum feature to complete the practice and assessments. Learners are required to notice their data entry and the selection process when creating charts. If they select

Stage	Criteria	Explanation
	Does the courseware require learners to use new knowledge or skill to solve a varied sequence of problems and do learners receive corrective feedback on their performance? No	incorrectly, the chart will not be generated as they desire. The module is not currently set up for learners to access context sensitive data, nor is there any type of coaching at the moment set-up with the module.
	In most application or practice activities, are learners able to access context sensitive help or guidance when having difficulty with the instructional materials? Is this coaching gradually diminished as the instruction progresses? No	
RATING FOR APPLICATION STAGE: Silver		
INTEGRATION Does the courseware provide techniques that encourage learners to integrate (transfer) the new knowledge or skill into their everyday life? Yes	Does the courseware provide an opportunity for learners to publicly demonstrate their new knowledge or skill? Yes	The courseware provides for an opportunity for learners to download certain files, complete those tasks on their local computer and share their work with others, including their co-workers and supervisors. There is no discussion board provided in the courseware where learners can reflect on their experience. Within the courseware, it is suggested that students change the data within the spreadsheet to any text
	Does the courseware provide an opportunity for learners to reflect-on, discuss, and defend their new knowledge or skill? No	
	Does the courseware provide an opportunity for learners to create, invent, or explore new and personal ways to use their new knowledge or skill? Yes	

Final Report

Digital Prototype:
https://sites.google.com/site/excelntro/

Formative Evaluation:

Formative evaluations were conducted with the client to determine the usability of the module from the homepage through the assessment. The IDer/Developer also conducted formative evaluations using a staff member that would likely take the course.

The client liked the module. The first thing that was noticed was the logo placed in the upper left corner of the page. This corporate branding of the module was important to the client. Familiarity with the logo will give the learners a sense of official recognition from the agency that the course is approved by the client. Going through the pages, the client noted the simplicity of navigating through the page. This seemed to be more of an interest than completing the module at the moment. The client agreed that the assessments sufficed to determine if the learners have met the learning objectives.

In regard to the look of the site, the developer chose the colors of the page to reflect the colors of the logo in order to maintain a sense of continuity and not have any distracting elements. There is an image in the background of the page. The developer was asked why that image was chosen. Not that it is a bad image, it was out of curiosity. It's a theme image within google sites.

Overall, the client expressed approval of the module. She liked the simplicity of the lessons and that the videos are not long.

The developer also conducted a usability test with a co-worker.

Prior to commencing the usability test, the developer briefed the volunteer, a co-worker about the project, giving him basic information about the project; that it was a Microsoft Excel course. He had previously expressed his interest in learning how to use the program, but his time was very limited due to his job and personal responsibilities. He is a case manager and mainly utilizes programs that are text heavy and not calculation oriented. However, he has a private business doing home-repair on the weekends. For this reason, the developer asked him to participate in this testing. It was good that he agreed.

When he entered the homepage, the volunteer realized from the homepage that the course is free. He briefly looked at the text on the page while moving the mouse to the link to begin the course. He immediately clicked on the link to enter the LMS. He entered the necessary information to begin the process.

The volunteer was more interested in the videos. The developer noted that he clicked on the full-screen feature to view the video. This was good because the video is in high definition. He did practice the cell reference exercise after viewing the video.

During the cell reference video, the volunteer requested that the developer include an example of how cell reference applies in the recording. This was a good idea that the developer will implement.

What surprised you in their feedback?
As the volunteer was going through the module he mentioned a few things that the developer noted. During the cell referencing video he said, "this is the basics, the rest will come later." Also, after watching the "AutoSum" video, he stated, "that was easy." the developer would have liked for him to do the practice exercises, but time was limited.

After watching the videos, the volunteer made the connection with Excel calculations to his small business. Moreover, he spoke about how he can use Excel to create a budget and to determine what he charges his clients based on factors related to his business.

What changes are you considering implementing? Please explain.

The developer will implement the usage of cell referencing in the related video. On one of the videos, I am thinking about enhancing the audio or re-recording the narration. Relative to the other audio recordings, the one in question has a different feel to it.

The developer will pluralize the term "course" link.

Are there things you will likely not change? If yes, what are they and why will they remain the same?

Homepage
The homepage works well for the project. It is simple, yet professional in its display. There are few links, so the user should not get confused navigating the page.

LMS
The LMS platform that I am using, proprofs.com contains the required technology to host the module

Videos
The video recordings are all high definition with enhanced audio.

Practice options
The practice options in the LMS are downloadable if the learner prefers to work on the exercises within Excel as opposed to the embedded sheet. In the case of the charts, the learner is required to use their installed version of Excel to complete the exercise.

Assessments
Within the LMS, the assessments are graded. The only aspect of the technology that limits the grading of the assessment related to the objectives of using the program directly. Something that would be easy to see in a face-to-face experience. This aspect of the assessment is dependent on

student honesty in completing and uploading their finished document to the LMS wherein it will have to be "eyeballed" for grading purposes.

Experiences Report:

This experience of creating this courseware was valuable to me and my professional development. Starting with the decision on what to do for this project and then determining the learning objective. These steps were relatively straightforward. I had no complications in achieving the objectives. When it came to the wireframing process, I found a bit challenging since it was new to me. It was my first time creating such material. After I got through that process things got a lot easier. Once I understood what it was and what I was doing my art background kicked in and I was able to get a grasp of the full picture of what I was developing. Creating the storyboard was easy once the wireframe was finished. It allowed me to visualize the order in which the users would go ideally navigate the site to accomplish the learning objectives.

I did run into technical issues. It was my intention to develop videos in Camtasia 3. When I played around with the program, I became aware of the difficulty to generate the .mp4 file type that I need to upload to YouTube. I resolved this issue by using Live Screen Capture to record the videos and Adobe Premiere Pro to edit them. This experience let me know that one is not limited to the established technologies that are promoted to developers of eLearning materials.

The fun and at times frustrating aspect was the narrations; frustrating because of the constant errors that I was making. It was also fun because it was a new experience that allowed me to practice a voice over skills.

The usability testing and formative evaluations were key to the success of the completion of the project. Getting honest feedback from others helped me see things that had not come to mind. The difference in what the evaluators focused on; style, navigation, and content made me revisit aspects of the home page in particular that served to make it easier for the learner to move through the course seamlessly.

Self-Evaluation:

<table>
<tr><th>Stage</th><th>Criteria</th><th>Explanation</th></tr>
<tr><td>PROBLEM
Is the courseware presented in the context of real world problems?</td><td>Does the courseware show learners the task they will be able to do or the problem they will be able to solve as a result of completing a module or course? Yes</td><td rowspan="3">The courseware contains videos that serve as absorb activities that demonstrates the steps to achieve a respective goal.

Do activities in the module allow students to practice what they have learned in the absorb activities.

The courseware is scaffolded to build skills hierarchically if the learners follows the module sequentially.</td></tr>
<tr><td></td><td>Are students engaged at the problem or task level not just the operation or action levels? Yes</td></tr>
<tr><td></td><td>Does the courseware involve a progression of problems rather than a single problem? Yes</td></tr>
<tr><td colspan="3">RATING FOR PROBLEM STAGE: Gold</td></tr>
<tr><td>ACTIVATION
Does the courseware attempt to activate relevant prior knowledge or experience?</td><td>Does the courseware direct learners to recall, relate, describe, or apply knowledge from relevant past experience that can be used as a foundation for new knowledge? Yes</td><td rowspan="3">In the courseware, the cell reference video provides a metaphor (first and last name) that learners can apply to recollect this concept.

The course is based on the development of skills that will serve as pre-requisites for further learning of Excel features.

The module allows learners to choose the lesson they desire to experience.</td></tr>
<tr><td></td><td>Does the courseware provide relevant experience that can be used as a foundation for the new knowledge? Yes</td></tr>
<tr><td></td><td>If learners already know some of the content are they given an opportunity to demonstrate their previously acquired knowledge or skill. Yes</td></tr>
<tr><td colspan="3">RATING FOR ACTIVATION STAGE: Gold</td></tr>
</table>

Stage	Criteria	Explanation
DEMONSTRATION Are the demonstrations (examples) consistent with the content being taught?	Are the demonstrations (examples) consistent with the content being taught? • Examples and non-examples for concepts? • Demonstrations for procedures? • Visualizations for processes? • Modeling for behavior? **Yes**	The courseware contains videos that demonstrate the procedures that students will follow to achieve the learning objectives. In the summary section of the module, learners are provided with resources for further learning. The module utilizes videos embedded from YouTube in which the steps are demonstrated for the learner to follow or note.
	Are at least some of the following learner guidance techniques employed? • Learners are directed to relevant information? • Multiple representations are used for the demonstrations? • Multiple demonstrations are explicitly compared? **No**	
	Is media relevant to the content and used to enhance learning? **Yes**	
RATING FOR DEMONSTRATION STAGE: Silver		
APPLICATION Are the application (practice) and the posttest consistent with the stated or implied objectives?	Are the application (practice) and the posttest consistent with the stated or implied objectives? • Information-about practice requires learners to recall or recognize information. • Parts-of practice requires the learners to locate, name, and/or describe each part. • Kinds-of practice requires learners to identify new examples of each kind. • How-to practice requires learners to do the procedure. • What-happens practice requires learners to predict a consequence of a process given conditions, or to find faulted conditions given an unexpected consequence.	The courseware contains non-destructible embedded Excel sheets that the learner can use to practice the skills learned throughout the module. These how-to practice exercises serve to reinforce the concepts and steps to achieve the learning objectives.

<table>
<tr><th>Stage</th><th>Criteria</th><th>Explanation</th></tr>
<tr><td></td><td>Does the courseware require learners to use new knowledge or skill to solve a varied sequence of problems and do learners receive corrective feedback on their performance? No</td><td rowspan="2"></td></tr>
<tr><td></td><td>In most application or practice activities, are learners able to access context sensitive help or guidance when having difficulty with the instructional materials? Is this coaching gradually diminished as the instruction progresses? No</td></tr>
<tr><td colspan="3">RATING FOR APPLICATION STAGE:</td></tr>
<tr><td>INTEGRATION
Does the courseware provide techniques that encourage learners to integrate (transfer) the new knowledge or skill into their everyday life?</td><td>Does the courseware provide an opportunity for learners to publicly demonstrate their new knowledge or skill? No</td><td rowspan="3">The courseware does not contain a discussion board wherein learners can publicly display their documents. This lack of a discussion board also impedes the learner from an opportunity to interact with peers.

It is highly suggested that the learners use the skills and knowledge from the module in their personal and professional life.</td></tr>
<tr><td></td><td>Does the courseware provide an opportunity for learners to reflect-on, discuss, and defend their new knowledge or skill? No</td></tr>
<tr><td></td><td>Does the courseware provide an opportunity for learners to create, invent, or explore new and personal ways to use their new knowledge or skill? Yes</td></tr>
<tr><td colspan="3">RATING FOR INTEGRATION STAGE: Bronze</td></tr>
</table>

References

Horton, W. (2011). *E-learning by Design* (2nd ed.). Online Edition, San Francisco, CA: Pfeiffer.

Mager, R. F. (1997). *Preparing Instructional Objectives* (3rd ed.). Atlanta, GA: The Center for Effective Performance.

Merrill, M. D. (2013). *First Principles of Instruction*. San Francisco, CA: Pfeiffer

Rubric

Criteria	Ratings Excellent	Satisfactory	Wanting	Score /30	Comments
The Digital Prototype					
Content	The e-Learning lesson contains all the necessary content to help students achieve all five objectives. All topics have a series of absorb, do, connect and assessment activities (may be combined when necessary). Content in your module is provided in an organized and logical manner. (5 points)	The e-Learning lesson is missing some content that is necessary to help students achieve all five objectives, some of the topics lack absorb, do, connect and/or assessment activities (or there is no indication of activities that are somehow combined). Some of the content is not provided in an organized or logical manner. (1-4 points)	The e-Learning lesson does not contain most of the necessary content to help students achieve all five objectives. None of the topics have a series of absorb, do, connect and assessment activities (and there is no indication of activities that are somehow combined). (0 points)	/5	
Presentation of Content	The e-Learning lesson implements design recommendations regarding color, screen layout, design elements and type. If video and/or audio are provided, they are of excellent quality. (5 points)	Some parts of the e-Learning lesson do not implement design recommendations regarding color, screen layout, design elements and type. If video and audio are provided, there are issues with the quality of these items. (1-4 points)	No part of the e-Learning lesson implements design recommendations regarding color, screen layout, design elements and type. If video and audio are provided, they are of poor quality. (0 points)	/5	
Navigation/ Functionality	Navigation throughout the entire lesson is consistent, predictable and implements best practices related to the type of navigation mechanism used. Throughout the lesson, there are no	Navigation in some parts of the lesson is inconsistent, or unpredictable or does not implement best practices related to the type of navigation mechanism Throughout the lesson, there are some dead links,	Navigation throughout the entire lesson is inconsistent, unpredictable and does not implement best practices related to the type of navigation mechanism used. Throughout the lesson, all links are dead, documents do not open or do not display the	/5	

Criteria	Ratings			Score /30	Comments
	Excellent	Satisfactory	Wanting		
	dead links, all documents open and display the expected content, all media files display/play/open. (5 points)	some documents do not open or do not display the expected content, some media files do not display/play/open. (1-4 points)	expected content, no media files display/play/open. (0 points)		
The Final Report					
URL and Login Information	The URL and necessary login information are provided to the module. (2 points)	URL is not provided, the login information is not provided, or the login does not work. (0)		/2	
Formative Evaluation	The formative evaluation section includes a summary of the results of the formative evaluation from your client and if you can other reviewers, an explanation of necessary changes and a rationale for when changes are inappropriate (if applicable). (5 points)	The formative evaluation section does not include a summary from your client and any other reviewers, does not include review of the changes to be made or an explanation of necessary changes or a rationale for when changes are inappropriate (if applicable). (1-4 points)	The formative evaluation section does not include a summary of the results of the formative evaluation, an explanation of necessary changes and a rationale for when changes are inappropriate (if applicable). (0 points)	/5	
Report	The report addresses all required questions. (5 points)	The report does not address some of the required questions. (1-4 points)	The report does not address any of the required questions. (0 points)	/5	
Self-Evaluation	The self-evaluation provides answers to the questions in all sections, an explanation for the answer and a general rating of each section. (5 points)	The self-evaluation provides answers to the questions in some sections, but not all, or some of the explanations for the answers or the general rating of each section are missing. (1-4 points)	The self-evaluation does not provide answers to any of the questions in all sections, an explanation for the answer and a general rating of each section. (5 points)	/3	