

An Adventure Through Google's Application Suite

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Application of Google Docs to a Productivity Based Problem
Content Analysis

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We, the signed below, do certify that we have contributed twenty-five percent (25%) of the effort to the conceptualization, information collection and analysis, and the writing of this paper. If asked, we will be able to succinctly describe any portion of the paper. We understand that we are responsible for all of the contents and will be evaluated for the total project.

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Instructional Goal

The Educational Technology Graduate student, hereafter referred to as ETEC student, faces a challenge of collaborating with fellow students all over the world. Because group projects are a key component of the ETEC program, it is essential to resolve this issue. To resolve these issues, ETEC students must be able to analyze situations, identify problems, present solutions, and resolve issues.

The instructional goal of this design is to create a module is for the ETEC student to be able to accurately determine each of 5 Google application's primary uses. With the emergence of Google's Application Suite, students have the ability to "create and share your work online and access your documents from anywhere" (<https://docs.google.com>). More specifically, the student will analyze five Google applications: 1) Document Application 2) Presentation Application 3) Spreadsheet Application, 4) Form Application, and 5) Drawing Application, by locating, identifying, construction a definition of, and analyzing primary uses for each application.

This goal has been separated into five clusters, one cluster for each named Google Application. Upon completion of the instructional module, the ETEC student will be able to recognize Google Applications as a viable solution for various assignments. The instructional goal falls under Gagne's intellectual learning domain with the learning outcome under the *problem solving level*. ETEC students must analyze each application and learn how each application can be used most effectively. Students will do this by differentiating the applications by their primary uses. Each of these clusters will require the ETEC student to have specific entry-level behavior prior to progressing through each module.

Target Population

Demographic Identifiers

According to Dick, Carey, and Carey, a target population analysis provides insight to the kinds of instructional experiences learners currently possess, and identifies their ability to adapt to different forms of instruction, such as our paper-based module on Google's Application Suite (94). At the basic level the following identifiers can be made regarding our target audience:

Demographic Identifier	Target Audience Characteristics
Age	20 – 40 + years of age
Grade level	Graduate Level students
Topic Studied	Educational Technology, Education, Information and Computer Studies, Information and Library Sciences, Humanities, Physical and Life Sciences, Social Sciences, And other subsequent related fields.
Job Experience	Wide range from entry-level employment to career professionals.

Learner Analysis

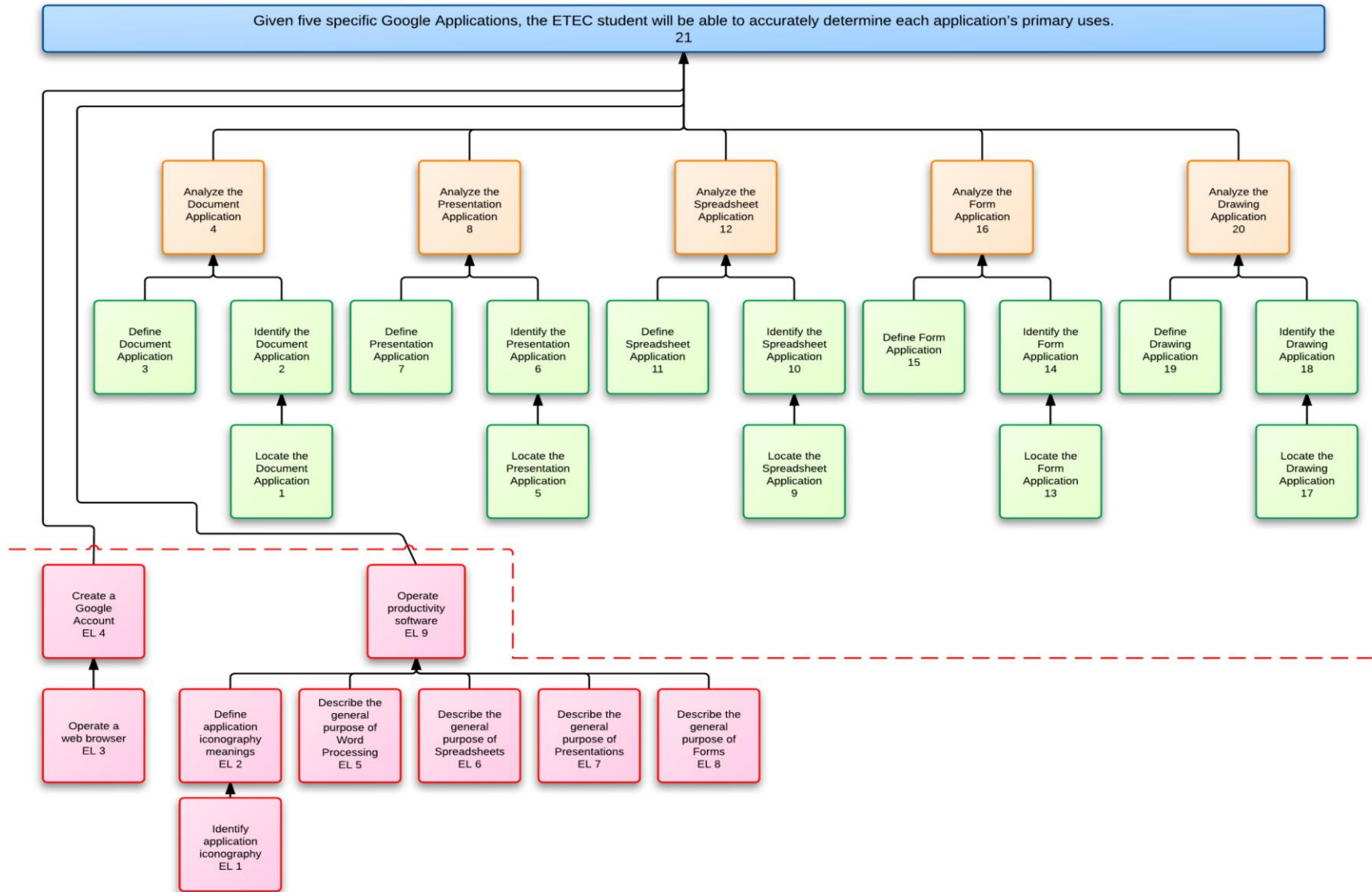
Following Dick and Carey's learner analysis, the following detailed information has been gathered regarding our target population.

Analysis Category	Target Audience Characteristics
Entry Level Skills	Taken two or more online course and possess basic computer skills, are familiar with web browsing and have collaborated with others in an online environment; understand of basic productivity; ability to create a Google account; familiar with word processing, presentation, spreadsheets and forms software applications, and related terminology.
Prior Knowledge of Topic Area	None to moderate experience using Google's Application Suite

Attitudes Toward Content and Potential Delivery System	Highly motivated and interested in content as seen applicable to current education and work situations May be slightly adverse to delivery method as a paper-based module
Academic Motivation	The module holds intrinsic and potential extrinsic learning because of ability to further personal and professional development
Education and Ability Levels	Received Bachelors Degree, some already currently have a Master's Degree, current Graduate Level Educational Technology Students
General Learning Preferences	Preference towards the use of technological tools and platforms for delivery
Attitudes toward Training Organization	Positive
Group Characteristics	Diverse cultural backgrounds, places of employment, undergraduate educations in different fields

Instructional Analysis

There are nine (9) entry-level skills, and a total of twenty-one (21) instructional steps.



Procedure Analysis

EL 1	Identify application iconography
EL 2	Define application iconography meanings
EL 3	Operate a web browser
EL 4	Create a Google Account
EL 5	Describe the general purpose of Word Processing
EL 6	Describe the general purpose of Presentations
EL 7	Describe the general purpose of Spreadsheets
EL 8	Describe the general purpose Forms
EL 9	Operate productivity software
1	<p>Behavior: Locate the Document Application</p> <p>Objective: When given a printed screen shot of a tool bar, the student will be able to accurately locate the Document application.</p>
2	<p>Behavior: Identify the Document Application</p> <p>Objective: When viewing a printed screenshot of five different Google applications; the student will accurately identify which is the Document application.</p>
3	<p>Behavior: Define Document Application</p> <p>Objective: Given five definitions, the student will be able to accurately choose which definition best describes the Document application.</p>
4	<p>Behavior: Analyze the Document Application</p> <p>Objective: Given five uses, the student will be able to accurately analyze the specific uses of the Document application.</p>
5	<p>Behavior: Locate the Presentation Application</p> <p>Objective: Given a printed screen shot of a tool bar, the student will be able to accurately locate the Presentation application</p>
6	<p>Behavior: Identify the Presentation Application</p> <p>Objective: When viewing a printed screenshot of five different Google Doc applications, the student will accurately identify the Presentation application.</p>

7	<p>Behavior: Define Presentation Application</p> <p>Objective: Given five definitions, the student will be able to accurately determine which definition best describes the Presentation application.</p>
8	<p>Behavior: Analyze the Presentation Application</p> <p>Objective: Given five uses, the student will be able to accurately analyze the specific uses of the Presentation application.</p>
9	<p>Behavior: Locate the Spreadsheet Application</p> <p>Objective: Given a printed screen shot of a tool bar, the student will be able to accurately locate the Spreadsheet application</p>
10	<p>Behavior: Identify the Spreadsheet Application</p> <p>Objective: When viewing a printed screenshot of five different Google applications, the student will accurately identify the Spreadsheet application.</p>
11	<p>Behavior: Define Spreadsheet Application.</p> <p>Objective: Given five definitions, the student will be able to accurately determine which definition best describes the Spreadsheet application.</p>
12	<p>Behavior: Analyze the Spreadsheet Application</p> <p>Objective: Given five uses, the student will be able to accurately analyze the specific uses of the Spreadsheet application.</p>
13	<p>Behavior: Locate the Form Application</p> <p>Objective: Given a screen shot of a tool bar, the student will be able to accurately locate the Form application.</p>
14	<p>Behavior: Identify the Form Application</p> <p>Objective: When viewing a printed screenshot of five different Google Doc applications, the student will accurately indicate which is the Form application.</p>
15	<p>Behavior: Define Form Application</p> <p>Objective: Given five definitions, the student will be able to accurately determine which definition best describes the Form application.</p>
16	<p>Behavior: Analyze the Form Application</p> <p>Objective: Given five uses, the student will be able to accurately analyze the specific uses of the Form application.</p>
17	<p>Behavior: Locate the Drawing Application</p> <p>Objective: Given a screen shot of a tool bar, the student will be able to accurately locate the Drawing application.</p>

18	<p>Behavior: Identify the Drawing Application</p> <p>Objective: When viewing a printed screenshot of five different Google applications, the student will accurately indicate which is the Drawing application.</p>
19	<p>Behavior: Define Drawing Application</p> <p>Objective: Given five definitions, the student will be able to accurately determine which definition best describes the Drawing application.</p>
20	<p>Behavior: Analyze the Drawing Application</p> <p>Objective: Given five uses, the student will be able to accurately analyze the specific uses of the Drawing application.</p>
21	<p>Terminal Behavior: Given five specific Google Applications, the ETEC student will be able to accurately determine each application's primary uses.</p> <p>Terminal Objective: Given five different screen shots, the student will be able to accurately associate each screenshot with its primary use.</p>

Sequence and Clustering of Objectives

CLUSTER	OBJECTIVES	TIME
1	1. Locate the Document Application 2. Identify the Document Application 3. Define Document Application 4. Analyze Document Application	30
2	5. Locate the Presentation Application 6. Identify the Presentation Application 7. Define Presentation Application 8. Analyze Presentation Application	30
3	9. Locate the Spreadsheet Application 10. Identify the Spreadsheet Application 11. Define Spreadsheet Application 12. Analyze Spreadsheet Application	30
4	13. Locate the Form Application 14. Identify the Form Application 15. Define Form Application 16. Analyze Google Form Application	30
5	17. Locate the Drawing Application 18. Identify Drawing Application 19. Define Drawing Application 20. Analyze Drawing Application	30
Terminal Goal	21. Given five specific Google Applications, the ETEC student will be able to accurately determine each application's primary use.	30

Pre-Instructional Activities

Motivation:

While students are enrolled in ETEC classes, they will face challenges on effective collaboration with geographically separated cohort members, with different software programs. All students have used a form of productivity software from Microsoft Office to OpenOffice iWork for Mac users, but the one common theme is cross compatibility issues, because graphical user interfaces for PC, Mac, and other computer platforms vary widely. Secondly, Google's Application Suite, being a cloud application, will work the same across all platforms while allowing students to work together synchronously, promoting productivity and enhancing group collaboration

Objectives:

The instructional goal is to introduce the learner to Google's Application Suite by first identifying the individual applications, and then identifying and differentiating each application's main purpose.

Assessment

Pretest:

To determine student's familiarity with the module content, a pre-survey will be given before instruction.

Practice Tests:

Practice tests will be included throughout the instructional module placed at the beginning and end of each section to aid content comprehension and retention.

Posttest:

Following each cluster, a multiple choice post test will be given to aid content comprehension and retention, as well as identify any areas that may need further attention for the learner.

Follow Through Activities

Memory Aids:

The module will be designed in a way so that in order for the learner to move on to the next section, they will have to correctly answer questions at the bottom of each section, and turn to a certain page that will display whether or not they accurately comprehend the content. If they choose an incorrect answer and incorrect page, the reader will be instructed to review the lesson. This will serve as a memory aid for the students because they will need to retain the information they learned in order to answer the questions correctly.

Transfer:

After completion of the module, students will be able to apply their knowledge of Google's Application Suite to solve their own productivity problems.

Instructional Objective Analyzed through Gagne's 9 Events

Gagne's Event 1 - Gaining Attention: While students are enrolled in ETEC classes, they will face challenges on effective collaboration with geographically separated cohort members, with different software programs. Furthermore, Google Applications, being a form of cloud technology, will work the same across all platforms, allowing students to work together synchronously and promoting productivity through enhanced group collaboration.

Gagne's Event 2 - Informing Learners of the Objective: At the end of the lesson, the student will be able to utilize Google Applications by analyzing each application's use as a productivity tool to facilitate group collaboration. The student will first, identify the Google Applications, learn definitions of each application, and then analyze each application's primary use.

Gagne's Event 3 - Stimulating Recall of Prior Learning: All students have used a form of productivity software from Microsoft Office to OpenOffice iWork for Mac users, but the one common theme are cross compatibility issues, because graphical user interfaces for PC, Mac, and other computer platforms vary widely.

Gagne's Event 4 - Presenting the Stimulus: A printed module for the Document Application cluster with Color screenshots will be printed on individual pages. The module itself is designed in a "Choose Your Own Adventure" format. Each skill has embedded questions that the student must answer correctly in order to find which page number goes to the next skill step. The student will be provided with white space in order to write notes if needed.

Gagne's Event 5 - Providing Learner Guidance: In order for the student to progress through the module, the student must pass each skill's embedded test with five possible choices with corresponding page numbers: one correct answer, and four incorrect answers. If the student

chooses the incorrect answer, they must then return back to the instructed page to review the activity so they can then progress to the next skill. Generally, there is no interaction between the instructor and the learner because this is a self contained paper module. All guidance will be reinforced by the student's choices in choosing the correct answer.

Gagne's Event 6 - Elicit Performance: The learning module is self-guided, however the student should be motivated to progress through the module because of its structured "Choose Your Own Adventure" format.

Gagne's Event 7 - Provide Feedback: If students choose incorrect answers to each Skill, they will reach a page that informs them of their mistake and which page to turn to re-learn the skill. The student can only progress through the module until they have mastered each skill.

Gagne's Event 8 - Assessing Performance: Embedded tests to must be passed in order for the student to progress to the next skill. At the end of the module, the student will take a final post-test with parallel questions. If the student chooses incorrect answers, they will be directed to the page with the correct information should they want to review it.

Gagne's Event 9 - Enhancing Retention and Transfer: Providing the student has completed the entire instructional goal, the student will then be asked to implement Google Applications in their next collaborative activity. The student will also need to answer how they could have used Google Applications in a past or future group or individual project.

Criterion Reference Tests

Skill #1: Locate the Google Document Application

Objective:

When given a printed screen shot of a tool bar, the student will be able to accurately locate the Google Document Application.

CONTENT PRESENTATION

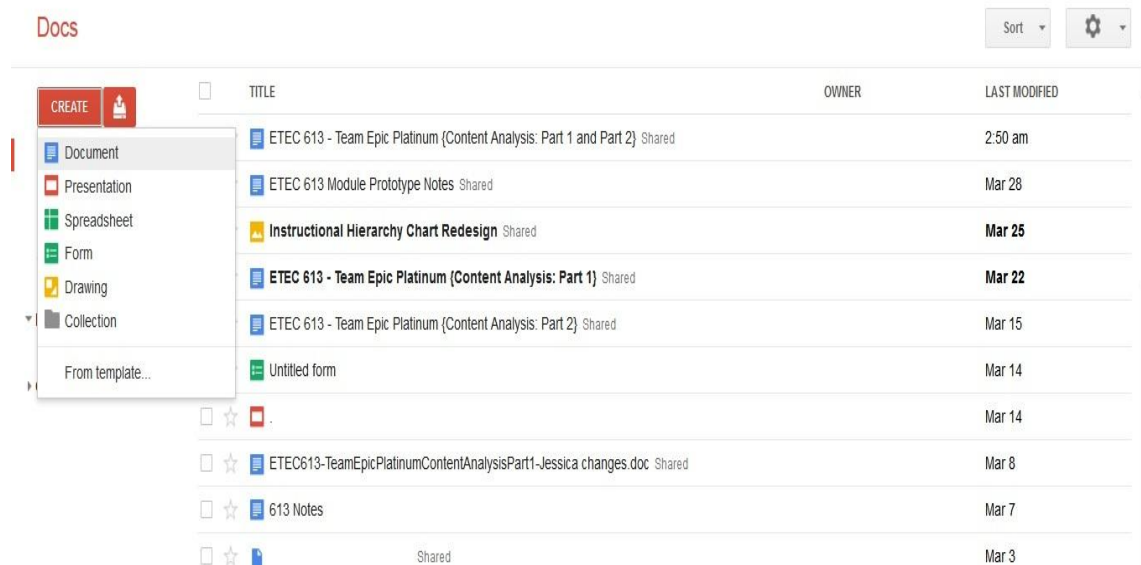
Information Presentation:

You should already be familiar with creating a Google account. In order to create a Document you will need to first locate the proper tab.

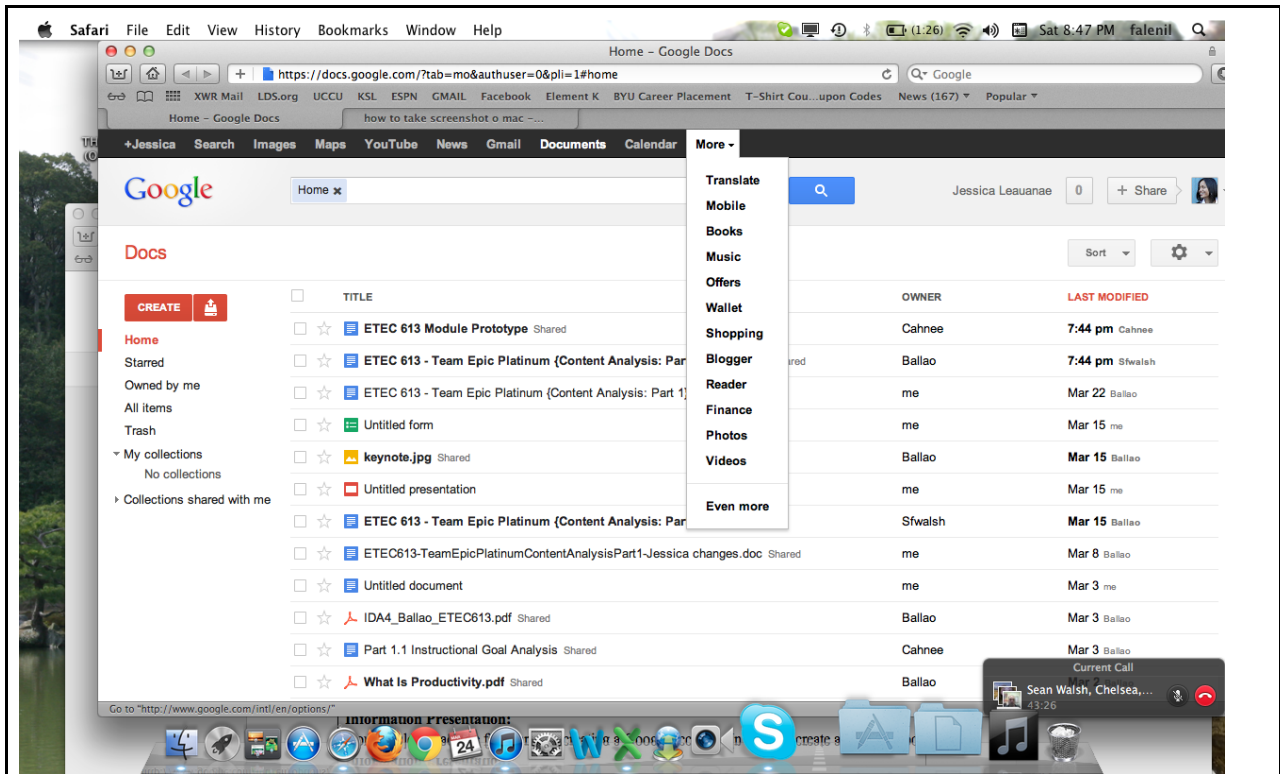
Step 1: Login to your Google account

Step 2: Click on “Documents” tab in the upper left hand corner of your Google

Step 3: Click on Create and choose Document from the drop down menu



The following screenshot shows the Google Toolbar:



Notice the drop-down tab above labeled “More.” Google has a host of additional applications that are not considered part of the Google Application Suite. These applications include Google Music, Google Blogger, Google Sites, Google Finance and a variety of others. Please keep in mind that Google Application Suite only includes the following: Google Document, Google Presentation, Google Spreadsheet, Google Forms and Google Drawing.

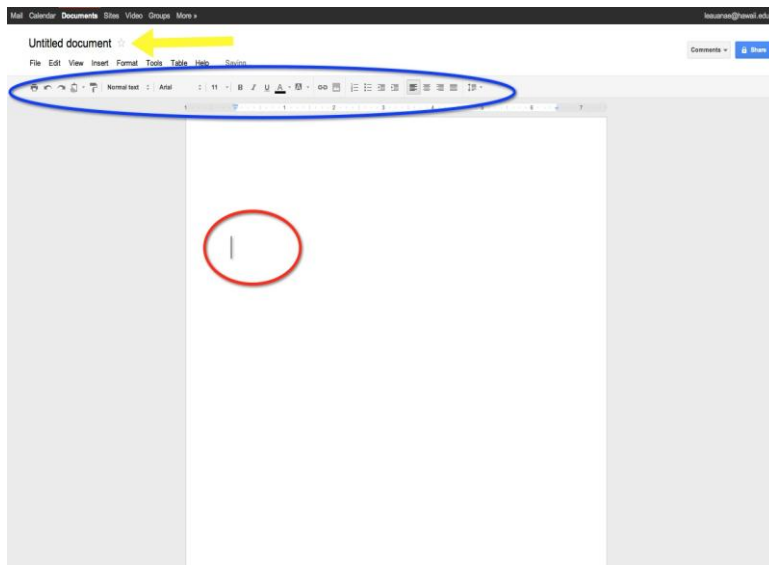
Examples:	Document Application
Non-Examples:	Form Application, Presentation Application, Drawing Application, Spreadsheet Application Google Sites, Google Blogger, Google Finance, Google Music
Embedded:	<p>What is the correct order of steps in creating a new Google Document?</p> <p>*A. Login to Google > Locate Document Tab > Click on Create > Click on Document</p> <p>B. Login to Google > Click on Document > Click on Create > Locate Document Tab</p> <p>C. Click on Create > Locate Google Document Tab > Click on Document > Login to Google</p> <p>D. Locate Google Document Tab > Click on Google Document > Click on Create > Login to Google</p>

Feedback	<p>*A. Correct B. Incorrect C. Incorrect D. Incorrect</p>
Posttest	<p>A new Google Document can be created by the following steps:</p> <p>A. Locate Google Document Tab > Click on Google Document > Click on Create > Login to Google</p> <p>B. Login to Google > Click on Document > Click on Create > Locate Document Tab</p> <p>C. Click on Create > Locate Google Document Tab > Click on Document > Login to Google</p> <p>*D. Login to Google > Locate Document Tab > Click on Create > Click on Document</p>

Skill #2: Identify the Document Application

<p>Objective: When viewing a printed screen shot of 5 different Google Applications, the student will accurately identify the Document Application.</p>	
<p>CONTENT PRESENTATION</p>	
<p>Information Presentation: Word processing is a typical and frequent function of a computer. Most people have viewed, created, printed or even shared a typed document that has been created on a computer. Google’s Document Application has a few extra features that make it excellent for online use. It has faster real time collaboration, you can import from your desktop and it has all the familiar features of margins, comments, tables, footnotes and more.</p>	

Examples:	<p>Let’s examine a document created with Google’s Document Application.</p>
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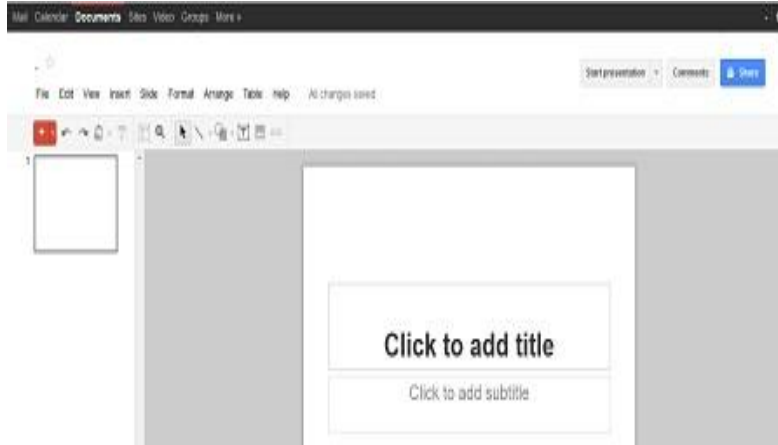


1. Notice the heading “Untitled Document”
2. The circled tool bar should look familiar to you if you’ve used other word processing applications.
3. Notice the cursor for typing text on the page

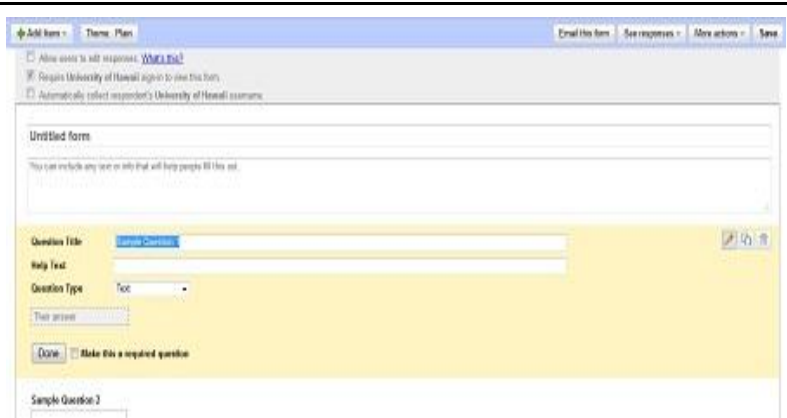
Non-Examples:

Now let’s look at some non-examples:

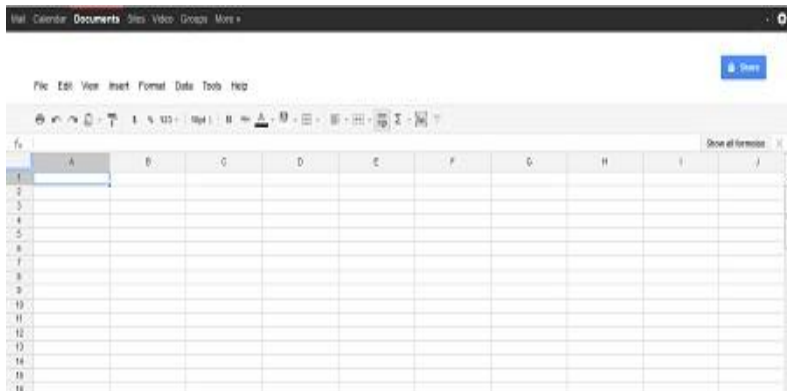
This is the Presentation Application. We will discuss this later on in the module. However, notice the screen includes a place for adding a Title and Subtitle.



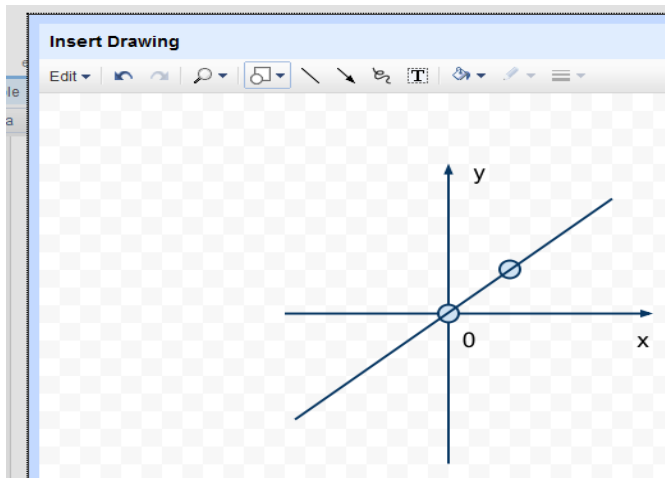
This is a Form. We will discuss this later on in the module as well.



This is a Spreadsheet. We will discuss this later on in the module.



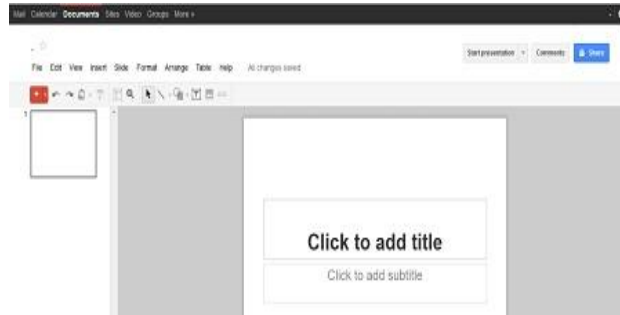
This is a Drawing. This will be the last application we discuss in the module.



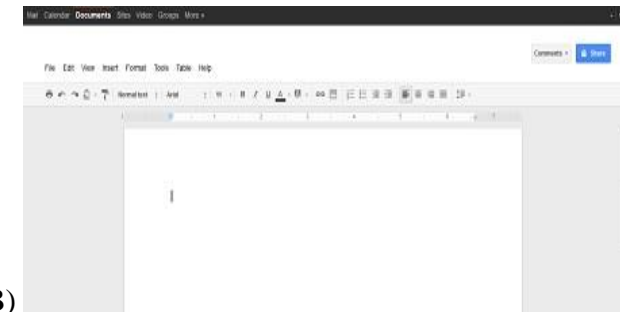
Pretest & Embedded:

Which of the following 5 screenshots is a Document application?

A)



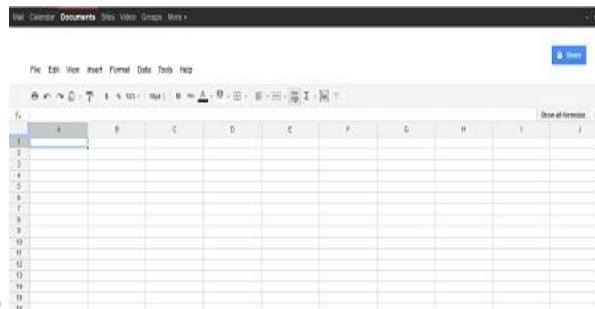
*B)



C)

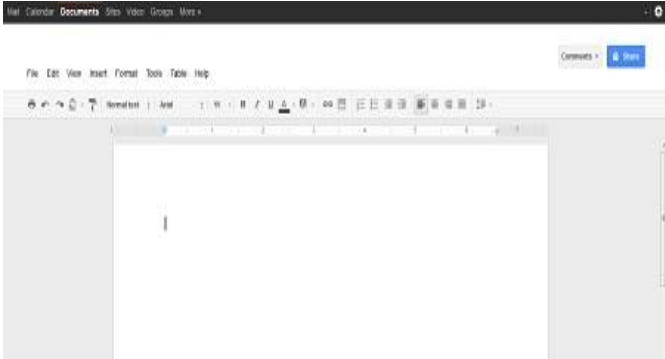


D)



Feedback

A) Incorrect. Don't be confused, though this application uses text, its primarily used for creating presentations.
*B) Correct! Screenshot B is of the Document Application.
C) Incorrect. This should be easy--this is not the Document Application
D) Incorrect. This looks like a table and is used for spreadsheets.

Posttest	<p>The following image is a screenshot of which Google application:</p>  <p>A) Form Application B) Spreadsheet Application C) Presentation Application *D) Document Application E) Drawing Application</p>
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Skill #3: Define the Document Application

<p>Objective: Given five definitions, the student will be able to accurately choose which definition best describes the Document application.</p>	
<p>CONTENT PRESENTATION</p>	
<p>Information Presentation: Document Application is a computer program for manipulating text: a computer program that is used to create, retrieve, modify, store, and print text.</p>	
<p>Examples:</p>	<p>Document Application is a computer program for manipulating text: a computer program that is used to create, retrieve, modify, store, and print text.</p>

<p>Non-Examples:</p>	<ul style="list-style-type: none"> • Presentation Application is used to create slides for a presentation that contains content to emphasize the speaker’s intent or purpose. • Spreadsheet Application is a computer program that displays numerical data in cells in a simulated accountant's worksheet of rows and columns in which hidden formulas can perform calculations on the visible data. Changing the contents of one cell can cause automatic recalculation of other cells. • Form Application allows a user to enter data in a formatted graphical user interface that is sent to the Spreadsheet Application for storage. Forms differ from Spreadsheets because Forms resemble realistic paper forms because users fill out the forms using check-boxes, radio buttons, or text areas. • Drawing Application is used to create digital art for including in other Google Applications. Though the Drawing Application can be used to create text, the lack of formatting features is best.
<p>Pretest & Embedded: Which of the following Google applications is used to create, retrieve, modify, store, and print text? A) Presentation B) Form C) Spreadsheet D) Draw *E) Document</p>	
<p>Feedback A) Incorrect. B) Incorrect. C) Incorrect. D) Incorrect. *E) Correct! The Document Application is used to create, retrieve, modify, store, and print text.</p>	
<p>Posttest Which of the following definitions is associated with the Document Application? *A) An application used to create, retrieve, modify, store, and print text B) An application that displays numerical data in cells in a simulated accountant's worksheet of rows and columns in which hidden formulas can perform calculations on the visible data. C) An application used to create slides for a presentation that contains content to emphasize the speaker’s intent or purpose. D) An application, which allows a user to enter data in a formatted graphical user interface that is sent to the Spreadsheet Application for storage.</p>	

Skill #4: Analyze the Document Application

<p>Objective: Given five uses, the student will be able to accurately analyze the specific uses of the Document application.</p>	
<p>CONTENT PRESENTATION</p>	
<p>Information Presentation: There are many uses for the document application. Some of these uses include:</p> <ul style="list-style-type: none"> ● Upload Word documents, OpenOffice, or create documents from scratch ● Use a simple editor to format your documents ● Invite others (by e-mail address) to edit or view your documents and spreadsheets. ● Edit documents online with whomever you choose. ● View your documents' revision history and roll back to any version. ● Publish documents online to the world, as Web pages or post documents to your blog. ● Download documents to your desktop ● Email your documents out as attachments. 	
<p>Examples:</p>	<ul style="list-style-type: none"> ● Uploading a word document from your desktop ● Publishing a document you created onto your personal blog ● Collaborating with group members on a single document and reviewing the edits that were made ● Creating a Newsletter
<p>Non-Examples:</p>	<ul style="list-style-type: none"> ● Upload your personal images and videos into a presentation and share it with family residing in a different state ● Enter currency formulas to represent the amount of money you spent on gas each month ● Draw shapes and figures
<p>Pretest & Embedded:</p> <p>Which of the following is one use for the Document application?</p> <p>A) Creating a form *B) Creating a newsletter C) Creating a presentation D) Creating a spreadsheet E) Creating Clipart</p>	
<p>Feedback</p> <p>A) Incorrect, but there is an app for that *B) Correct! Creating a newsletter is a good use for the document application C) Incorrect</p>	

- D) Incorrect
- E) No not really

Posttest

If you wanted to create a newsletter, which Google application would you utilize?

- A) Presentation
- B) Spreadsheet
- C) Form
- D) Draw
- *E) Document

Formative Evaluation Results

One on One Evaluation Set up

1. Pre-survey for data collection analysis (3-5 minutes)
2. Instructional Module (20-30 minutes)
3. Post-survey for data collection analysis (10-15 minutes)

Before the Module

- Pre-survey Interview was conducted using a survey which was 3-5 minutes long
- Questions evaluated test subject's education level, computer skill level and Google Application Suite skill level

After the Module

- Post Survey Interview was conducted using a survey
- Questions evaluated usefulness of the module, what worked and went well, what didn't work so well and suggestions for improvement

What Worked

1. Choose Your Own Adventure- **100% participants**
2. Engaging Storyline- **100% participants**
3. Clear Instructions- **100% participants**
4. Appropriate Use of Visual Content- **90% participants**
5. Storyline navigation layout easy to follow- **80% participants**

What we would do differently

1. Incorporate more instructional content and less extraneous information.
2. Align the pre-survey questions to better suit the content level
3. Attempt to revise instruction to a higher level learning more in-line with the target audience.