



ENGL317



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Google Docs

# Usability



20 Tasks Put to the Test



## Table of Contents

Introduction.....	3
Methodology.....	3
Environment .....	3
Tasks .....	3
Metrics and Evaluating Criteria.....	4
Results.....	5
Task 1: Clear Formatting on Copy and Pasted Text.....	5
Task 2: Add a Font that Looks Like the Author’s Handwriting.....	6
Task 3: Add a Table of Contents in the Side Bar .....	6
Task 4: Add a Header Different from the First Page and Page Numbers.....	7
Task 5: Search for a Relevant Image to Insert.....	7
Task 6: Edit the Inserted Image .....	8
Task 7: Use the Explore Tool to Learn More About a Word .....	8
Task 8: Indent the Resources/Works Cited Section .....	9
Task 9: Insert a Footnote .....	9
Task 10: Find and Replace Incorrect or Desired Text.....	10
Task 11: Use Voice Typing Feature to Write Faster .....	10
Task 12: Create a Nonstandard Text Substitution .....	11
Task 13: Use the Dictionary Tool.....	11
Task 14: Edit Foreign Language Text with Language Accents .....	12
Task 15: Revise Your Edits .....	12
Task 16: Sign the Document.....	13
Task 17: Date the Document .....	13
Task 18: Share the Document.....	14
Task 19: Insert, Reply, Resolve, and Read Comments.....	14
Task 20: Translate the Document Back to English .....	15
Conclusion .....	15
Recommendations.....	16
Bibliography .....	16
Appendix.....	16

## Introduction

Google Docs is a web-based word processing program included in the productivity tool suite from Google Drive. Using this tool, users can create, edit, and share documents online, in real-time and without needing to download additional software. This white paper presents the findings of a cognitive usability test performed on twenty Google Docs tasks. A typical user of this word processor may have the foundational knowledge of writing papers, resumes, or other projects. However, users typically go to Google Docs for added features the program offers, such as sharing documents, adding comments, and editing images. To test these and additional Google Docs features, I assumed the role of a new student studying Latin and who was in the process of writing a paper for a Latin language class.

## Methodology

### Environment

The cognitive usability test was performed on March 24<sup>th</sup>, 2023 in my dorm room on a personal Windows laptop. A personal Gmail account was used to log in and access Google Docs. A second Google tab was opened in Google Chrome to translate English to Latin for the contents of the paper.

### Tasks

I performed the following twenty tasks to write a paper for my hypothetical foreign language class, written in Latin and meant to describe the history of the language.

0. Write the contents of the paper using Google Translate and paste into a Google Doc
1. Clear formatting on copy and pasted text
2. Add a font that looks like the author's physical handwriting
3. Add a table of contents in the side bar
4. Add a header different from the first page and page numbers
5. Search for a relevant image to insert
6. Edit the inserted image
7. Use the explore tool to learn more about a word
8. Indent the resources/works cited section
9. Insert a footnote
10. Find and replace incorrect or desired text
11. Use the voice typing feature to write faster
12. Create a nonstandard text substitution
13. Use the dictionary tool
14. Edit foreign language text with language accents
15. Revise your edits
16. Sign the document
17. Date the document
18. Share the document
19. Insert, reply, resolve, and read comments
20. Translate the document back to English

### Metrics and Evaluating Criteria

Each task was evaluated using five metrics and the five-point Likert scale. Firstly, the following five questions were asked regarding their respective metric:

*Effective:* Was the task able to be completed using the features of Google Docs?

*Efficient:* Was the task completed within a reasonable amount of time using Google Docs features?

*Engaging:* Did Google Docs have a style and appearance that was helpful to perform this task?

*Error Tolerant:* Were there few times when your attempts to do this task in Google Docs failed? And if there were, was there a recovery method?

*Easy to Learn:* Was it easy to learn this task in Google Docs?

The five-point Likert scale was used to answer these five metric questions with one of the following: strongly disagree, somewhat disagree, neutral, somewhat agree, and strongly agree. Table 1 below gives an example using Task 1. To quantify the qualitative results, a score of 25 meant the task was rated perfect on cognitive usability while anything less than 25 meant the task’s usability had room for improvement. The “Additional Notes” section on the table allows for elaboration on why a 5 out of 5 score was not attained per a given task.

Task 1	Clear formatting on copy and pasted text				
Efficient	Was the task able to be completed using the features of Google Docs?				
	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
	1	2	3	4	5
Effective	Was the task completed within a reasonable amount of time using Google Docs features?				
	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
	1	2	3	4	5
Engaging	Did Google Docs have a style and appearance that was helpful to perform this task?				
	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
	1	2	3	4	5
Error Tolerant	Were there few times when your attempts to do this task in Google Docs failed? And if there were, was there a recovery method?				

Table 1.  
of Likert  
Results  
1

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
	1	2	3	4	5
Easy to Learn	Was it easy to learn this task in Google Docs?				
	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
	1	2	3	4	5
Additional Notes	<p>Overall, an easy task to learn and perform. The only drawback is that you must know to go from “Format -&gt; Clear formatting” while having all desired text is highlighted.</p> <p>Total = 22</p>				

Example Scale for Task

## Results

### Task 1: Clear Formatting on Copy and Pasted Text

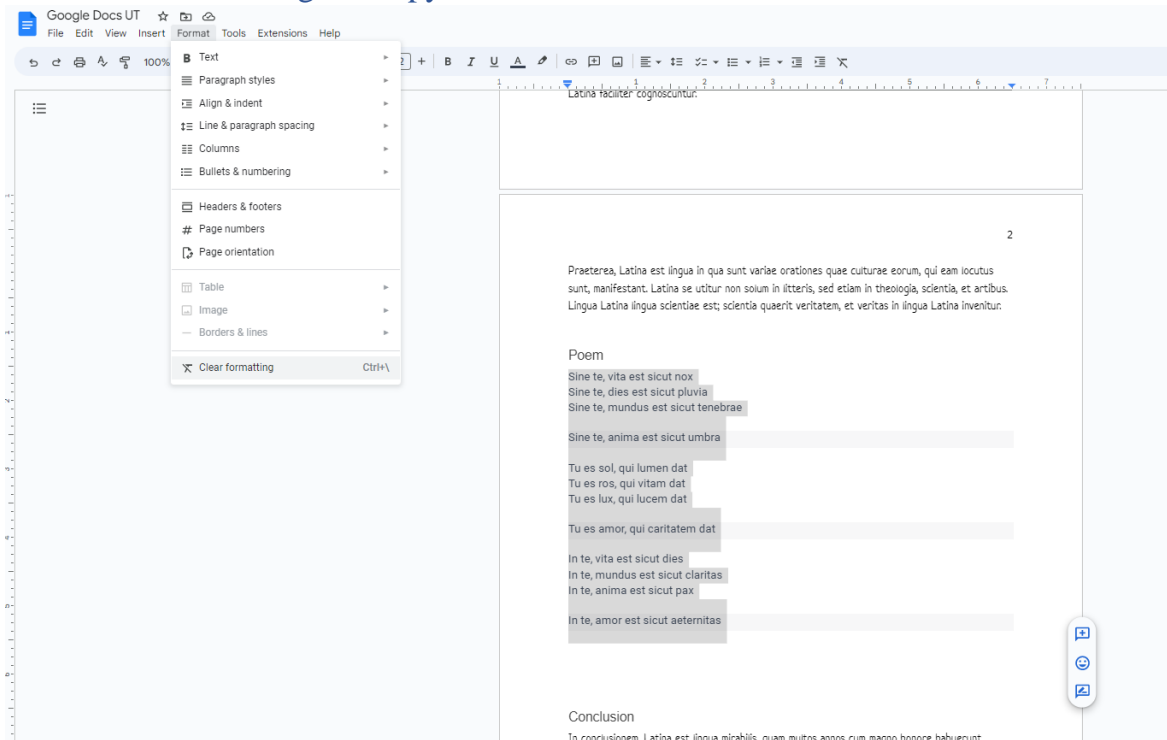


Figure 1. Task 1

The first task involved copying and pasting a poem written in Latin into the Google Docs paper. The poem was copied from a website and when pasted to the Google Doc, it held a different format of a gray highlight and different font. To reformat this text, I went to “Format -> Clear formatting”. If the user had previous knowledge of what functions were offered under the “Format” tab, then this would be a very easy task. However, without previous knowledge about the tab, then this task renders itself harder to complete, thus a less than perfect score of 22.

## Task 2: Add a Font that Looks Like the Author’s Handwriting

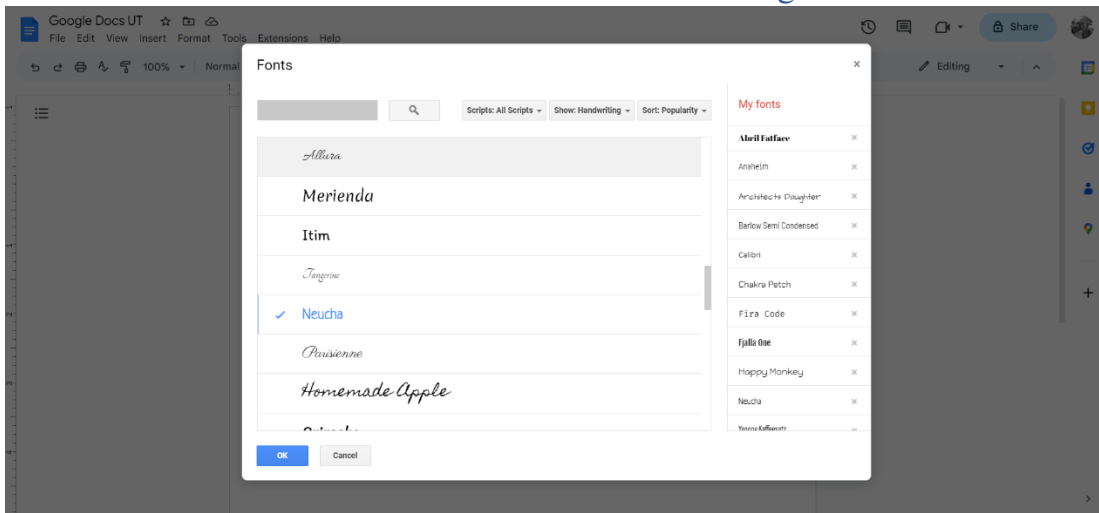


Figure 2. Task 2

The second task was to liven up the look of the “Lingua Latina” paper with a new font that resembled the handwriting of the author. However, a glance at the available fonts in Google Docs gives no result for a realistic handwritten font. The user may add a new font, however, with the “Add Font” feature. To do this, the user would click on the down arrow next to the font selection, then go to “Add fonts” at the top of the drop down. From Figure 2, we can choose between three filters. Using the filters requires trial and error as to what each does. Because of this, the task is not easy to learn how to do and renders a score of 19.

## Task 3: Add a Table of Contents in the Side Bar

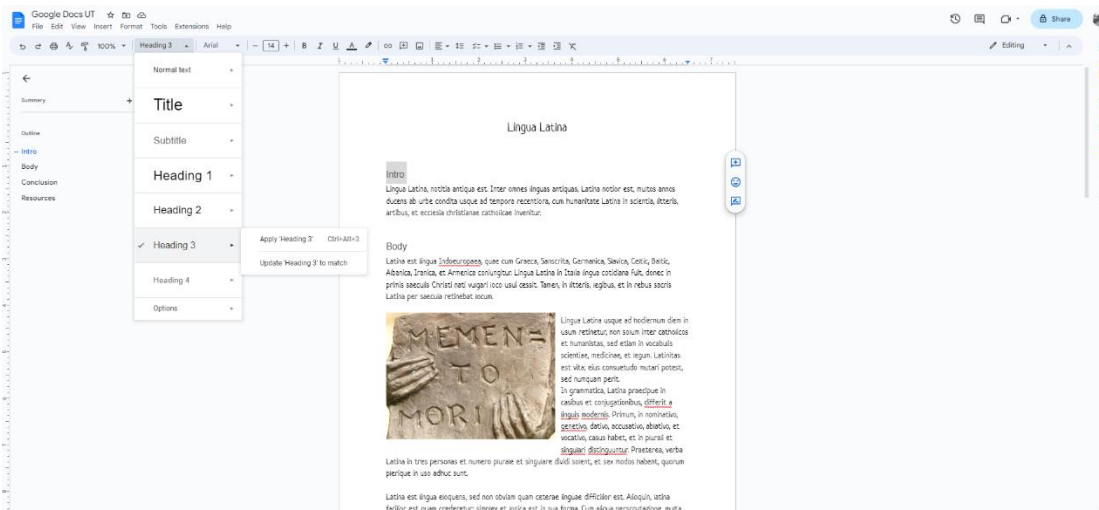


Figure 3. Task 3

This feature of Google Docs is incredibly helpful, but the user must know where to look to go to the “Table of Contents” side bar. This is done by clicking on three horizontal bars in the lefthand corner beneath the tool bar. Though somewhat hard to access, adding headers to the table of contents is straightforward. The user may select their desired text, go to “Normal text -> Heading 1/Heading 2/Heading 3” and, once clicked, text is automatically added to the table of contents.

Clicking on a heading in the “Table of Contents” bar will make the screen jump to that section in the Google Doc. Again, because of hard maneuverability the score for this task is 19.

#### Task 4: Add a Header Different from the First Page and Page Numbers

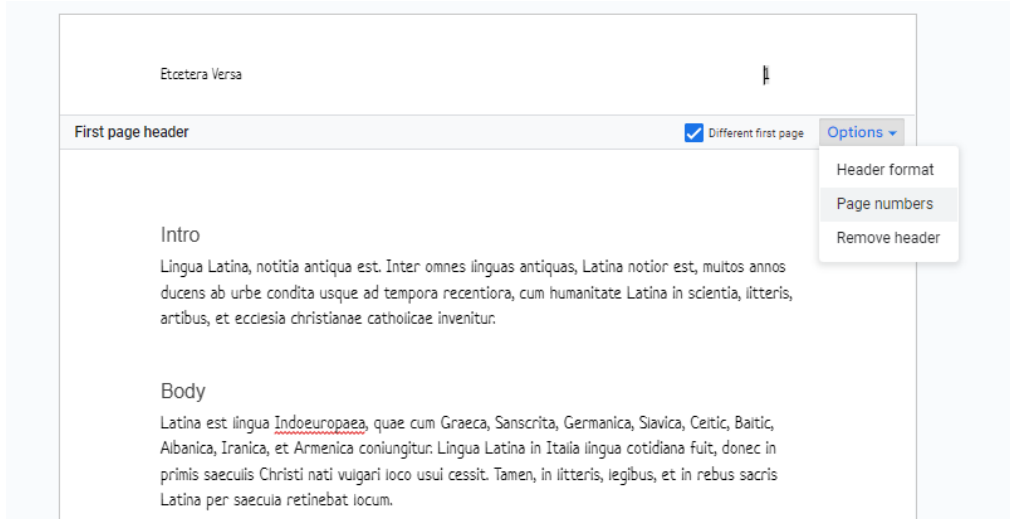


Figure 4. Task 4

To insert a header, the user must go to “Insert -> Header or Footer” and click on “Header”. From there, it is easy to right-align a name and then left-align for page numbers. Unfortunately, page numbers are not straightforward to insert. The user must highlight text or place their cursor where they would like to insert a page number, then go to “Options” and from the drop down select “Page numbers”. The page number will appear subsequently on all pages. To keep the header different from all other pages in the documents, user can easily click “Different first page”. Because of the page numbers, this task has a score of 18.

#### Task 5: Search for a Relevant Image to Insert

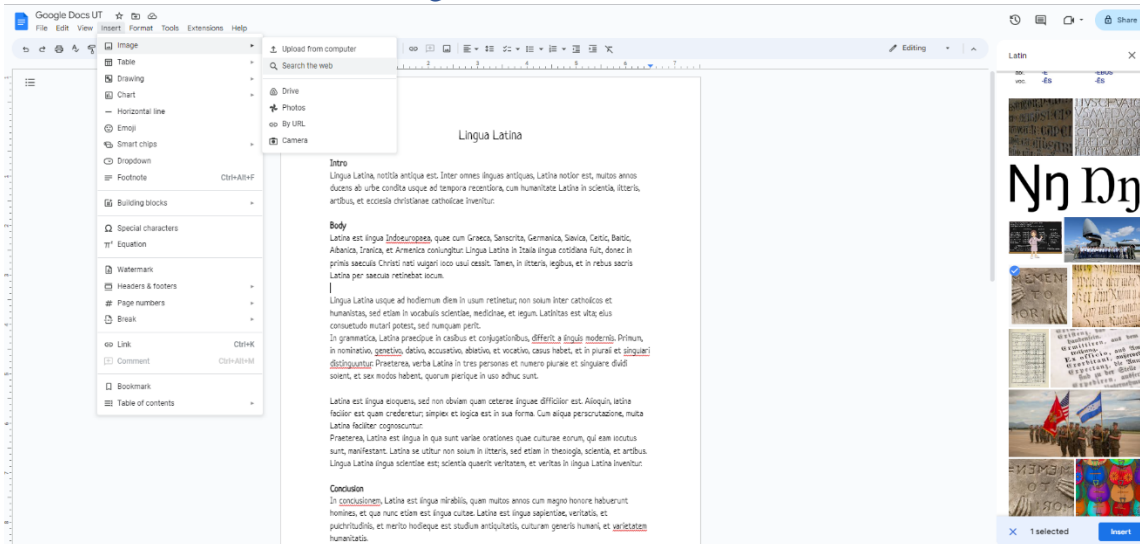


Figure 5. Task 5

Overall, one of the most useful and easy tasks to perform is inserting an image in Google Docs. This can be done by going to “Insert -> Image -> Search the web/Upload from computer” or

other places. However, the search tool in Google Docs gives immediate and creative results. Make your search in the search bar on the right and then click “Insert” to place your image where your mouse cursor is on the page. Most users should find they are comfortable with this feature if they have ever sent images via text message or email. Overall, this gives a perfect score of 25.

### Task 6: Edit the Inserted Image

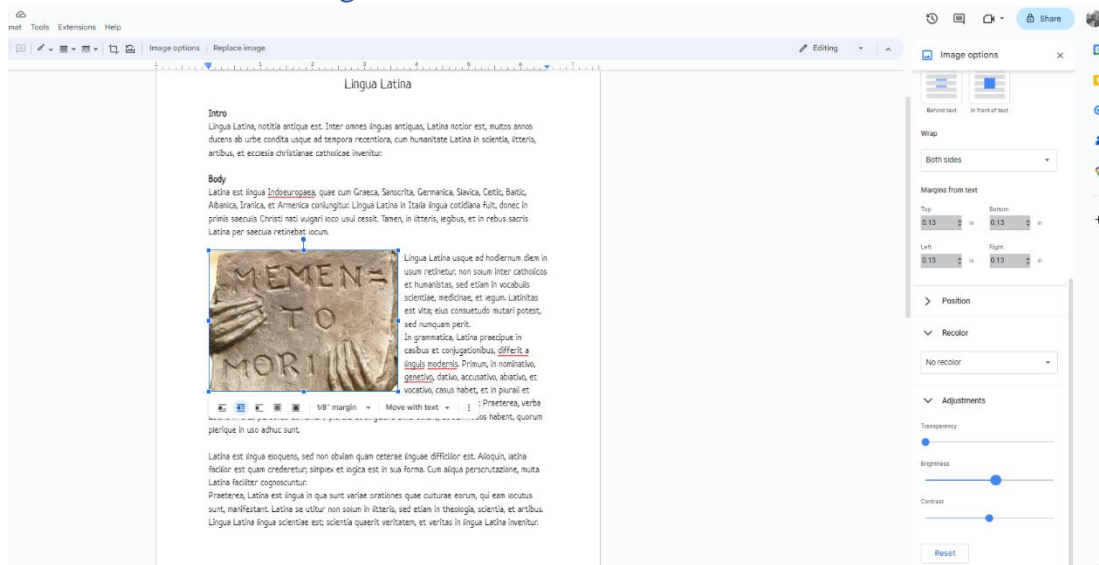


Figure 6. Task 6

To edit an image, either a right click on the image or by selecting “Image Options” in the top toolbar, a user is automatically given a right-sided toolbar with additional editing options. From this toolbar, a user can edit the size, position, color, contract, and brightness. By simply clicking on the image, the user can also choose different text wrapping options. Intuitive and simple, this task receives a score of 25.

### Task 7: Use the Explore Tool to Learn More About a Word

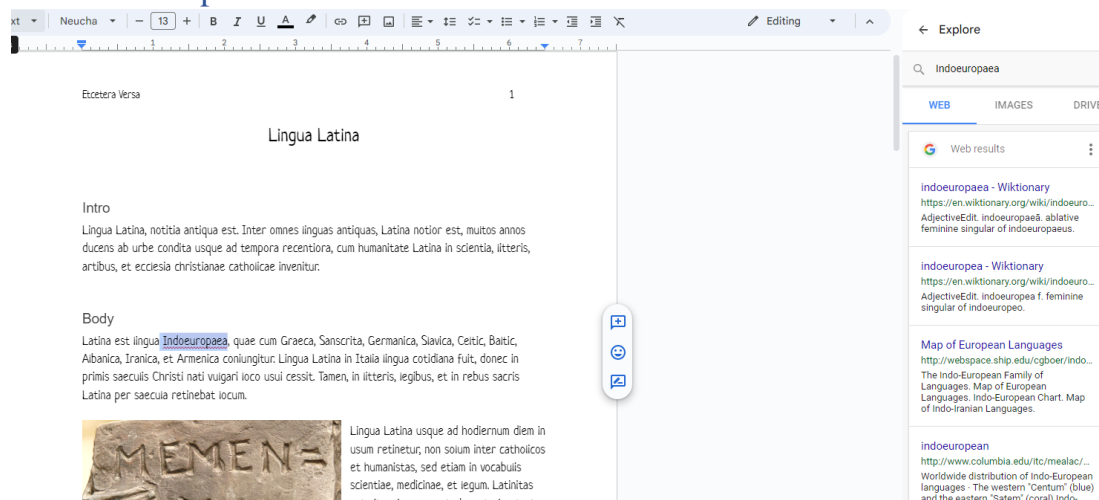


Figure 7. Task 7

If a user is a curious about the origins, definition, or other aspects of a word in a Google Docs, they can highlight the word and go to “Tools -> Explore”. From there, they are able to see what



the Internet has to offer about the specific word. Here, the user only needs to know to go to “Tools” to find the “Explore” option. However, there are times when Google searches for a word, but the word may be unknown or give ambiguous results. Because of this, the task scores a 22.

### Task 8: Indent the Resources/Works Cited Section

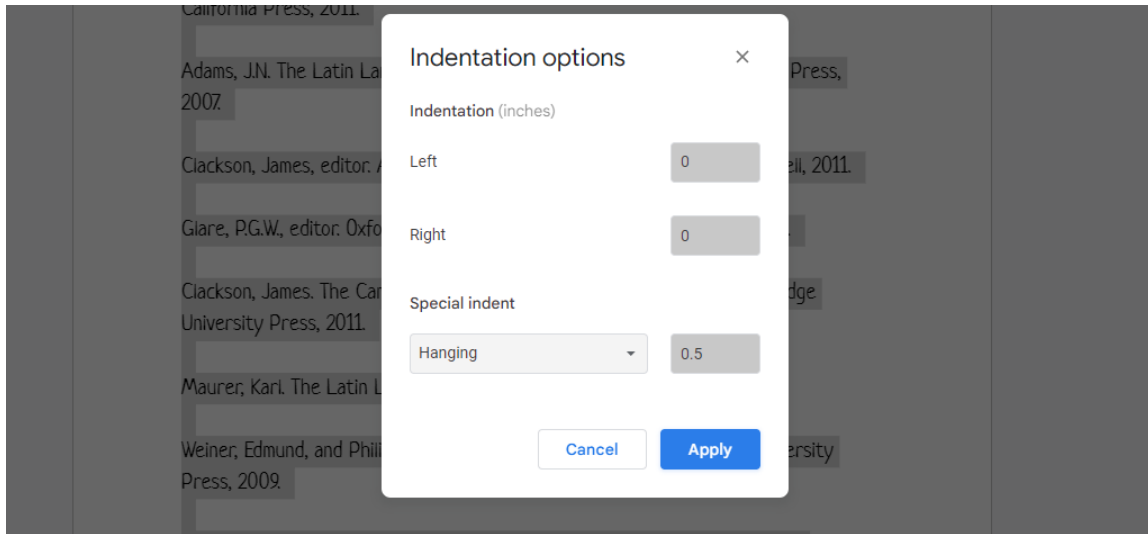


Figure 8. Task 8

In many cases, a Resources or Works Cited section will be formatted with a hanging indent. A user can select their Resources section and then do the following to get to the hanging indent option for text formatting: “Format -> Align & indent -> Indentation options”. Once in “Indentation options” the user can click on the dropdown box and select “Hanging”, as well as choose the size of the indent. These maneuvers are confusing, however, for a user that does not know what options are available in the “Indentation options” tab. Therefore, this feature of Google Docs makes the user spend more time learning where to find the “Hanging” option than is desired. This task’s score is 17.

### Task 9: Insert a Footnote

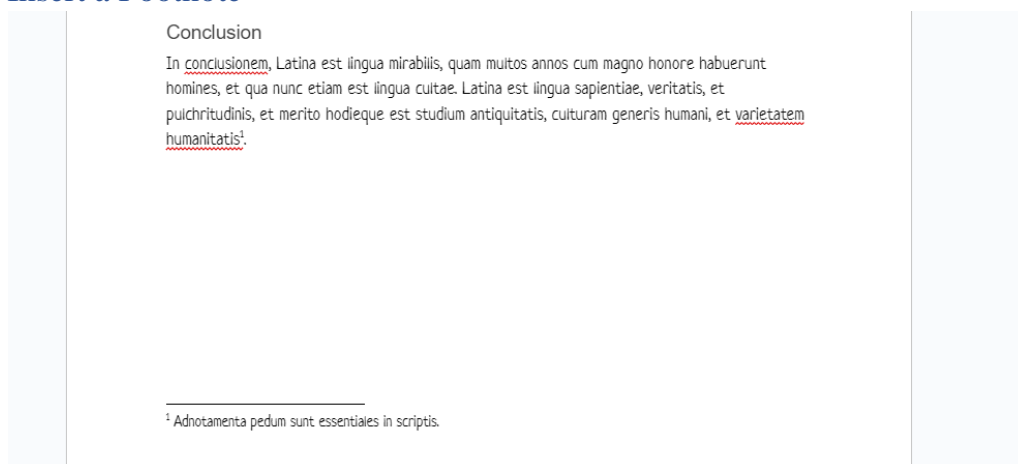


Figure 9. Task 9

Going to “Insert -> Footnote” will insert a footnote at the bottom of the page a user is on currently. The superscript starting the footnote is added automatically. What is not added automatically is the superscript within the body of the text. To make a footnote work, the number inside it corresponds to a word inside the body (in this case the Conclusion) of the paper. If the user does not know how to insert a superscript on a word, then the footnote has no word it defines. Inserting a superscript can be done by going to “Format -> Text -> Superscript”, which is an added step to this task and increases complexity for the user. This gives the task a score of 15.

### Task 10: Find and Replace Incorrect or Desired Text

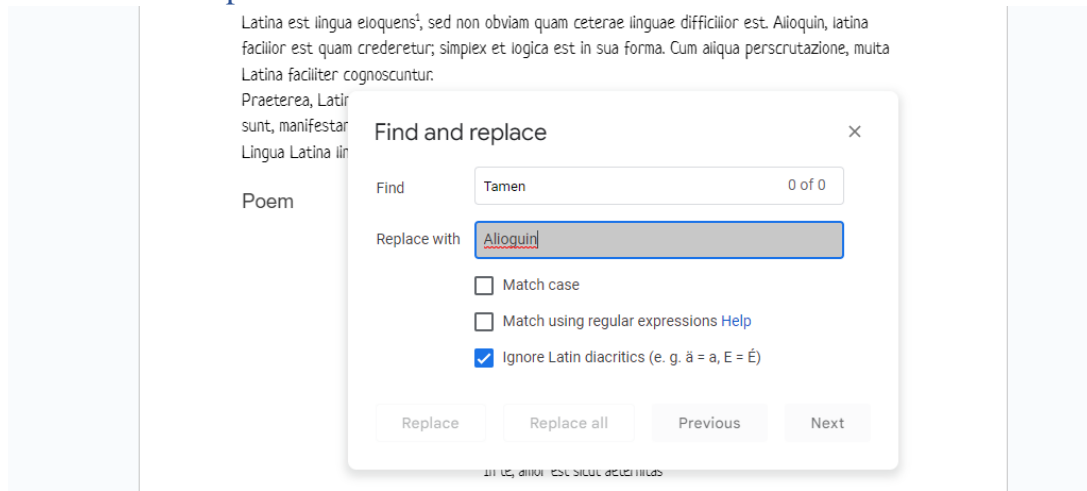


Figure 10. Task 10

If the user desires to replace a word or phrase in their paper, they may do so by going to “Edit -> Find and replace”. Two simple steps will give the screen as shown in Figure 10. This style and appearance allow users to learn quickly about finding and replacing desired text within their document. Additionally, this feature can be found beneath the “Edit” tab, which is intuitive for users. This receives a perfect score of 25.

### Task 11: Use Voice Typing Feature to Write Faster

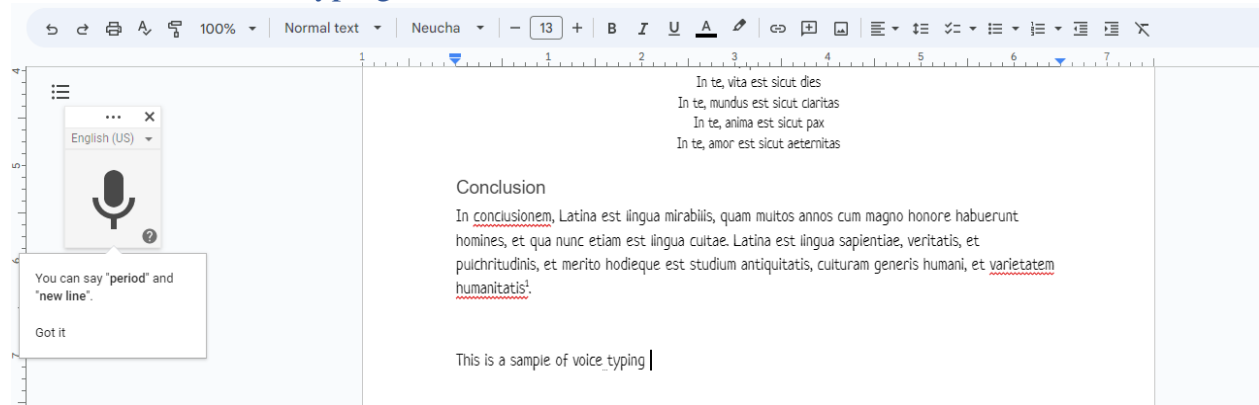


Figure 11. Task 11

When the user is short on time or is tired of typing, they may go to “Tools -> Voice Typing” and speak their words to life inside Google Docs. The speaker icon can simply be pressed to start a recording and pressed again to finish a recording. The dropdown button above the icon can be

used to choose which language you will be speaking in. Again, another perfectly scored and usable task.

### Task 12: Create a Nonstandard Text Substitution

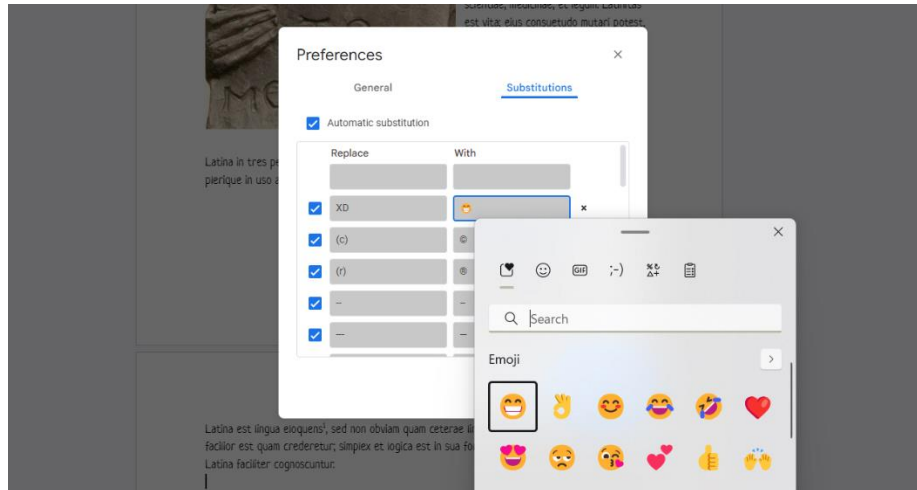


Figure 12. Task 12

Many users will want to be creative in their documents, and allowing users to add substitutions for certain characters or words is another feature of Google Docs. However, getting to the tool to do this is rather complicated and is not a known feature for users. To create or edit text substitutions, a user must go to “Tools -> Preferences -> Substitutions ->” then click on the substitution they would like to edit or click an empty box to add one. Logically, I thought I could find this option under “File” or “Edit”, but because “Tools” is not the immediate go-to, this is a harder to learn task. This gives the task a score of 16.

### Task 13: Use the Dictionary Tool

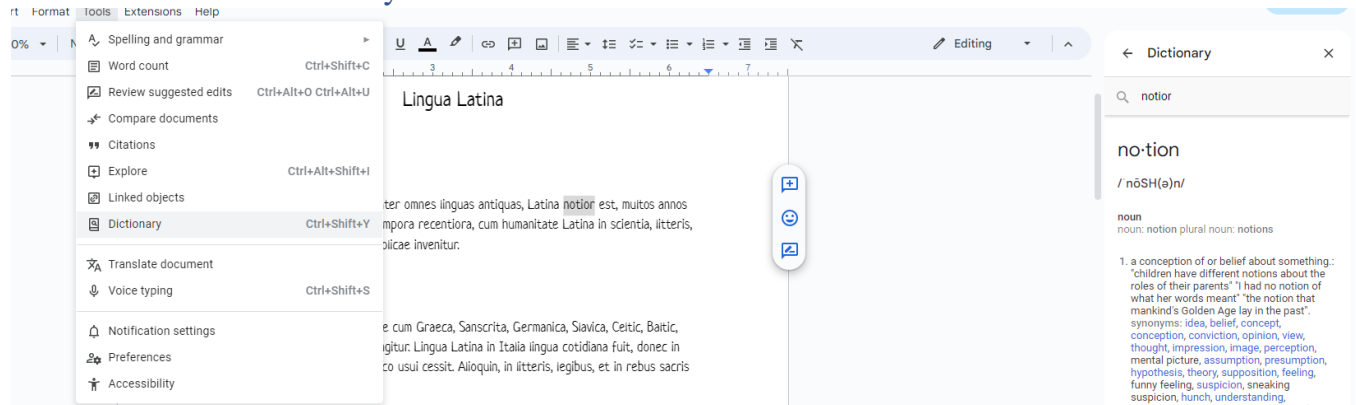


Figure 13. Task 13

Here, writing in a foreign language may mean the user needs help to understand a certain word’s definition. Fortunately, the dictionary tool under “Tools” is simple to use and gives a definition from the web. This works the same way as a Google search – if not easier. This task is scored perfectly.

## Task 14: Edit Foreign Language Text with Language Accents

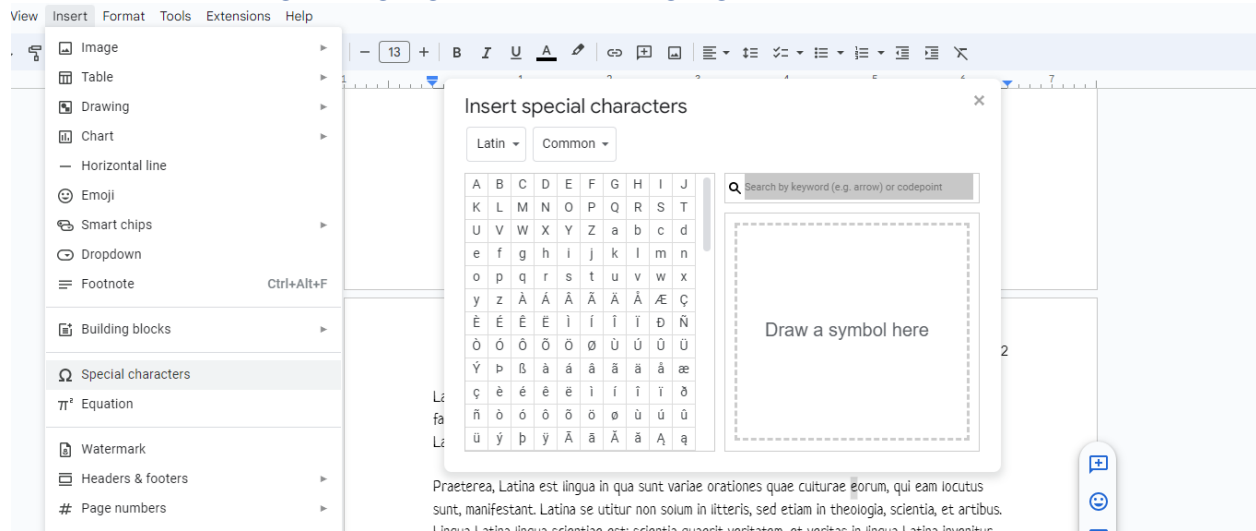


Figure 14. Task 14

Here is another example of needing a Google Docs feature when writing in a foreign language. To insert accents onto consonants or vowels, a user must go to “Insert -> Special characters” and then select their desired language from the dropdown on the top left. Though a somewhat more complicated process to complete, the functionality and versatility of the tool makes for exceptional user experience and effectiveness. Meaning this task scores a 21.

## Task 15: Revise Your Edits

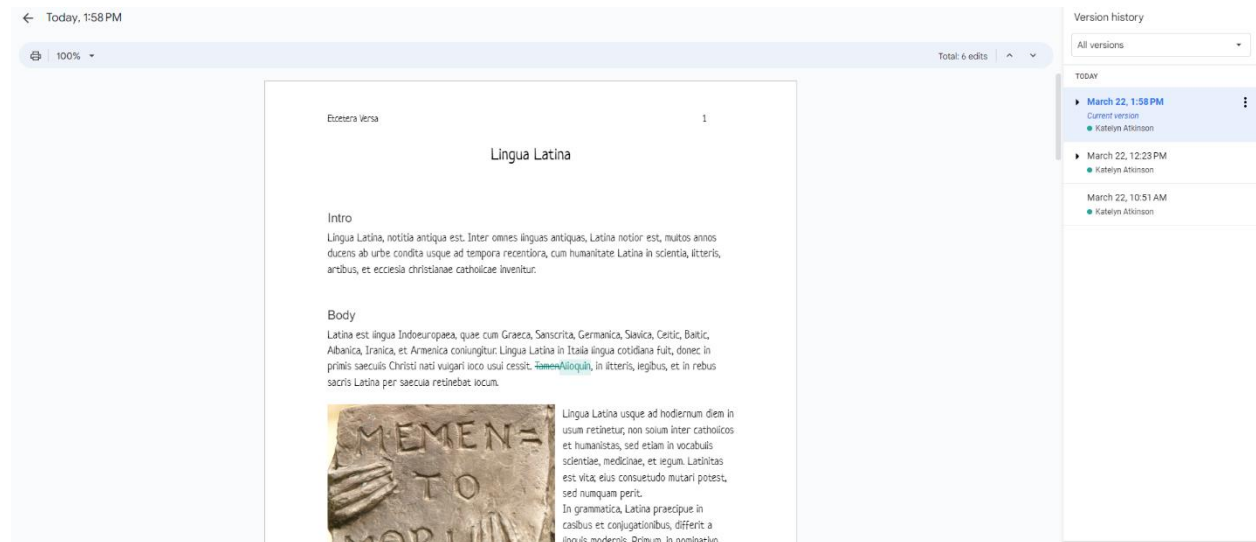


Figure 15. Task 15

As the user nears the end of writing their paper, they will need to make edits. Or, if they want to revert to a previous version of their work, going to “File -> Version history” can show them their previously saved versions. While this feature is nice and easy to use, only some of the previous changes to the document will be saved as options to revert to. This scores the task as a 20.

## Task 16: Sign the Document

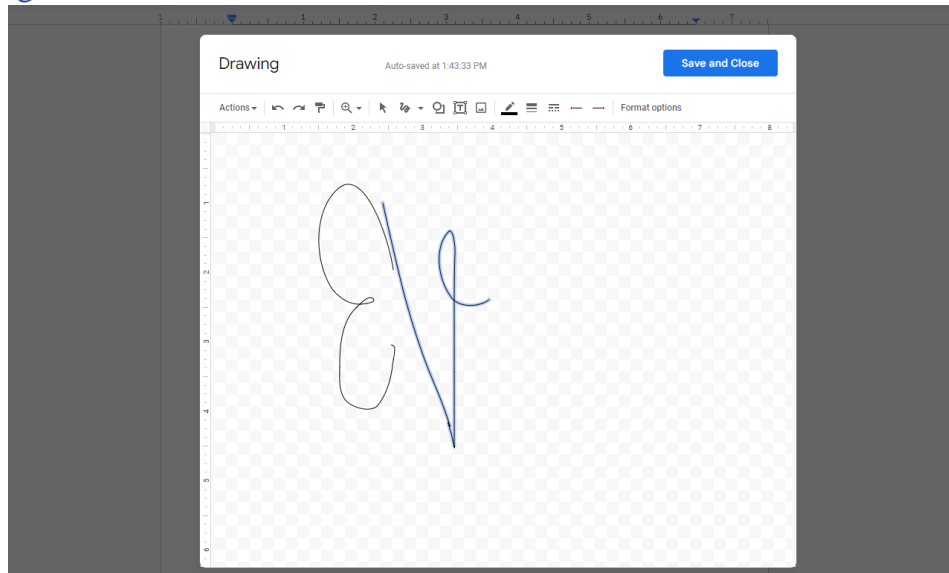


Figure 16. Task 16

Unfortunately, there is no explicit option for signing Google Docs. Instead, the user must know about the drawing option located in “Insert -> Drawing -> New -> Drawing”. This is hard to learn for users and has flawed execution because the mouse makes for a clunky signature. To sign the document when nearing its completion is a crucial task, but Google Docs lacks this ability for users uninclined to drawing with the mouse. Because of this, this task is scored an 11.

## Task 17: Date the Document

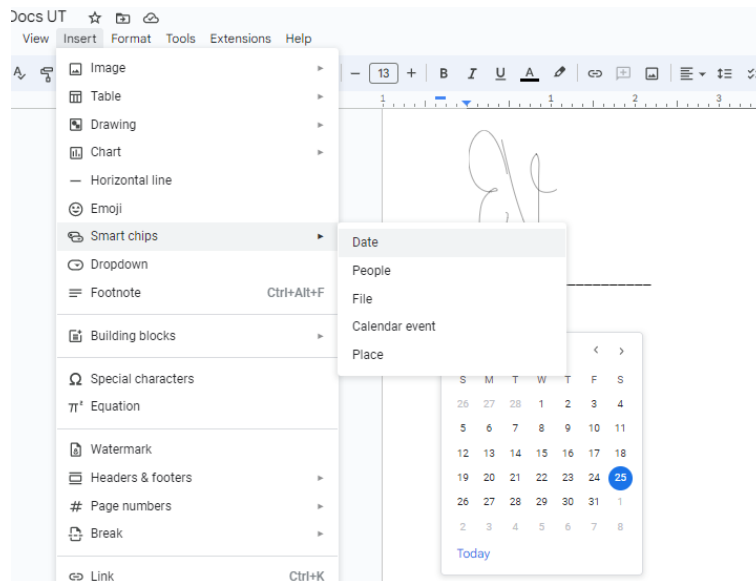


Figure 17. Task 17

To insert an important date into a Google Docs, a user can go to “Insert -> Smart clips -> Date” for the date feature. A new user may have a hard time discovering what the “Smart clips” option

has beneath it, but once learned, this feature works for many different dates and can be used easily in the header. For this reason, this task is scored a 22.

### Task 18: Share the Document

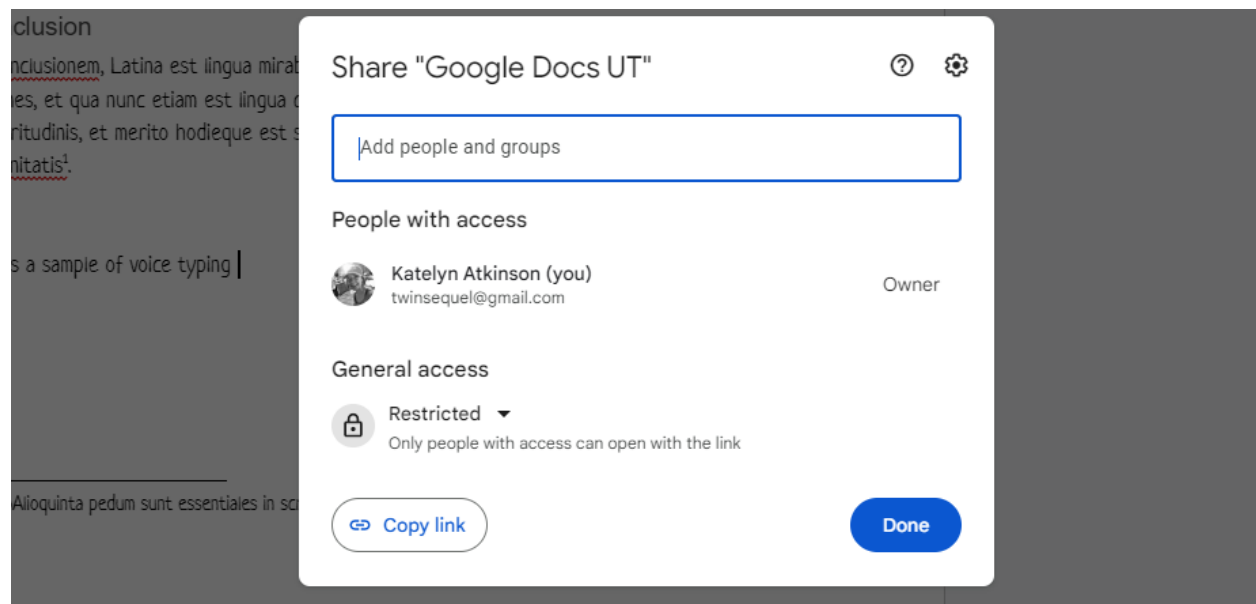


Figure 18. Task 18

Though an incredibly useful and helpful feature for sharing documents for either collaboration or proof reading, Google Docs sharing feature has a minor user flaw. Figure 18 depicts the sharing option for the “Lingua Latin” document. However, in order to share the document, you must have the other person’s email. If not that, you may have to use a “Public” option which allows anyone to access your document. The user’s desires to share their file a certain way may not be met with these features. Additionally, the sharing options may be hard to learn at first. This task has a score of 16.

### Task 19: Insert, Reply, Resolve, and Read Comments

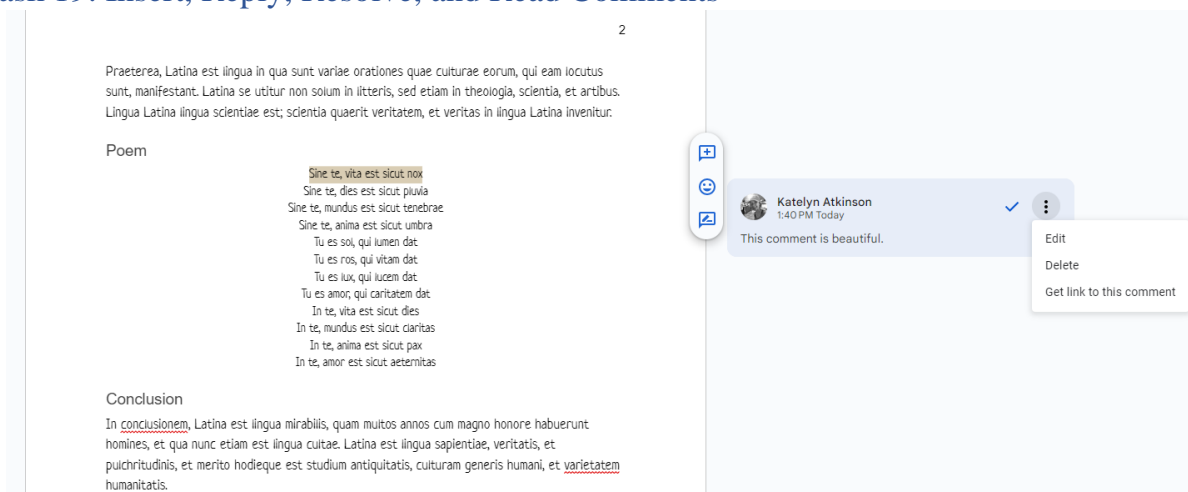


Figure 19. Task 19

Critical in receiving edits and making revisions are comments. Google Docs has a user-friendly and versatile tool for this. In Figure 19, a user reads comment on the poem from another user

(possibly editor). The comment may be resolved with the blue check mark, replied to with the three dots, or deleted. All can be done without clicking options from the topmost toolbar. This scores a perfect score.

## Task 20: Translate the Document Back to English

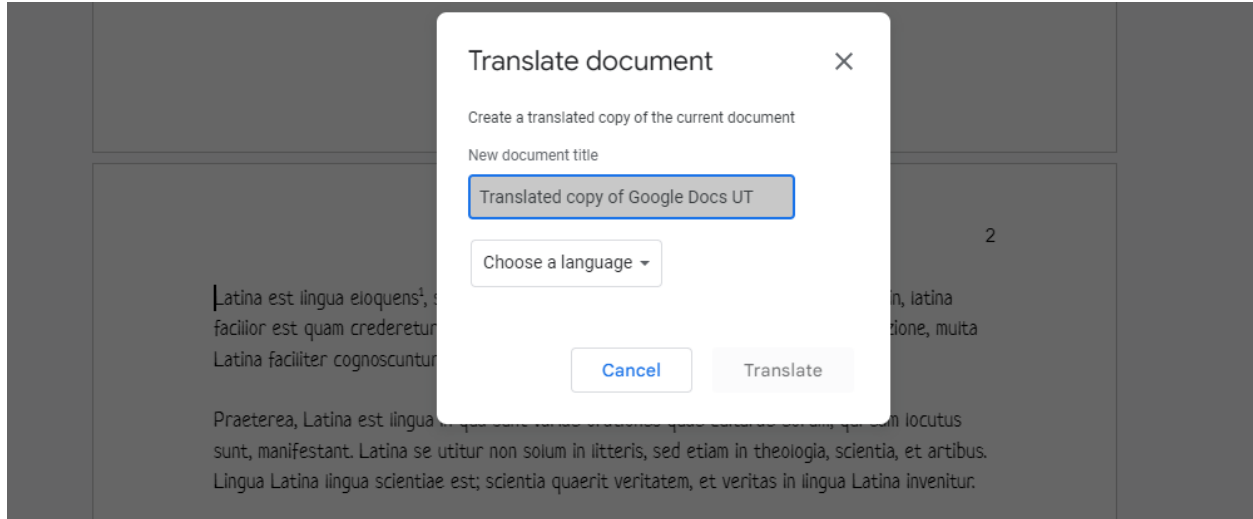


Figure 20. Task 20

At the end of the user's project, they wish to translate their paper to English. This can be easily done by going to "Tools -> Translate document". The user will be prompted as in Figure 20 and can save the translated document as a copy to their Google Drive. This preserves the original in a process easy for the user to comprehend and use. This final task receives a score of 25.

## Conclusion

In conclusion, we performed a cognitive usability test with a Google Docs-user, a student, who needed to write a paper in Latin using twenty features offered by Google Docs. I then ranked these features according to the five metrics of efficiency, effectiveness, engagement, error tolerance, and ease of learning. I found them to have an average rank of 20.65 on the Likert scale. Using the cognitive usability test and this average, a statement may be made about Google Docs having a good user-centered design. Figure 21 shows evidence that most tasks were completed with mid-range to high-range scaling. In the end, the student was successful in developing their final paper using Google Docs.

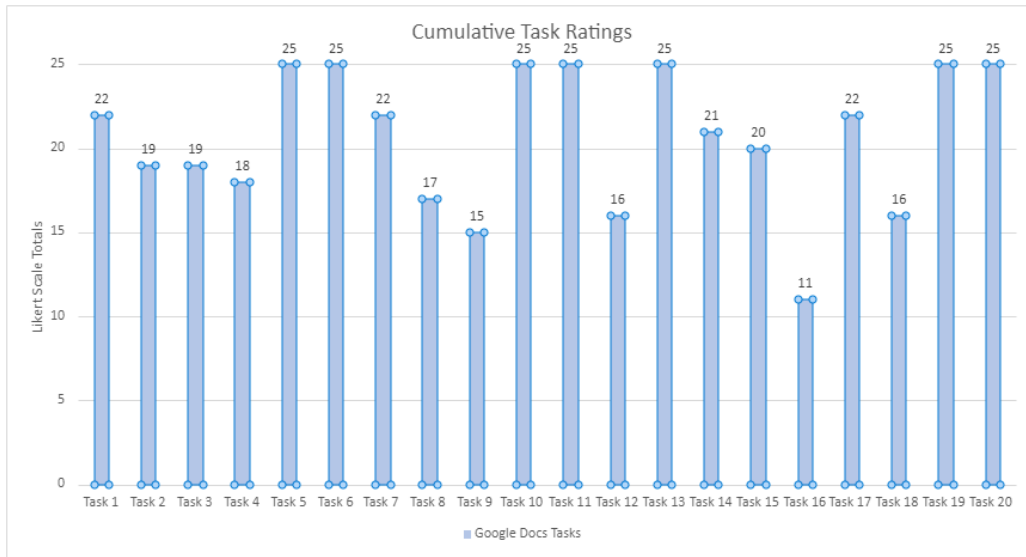


Figure 21. Evaluation of 20 Tasks Using the Five Metrics and Likert Scale

## Recommendations

For a novice Google Docs-user, some tools and tasks offered may not be easy to find. This was the case in inserting a signature, setting up text substitution, and adding fonts. In fact, in the case of signing a document, Google Docs offers no signature tool and instead relies on their Draw feature. While this works, the Draw feature is not easy to use for beginning users and may not be apparent to even intermediate users. Additionally, the sharing capabilities of Google Docs would be greatly enhanced if verification codes via other email or phone number could be sent when a document is publicly shared. This way, only those with the code can access the document. This would be particularly useful when only the phone number and not the Gmail of the other user is known.

## Bibliography

Google – retrieved from <https://google.com/docs/>

## Appendix

Tasks	Google Docs				
Task 1	Clear formatting on copy and pasted text				
Efficient	Was the task able to be completed using the features of Google Docs?				
	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
	1	2	3	4	5
Effective	Was the task completed within a reasonable amount of time using Google Docs features?				





Tasks	Google Docs				
Tasks	Google Docs				
Task 8	Identify the resources/works cited section				
Task 7	Use the explore tool to learn more about a word				
Efficient	Was the task able to be completed using the features of Google Docs?				
Efficient	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Efficient	Was the task able to be completed using the features of Google Docs?				
Efficient	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Effective	Was the task able to be completed using the features of Google Docs?				
Effective	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Effective	Was the task able to be completed using the features of Google Docs?				
Effective	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Efficient	Was the task able to be completed using the features of Google Docs?				
Efficient	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Engaging	Was the task able to be completed using the features of Google Docs?				
Engaging	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Engaging	1	2	3	4	5
Engaging	time using Google Docs features?				
Effective	Was the task completed within a reasonable amount of time using Google Docs features?				
Engaging	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Error	Did Google Docs have a style and appearance that was helpful to perform this task?				
Tolerant	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Tolerant	1	2	3	4	5
Tolerant	Did Google Docs have a style and appearance that was helpful to perform this task?				
Engaging	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Tolerant	Were there few times when your attempts to do this task in Google Docs failed? And if there were, was there a recovery method?				
Easy to Learn	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Easy to Learn	1	2	3	4	5
Tolerant	Were there few times when your attempts to do this task in Google Docs failed? And if there were, was there a recovery method?				
Easy to Learn	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Additional Notes	Additional Notes				
Additional Notes	1	2	3	4	5
Additional Notes	Was it easy to learn this task in Google Docs?				
Additional Notes	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Additional Notes	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Additional Notes	1	2	3	4	5
Additional Notes	some point and requires few steps to complete.				
Additional Notes	This tool has additional functionality, despite it being somewhat hard to learn.				
	Total = 6				
	Total = 25				
	Total = 21				

Tasks	Google Docs				
Tasks	Google Docs				
Task 16	Sign the document				
Task 15	Revise your edits				
Efficient	Was the task able to be completed using the features of Google Docs?				
Efficient	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Tasks	Was the task able to be completed using the features of Google Docs?				
Tasks	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Efficient	Was the task able to be completed using the features of Google Docs?				
Effective	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Effective	Was the task able to be completed using the features of Google Docs?				
Effective	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Effective	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Effective	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Engaging	1	2	3	4	5
Engaging	time using Google Docs features?				
Engaging	Was the task completed within a reasonable amount of time using Google Docs features?				
Engaging	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Engaging	time using Google Docs features?				
Engaging	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Engaging	1	2	3	4	5
Error	to perform this task?				
Error	Did Google Docs have a style and appearance that was helpful to perform this task?				
Tolerant	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Error	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Tolerant	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Error	1	2	3	4	5
Tolerant	in Google Docs failed? And if there were, was there a recovery method?				
Easy to Learn	Were there few times when your attempts to do this task in Google Docs failed? And if there were, was there a recovery method?				
Easy to Learn	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Easy to Learn	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Easy to Learn	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Additional Notes	1	2	3	4	5
Additional Notes	Was it easy to learn this task in Google Docs?				
Additional Notes	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Additional Notes	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Additional Notes	1	2	3	4	5
Additional Notes	corner allows for easy edits and deletion.				
Additional Notes	The translate option allows a copy of the original and the translation to be saved to the Google Drive. Few steps and easy to learn.				
	Total = 16				
	Total = 25				
	Total = 25				