



NEW ZEALAND QUALIFICATIONS AUTHORITY
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COMMON ASSESSMENT TASK

Level 1 Digital Technologies, 2019

91886 Demonstrate understanding of human computer interaction

Credits: Three

Achievement Criteria		
Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of human computer interaction.	Demonstrate in-depth understanding of human computer interaction.	Demonstrate comprehensive understanding of human computer interaction.

Type your School Code and 9-digit National Student Number (NSN) into the header at the top of this page. (If your NSN has 10 digits, omit the leading zero.)

Make sure you have the TWO video files.

Answer all parts of the assessment task in this document.

Your answer should be presented in 12pt Arial font, within the expanding text boxes, and may only include information you produce during this examination session.

You should aim to write between **800–1500 words** in total.

Save your finished work as a PDF file with the file name used in the header at the top of this page ("SchoolCode-YourNSN-91886.pdf").

By saving your work at the end of the examination, you are declaring that this work is your own. NZQA may sample your work to ensure that this is the case.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

INSTRUCTIONS

You are to watch a screen-capture video that shows a website's user interface, and then respond to all parts of the assessment task.

You may play, pause and restart the video as often as you need to. (The video has no sound.)

In your answers, you should use the snipping tool (Windows) or take screen shots (Mac) from the video to illustrate the points you make.

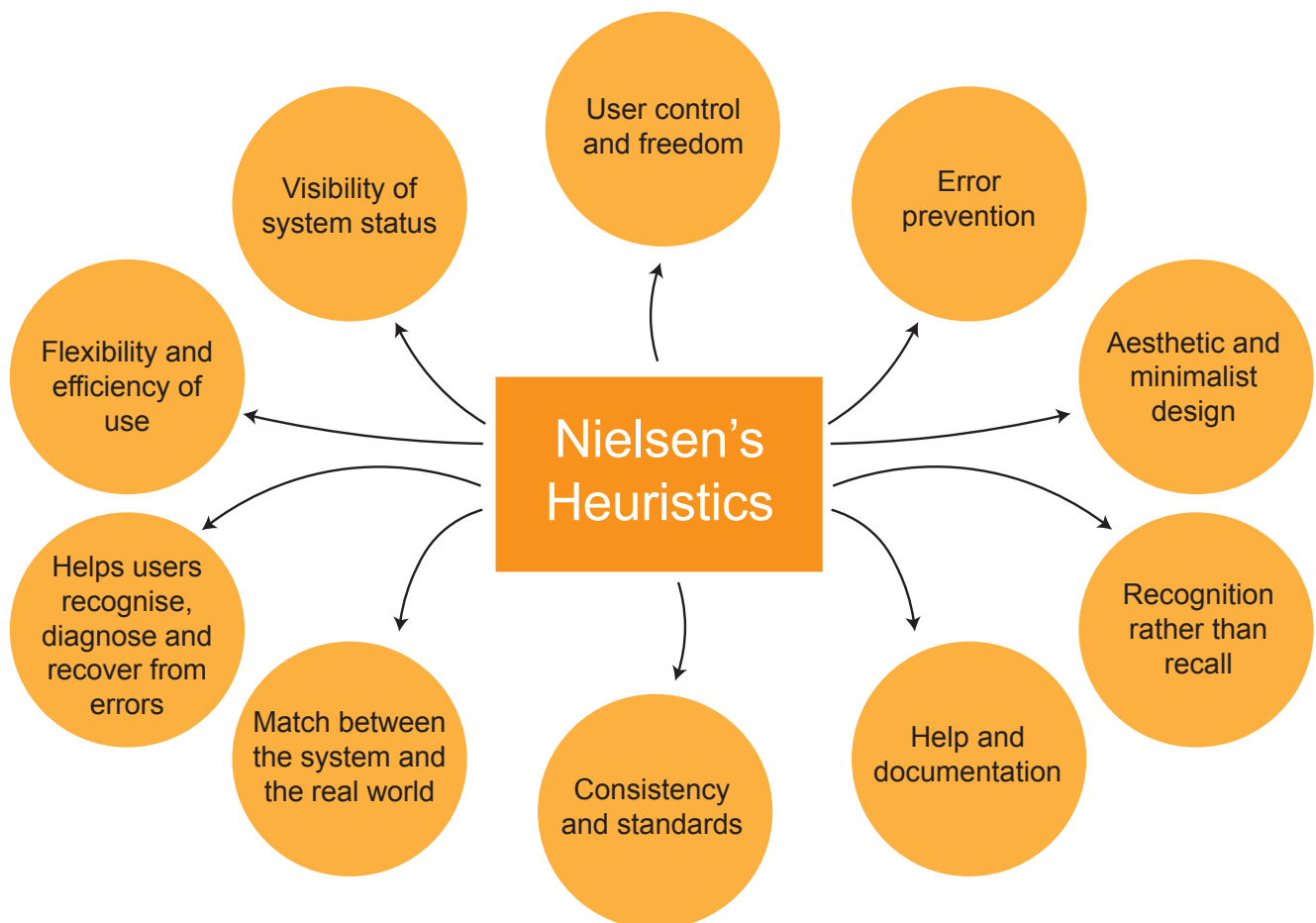
Read all parts of the assessment task before you begin.

From the two videos provided, type your chosen screen-capture video in the space below:

Google

Begin your answers on page 3.

RESOURCE: Nielsen's Heuristics



Source (adapted): <https://www.nngroup.com/articles/ten-usability-heuristics/>.

ASSESSMENT TASK

- (a) Describe the role of the interface of your chosen website.

Google is meant to be a file management system, that allows for the creation and use of files. It offers a variety of services, such as docs, drive, and Gmail, that manage text files, act as a file hub, and manage emails respectively, to name a few. Google tries to appeal to everyone but is most focused towards students, office workers, and really anyone who will need to manage a lot of files.

- (b) Identify examples from the interface that illustrate at least FOUR of Nielsen's Heuristics, which are shown on page 2. Illustrate your answer with screenshots from the video.

1/2) Visibility of system status/Error prevention

When the button to turn on location history has been clicked Google highlights that option blue for a second, then greys out the option and puts up a loading bar to let the user know that the site is loading (Visibility of system status). By greying out the option the user can no longer click, preventing the user from causing an error by clicking too many times (Error prevention).

Before click:

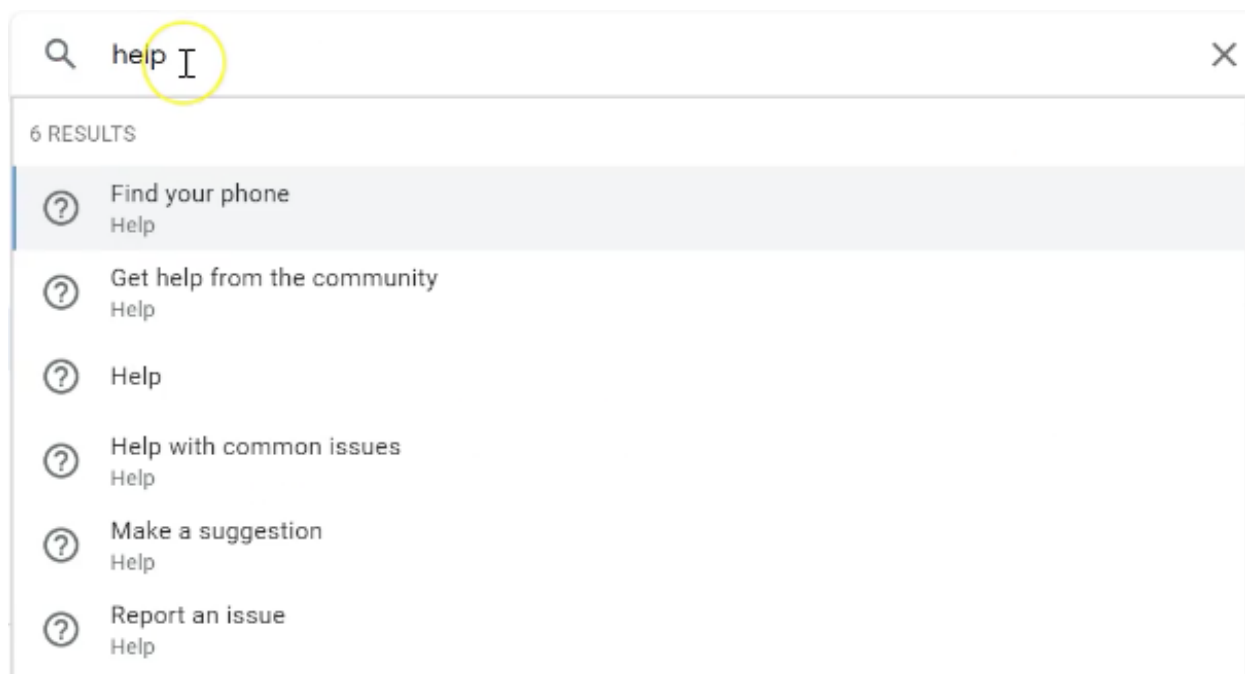
CANCEL TURN ON

After click: (wider shot to show loading bar)



3) Recognition rather than recall

Google has a search bar that will try to autocomplete the user's search. By removing the amount of information the user has to write, and therefore recall, Google shows Recognition rather than recall.



4) User control and freedom

Google allow the user to choose many things, like if they want their location history recorded. When signing up the user is given the option, but users can also navigate to the options to switch later. By allowing the choice Google shows User control and

freedom.

- ☒ Save my YouTube Watch History in my Google Account
- ☐ Don't save my YouTube Watch History in my Google Account

5) Help users recognize, diagnose, and recover from errors/Match between system and real world

When an incorrect field answer is entered Google identifies the error and tells the user where that error is, helping users recognize, diagnose, and recover from errors. Google also uses a red outline and text, this is because in the real-world red is seen as 'bad'.



! Please enter a valid date

And another example

! Are you sure you entered the right birthday?

- (c) Evaluate the effectiveness of the interface using Nielsen's Heuristics. To demonstrate an in-depth understanding, evaluation of more than FOUR heuristics is recommended. Illustrate your answer with screenshots from the video.

1-3) Visibility of system status, Error prevention, and Consistency and standards

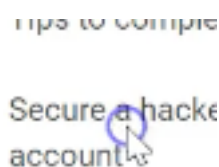
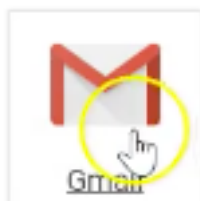


This is based off of option 1/2) from the question above. The loading bar that appears is both simple and very useful, it lets users know that the button has been pressed, as does the greyed-out options, and also that something is actually happening in the background (Visibility of system status). This is a very good feature.

The greyed-out options not being useable is also very useful and good for it's purpose. It prevents users from spamming the button and therefore creating errors (Error prevention).

However, a very bad thing that Google does with this is not using this consistently on their own site (Consistency and standards). When you click on Gmail for example this blue bar is not present and no options are greyed-out. This bar is used only in some cases and follows no clear pattern for the user, leaving them to think something wasn't clicked when it was.

Before to after, almost instant with no bar (also bad visibility of system status and error preventions for lacking the reasons above).

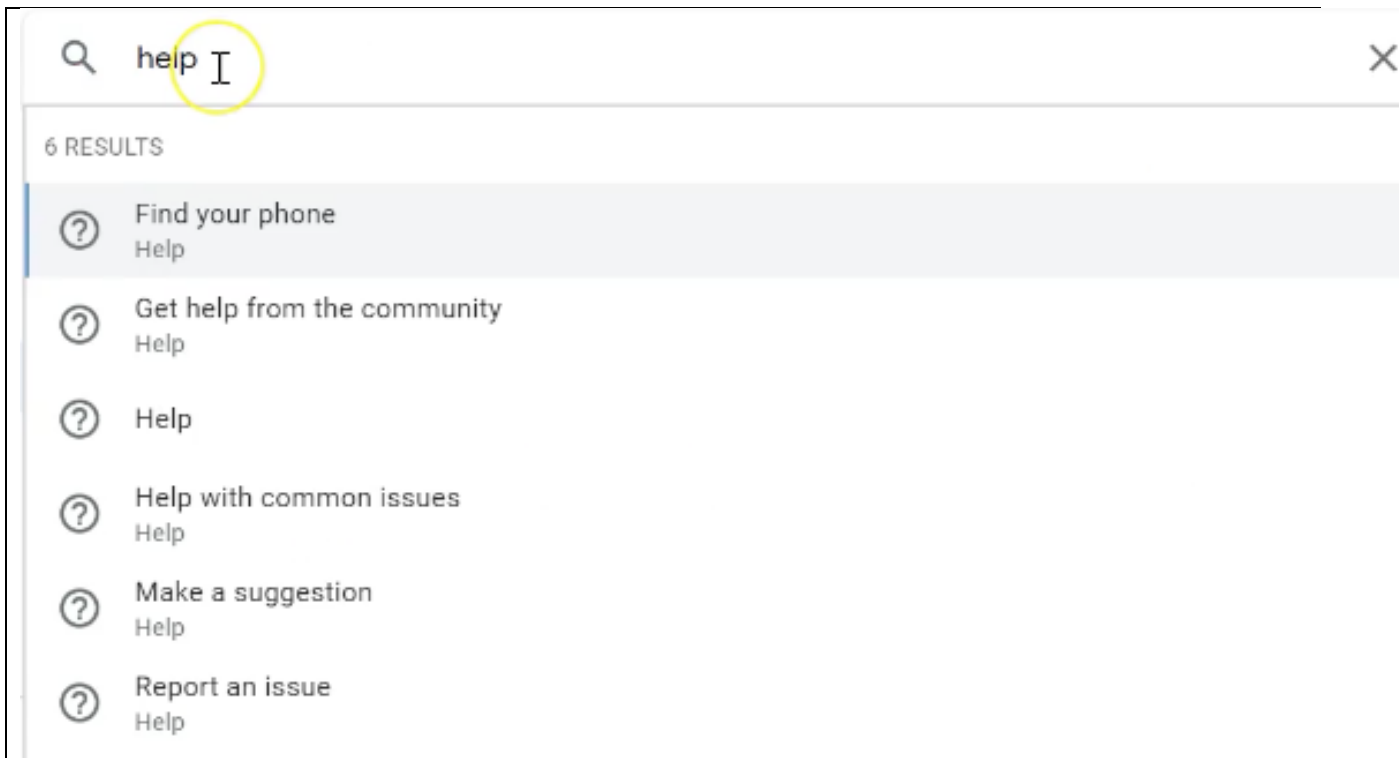


For this function overall, the loading bar and greyed-out text works well, but confuses users because it isn't consistent, It's good to have, but is bad as it isn't everywhere.

4/5) Recognition rather than recall, and User control and freedom

This is based off of option 3) from the question above. Google offers a list of autocomplete possibilities. This does offer recognition rather than recall, but not very well. The first thing that should have popped up should have been the thing that matched most closely with what they were searching, instead it offers an irrelevant option first, then a subset of the search, the search itself, and then three more subsets. It does it's job, but the results are arranged alphabetically which can confuse the user, and with small searches like this can cause the user to recall more than just searching.

Next is User control and freedom. When pressing enter the site assumes the user wants to search for the top result, which is clearly not the case and removes control from the user in a frustrating way that actively sabotages the user's search. A very bad feature.



5/6) User control and freedom, and Aesthetics and minimalistic design

This is based off of option 4) from the question above. The good thing that Google does here is that they allow the user to choose between multiple options. This allows the user to choose if they want that feature, showing good use of User control and freedom.

In this case Google shows little to no Aesthetic and minimalistic design. There are blocks of text for each option, Google offers a drop-down menu for the options, but even with that there is a mass of text above, and then a paragraph for each option. Poor design, too much text taking up the screen. (Images found below. Images side by side, second image is below the first on the site).

Privacy and Terms

Combining data

We also combine this data among our services and across your devices for these purposes. For example, depending on your account settings, we show you ads based on information about your interests, which we can derive from your use of Search and YouTube, and we use data from trillions of search queries to build spell-correction models that we use across all of our services.

You're in control

Depending on your account settings, some of this data may be associated with your Google Account and we treat this data as personal information. You can control how we collect and use this data now by clicking "More Options" below. You can always adjust your controls later or withdraw your consent for the future by visiting My Account (myaccount.google.com).

MORE OPTIONS 



Ads Personalization

Google can show you ads based on your activity on Google services (such as Search or YouTube), and on websites and apps that partner with Google.



Show me personalized ads



Show me ads that aren't personalized

7/8) Help users recognize, diagnose, and recover from errors/Match between system and real world

The error message is a little bit bad, it waits until the form has been entered until the error is pointed out, and the message isn't very descriptive either, the most helpful thing it does is show you where the error is.

The real-world match is good it help users to understand that something has gone wrong and will need to be fixed.

- (d) Compare and contrast the interface in terms of Nielsen's Heuristics with another interface of your choice. This second interface could be from the other screen-capture video provided, or an interface you have studied.

All comparisons are to Microsoft Office unless otherwise stated.

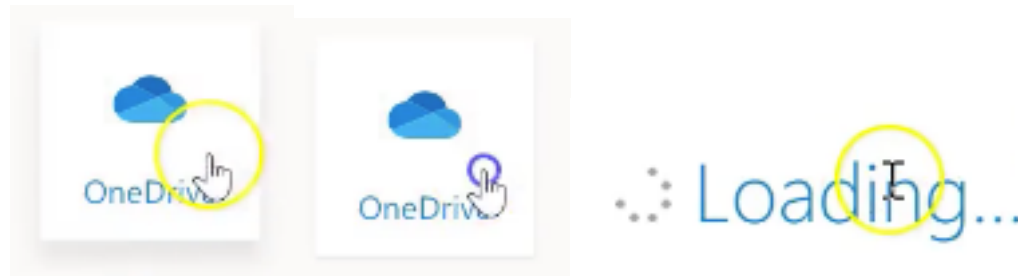
1/2) Visibility of system status, and Consistency and standards

In Office when the user's mouse hovers over an option the option is clearly highlighted with a drop-shadow or colour (sometimes both), and when clicked is 'pressed' changing colour, or removing the drop-shadow leaving a border. And there is a loading wheel and sometime the word 'loading' when control needs to be taken away for error prevention. All this lets the user know that they've clicked, and something is happening. The event is not exactly the same all over the site, but they have the design listed. Google only have an inconsistent loading bar that doesn't show up always, therefore Microsoft have much more consistency and standards and also Visibility of system status than Google.

Before click.

After click

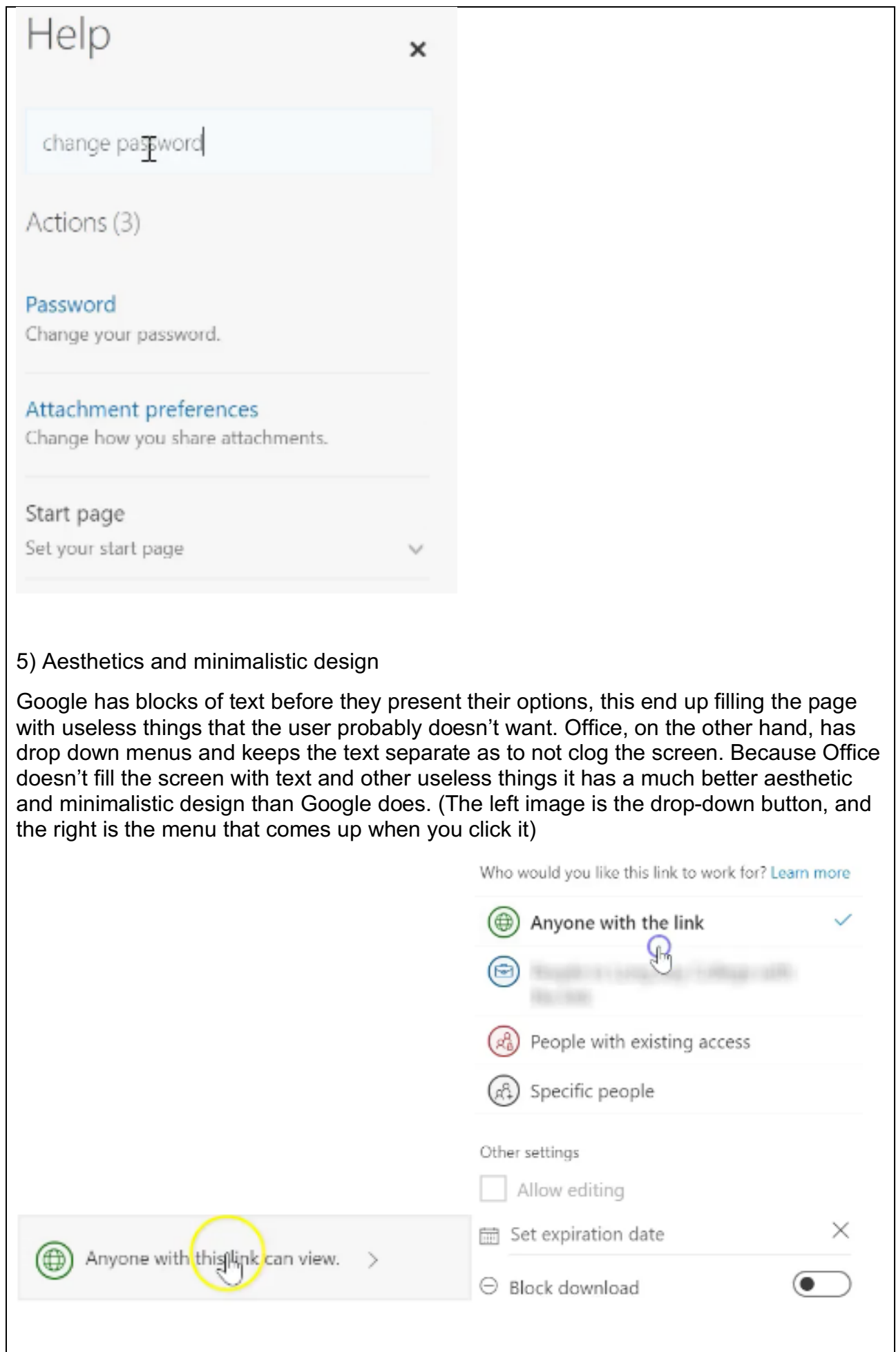
When control needs to be taken



3/4) Recognition rather than recall and User control and freedom

In Office when you search (in help) the autocomplete sorts by relevance rather than Google does in alphabetical order. This simple change of having the results order differently lacks a lot of the downsides Google's search has, users won't have to search for their query. Users generally look at the first result while typing, so if the first result isn't relevant they will keep typing, requiring more memory than if they saw the result and clicked. They both have a good autocomplete, however by ordering by relevance Microsoft has a much better Recognition rather than recall experience for users.

When enter is pressed and the users have not selected an option Google assumes you want the top autocomplete, which isn't that relevant. Compared to Office, which does not assume, Google removes a lot of user control and freedom. (Image below)



5) Aesthetics and minimalistic design

Google has blocks of text before they present their options, this ends up filling the page with useless things that the user probably doesn't want. Office, on the other hand, has drop-down menus and keeps the text separate as to not clog the screen. Because Office doesn't fill the screen with text and other useless things it has a much better aesthetic and minimalistic design than Google does. (The left image is the drop-down button, and the right is the menu that comes up when you click it)

6) Error message

Grammarly does this a similar thing, that's better than google by preventing an error from happening in the first place instead of a leaving a bad error message after entering. Grammarly highlights the error and tells the user possible ways to fix it and also offers an auto fix to the problem, while Google only says 'there is an error here'.

- (e) Use the comparisons you made in (d) as a starting point to recommend possible improvements to your chosen interface. Justify your recommendations in terms of Nielsen's Heuristics.

1/2) Visibility of system status and Consistency and standards

The fix to google problem is pretty straight forward. They need to add a loading bar of some kind when switching sites before the site has switched (Visibility of system status). This will let the user know that they have actually clicked on the other site.

They would also need to extend their current loading bar all over the site. Currently it is in only a select few places which can end up confusing users more than no bar at all. If they added the bar all over the site it would be clear something is happening and also stick to the concepts shown to users when an account is made (Consistency and standards).

3/4) Recognition rather than recall and User control and freedom

This is another simple fix. Google needs to do two things, the first of which is to order by relevance instead of alphabetically. This allows users to rely on the recognition of the computer rather than their own recall.

The second is to add a page after the users press enter that lists the autocomplete options a some more, to allow them to press enter without being whisked away to another unrelated help page. This will help with the control and freedom the users feel over the site, ultimately increasing satisfaction.

5) Aesthetics and minimalistic design

In order to not clutter the screen with unnecessary things, Google should add drop-down menus for either the text or the whole option itself, reducing clutter and making a more minimalistic design.

6) Error messages

Google could point out errors before the results are entered, and offer actual fixes instead of just saying there is an error.