

**Accessible Research Dissemination Through Data Visualization:
Infographic Templates and Creation Guide**

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Infographic Creation: Disseminating Qualitative Research Through Accessible (and Attractive) Infographics

Infographics, or information graphics, are graphic visualizations that combine data, illustrations, text, and images to tell a “story” (Dunal and Lowenthal, 2016). The “story,” or content, of an infographic can vary, as they are frequently used as a vehicle to share health information, news stories or, more recently, as a way to disseminate academic research. While infographics are used to share all kinds of information, the goal behind their creation largely remains the same – to present information in a way that is easy to understand while being engaging and attractive (Gareau et al., 2015). Research is often dense and, because of the specialized language used, exclusionary and inaccessible to those outside of the specific field of study. Infographics, therefore, can be thought of as an alternative to classic modes of research dissemination. Creating a successful infographic, though, is not always easy, as presenting complicated and dense content to an audience takes time and effort (Dunal and Lowenthal, 2016).

Creating an infographic for a research article, specifically a qualitative research article, is, therefore, an aesthetically-pleasing and accessible way to share research with a wider audience. But, as mentioned above, it is not a simple process and certain considerations must be made throughout the various steps of infographic creation. This document includes a **guide** that may assist in the creation of infographics, two editable **templates** that provide a visual representation of the included guide, and a **suggested reading list**.

Infographic Creation Guide

What should you consider **before** creating an infographic?

Who is the intended audience?

Before you begin designing your infographic, think about who you want it to reach and if there is a specific community, or group of people, you'd ideally want to share the graphic with. Making decisions with the audience in mind will help you to create a better, more effective infographic, as you can cater to their specific interests and needs. For example, consider what aspects of the research article are most relevant to the audience and if there are any specific accessibility considerations to keep in mind.

What narrative approach is the most fitting?

Thinking about narrative approach early on will ensure that the graphic is logical and appropriate – both in terms of audience AND accurately sharing the source material. An explanatory narrative approach is typically the best fit for an infographic based on a research article. An explanatory approach means that the infographic is not created to persuade the audience or put forth judgement, but to educate the audience about a specific topic or area of research. On the other hand, if appropriate, an editorial or persuasive narrative will insert value judgements and aim to influence the reader.

What information should be pulled from the research article?

Infographics, in the grand scheme of things, are fairly small documents. This means that you have to be selective when determining what you will (and will not) include. In terms of research articles, it can be helpful to consider the specific sections of the article and the kind of information found within them.

- *Introduction and Methodology* – Research articles typically begin with an Introduction and, preceding it, a Methods / Methodology section. While important to note the key points from these sections, they are not the most pressing and should be given limited space within the infographic. Don't focus on "setting up" the article, as you'll want to get into the more pressing details sooner than later.
- *Findings* – Next, most research articles will delve into their Findings. This section should be featured more heavily within the infographic, as it is where lots of relevant (and, arguably, the most interesting!) information will be found. This section may include data of various kinds (quantitative and / or qualitative) and you should be prepared to parse through it to determine what you want to feature within the infographic. This data can be used to inform the visual elements you create, so take note of *what* information you will include and *how* you will include it (visual and / or text).
- *Discussion and / or Recommendations* – These sections often contain crucial information that should be highlighted within the infographic. Be sure to condense this information without losing meaning and to dedicate an appropriate amount of space to these sections.
- *Conclusion* – The Conclusion sums up the previous information and can be kept brief, as the information found in the Conclusion reinforces what has been previously stated. Depending on the research itself and the amount of space you have, you can try and emphasise some key points at the end of the graphic. This can assist with comprehension and memorization, as it will be the last bit of text that the viewer will read.

This is a useful guideline to ensure that the reader is left with the most salient points and is not overwhelmed with additional, and unnecessary, information. Infographics should not be overly text-heavy or include *everything* found within a research article.

What should you consider **during** the creation of an infographic?

Is the layout of the infographic logical, clear, and complimentary to the research?

The layout is more than just an aesthetic concern – it can have an impact on the reader’s ability to comprehend the information presented to them. Because of this, it is important to create a layout that is logical (and clear) in its organization. Design a layout that supports natural eye movement (left-right, up-down) and aim for balance – either symmetrical or asymmetrical. Lastly, be sure to use white space to enhance the layout and highlight the information that is most important. While creating the layout *reference the key information* pulled from the research article and note which sections may need more space within the infographic.

Are you using plain and clear language?

As discussed above, a key step in preparing an infographic is to parse through the research to determine what information should be featured. But, before incorporating this information into the infographic, it is important to consider the language used. Research articles are often created with a specific audience in mind – other academics or researchers in the field. Due to this, research articles may include specialized terms or jargon. Think about how you may be able to alter this language, so it is “plain,” clear, and appropriate for an audience who is likely unfamiliar, or only has base-level knowledge, of the topic. If plain language translation is not possible, which may be the case for a variety of reasons, be sure to include additional context or even definitions. If you do not take the time to do this, the infographic may be incomprehensible and, overall, inaccessible.

Try to keep sentences short and concise. Text-heavy infographics that have long, run-on sentences can deter readers, as they seem overwhelming, unapproachable and, simply, too dense. Aim to write any text within the infographic at a Grade 7 reading level (this can be tested through online software and even Microsoft Word).

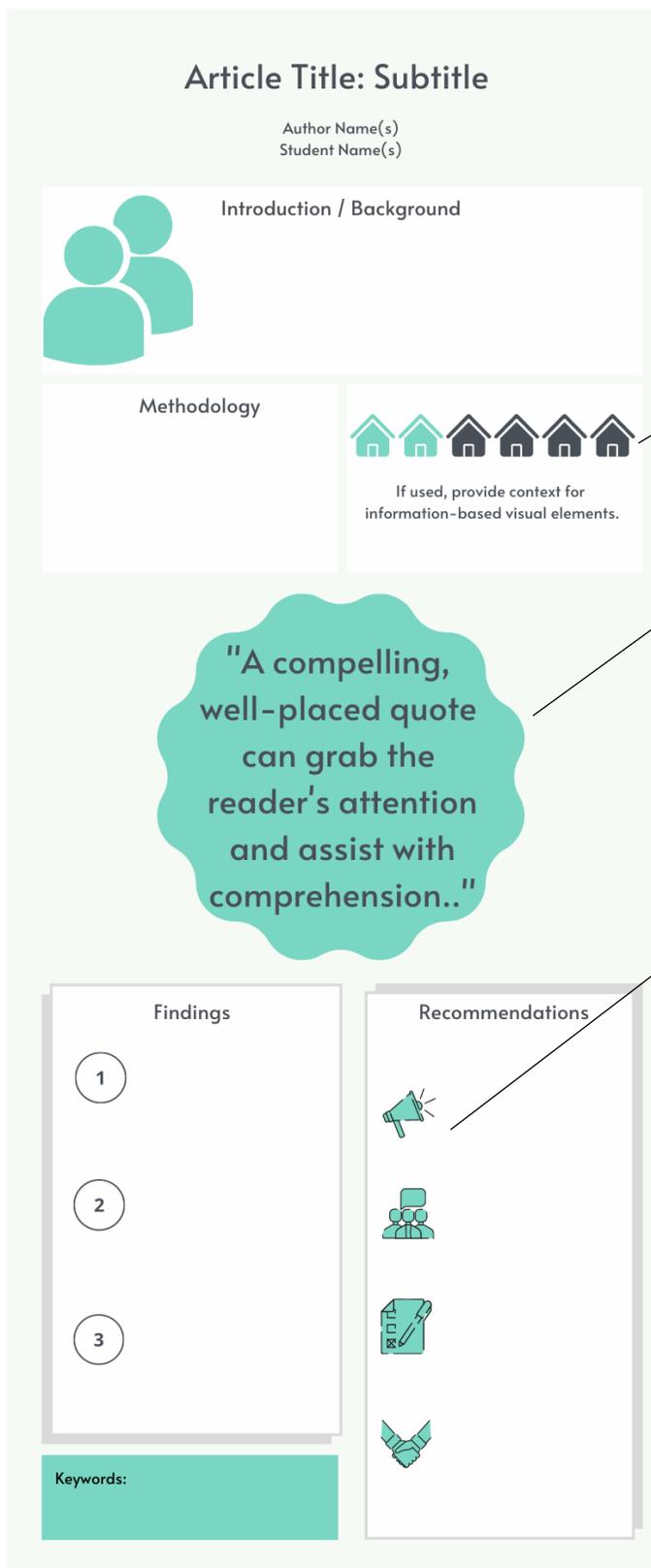
How are you using information-based visual elements and decorative visual elements?

Qualitative research, by nature, will have less data to convert into information-based visual elements (charts, graphs, etc...). Of course, depending on the research, there may be some information that can be converted and presented in such a way and this is a key aspect of infographic design. Decorative visual elements can also be included within the infographic and, while they may not necessarily add information, they can highlight, or support, written text. Keep in mind that too many decorative elements can be distracting.

Are you consistently using one typeface palette and colour palette?

Choose a colour palette and typeface palette and stick to it. For colour, choose 4-5 contrasting and complimentary colours that will contribute to an attractive infographic. Keep accessibility in mind and avoid the following colour combinations, as they can be hard to differentiate - red/green, brown/green, purple/blue, and blue/green.

Likewise, choose one sans-serif typeface (as they are easier to read) and try to adhere to the following size guidelines: 18-30 for headlines / titles, 10-14 for labels / subtitles, and 8-10 for explanatory or body text. To assist with readability, limit capitalization and use black for body text, as other colours can be difficult to read at a smaller font size.



Template #1 – 800px x 2000px
Content features:

- There is a mix of **information-based visual elements** and **decorative** visual elements:
 - o **Information-based:** these visual elements may be used sparingly, due to the nature of qualitative research. For example, the template features house icons that are used to visualize a fraction or percentage.
 - o **Decorative:** the decorative visual elements are used consciously and sparingly within the template. Ensure the visual elements are relevant to the research and compliment that information featured within the graphic. For example, the template features four decorative visual elements within the “Recommendations” header that would align with the text, and recommendations, from the research article. Too many decorative elements, or irrelevant decorative elements, will distract the reader and may affect one’s comprehension.

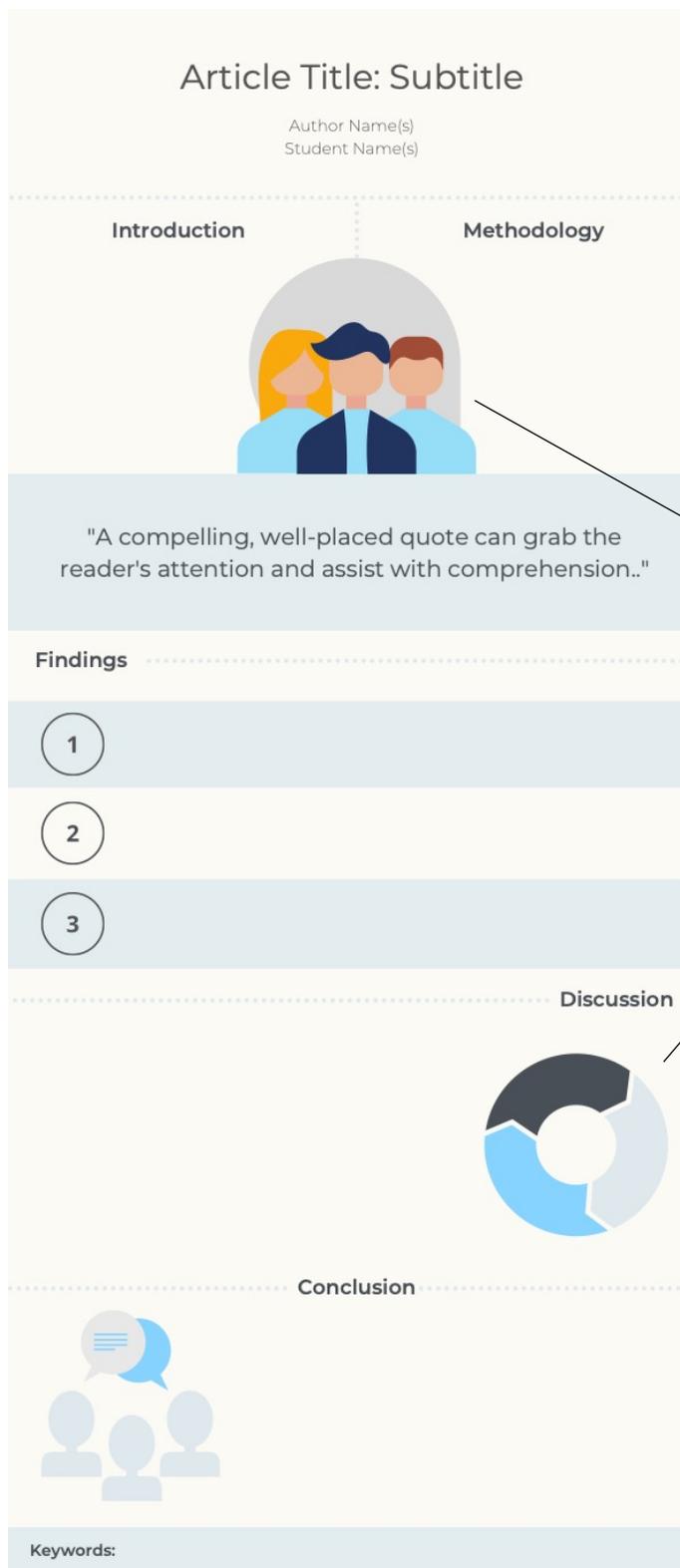
Infographic created and prepared by (students' names here).

This undergraduate student work is a product of a collaboration between the Making Research Accessible initiative (MRAI), researchers, (insert instructor's name here) and the student of ASTU 100 at UBC. This student work has been reviewed by the lead author of the original item. Revisions provided by the lead author have been incorporated into the student work with support from the UBC Learning Exchange and the members of MRAI. The reader should bear in mind that this is a student research project and is not an official document of UBC.



Template #2 – 800px x 2000px
Design features:

- Layout is **simple, balanced**, and is laid out in a structure that **supports natural eye movement** (left-right, up-down).
- **White space** is heavily utilized to ensure the infographic is not overcrowded.
- The layout of the infographic takes into consideration where the majority of information will be pulled from. For example, **less space** is dedicated to the Introduction and Methodology sections of the research article, as these sections can be condensed and, overall, limited. On the other hand, **more space** is devoted to the information found within the Findings and Discussion, as these sections contain the key information that we want the reader to ingest.
- The following colour palette is **consistently** used throughout the graphic and, even further, the colour palette adheres to the **accessibility** guidelines provided in the checklist:
 - o Cream
 - o Light Blue
 - o Dark Grey
 - o Dusty Blue
 - o Black (for body text)
- One sans serif typeface is used **consistently** throughout the graphic and the following size guidelines are adhered to:
 - o 18-30-point font for headlines.
 - o 10-14-point font for labels / subtitles.



Template #2 – 800px x 2000px
Content features:

- Visual elements are used to support the text that will be included. As noted above, qualitative research includes less data that can be converted into **information-based visual elements**. Therefore, a useful approach is to include visual elements that **support** the text and highlight the key points made. For example, the **decorative** visual element of three silhouettes can hint that the study is based on community. Likewise, the circular graphic can be **information-based** if filled in to note a cyclical trend that is discussed within the article.
- A **quote** is placed early on in the graphic to draw the reader in. Quotes are useful, especially for infographics that feature qualitative research. Quotes can act as a visual of sorts, as they are (if chosen fittingly) easy to digest and comprehend. Make sure you choose a quote that is representative of the information found within the article and that it is clear, logical, and compelling.

Infographic created and prepared by (students' names here).

This undergraduate student work is a product of a collaboration between the Making Research Accessible initiative (MRAI), researchers, (insert instructor's name here) and the student of ASTU 100 at UBC. This student work has been reviewed by the lead author of the original item. Revisions provided by the lead author have been incorporated into the student work with support from the UBC Learning Exchange and the members of MRAI. The reader should bear in mind that this is a student research project and is not an official document of UBC.

Social Media Considerations

Both templates were created as 800px x 2000px static PDF documents, but they can be **cropped** to fit any social media site. For the purpose of this guide, Twitter and Instagram will be the two social media platforms discussed:

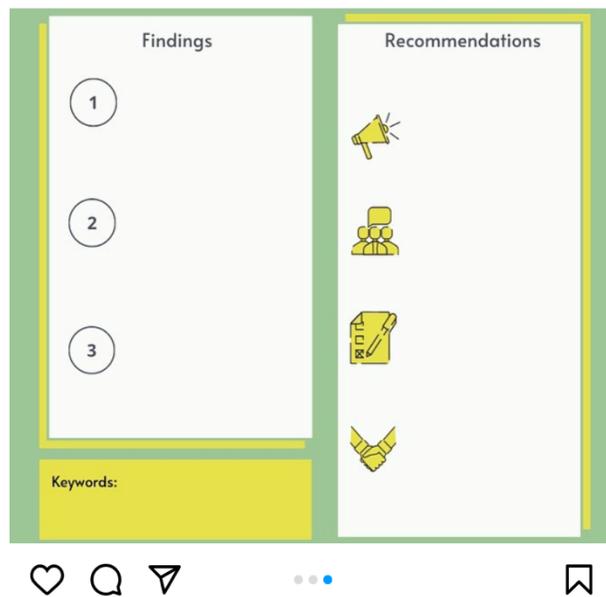
- Instagram posts support square images with the maximum dimensions of 1080px x 1080 px.
- In-stream Twitter photos must be, at minimum 600px x 335 px and, at maximum 1600px x 1900px.
- Due to the narrower dimensions of the infographic (800px) the crop size, for three slides, will be on average 800px x 500-700px (dependent on where the crop is made).
- Student credits and disclaimer can be posted within the description of the post, or within the crop. This will dependent on the layout used and creator preference.

Tips:

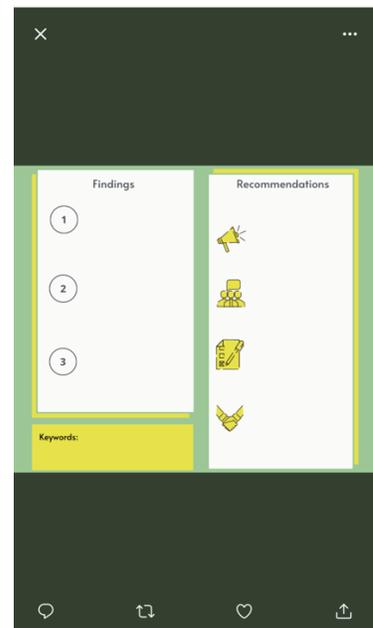
- Create a layout that can has clear markers between sections. This will make cropping the infographic easier, as points of demarcation will already exist.
- Ensure the infographic layout supports a left-right, up-down reading pattern. This will guarantee that the information within the infographic can be understood and read in a logical order when posted.

For examples of what an infographic may look like on both Instagram and Twitter, see below:

Instagram



Twitter



Suggested Reading

If you want to learn more about accessible research derivatives and infographic creation here is a list of relevant, current sources. These sources explore a variety of topics - from why infographics are so effective to useful graphic design principles. For ease of use, the reading list is organized with the following headers: Accessible Research Dissemination, Cognition and Comprehension, Creation and Content, and Design Considerations.

Accessible Research Dissemination

- Atalay, S., Bonanno, L., Galman, S., Jacqz, S., Rybka, R., Shannon, J., Speck, C., Swogger, J., and Wolencheck, E. (2019). Ethno/Graphic Storytelling: Communicating Research and Exploring Pedagogical Approaches through Graphic Narratives, Drawings, and Zines. *Multimodal Anthropologies*, 121(3), 769-772.
- Fendler, L. (2020). An Information Reformation? Research Expertise in a Populist Context. *Journal of Philosophy of Education*, 54(3), 694-709.
- Mallett, R., Runswick-Cole, K., and Collingburne, T. (2007). Guide for accessible research dissemination: presenting research for everyone. *Disability & Society*, 22(2), 205-207. <https://doi-org.ezproxy.library.ubc.ca/10.1080/09687590601141683>

Cognition and Comprehension

- Albers, M. (2015). Infographics and Communicating Complex Information. *Design, User Experience, and Usability: Users and Interactions*. 267-276.
- Barlow, B., Webb, A., and Barlow, A. (2021). Maximizing the visual translation of medical information: A narrative review of the role of infographics in clinical pharmacy practice, education, and research. *Journal of the American College of Clinical Pharmacy*, 4(2), 257-266.
- Burgio, V., and Moretti, M. (2017). Infographics as Images: Meaningfulness Beyond Information. *Proceedings, International and Interdisciplinary Conference*.
- Gareau, M., Keegan, R., and Wang, L. (2015). An Exploration of the Effectiveness of Infographics in Contrast to Text Documents for Visualizing Census Data: What

Works? Human Interface and the Management of Information: Information and Knowledge Design, 161-171.

Gay, J., Simms, V., Bond, R., Finlay, D., and Purchase, H. (2019). An Audit Tool for Assessing the Visuocognitive Design of Infographics. *Proceedings of the 31st European Conference on Cognitive Ergonomics*, 1-5.

Kung, J., and Tsuyuki, R. (2020). Maximizing Impact with Infographics. *Focus on Impact*, 153(4), 208-210.

Creation and Content

Abilock, D., and Williams, C. (2014). Recipe for an Infographic. *Knowledge Quest*, 43(2), 46-55.

Balkac, M., and Ergun, E. (2018). Role of Infographics in Health Care. *Chinese Medical Journal*, 131(20), 2514-2517.

Dunlap, J., and Lowenthal, P. (2016). Getting graphic about infographics: design lessons learned from popular infographics. *Journal of Visual Literacy*, 35(1), 42-59.

Hernandez-Sanchez, S., Moreno-Perez, V., Garcia-Campos, J., Marco-Lledo, J., Navarrete-Munoz, E., and Lozano-Quijada, C. (2020). Twelve tips to make successful medical infographics. *Medical Teacher*. <https://doi-org.ezproxy.library.ubc.ca/10.1080/0142159X.2020.1855323>

Otten, J., Cheng, K., and Drewnowski, A. (2015). Infographics and public policy: using data visualization to convey complex information. *Health Affairs*, 34(11), 1901-1907.

42(2), 52-65.

Santos, C., Pereira, M., and Neves, M. (2018). The Influence of Infographics in Accessing Information. Multidimensionality in Visual Representation and Configuration of Different Media. *Advances in Ergonomics in Design*, 497-508.

Yildirim, S. (2017). Approaches of Designers in the Developed Educational Purposes of Infographics' Design Processes. *European Journal of Education Studies*, 3(1), 248-284

Design Considerations

- Barlow, B., Webb, A., and Barlow, A. (2021). Maximizing the visual translation of medical information: A narrative review of the role of infographics in clinical pharmacy practice, education, and research. *Journal of the American College of Clinical Pharmacy*, 4(2), 257-266.
- George-Palilonis, J. (2016). *Designing Infographics. A Practical Guide to Graphics Reporting*. Routledge.
- Majooni, A., Masood, M., and Akhavan, A. (2017). An eye-tracking study on the effect of infographic structures on viewer's comprehension and cognitive load. *Information Visualization*, 17(3), 257-266.
- Park, S., and Tang, L. (2018). How colour and visual complexity affect the evaluation of skin cancer infographics: an experiment study. *Journal of Visual Communication in Medicine*, 42(2), 52-65.