



university of
 groningen

campus fryslân

Data-driven analysis of political sentiment and decision-making

BSc Data Science and Society
Academic Year 2023-2024
Semester 2B

Tienskip
doe er zelf wat aan

Course code: CFBDS24A05
Lecturer: Loes Bouman

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Introduction

Course content

For many, there seems to be a feeling of being left behind by political decision-makers: the anti-establishment sentiment in contemporary democracies is increasing. But how do we come to such conclusions and which role does and should data play in understanding the political landscape? Can data be used as well to shape political sentiment? And how should speech online be regulated? This course delves deeper into these and related subjects.

The course starts with discussing what political sentiment is, what decision-making means and how data-driven analysis and thinking comes into the picture. Then we shift to consider selected arenas of political discourse, such as the national parliament or public elections, as well as social media. To better understand the discourse in those different arenas, we will use different types of methodologies and look into using innovative methods such as natural language processing, as well as social network analysis of parliamentary social media networks. Finally, we will consider how the use of data affects the political sentiment on different governance levels, ranging from the local to the global on selected issues such as free-speech regulation and opinion polarization.

The course features a number of guest lecturers with different disciplinary backgrounds from different institutions and representing different governance layers.

This course serves as a foundation for skills and knowledge that is required for the following courses:

- Statistical inference
- Statistical and machine learning
- Visualizing Data
- Data science III: Using data to solve social problems
- Data science V: Visual rhetoric
- Field project

This course serves as continuation of skills and knowledge acquired in the following courses:

- Bachelor thesis

Cooperation with organization Tienskip

Unique in this course is that students will also actively cooperate with the local organization [Tienskip](#).

Tienskip is a local organisation founded in Leeuwarden in 2016. Tienskip aims to connect youth (aged 14 - 25) to local politics, by showing them how one can influence local decision making and take matters into their own hands. Furthermore, they focus on the notion that participants themselves can identify perceived problems and tackle them with the help of experts and discussions. In 2022/2023, the organisation reached more than 3000 young adolescents, whereas this year, the organisation is aiming for 5000+ students within Friesland, while also expanding to different provinces.

Tienskip hosts 'project days', where local youths work on a problem they see or encounter in their environment. Therefore, the participant is completely free to choose a topic of their own interest. They indicate their choice a week before the workshop takes place. Local youths get grouped together when they share a similar topic, creating a focus group per topic. On the project day itself, each group gets guided by a local policymaker, expert or someone working in that field. Groups work from a local problem toward a local, often quite practical solution. At the end of the day, their plans are presented to guests and peers. With the project days, Tienskip collects data on the problems that groups address as well as the solutions that the young adults create at the end of the day. Additionally, we collect data per

workshop, which is often with only one school, providing information about the age group and location. Every year, Tienskip provides the local municipalities with feedback on the topics that occupy the environment of the local youth

Until now, in our yearly report, only the 5 most chosen topics are displayed. This provides an overview of the problems that affect youth for the municipality. However, in the upcoming years, Tienskip wants to provide an overview with more depth and details, as the current format does not encourage municipal action, nor a detailed explanation of the issue at hand or the solutions thought of by local youths.

Tienskip wants to provide a more detailed report, so municipalities have more in-depth knowledge on what problems occupy the young peoples' environment. For each of the 5 most chosen topics, a detailed description of the multifaceted issue as well as possible solutions provided by the youth needs to be described and visualized in useful infographics. **Students of this course will cooperate with Tienskip to provide such a more in-depth written report that is supported by useful infographics.** By means of this cooperation, the students in this course will get hands-on experience with analysing data on the political involvement of local youths that pointed out (political) problems in the region and their opinions on potential solutions for those problems. Students of the course will therefore work on understanding, analysing and reporting political sentiment.

Course learning outcomes

Upon the successful completion of this course, students will be able to:

Connecting Programme Learning Outcomes:

- | | |
|---|------------|
| • Have demonstrated knowledge and understanding in a field of study that builds upon and supersedes their general secondary education, and are typically at a level that, while supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study. | A1 |
| • Have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, academic or ethical issues. | C1, C2, C5 |
| • Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences. | D1 |
| • Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy | E2 |

Learning lines

The successful completion of this course contributes to the following learning lines

- 1 Graduates have the skills to successfully define problems and reduce information overload ('ask the right questions')
- 2 Graduates are able to work with data taking responsibility, fairness and sustainability into account while producing data-driven insights and actions
- 3 Graduates are aware of the diversity of audiences in communicating data-driven findings and are able to communicate effectively with essential stakeholders

How do you work on the learning lines and achieve course learning outcomes?

Students actively practice with the learning lines and course outcome. Course learning outcomes and the learning line are addressed in each week in both the classes and exercised in the following assignments:

Groups of n students write a report featuring the main five political issues and solutions of local youths for one selected area (Friesland, Groningen, Overijssel and Zuid-Holland) and use various data-driven techniques to deliver this product along with supportive infographics, keeping in mind that the content of their reports is targeting local and national politics (government and municipality) and policy makers. Furthermore the reports features the following two elements:

1) each group will analyse the topics of the “Tienskipdagen”. For each Dutch province where Tienskip is active (Friesland, Groningen, Overijssel and Zuid-Holland), one duo will create an overview of the discussed topics. This is preferably done in a top 5 format, where the 5 most discussed topics will be displayed. If that is not possible due to the size of the data, a general overview is also allowed. The students will write a short text to give more insights in the top 5 topics per province. This text should include how much data was gathered and how it was analysed. Additionally, students are encouraged to highlight interesting findings from the data.

2) each group will analyse the municipalities Tienskip is active in. For each municipality, the students highlight one plan/solution that is interesting to them. What qualifies as an interesting topic will be discussed in one of the lectures by Tienskip. The students thus provide a text for each municipality where at least one solution from the “Tienskipdag” is discussed. The text should include why this solution was chosen and why it is important for the municipality.

To divide the workload of the report in chunks, there are **two individual take-home assignments**:

- the first take-home assignment students are to select one topic from the data and describe the problem in detail by highlighting the political sentiment in the identified problem and summarize potential solutions delivered by the local youths.
- in the second take-home assignments students design an infographic for the text that they written for the first take-home assignment.

Furthermore, to help students to stay on track and closely cooperate with Tienskip, **students present progress** of their reports in weeks 3, 5 and 7 directly to Tienskip and the lecturer of the course.

For precise details on tasks, requirements and grading of each assignment read the corresponding [appendices](#) in this syllabus.

Course structure

Week 1-7 Seminar weeks. There are two classes of 1h45m per week.

Week 8 is a teaching free week. During this week, there will be space to work on the final reports and ask last questions.

Week 9 is a teaching free week. During this week the final report is submitted.

The course accounts for 5 EC, which equals a study workload of 140 hours. These hours are distributed across the following activities:

- 25 hours for contact hours in lectures/seminars
- 15 hours for class preparation work
- 40 hours for collaborative works
- 60 hours for working on assignments

Attendance during class

The curriculum of the Data Science and Society Bachelor is designed with the assumption that students attend and participate in all classes. However, in an exceptional case where you are unable to attend a class due to unforeseeable circumstances such as illness, please inform your lecturer as soon as possible by email.

If you are unable to attend a class the lecturer may require students to put in alternative efforts (e.g. working on replacing assignments) to make up for the non-attended class and to keep the group at the same level of progress on the subjects.

As a general rule, the programme management maintains the policy that students can miss up to 30% of classes with attendance per course. Exceptions to this rule only apply in very special cases and after coordination with the Study Advisor.

Practical Information

Sources

In general, we aim for using open access material and resources as much as possible. Additionally, students of the University of Groningen have access to study materials through the library of the university via [SmartCat](#).

For specific sources recommendations please refer to the weekly outlines below. Since this course covers many perspectives, there is not one textbook or source you can use at this point.

Brightspace

We use the virtual learning environment “Brightspace” as the main platform for communication. Here, you will find recommended literature and background information, as well as information on the course assignments and grades.

Announcements regarding schedule – or content changes – will also be published in Brightspace.

Moreover, you will find quick links via [SmartCat](#) and diverse University of Groningen tools (such as [Ocasys](#), Enrollment and Photo and [wireless printing](#)).

All essential information about the course can be found in this syllabus. However, as we reserve the right to change the syllabus, please keep track of Brightspace for the most up-to-date information.

Cheating and plagiarism

It is important to be transparent about where thoughts and ideas come from, as well as being able to demonstrate that you are able to identify and use high quality academic sources as a basis for your own work. Therefore, it is absolutely essential to be transparent and precise in indicating where and when you rely on the work of others and in which context.

Cheating and plagiarism can be academic offenses and result in severe consequences. As per the Teaching and Examination Regulations, cases of cheating and plagiarism are reported to the Board of Examiners. The Board will decide upon the consequences of the offense. Be aware that all assignments are checked on plagiarism by default.

Use of AI in Education

In general, the UG basic rules of the use of AI in education apply (you can [find them here](#)). In addition, the latest version of the faculty policy applies.

For a specific course, the lecturer(s) can make detailed agreements with students, which have to be communicated at the beginning of the course, or at a time when the standards for the evaluation of assessments are being set.

Contact info

Lecturer: Dr. Loes Bouman — l.bouman@rug.nl

Please also feel free to talk to me directly in front or after class.

General questions about course enrolments or procedures can be addressed to the educational secretariat.

Student support and well-being

If you are in need of support during your studies, there is a range of [student support available at UG](#). However, it can be a challenge to navigate all the services available and know [who to contact](#). Your first point of contact can often be your study advisor:

Hieke Hoekstra | E: h.hoekstra@rug.nl | Appointments: <https://hhoekstra-cf.youcanbook.me/>

In addition, a study advisor can advise on non-academic matters such as campus life, social safety concerns or personal matters. If needed they can refer you to other professionals within the university or help you find these within Leeuwarden. Conversations with the study advisor are confidential. More information on and application for extra support facilities can be found [here](#).

Examination and assessment

Examination forms	Weighted percentage for overall grade	Date of exam/deadline
Individual take-home assignments	30%	Week 2,4
Group presentations	30%	Week 3, 5, 7
Group report	40%	Week 9

The relevant rubrics that are used for the assessment are included in the appendices of this syllabus and taken up on Brightspace.

Weekly schedule

Week 1

First class

Topics:

- Political sentiment
- Text analysis and Neurolinguistic Programing (NLP)
- Visualization of political sentiment

Skim readings before class:

- Van Atteveldt, W., Van der Velden, M. A., & Boukes, M. (2021). The validity of sentiment analysis: Comparing manual annotation, crowd-coding, dictionary approaches, and machine learning algorithms. *Communication Methods and Measures*, 15(2), 121-140.
- Hartmann, J., Heitmann, M., Siebert, C., & Schamp, C. (2023). More than a feeling: Accuracy and application of sentiment analysis. *International Journal of Research in Marketing*, 40(1), 75-87.
- Droste, L. (2021). Feeling left behind by political decision makers: Anti-establishment sentiment in contemporary democracies. *Politics and Governance*, 9(3), 288-300.
- Kochmar, E. (2022). *Getting started with natural language processing*. Simon and Schuster.
- Kucher, K., Paradis, C., & Kerren, A. (2018, February). The state of the art in sentiment visualization. In *Computer Graphics Forum* (Vol. 37, No. 1, pp. 71-96).

Second class: visit from tienskip

Topics:

- The tienskip project
- Political sentiment of youths in Fryslân and Leeuwarden

Preparation (to be completed before the start of the class):

- Visit tienskip website

Week 2

First class

Topics:

- Parliamentary debate
- Analysis and visualization of political sentiment

Readings before class:

- Mestre-Mestre, E. M. (2021). Emotion and Sentiment Polarity in Parliamentary Debate: A Pragmatic Comparative Study. *Corpus Pragmatics*, 5(3), 359-377.
- Abercrombie, G. (2021). Topic-centric sentiment analysis of UK parliamentary debates. The University of Manchester (United Kingdom).
- Katre, P. D. (2019). NLP based text analytics and visualization of political speeches. *International Journal of Recent Technology and Engineering*, 8(3), 8574-8579.

Second class:

Topics:

- Analysing political issues of local youths

Preparation (to be completed before the start of the class):

- Explore tienskip data with group and highlight main issues

Submit take-home assignment 1 to Brightspace April 29th 17.00

Week 3

First class

Topics:

- Comparing political party manifestos
- Sentiment analysis of political manifestos

Preparation (to be completed before the start of the class):

Read:

- Merz, N., Regel, S., & Lewandowski, J. (2016). The Manifesto Corpus: A new resource for research on political parties and quantitative text analysis. *Research & Politics*, 3(2), 2053168016643346.
- Orellana, S., & Bisgin, H. Analyzing Political Party Manifestos with Natural Language Processing.

Browse:

- <https://manifesto-project.wzb.eu/information/documents/information>
 - [Coding book](#)
 - [Introduction](#)
 - [Data exploration](#)

practice walkthrough

- [Coding examples](#)

Second class :

Topics:

- Political issues of local youths
- Tienskip presentations

Preparation (to be completed before the start of the class):

- Prepare 10-minute group presentations on progress of with Tienskip report

Week 4

First class

Topics:

- Analysing parliamentary elections and polls

Readings before class:

- Chauhan, P., Sharma, N. & Sikka, G. The emergence of social media data and sentiment analysis in election prediction. *J Ambient Intell Human Comput* 12, 2601–2627 (2021). <https://doi.org/10.1007/s12652-020-02423-y>
- Lysek, J., Pánek, J., & Lebeda, T. (2021). Who are the voters and where are they? Using spatial statistics to analyse voting patterns in the parliamentary elections of the Czech Republic. *Journal of Maps*, 17(1), 33-38.
- Forsberg, O. J. (2020). *Understanding Elections through Statistics: Polling, Prediction, and Testing*. Chapman and Hall/CRC.

Browse

- <https://politicalmarketer.com/python-libraries-for-political-data-science/>

No second-class Ascension Day

Submit take-home assignment 2 to Brightspace May 9th 17.00

Week 5

First class

Topics:

- The role of data for local, national and global decision-making (and the dynamics between)

Preparation (to be completed before the start of the class):

- Berg, C.F. van den, (2017) "Dynamics in the Dutch policy advisory system: externalization, politicization and the legacy of pillarization", Policy Sciences, vol. 50, no. 1 (63-84), DOI 10.1007/s11077-016-9257-x
- Meer, F.M. van der, C.F. van den Berg, Ch. van Dijck, G.S.A. Dijkstra en T.P.S. Steen (2019) Consensus democracy and bureaucracy in the Low Countries, in: Politics of the Low Countries vol.1 no. 1, pp. 27-43. 2.

Second class:

Topics:

- Political issues of local youths
- Tienskip presentations

Preparation (to be completed before the start of the class):

- Prepare 10-minute group presentations on progress of with Tienskip report

Week 6

No first class Whit Monday

Second class:

Topics:

- Social Media I: Analysing and regulating free speech online

Readings before class:

- Manuvie, R., & Chatterjee, S. (2023). Automated Sentiment and Hate Speech Analysis of Facebook Data by Employing Multilingual Transformer Models. arXiv preprint arXiv:2301.13668.

Week 7

First class: Guest Lecture of Jochem Tolsma

Topics:

- Social media II: mapping political discourse on Twitter

Preparation (to be completed before the start of the class):

- Tolsma, J., & Spierings, N. (2024). Twitter and divides in the Dutch parliament: social and political segregation in the following,@-mentions and retweets networks. *Information, Communication & Society*, 1-20.
- Praet, S., Martens, D., & Van Aelst, P. (2021). Patterns of democracy? Social network analysis of parliamentary Twitter networks in 12 countries. *Online Social Networks and Media*, 24, 100154.

Second class :

Topics:

- Political issues of local youths
- Tienskip presentations

Preparation (to be completed before the start of the class):

- Prepare 10-minute group presentations on progress of with Tienskip report

Week 8

First class 1

Topics:

- Meta data
- Reflection on project research
- There will be a space to work on your assignments and ask questions, signup sheets will be made available on Brightspace

Second class

Topics:

- From political sentiment to policy advice
- There will be a space to work on your assignments and ask questions, signup sheets will be made available on Brightspace

Week 9

No classes. **Final assignment deadline, submit to Brightspace on June 13 17.00.**

Appendix

Final Group Assignment

Tienskip assignment: The final assignments consist of a group assignment. Groups of n students (depending on cohort size) and with at least 1 Dutch reading student per group. Groups will be constructed in week 1 class 2. Each group will then also receive the data from a selected area from the lecturer and Tienskip.

The task:

Groups of n students write a report featuring the main five political issues and solutions of local youths for one selected area (Friesland, Groningen, Overijssel and Zuid-Holland) and use various data-driven techniques to deliver this product along with supportive infographics, keeping in mind that the content of their reports is targeting local and national politics (government and municipality) and policy makers. Furthermore the reports features the following two elements:

1) each group will analyse the topics of the “Tienskipdagen”. For each Dutch province where Tienskip is active (Friesland, Groningen, Overijssel and Zuid-Holland), one duo will create an overview of the discussed topics. This is preferably done in a top 5 format, where the 5 most discussed topics will be displayed. If that is not possible due to the size of the data, a general overview is also allowed. The students will write a short text to give more insights in the top 5 topics per province. This text should include how much data was gathered and how it was analysed. Additionally, students are encouraged to highlight interesting findings from the data.

2) each group will analyse the municipalities Tienskip is active in. For each municipality, the students highlight one plan/solution that is interesting to them. What qualifies as an interesting topic will be discussed in one of the lectures by Tienskip. The students thus provide a text for each municipality where at least one solution from the “Tienskipdag” is discussed. The text should include why this solution was chosen and why it is important for the municipality.

Requirements:

The report aims to communicate with to the local government (municipality) in-depth knowledge on what problems occupy the young peoples' minds and environment. For each of the 5 most chosen topics, a detailed description of the multifaceted problem as well as possible solutions provided by the youth needs to be described accompanied by infographics. The report should consist of:

- A broad overview and introduction of problem and the context of the problem
- A detailed description of the different sides of the problem
- For each of the specified problems, the solution(s) provided by the youngsters need to be highlighted
- The report needs to be compellingly written as to provoke the local municipalities' willingness to take action on the problem and include youth in policy making.
- The report should be max 4 pages supported by infographics.
- The output can be written in English. However, it is useful to have at least one Dutch-speaking student in each group, as the data that is collected is in Dutch.

The rubric for assignments in **Appendix A** will be used to evaluate the text. **Appendix B** will be used to evaluate the infographics.

The final assignment needs to be submitted to Brightspace by June 13 09.00

Individual Take home assignment 1

The first Take-home assignment features an analysis and description of sentiment in political issues and their proposed solutions of local youths.

In this assignments students are to select 1 topic from the data and describe the problem in by highlighting the political sentiment in the identified problem and summarize potential solutions delivered by the local youths. Students select the topic from the data endowed to their group and coordinate with their group members on topic selection. In this way each student can already contribute individually to the final assignment, but also have an opportunity to be assessed individually in their performance.

Requirements

Length:

- A half page per topic

Content:

- Title
- Describe the context (region)
- Describing the selected topic/problem and highlight the sentiment and call to action pointed out by the youths
- Describe a summary of the provided solutions

The assignment will be evaluated using the rubric for assignments in Appendix A.

Individual take-home assignment 1 needs to be submitted to Brightspace April 29th 17.00

Individual Take home assignment 2

Take-home assignment two features the visualization of political issues and solutions. For the second take-home assignment students individually design infographics that summarize the text written in the first take-home assignment. The goal is to produce infographics that can be used stand-alone from the text, to be used for communication (e.g. dashboards, posters, flyers or for presentations slides).

Infographics are evaluated by the rubric for infographic in Appendix B.

Individual take-home assignment 2 needs to be submitted to Brightspace may 9th 17.00

Group presentations

In weeks 3, 5 and 7 students present progress on their Tienskip Report to their peers, lectures and Tienskip. This is to facilitate students to stay on track and provide opportunities for feedback. Each group present every time, both students are expected to deliver a part of the presentation. Slides (PowerPoint or related) to support the presentation are strongly recommended.

Requirements and format:

10-minute presentation featuring

- Introduction on the selected area
- Sharing the status/progress on selecting t top 5 problems and their solutions
- Sharing methods of analyses
- Preliminary results

5-minute Q&A and feedback session

Grading of the presentation:

(2 marks) Appropriate length

(1-2 mark) presenters make use of supportive visual aids or materials for the presentation (slides)

(1-2 marks) presenters share progress on topic selection clearly

(1-2 marks) presents clearly and transparently discuss methods of analysis

(1-2 marks) presenters provide information to support facilitate an active class discussion on their progress

Appendix A: Rubric for Assignments

Grade	<i>Insight and Argumentation</i>	<i>Research and Use of sources</i>	<i>Academic methods and expression</i>
9.0 +	Argumentation is very sophisticated and relevant. Explores a general issue or problem deeply by focusing in-depth on insights and evidence regarding a key dimension or example. Assignment is streamlined with a powerful and thoughtful thesis that suggests rationale for the argument.	Deeply and critically engages with research sources. Clearly demonstrates close, (semi-)independent and active reading. Demonstrates attention to the nuances of research sources. Artful use of quotes and recaps. Synthesizes multiple sources at a time in a way driven by the author's own original argument or analysis.	Writing is very polished and precise. Evidence of smart editing and trimming. Proof-reading and revision is apparent. Stylishly composed. Introduction and conclusion statements are effective and efficient. Insights and arguments are articulated precisely and artfully.
8.0 +	A thesis is clearly stated, developed, and supported based on critical thinking and the evaluation of evidence. Engages well with relevant arguments and ideas. Relates the topic to a wider issue or debate.	Resources clearly sought out because of direct applicability to the topic. Demonstrates an attentive study of research sources. Efficient use of quotes and summaries. Analyses and builds upon points drawn from research sources.	Writing is generally strong. Clear sentences; well-structured paragraphs. Words and phrases are carefully chosen for clarity and precise meaning. Citations are clean and well done. Minimal typos.
7.0 +	Introduction indicates argument even if the thesis is vague, underdeveloped, or is replaced by a purpose statement. Shows reasoned judgment based on evidence, even if a bit general or broad. Analysis has breadth of coverage, but perhaps could use more focus/depth. Some prominent relevant ideas and arguments are not considered deeply.	Uses sources fairly well. Includes intelligent quotes but not to the detriment of the paper. Captures ideas well when summarizing good points without direct quotes. Some structural issues. Segments derive from one source at a time rather than connecting insights from multiple sources. Draws on strong research but without synthesizing or contextualizing facts and insights.	Writing is good. Forgivable awkward phrases or sentences. Sentences are effective even if sometimes unwieldy and unfocused. Word choice is sensible even if sometimes generic or imprecise. Citations are complete if unpunctuated. Introduction and/or conclusion may need reworking. Perhaps some issues with paragraph transitions or size.
6.0 +	Neither thesis statement nor main argument is clear in introduction. Topic is explored in a way that reports facts but offers insufficient analytic insight. (Or: argues broadly without offering sufficient evidence). The discussion repeats, wanders, or lacks focus. Counterpoints not engaged deeply. Conclusion is underdeveloped.	Relatively shallow selection or use of sources. Shows a basic use of research. Perhaps leans too much on long quotes. Draws facts from research sources, but engages with few ideas and/or arguments. Research sources seem to have limited direct applicability to chosen topic and/or issue. Relies on generalizations rather than details and evidence.	Frequent writing gaffes detract from readability. Major awkward phrases or transitions. Sentences are unclear, vague, too long, or incomplete. Citations are formatted inappropriately, inconsistently or incompletely. Paragraphs are structured oddly. Some wording or phrasing borrowed verbatim without proper quotation, though perhaps cited.
5.5 or above	Thesis statement is missing. Does not address the relevant topic or issue in a sufficiently	Insufficient use of academic sources. Does not engage with research resources deeply	Writing is unclear or ambiguous. Paper seems unedited, basic errors in

	thoughtful way. Shallow analysis and/or use of evidence. Thoughtful analytical conclusion (statement) is missing.	enough to indicate thoughtful reading. Too many web sources of insufficient quality. Choice of sources indicates selection bias, ignoring relevant counterevidence.	presentation of results. Writing style is inappropriately informal. Length of paper is outside range. Citations are problematic. List of works cited is incomplete or problematic.
5.4 or below	Fails to formulate a thoughtful thesis statement or coherent analysis.	Fails to use research in a way expected in academic assignments. Idea structure or sentences copied directly from research sources without proper citation.	Fails to meet minimum standards of readability and/or academic citation. Phrasing copied without quotation or citation.

Appendix B: Rubric for infographics

Grade	Display of data and analysis	Design principles	Narrative enhancement and sensitivity to Audience
9.0 +	The data used is correctly and neatly portrayed Relationships between elements are clear	Visual elements such as hierarchy, color usage, and typography are perfectly supportive of the information to be communicated Focal points are carefully and naturally highlighted The infographic is aesthetically appealing	Infographic effectively communicates the content fitting to the selected audience Main message is immediately clear Figures can be used stand-alone Infographic tightly resonates with the targeted audience
8.0 +	The data used is correctly and neatly portrayed Relationships between elements are clear	Visual elements support the information to be conveyed and enhances focal points	Infographic matches with their audience Infographic can be used with merely a title
7.0 +	Data is portrayed correctly Relationships between elements are somewhat clear	Visual elements support the information to be conveyed	Infographic can be used with minimal explanation Infographic is somewhat fit for the audience
6.0 +	Selected data is depicted correct Relationships between elements are not immediately clear	Visual elements are basic but facilitate the information and do not distract or confuse	Infographic can be used with detailed explanation Infographic is somewhat fit for the audience
5.5 or above	Selected data is depicted but lacks clarity and may cause confusion or misrepresentation	Visual elements Are somewhat distracting or confusing	Information is represented cannot be used without further explanations Infographic is somewhat fit for the audience
5.4 or below	Selected data is not correctly depicted or misleading	Visual elements make the infographic unclear or unreadable	It is not clear what the infographic is about Infographic is not fit for the audience