

Enhancing student engagement with physiology using Infographics presentations

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Introduction

- Poster presentations to communicate knowledge are a commonly used undergraduate assessment tool.
- However, it is a challenge for students to deliver clear and detailed information whilst minimising volume of text on the poster.
- Infographics are progressively being used to demonstrate key scientific concepts in simple graphical form and developing students to effectively communicate with both a scientific audience and the general public is increasingly important within an academic curriculum (see Figure 1).
- To enhance communication skills and student engagement in this process we adapted an existing research project assessment and increased the emphasis on public communication skills with the use of Infographics.

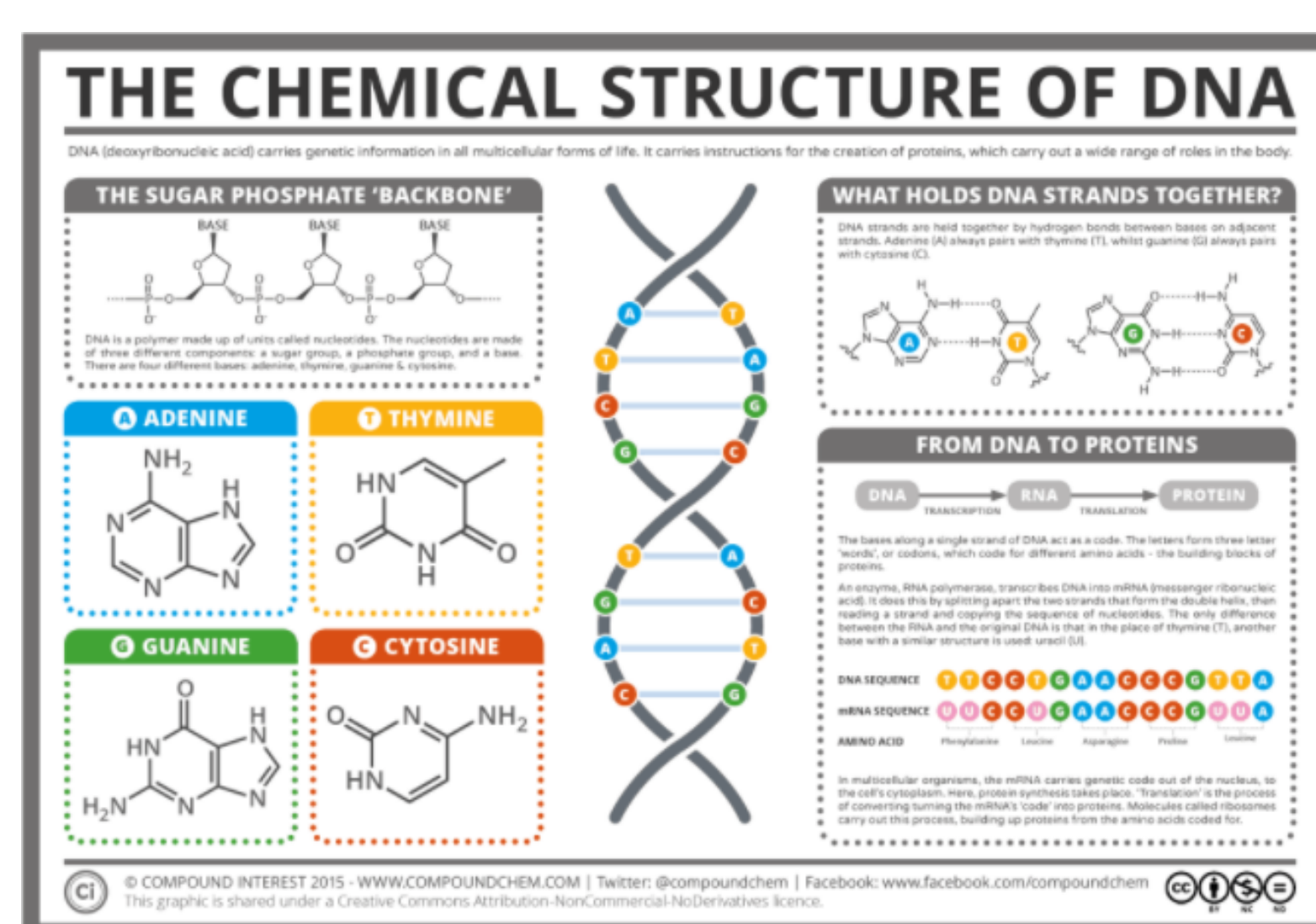
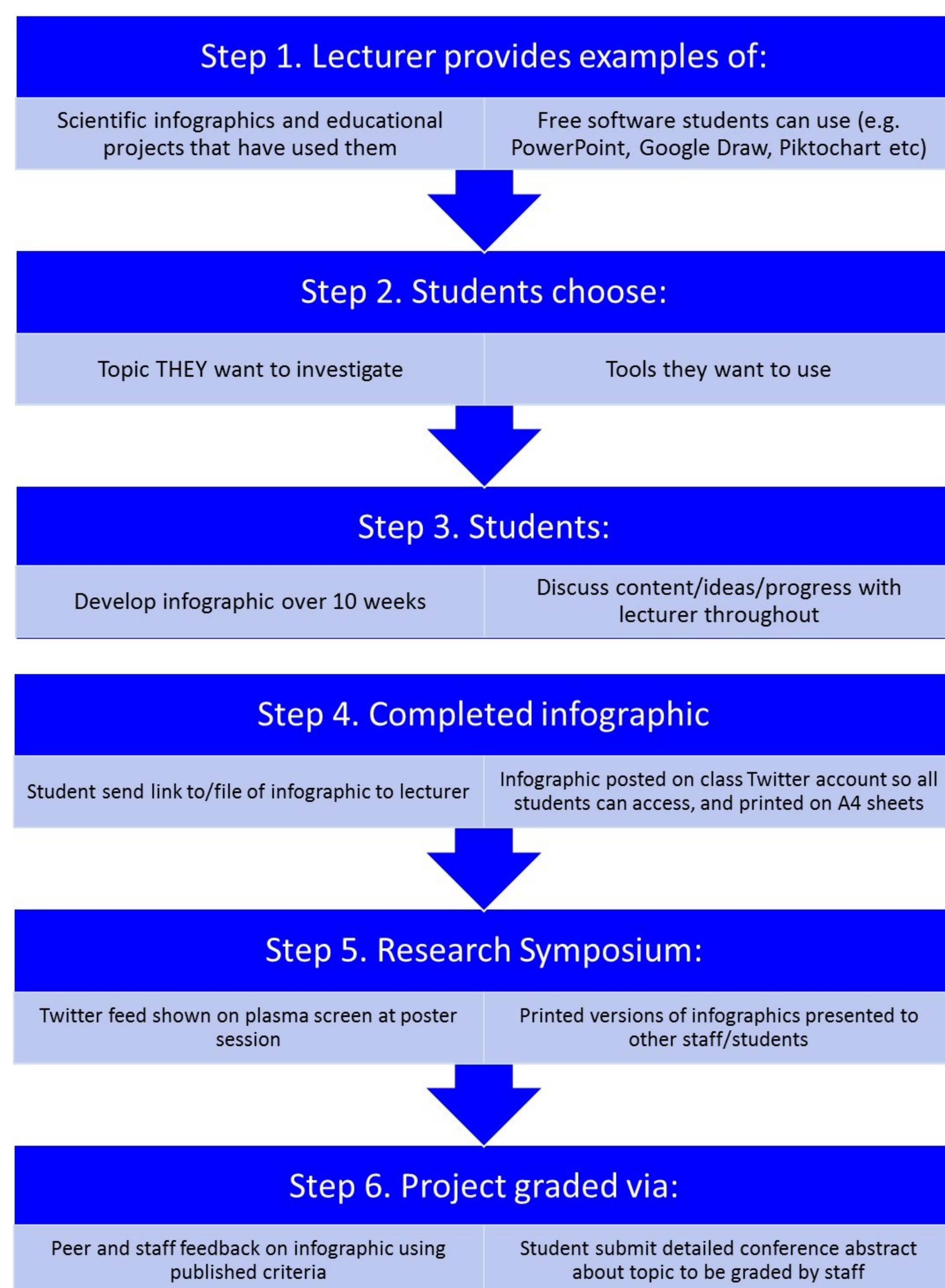


Figure 1. Examples of scientific infographics developed for a wide audience. Students were signposted to these examples at the Compound Interest chemistry infographic website (<http://www.compoundchem.com>), as well as a variety of other example online and in textbooks. Students were also encouraged to think about how organisations and publications now displayed complex/technical information for a broad readership.

Project Outline



- We trialled this project with a Level 3 course (PY3002 Integrative Physiology), that had a mix of students of different disciplines, students articulating from FE colleges, and international exchange students. This course had previously used traditional scientific poster projects.
- At the end of the course, an anonymous, voluntary feedback questionnaire was circulated to the class. Likert scores were used to record opinions for each question.
- Of a class of 50, 46 students responded with feedback on this pilot initiative.

Feedback & Results



[@AbdnMedSci](https://twitter.com/AbdnMedSci)

A class Twitter account was used so students did not have to sign up for Twitter if they did not wish to. Examples of the infographics that the students produced can be viewed at this account.

Question	Mean Response	SEM	Likert score descriptors	
			Score of 0	Score of 10
Importance of topic YOU chose?	8.65	0.19	Not at all	Very
Easy to find/choose topic?	6.63	0.30	Very hard	Very easy
Work on own or team?	2.46	0.38	On my own	Part of a team
How easy to develop infographic	4.30	0.29	Very easy	Very hard
How easy to access/gather scientific content?	4.50	0.34	Very easy	Very hard
How easy to simplify scientific material to fit?	5.17	0.32	Very easy	Very hard
How easy to format/look good?	4.72	0.35	Very easy	Very hard
Rate enjoyment	8.07	0.24	Not at all	Very much
Compare infographic with standard poster in terms of how it looks	8.83	0.21	Much worse	Much better
Compare infographic with poster in terms of scientific info/content	8.13	0.25	Much worse	Much better
Satisfaction with infographic	7.77	0.19	Not at all	Very satisfied
Enough time for project?	8.52	0.24	Not enough	More than enough
Online or printed?	3.13	0.36	Online	Printed

Figure 2. Mean responses from students regarding their opinions of various aspects of the infographic project.

A variety of questions were posed to gain feedback regarding how effective and enjoyable students had found participating in the project and developing their infographic (n = 46).

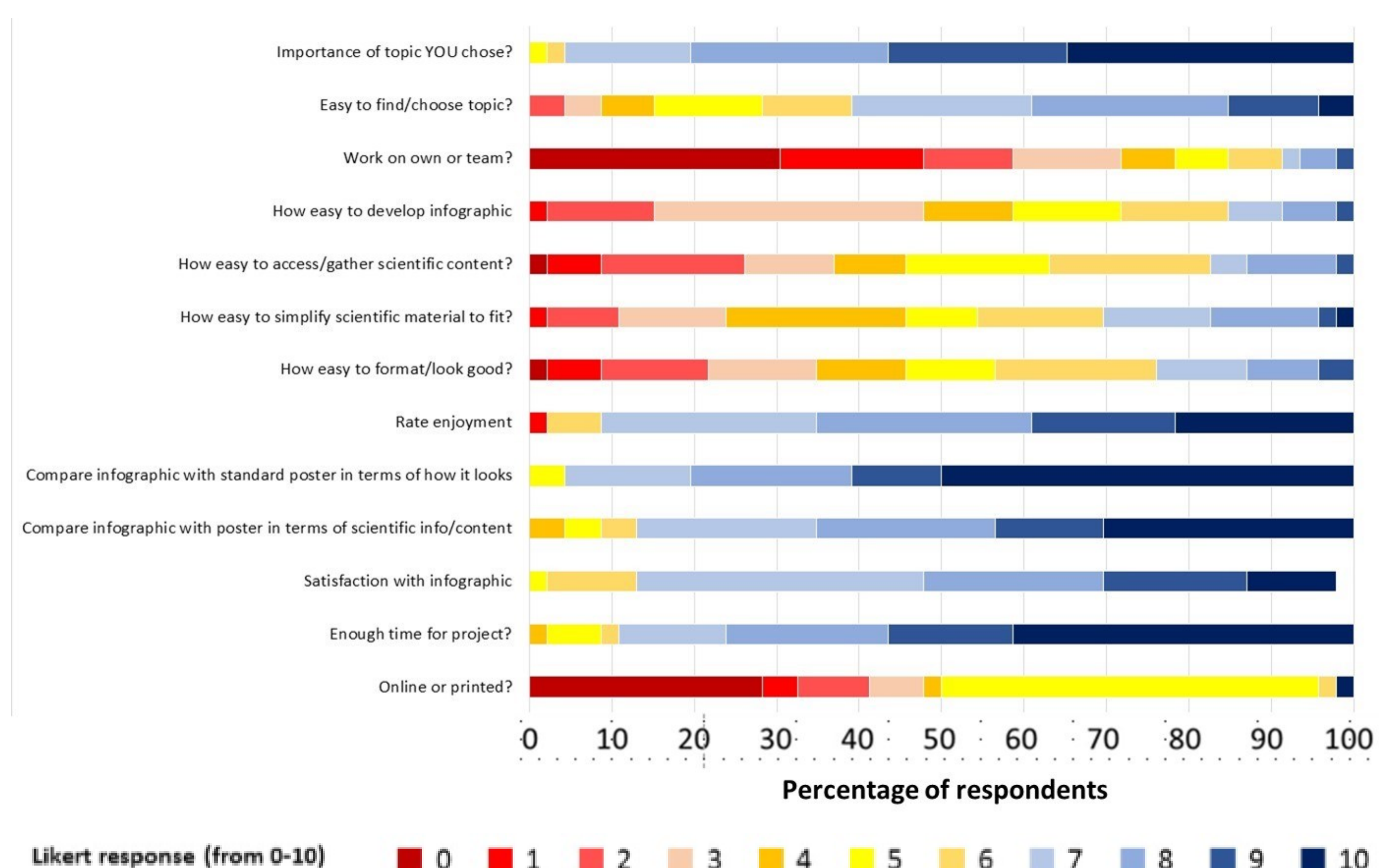


Figure 3. Percentage responses from students regarding their opinions of various aspects of the infographic project.

To gain a better understanding of how students varied in their opinions, questionnaire responses were plotted as the percentage of respondents who gave specific responses to each question. This would prevent inappropriate conclusions being drawn if only the mean response value for each question was used.

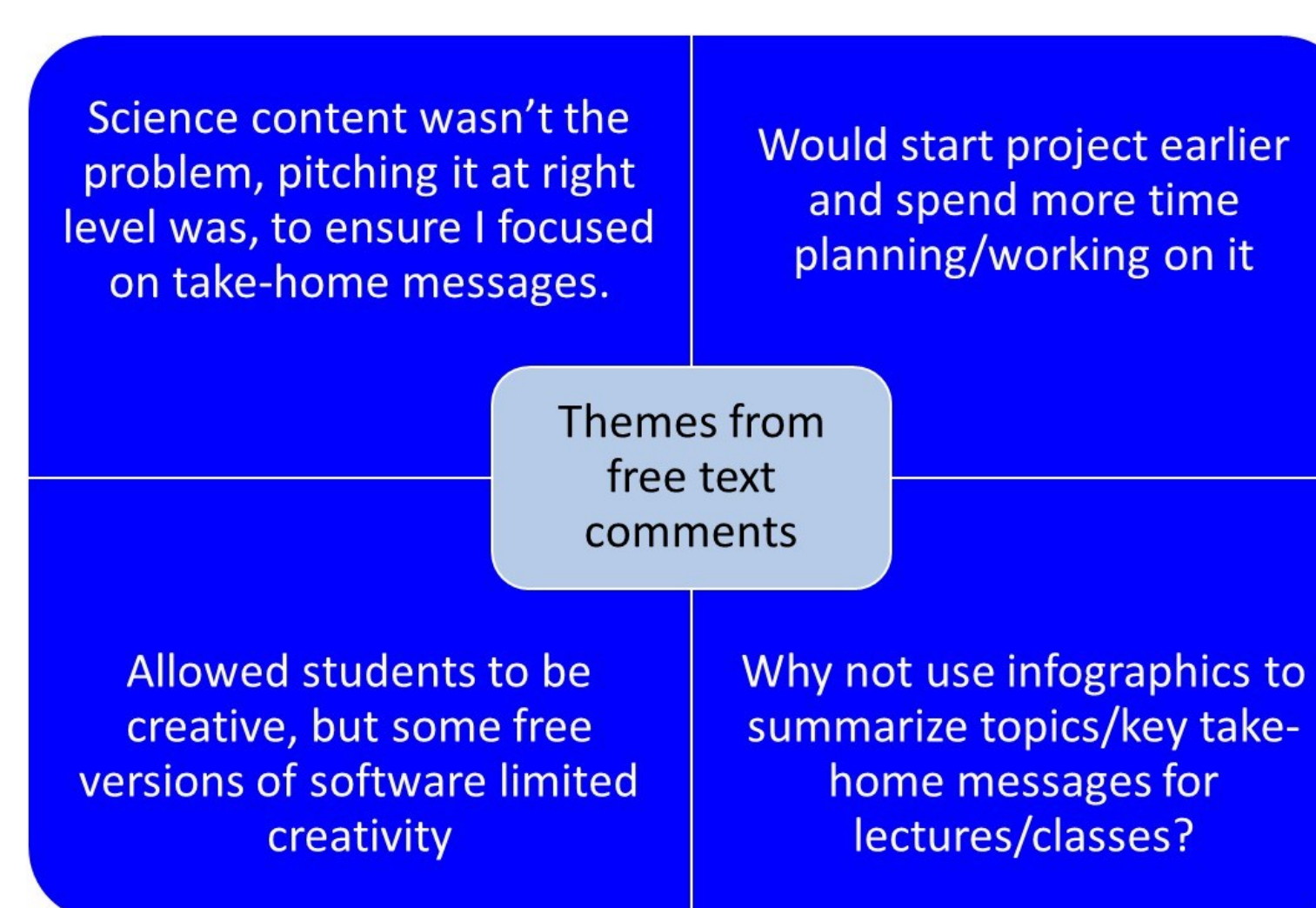


Figure 4. Free text comments from students regarding the infographic project.

From frequent free text feedback, students appreciated the ability to be creative and work on their own, but wanted more tools/flexibility from the free software they chose. In addition, students were engaged with this method of presenting information/concepts and 10/46 responders asked that infographics be used by teaching staff in classes. Another regular comment was that students felt they needed to plan and manage their time better to generate a better infographic.

91% of students used Piktochart software to create their infographic, but many found the free version limiting



<https://piktochart.com/>

Conclusions

- This novel approach to student research project communication challenged teaching staff and students.
- Resources were either free or relatively cheap so could be used by anyone in any discipline wishing to undertake a similar project.
- Students seemed to feel positive about the project, were very engaged, and willing to be creative. No individual project was even remotely similar to another.
- Students appeared to give more thought as to how information should be presented and delivered for different audiences and became more critical of their own work.
- We felt this pilot initiative has been a success in terms of revitalising a project assignment, whilst teaching participants new skills and helping them further develop a range of graduate attributes.