SSA National Schools Poster Competition – Comments

Participation in this competition is voluntary.

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While it may be disheartening to not receive an award or specific feedback, please be encouraged to know that **your poster may have been one of the many that were near to winning or receiving an honourable mention**!

Please consider the following notes to see if they may apply to you, for future investigations.

Comments are organised into THREE sections:

1. AI and AA
2. General Comments
3. Specific Comments

A note <u>about AI and AA</u> (adult assistance) – see also Rules.PDF

Whether you consider Einstein's "*Genius is 1% talent and 99% hard work*" or Ronaldo's "*Talent without working hard is nothing*" … <u>enjoy presenting YOUR words and perspective</u>.

Among many aims, this initiative is designed to:

- connect students with statistics
- enrich student learning of the field
- increase student interest and recognition of the practical and pervasive nature of statistics
- **enable students to investigate and share a personal interest**
- **allow participants to demonstrate their personality and/or creativity, via the required presentation of the investigation in poster format**

thus, developing skills such as critical thinking, communication, creativity, contextualising, analysis and interpretation.

There is little value from presenting an overly AI- or AA-designed, delivered or influenced project.

Perhaps utilise AI and AA to help your understanding and learning, or to create images, but ultimately please allow yourselves the opportunity to enjoy the project and demonstrate your personality and creativity, and develop your skills.

A heavily AI- or AA-influenced submission (or parts thereof) is obvious – particularly in the junior divisions.

Real practitioners, not AI, judge the submissions.

General Comments

- Whilst winners & honourable mentions are limited, there are many interesting and appealing ideas and submissions!

  Each submission had the potential to win based on their topic, with some relatively minor improvements!
- Strengths in some were required potential improvements in others, and vice versa.
- Project Communication – consider your audience and ensure the project presentation (via poster format) is digestible and appealing.

  While appeal may be somewhat subjective, there are some key elements. For example, <u>it shouldn't</u>:
  - resemble a written report essentially presented on a poster
  - contain copious amounts of text – the skill is in choosing the necessary details without losing significance, and not overwhelming the reader – better yet, entice the reader!
- The poster should be viewable from about 2m away if printed on A1-sized poster. This is equivalent to being viewable if printed on an A4 paper and held at arm's length. See Rules PDF regarding this and other insight.
- Complex elements (ideas, terms, etc) should be appropriately simplified where possible to ensure the key message is communicated. This doesn't dismiss the more complex aspect/element – there is a skill in navigating the divide (similar to 'the elevator pitch')!

Specific Comments:

- Hypotheses should have a rationale – consider why you have stated a particular hypothesis to test.
- If the poster investigation discusses the use of two samples, there must be at least one defining feature that distinguishes the two samples, e.g., age group, play different primary sports, etc.

  Many spoke about collecting two samples but it was unclear why.

  Students may be confusing the need for two samples with the idea of collecting one sample and then comparing the results based on two groupings (within the sample).

  Of course, it is best if the sample is designed to ensure the two, or more, groupings (e.g., age groups) are well-represented, but this isn't about collecting two, or more, samples. Rather that is collecting one sample (to represent the population of interest) and comparing subgroups (for some reason).
- Methods require more detail (whilst keeping text to a minimum) – they should ensure the investigation could be easily repeatable by viewers, without question. Examples of missing methods include, not identifying:
  - How a reaction test was set up, what test was used, or how were participants blinded in a blind test
  - How an angle for firing a nerf gun was determined reliably, distance off ground, etc
- Methods should limit forms of bias. Bias arises in many ways, for example:
  - comparing a commonly used technique with a less used approach, without overcoming the issue that individuals are more familiar with the former, so may be more likely to perform better.
  - assessing memory with two approaches, but always applying the same approach second and using the same list to recall, or having lists of varying difficulty
- Visual displays
  - Bar charts or similar that only indicate the mean are less valuable than visual displays that also reflect variation (within a group, or between groups), e.g., parallel boxplots which also display the individual data points and perhaps mean as well.
  - Careful to not simply repeat the same information and ensure the display achieves its intent and is appropriate and best
  - Pie charts rarely communicate key information clearly and succinctly with minimal effort by the viewer. There are more appropriate displays.
- Proof read – have others (friends, family, etc) view and comment on what is unclear, missing or errant
  - typographical errors (typo's) shouldn't be present, particularly with such relatively low amounts of text, or for headings (e.g., Limitations, as Limations)
- It is pleasing to see the standard and diversity of project ideas – with many quite sophisticated investigations, also having significant practical value.

  Please be mindful of the rules regarding the use of AI or otherwise submitting work which is not your own words.

Thanks for participating. We hope students and teachers have found this an enjoyable educational experience. We intend to release the results in early-mid December, prior to schools closing for the holidays.

Professor Peter Howley

Chair of Statistical Education, Statistical Society of Australia