Question

- What is the purpose of a discussion in an academic paper?
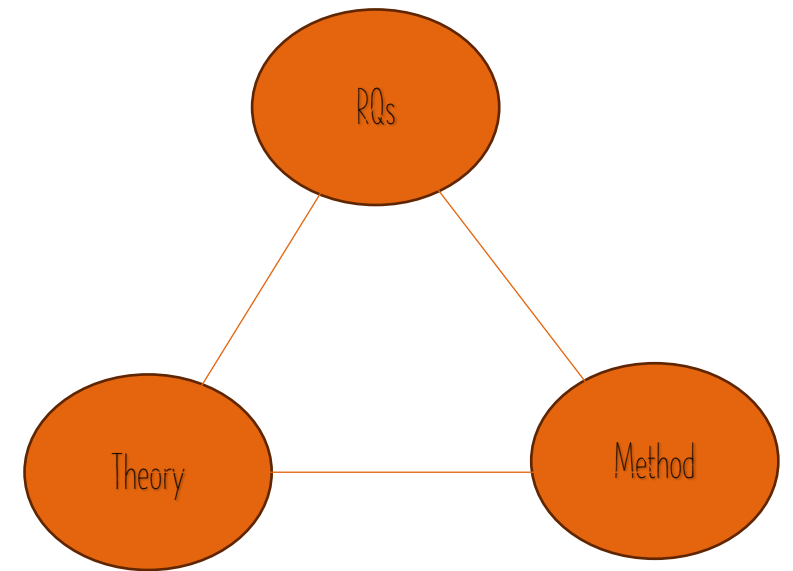
Next question

- What are examples of bad practice in discussions in academic papers?

A number of approaches to discussions

- Typically, the different approaches include a summary of the outcomes, together with an "interpretive commentary" (AERA 2006, p. 38) providing a more in-depth understanding of the claims made.

- Such a commentary would indicate:
  - how each research question was addressed
  - offer possible reasons for how and why particular outcomes occurred,
  - the context/s in which the outcomes took place
  - how they support or challenge existing theory
  - previous research results
  - possible alternative interpretations (English, 2019, p. 474)

Implications

- Importantly, the discussion should indicate how the outcomes and conclusions drawn from the study connect to and support (or perhaps challenge) the study's theoretical framework.

- Implications that follow from the study might refer to theoretical, practical, or methodological considerations (AERA 2006), but importantly, any claims and recommendations made in the discussion section must be backed up by data from the study (Bol and Hacker 2014; Robinson et al. 2013).

RQs

Theory

Method

Some recommendations

- Robinson et al. (2013) recommend that authors should limit their discussion and conclusions to their study's data and not offer recommendations regarding educational practice or educational policy.

- Such a recommendation was proposed to maintain a "separation between evidence and opinion concerning the legitimate warrants of empirical research" (p. 291).

- Although educational implications from mathematics education studies are valuable and indeed usually expected, maintaining a clear distinction between evidence and opinion is nevertheless essential.

Another editor's experiences

- Lyn English, editor-in-chief for Mathematical Thinking and Learning (MTL), says:

- " One of the drawbacks I frequently see in submissions to MTL is a failure to revisit the study's conceptual framework in light of the findings. Limited reference, if at all, to existing research in discussing the study outcomes is also present in some submissions. It is important that researchers indicate how their study has extended current work in the field, thus advancing the existing knowledge base."

Now, you work...

- Break into groups and try to develop your own checklist for writing a discussion, e.g. using a structure the following:

1. Opening the Discussion

2. Interpreting the Findings

3. Connecting Back to the Literature (previous research)

4. Practical and Theoretical Implications

5. Limitations

6. Future Research Directions

7. Closing the Discussion

1. Opening the Discussion

- Begin with a clear summary of main findings, without repeating all results.

- Explicitly answer your research questions or hypotheses (repeat the questions, add a summary of what the study investigates,).

- Link your findings to the paper's overall aims or theoretical framework.

- Make an stand-alone discussion

- State what the discussion is about

2. Interpreting the Findings

- Explain why you obtained these findings – discuss possible mechanisms, interpretations, or patterns.

- Compare your results with previous studies: consistency, divergence, or explanations for differences.

- Clarify how your results extend, refine, or challenge existing theories or models.

- Use the conceptual framekork to interpret your findings

- Did we answer the research questions?

- First you interpret your findings in the light of your theoretical framework, but you can also interpret your framework on the light of your findings

- Highlight what is important about your findings (use meaningful headings)

3. Connecting Back to Literature

- Revisit key theoretical constructs or frameworks mentioned in the introduction.

- Discuss how your findings confirm, modify, or contest these frameworks.

- Refer to recent or relevant studies to position your contribution.

- Summarize and refer back to the state of the art

- First discuss how your results align with the literature, how the add to, and the how they contrast or challenge it

4. Practical and Theoretical Implications

- Discuss theoretical implications – how your work advances understanding in the field.

- Are there also methodological implications?

- Outline practical or applied implications (e.g., for educators, practitioners, policymakers).

- Keep claims proportionate to your data and methodology.

- Implications have different nature: guiding people into a certain direction, question ideas that are taken for granted

5. Limitations

- Identify the main limitations of your study honestly (sample size, scope, method, etc.).

- Emphasize how these limitations inform rather than undermine your findings.

- Suggest how future research could address or overcome these limitations.

- Don't confuse sorriness with limitations

6. Future Research Directions

- Propose specific next steps (replication, expansion, methodological refinement).

- Link them logically to your findings and limitations.

- Avoid vague calls like 'More research is needed' – specify what kind of research.

- Connect the future research direction with the practical and theorethical implications already described or stated

7. Closing the Discussion

- End with a concise concluding paragraph that reiterates the main insight or contribution.

- Reflect on the broader significance of the work.

- Point to how your findings can inform ongoing debates or practices.

- ...

Other comments?

- This is a checklist dont interpret it as a template

Thank you...