

Review of: "Hybrid Approach - A 21st Century Skill in Science Education"

K.C.H. Moro

Potential competing interests: No potential competing interests to declare.

In reviewing the research paper, it becomes evident that the methodology section lacks crucial details that could have significantly strengthened the study's overall credibility and reliability. One particular area where improvement is needed is in specifying the specific sampling method and research method used.

The methodology section serves as the backbone of any research study, providing a comprehensive outline of the approach and techniques utilized to gather and analyze data. However, in this instance, it falls short of adequately detailing how the sample was selected and how data was collected and analyzed.

Firstly, the sampling method employed in research is a critical aspect that can influence the generalizability of the study's findings. Readers need to know precisely how the participants or data points were chosen to understand the representativeness of the sample. Without this information, it becomes challenging to assess the extent to which the results can be extrapolated to the broader population. Mentioning the specific sampling technique used, whether it's random sampling, stratified sampling, or convenience sampling, would provide clarity on this matter.

Secondly, the research method used in data collection and analysis should be explicitly stated in the methodology section. By specifying the research method, such as surveys, experiments, interviews, or observational studies, readers can better comprehend the nature of the data and the reliability of the results. Different research methods have distinct advantages and limitations, and omitting this information raises questions about the study's robustness.

Moreover, a transparent and well-described methodology enhances the study's reproducibility. Other researchers should be able to replicate the study using the same or similar methods to validate and build upon the original findings. However, the absence of specific details in the methodology makes replication difficult and hinders the advancement of knowledge in the field.

Additionally, a lack of information on the sampling and research methods can introduce unintended biases into the study. Readers might question the validity of the conclusions if it is not apparent how data was collected and analyzed. Transparent reporting of the methodology allows readers to assess the study's internal and external validity and provides a clearer picture of the research's strengths and limitations.

In conclusion, the methodology section of the research paper could have been greatly enhanced by explicitly specifying the specific sampling method and research method used. By doing so, the authors would have provided readers with crucial information to evaluate the study's rigor, validity, and generalizability. A transparent and well-described

methodology is essential for building confidence in the research findings and facilitating future research in the field.