.Checklist for critiquing a research article

by Barbara J. Kuyper (from BioScience 1991. 41(4):248-249)

Introduction:

1. Read the statement of purpose at the end of the introduction. What was the objective of the study?
2. Consider the title. Does it precisely state the subject of the paper?
3. Read the statement of purpose in the abstract. Does it match that in the introduction?
4. Check the sequence of statements in the introduction. Does all information lead directly to the purpose of the study?

Methods:

5. Review all methods in relation to the objective of the study. Are the methods valid for studying this problem?
6. Check the methods for essential information. Could the study be duplicated from the information given?
7. Review the methods for possible fatal flaws. Is the sample selection adequate? Is the experimental design appropriate?
8. Check the sequence of statements in the methods. Does all information belong in the methods? Can the methods be subdivided for greater clarity?

Results:

9. Scrutinize the data, as presented in tables and illustrations. Does the title or legend accurately describe content? Are column headings and labels accurate? Are the data organized for ready comparison and interpretation?
10. Review the results as presented in the text while referring to data in the tables and illustrations. Does the text complement, and not simply repeat, data? Are there discrepancies in results between text and tables?
11. Check all calculations and presentation of data.
12. Review the results in the light of the stated objective. Does the study reveal what the researcher intended?

Discussion:

13. Check the interpretation against the results. Does the discussion merely repeat the results? Does the interpretation arise logically from the data, or is too far-fetched? Have shortcomings of the research been addressed?
14. Compare the interpretation to related studies cited in the article. Is the interpretation at odds or in line with other researchers' thinking?
15. Consider the published research on this topic. Have all key studies been considered?
16. Reflect on directions for future research. Has the author suggested further work?

Overview:

17. Reread the abstract. Does it accurately summarize the article?
18. Check the structure of the article (first headings and then paragraphing). Is all material organized under the appropriate heading? Are sections subdivided logically into subsections or paragraphs?
19. Reflect on the author's thinking and writing style. Does the author present this research logically and clearly?