Science in Quality Accreditation

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The criteria a scientific, high-quality paper must meet — from research integrity to presentation.

PURPOSE & SCOPE

An Accreditation System for Scientific Papers

Science in Quality is an accreditation system that certifies whether a scientific paper meets defined standards of scientific quality and research integrity. It is not an institution: it is a set of criteria, a scoring method and a review procedure.

Seven **gatekeeping requirements** are pass/fail — failing any one means no accreditation, whatever the score. The **scientific quality** and **presentation** criteria are then scored and weighted, and the total decides the accreditation level.

7	10	10	4
PASS / FAIL GATES	SCIENTIFIC CRITERIA	PRESENTATION CRITERIA	ACCREDITATION LEVELS

BUILT ON

- **COPE** publication ethics
- **ICMJE** authorship
- **CRediT** contributor roles
- **EQUATOR** reporting guidelines
- **FAIR** data principles

PASS / FAIL

Gatekeeping Requirements

A paper must pass all seven before it is scored. These protect the integrity of the accreditation itself.

G1

Originality

Similarity at or below the limit (20% overall, 5% from any single source, references excluded); no duplicate or redundant publication.

Evidence: similarity report (e.g. iThenticate)

G2

Research ethics

Ethics committee approval for studies on humans or animals; informed consent where people take part.

Evidence: approval number and committee name

G3

Data and image integrity

No fabrication, falsification or inappropriate image manipulation; raw data available on request.

Evidence: signed integrity declaration

G4

Authorship

Every author meets the ICMJE criteria; no guest or ghost authors.

Evidence: CRediT contribution statement; ORCID iDs

G5

Conflicts of interest and funding

All financial and personal interests and all funding sources declared.

Evidence: declaration section in the paper

G6

Use of generative AI

Any AI use in writing, analysis or images is disclosed; AI is never listed as an author; authors take full responsibility.

Evidence: AI-use statement

G7

Citation integrity

No citation manipulation or coerced citations; self-citation limited to what the work needs.

Evidence: reference list, checked by the reviewer

SCORED 0–4

Scientific Quality Criteria

These ten criteria decide whether the paper adds reliable new knowledge.

S1

Originality and significance

New knowledge, a new method or new data; the research gap and the paper's contribution are stated explicitly.

S2

Research question and objectives

A clear, specific and answerable question; hypotheses where the design calls for them.

S3

Literature review

Current, relevant and critical coverage of the field; the work is positioned against the state of the art.

S4

Methodology

A design suited to the question, with enough detail to repeat it: materials, equipment, parameters, software and versions, controls or baselines.

S5

Data analysis and statistics

Correct methods with their assumptions checked; uncertainty reported (error bars, confidence intervals, error analysis); comparison with benchmarks.

S6

Reproducibility and data availability

A data and code availability statement; data shared in a repository where possible, following the FAIR principles.

S7

Results

Complete, clearly presented and consistent with the methods, including negative or unexpected results.

S8

Discussion

Results interpreted against prior work, with mechanisms explained; no claims beyond the evidence.

S9

Limitations

Limitations stated honestly, with their effect on the conclusions.

S10

Conclusions and impact

Conclusions follow from the results; theoretical or practical implications and future work are named.

SCORED 0–4

Presentation & Formal Criteria

These ten criteria decide whether readers and reviewers can understand, check and cite the work.

P1 **Title**
Accurate and specific, without exaggeration.

P2 **Abstract**
Background, aim, method, key results with numbers and the conclusion, within the word limit.

P3 **Keywords**
3–6 terms that a researcher in the field would search for.

P4 **Structure**
IMRaD (Introduction, Methods, Results and Discussion) or the field's accepted equivalent.

P5 **Language**
Clear, concise and grammatical English; terms and abbreviations defined at first use.

P6 **Figures and tables**
Legible, axes labelled with units, self-explanatory captions, at least 300 dpi; each one cited in the text.

P7 **Equations, units and notation**
SI units, consistent symbols, a nomenclature list where many symbols are used.

P8 **References**
Complete and accurate, one consistent style, primary and recent sources, DOIs where they exist.

P9

Reporting guidelines

The checklist that fits the study type is followed (e.g. CONSORT for trials, PRISMA for systematic reviews, ARRIVE for animal studies, STROBE for observational studies).

P10

Metadata and declarations

Author names, affiliations and ORCID iDs; corresponding author; funding, acknowledgements and data statements in place.

FROM GATES TO LEVELS

Scoring Model & Accreditation Levels

A paper that passes all gates gets a weighted score out of 100, and the score decides its level.

1

Gate check

The author submits the paper with the evidence for G1–G7. Any failed gate ends the review with “Not accredited” and a written reason.

2

Independent scoring

At least two reviewers score S1–S10 and P1–P10. Reviewers declare any conflict of interest before they start.

3

Reconciliation

Where two reviewers differ by more than 1 point on a criterion, a third reviewer scores it.

4

Weighted total

Scientific quality counts 70% and presentation 30% of the final score out of 100.

0 Absent · 1 Poor · 2 Adequate · 3 Good · 4 Excellent

$$\text{Total} = 70 \times \frac{\bar{S}}{4} + 30 \times \frac{\bar{P}}{4}$$

$\bar{S}$ and $\bar{P}$ are the mean scores of S1–S10 and P1–P10.

LEVEL 1

Accredited with distinction

Total ≥ 85 and no criterion below 3

LEVEL 2

Accredited

Total ≥ 70 and no criterion below 2

LEVEL 3

Conditionally accredited

Total 60–69, or one criterion at 1; the author revises within a set period and is re-checked

OUTCOME

Not accredited

Total < 60, any S criterion at 0, or any gate failed