Training Manual on

ADVANCED TECHNICAL REPORT Writing and Editing

28th Batch

Organized by

Agricultural Information Centre (AIC)

Bangladesh Agricultural Research Council
Farmgate, Dhaka-1215, Bangladesh
www.barc.gov.bd

Advanced Technical Report Writing and Editing (28th Batch)

Training Period: 09-13 November 2025

Compiled and edited by

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Bangladesh Agricultural Research Council

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Training on

"Advanced Technical Report Writing and Editing" (28th Batch)

09-13 November 2025

Organized by: Agricultural Information Centre, BARC

Venue: Conference-1, BARC, Dhaka

Program Schedule

Day	Time	Topic	Resource Speaker
Day-1 09th November 2025 (Sunday)	Inaugural Session		
	09:00-09:30 hrs	Registration	
	09:30 -09:35 hrs	Recitation from the Holy Quran	
	09:35-09:40 hrs	Welcome address	
	09:40-09:50 hrs	Address by Chief Guest	
	09:50-10:00 hrs	Address by Chairperson	
	10:00-10:30 hrs	**Tea Break and Photo Session**	
	10:30-11.00 hrs	**Pre-Evaluation Test**	
	11:00-12:00 hrs	Importance of Technical Report Writing	Dr. Md. Abdus Salam Executive Chairman, BARC
	12:00-01:00 hrs	Scientific Paper (Material and Methods)	Moin Us Salam Consultant PARTNER, APCU-BARC
	01:00 -02:00 hrs	**Prayer and Lunch Break**	
	02.00-03.00 hrs	Scientific Paper (Result and Discussion)	Moin Us Salam Consultant PARTNER, APCU-BARC
	03.00-04:00 hrs	Link of Title, Objective and Conclusion in a Scientific Report	Dr. Harun Ur Rashid Director, SAC and Director, Nutrition Unit, BARC
	04.00-04:10 hrs	**Tea Break**	
	04:10-05:00 hrs	How to Address Reviewers Comments	Dr. Harun Ur Rashid Director, SAC and Director, Nutrition Unit, BARC
Day-2 10th November 2025 (Monday)	09:30-10:30 hrs	Basics of Academic and Scientific Writing	Prof. Dr. Kazi Mostak Gausul Hoq. University of Dhaka
	10:30-11.30 hrs	Literature Review and Plagiarism	
	11.30-11.45 hrs	**Tea Break**	

Day	Time	Topic	Resource Speaker
	11.45-12.45 hrs	Report Writing and Institutional Innovations	Dr. Wais Kabir Former Executive Chairman, BARC
	12.45-02.00 hrs	**Prayer and Lunch Break**	
	02.00-03.00 hrs	Continued	
	03.00-04.00 hrs	Quantitative Research	Dr. Mirza Hasanuzzaman Professor Department of Agronomy Faculty of Agriculture, Sher-e-Bangla Agricultural University
	04.00-04.10 hrs	Tea Break	
	04.10-05.10 hrs	Continued with hands-on demonstration	
Day-3 11th November 2025 (Tuesday)	09:30-10:30 hrs	Data Presentation in Scientific Report Writing	Professor Noor Md. Rahmatullah, Department of Agricultural Statistics Faculty of Agribusiness Management, Sher-e-Bangla Agricultural University.
	10:30-11.30 hrs	Continued with hands-on demonstration	
	11.30-11.45 hrs	Tea Break	
	11.45-12.45 hrs	Editing with AI	Dr. Saiful Alam Chowdhury Associate Professor, Department of Mass Communication & Journalism, University of Dhaka.
	12.45-02.00 hrs	**Prayer and Lunch Break**	
	02.00-03.00 hrs	Continued with hands-on demonstration	
	03.00-04.00 hrs	How to Publish Research Articles in Reputed Journal (Impact Factor)	Dr. Md. Monowar Karim Khan, Senior Specialist Climate & Natural Resources, KGF.
	04.00-04.10 hrs	Tea Break	

Day	Time	Topic	Resource Speaker
	04.10-05.10 hrs	The Art of Simplicity: Writing Popular Articles for Agricultural Professionals	Dr. Susmita Das Director, AIC, BARC
Day-4 **12th November 2025 (Wednesday)**	09:30-10:30 hrs	Building Logical Flow: How to Make Your Report Easy to Follow and Well-connected	Dr. Md. Anwarul Islam Professor, Department of Information Science and Library Management, University of Dhaka
	10:30-11.30 hrs	Ethical Dimensions of Technical Writing and eporting	
	11.30-11.45 hrs	**Tea Break**	
	11.45-12.45 hrs	Structure of Research Report Writing in Social Science	Dr. Md. Mosharraf Uddin Molla, Member Director, BARC
	12.45-02.00 hrs	**Prayer and Lunch Break**	
	02.00-03.00 hrs	Making Your Research Matter: The Essential Guide to Abstract Writing for Agricultural Scientists	Dr. Md. Mahfuz Alam Director, Manpower and Training Unit, BARC
	03.00-04.00 hrs	Citation and Reference Writing Style in a Scientific Paper	Dr. Susmita Das Director, AIC, BARC
	04.00-05.00 hrs	Continued	
Day-5 **13th November 2025 (Thursday)**	09:30-10:30 hrs	Enhancing Clarity, Rigor, and Precision in Academic Writing	Dr. Qumrul Hasan Chowdhury Associate Prof, Department of English, University of Dhaka.
	10:30-11.30 hrs	Editing and Refining Research Writing for Effective Communication	
	11.30-11.45 hrs	**Tea Break**	
	11.45-12.45 hrs	Effective Journal Management: A Roadmap for Successful Publications	Dr. Sufara Akhter Senior Scientific Editor, AIC, BARC
	12.45-02.00 hrs	**Prayer and Lunch Break**	
	02.00-2.30 hrs	**Post Evaluation Test**	
	02.30-04.00 hrs	**Certificate Awarding and Closing Ceremony**	

Contents

Importance of Technical Report Writing

Dr. Md. Abdus Salam
Executive Chairman
Bangladesh Agricultural Research Council

Introduction

Technical report writing and editing are integral skills that play a crucial role across governmental, industrial, and academic sectors. The ability to present information in a sophisticated manner is essential for projects that require comprehensive documentation and communication. Government agencies, corporations, and non-governmental organizations rely on technical reports to propose and explain new initiatives, report progress, and showcase achievements in ongoing and completed projects. Furthermore, technical report writing is instrumental in articulating new technical policies or organizational structures, defining project scopes and requirements, and detailing plans for future projects or facilities. Simultaneously, within the academic sector, technical report writing assumes a fundamental role in conveying research findings, defining methodologies, and presenting the outcomes of experiments or studies. It emerges as a crucial aspect of scholarly communication, facilitating the exchange of knowledge and insights.

Communication Across Sectors:

Governmental Sector: Technical reports play a pivotal role in governmental organizations by providing a structured way to propose and explain initiatives, report progress, and showcase achievements. They are essential for articulating new policies, organizational structures, and detailing project scopes.

Academic Sector: In academia, technical report writing is fundamental for conveying research findings, defining methodologies, and presenting the results of experiments or studies. It is a key aspect of scholarly communication.

Scientific Papers and Journals:

Scientific Paper

A scientific paper is a written report presenting original research results, typically showcasing baseline data and follow-up data. This structured document follows a defined procedure, incorporating methods to collect data, assessing observations, repeating experiments, adhering to a centuries-old tradition in formatting, and requiring rigorous editorial practices and scientific ethics. Scientific papers serve as a cornerstone for scholarly communication, and their publication in national or international scientific journals ensures a rigorous peer review process, maintaining high standards of quality control. This dissemination of research findings not only contributes to the local scientific community but also establishes the researcher as a global participant, acting as a key evaluation measure for funding bodies.

Scientific Journal

Publication in a scientific journal is a crucial step for a researcher, serving as the primary vehicle for scholarly communication. Journals facilitate peer review processes, ensuring quality and providing a rapid means of communicating research findings. They play a pivotal role in establishing a researcher's identity on a global scale and contribute not only to the local scientific community but also to the international arena. Technical report writing is recognized as a fundamental criterion for evaluation by funding bodies, underscoring the importance of effective communication in the scientific community.

Rationale of Publication

Researchers are motivated to publish their work in scientific journals to gain technical skills and achieve a clear understanding of their research area. The publication process allows researchers to identify and address constraints and problems in their field, fostering personal and communal pursuits of knowledge. The dissemination of research results to the scientific community enhances the researcher's reputation and contributes valuable information to the broader public, validating new findings.

Motivation to Publication

Curiosity and a desire for knowledge-sharing drive researchers to publish their findings. Their enthusiasm for intellectual advancement, coupled with a passion for new thoughts and ideas, inspires a thorough investigation of research areas. Researchers actively seek publication opportunities, driven by the motivation to verify findings and contribute to the progression of science. Their dedication to intellectual value and the pursuit of new discoveries reflects positively on their scientific credibility.

Professional Development:

Career Advancement: Proficiency in technical report writing is often seen as a key skill in professional development. Individuals who can effectively communicate technical information are better positioned for career advancement and increased responsibilities.

Techniques of a Good Report

Producing a high-quality technical report requires adherence to specific techniques. The researcher must clearly define the purpose of the report for easy comprehension. The title should be complete and self-explanatory, while the content should be reinforced to enhance readability. Proper formatting, the inclusion of suitable charts and graphs, and the use of simple, clear, and lucid language contribute to the consistency and meaning of the report. Drafting the report in an impersonal manner, adding essential technical details, and providing fruitful recommendations enhance the document's reliability and credibility.

Reasons for Editing

Editing is essential in refining journal papers. It corrects errors and mistakes, creating a favorable first impression for the scientific paper. Editing aids in building comprehensive writing, clarifying initial hypotheses, verifying correct methodologies, and ensuring accurate statistical analysis. It serves as a crucial step in presenting authentic and refined articles, contributing to the researcher's adherence to research ethics and justifying literature reviews and methods for a specific area.

Conclusion

In conclusion, the researcher's commitment to mastering the art of report writing transcends mere skill acquisition, it becomes a source of fulfillment. Adherence to rules and regulations of publication not only showcases the researcher's dedication but also fosters recognition, enhancing self-respect and social status. These processes, grounded in the mastery of technical report writing, pave the way for researchers to make significant contributions to society and the country through the development of research.

Writing Sections of a Scientific Paper: Abstract, Introduction, Materials, Methods, Results, Discussion and Conclusion

Dr. Moin Us Salam
Consultant PARTNER, APCU-BARC

Abstract

- The title & abstract - advertisement of your article.
- Make it interesting and easily understood without reading the whole article.
- Avoid using jargon, uncommon abbreviations and references.
- Organize into: "Background", "Aim & Method", "Results" & "Conclusion"

An example

Pattern of disease spread provides improved knowledge on how the pathogen introduces itself and interacts with environment in fields and expresses as a disease. It is especially significant when epidemiology of a disease, such as rice false smut (RFSm), is unclearly understood.	**BACKGROUND**
Not reported before, this study attempted an analysis of spatial pattern of natural spread of RFSm in nine fields in an intensive rice ecosystem in Bangladesh. Both conventional and specialized statistical methods were applied in the analysis.	**AIM & METHOD**
Results show that the spread of the disease was not similar between and within the fields and even some fields were almost disease free. RFSm recorded aggregation in spaces in most of the fields, but the location of this aggregation differed between the fields. Symptom recorded on panicles in regenerated tillers from harvested main crop (otherwise known as ratoons). The disease tended to be prominent towards proximity of drainage channels. The probability of occurring one diseased tiller per hill was calculated as 73% and cumulative probability of four or less smut balls per diseased panicle as little over 60%. This study establishes soil as the absolute dominant source of initiation of the epidemic. The analysis did not find evidence of any long- or short-distance primary and/or secondary sources of infection.	**RESULTS**
It is concluded that the disease management be directed specific to the fields at risk. It suggests development of a soil testing tool for quantifying inoculum potential in a field to ascertain the risk. With the discovery of symptom on ratoons, this highlights the need for fresh thinking on identifying the pathway of entry of the pathogen into the plant.	**CONCLUSION**

Introduction

- To convince readers that you clearly know why your work is useful.
- What is the problem to be solved?
- Are there any existing solutions?
- Which is the best?
- What is its main limitation?
- What do you hope to achieve?
- Never use more words than necessary (be concise and to-the-point). Don't make this section into a history lesson. Long introductions put readers off.
- Organized from the global to the particular point of view, guiding the readers to your objectives when writing this paper.

An example

Bangladesh Rice J. 19 (2) : 29-35, 2015

Rice False Smut Disease at Different Flowering Times

Bodrun Nessa[1,2*], Moin U Salam[3], A H M Mahfuzul Haque[1], Jiban K Biswas[2], M Abdul Latif[2], M Ansar Ali[2], Tahmid H Ansari[2], Montasir Ahmed[2], Nargis Parvin[2], M Zakaria Ibne Baki[2], Subrima Islam[2], M Sirajul Islam[2] and Jean Galloway[3]

The status of rice false smut (RFSm) as an emerging fungal disease of rice has been recognized worldwide (references). The disease is a serious concern to the farmers of Bangladesh during T. Aman season, due to its epidemic outbreak especially on a popular variety `BRRI dhan49`.

RFSm is an inflorescence disease. The symptom of the disease only appears after rice crops flower. On the other hand, recent findings indicate that the infection is likely to onset one to three weeks earlier to appearance of smut balls (Li et al., 2013; Jia et al., 2014). While few studies were conducted relating weather and spore release (Sreeramulu et al., 1966), the potential association of weather variables during infection stage to incidence of RFSm has not been well documented.

The management of the disease is not well recognized as its salient epidemiological features under field conditions are still unknown (Nessa et al., 2015b, Tanaka, 2015). …. Among the cultural management options, a number of studies have attempted to control RFSm through manipulation of transplanting time in China (Liang et al., 2014, Egypt (Atia, 2004), India (Dodan and Singh, 1994), Nigeria (Ahonsi et al., 2000) and in the USA (Brooks et al, 2009). However, a similar study has not yet been conducted in Bangladesh.

With the above background, the present study was undertaken to investigate whether false smut epidemic on susceptible rice varieties can be escaped with changing flowering times of the crop by varying the transplanting time. The study also aimed to identify major weather parameters influencing the disease.

Materials and methods

- How the research problem was studied? You need to include detailed information so a knowledgeable reader can reproduce the experiment.
- Do not repeat the details of established methods; use "References" to indicate the previously published procedures.
- Describe the statistical methods used (including confidence levels, etc.)
- Avoid adding comments, results, and discussion, which is a common error.

Results

- What have you found?
- For the data, decide on a logical order that tells a clear story and makes it and easy to understand.
- Tell the story with statistical back-up.
- An important issue is that you must not include references in this section -
- you are presenting your results, so you cannot refer to others here
- if you refer to others, is because you are discussing your results, and this must be included in the Discussion section.

An example

Bangladesh Rice J. 19 (2) : 29-35, 2015

Rice False Smut Disease at Different Flowering Times

Bodrun Nessa[1, 2*], Moin U Salam[3], A H M Mahfuzul Haque[1], Jiban K Biswas[2], M Abdul Latif[2], M Ansar Ali[2], Tahmid H Ansari[2], Montasir Ahmed[2], Nargis Parvin[2], M Zakaria Ibne Baki[2], Subrima Islam[2], M Sirajul Islam[2] and Jean Galloway[3]

In 2015, the rice false smut (RFSm) disease initiated (DI (%) = 0.07±0.01, is 95% confidence interval) when the crop flowered on 5 August (Fig. 1). The level of the disease remained low (DI 0.47%) in the crops flowering before mid October. The RFSm reached the peak (DI (%) = 2.40±0.30) on 5 November and ceased on 28 December flowering crops. The data on initiation and cessation time of the disease was not available for 2014 season. However, like 2015, the disease level was low (DI 0.47 to 0.49%) in the crops flowering till mid-October. The RFSm reached the peak (DI (%) = 2.45±0.67) on the crop flowered on 9 November.

Discussion

- What the results mean?
- It is the most important section of your article. Here you get the chance to sell your data.
- Probably "Discussion" is the easiest section to write, but the hardest section to get right.
- Discussion corresponding to the Results, but do not reiterate the results.
- Compare the published results with yours (using some of the references included in the Introduction).

- Never ignore work in disagreement with yours, in turn, you must confront it and convince the reader that you are correct or better.
- Speculations on possible interpretations are allowed, but these should be rooted in fact, rather than imagination

An example

Bangladesh Rice J. 19 (2) : 29-35, 2015

Rice False Smut Disease at Different Flowering Times

Bodrun Nessa[1,2*], Moin U Salam[3], A H M Mahfuzul Haque[1], Jiban K Biswas[2], M Abdul Latif[2], M Ansar Ali[2], Tahmid H Ansari[2], Montasir Ahmed[2], Nargis Parvin[2], M Zakaria Ibne Baki[2], Subrima Islam[2], M Sirajul Islam[2] and Jean Galloway[3]

In this study, the incidence of rice false smut (RFSm) disease was estimated across a range of flowering regimes of a T. Aman rice variety in 2014 and 2015 by setting the transplanting time accordingly. With this, the start and cessation of the timing of the disease on T. Aman rice have been recognized, which have not been reported so far in Bangladesh. Our results show early flowering crops (thereby planted early) had significantly lower disease incidence compared to later flowering crops. In his early work in Japan, Ikegami (1960) observed that RFSm disease on 20 May sown crop was almost 2-fold compared to the crop sown on 1 May.

In India, similar findings have been reported in the 1980s and 1990s (references). Thus, manipulation of planting time could be a way to control this disease (references).

The level of the disease towards the tail-end of flowering regime was very similar to early part of flowering window. Most of the literature hardly mentioned the disease at the tail-end of flowering window. In an early work, Raw (1964) noted that mid- duration crop had the highest incidence than short or long duration crop. Raw's finding is a subjective agreement to our findings.

Conclusion

- This section shows how the work advances the field from the present state of knowledge.
- In some journals, it' s a separate section; in others, it's the last paragraph of the Discussion section.
- A common error in this section is repeating the abstract, or just listing experimental results.

An example

Phasic Development of Rice Seedlings

Moin U. Salam,* James W. Jones, and John G. W. Jones

Published in Agron. J. 89:653–658 (1997).

Based on our study and a reanalysis of Yoshida's (1973) findings, it appears that the preautotrophic duration of rice seedlings is about 321 thermal units. This duration appears to be independent of cultivar and seed size. ….. Findings from this study are helpful in understanding early growth processes of rice; accordingly, this information may be useful for crop management and modelling rice growth. However, rice has a range of genetic diversity, wide climatic adaptability, and a number of growing patterns. Our findings were based on optimum water and nutrient availability conditions. Also, results from this study and reviewed literature were for indica-type cultivars and dry seeded culture. Thus, these findings should be further verified with other cultivar (e.g., japonica) types, sowing practices(e.g., wet-seeded culture), and crop management (soil and water) conditions.

Link of Title, Objective and Conclusion in a Scientific Report

Md. Harunur Rashid, PhD
Director, SAARC Agriculture Centre
and Director, Nutrition Unit, BARC

Sequence of writing a Scientific Article

Methods, Results and discussion, Introduction with relevant review and objectives, Abstracts, Title.

We need to start writing the paper as soon as one part of the experiment is finished. Because observations are then fresh in mind and there is possibility to further check of data or experimentation.

Our attention!

Reviewer first look at the objective and judge with conclusion. The first impression of an article depends on Title.

Title

It helps the reader to know whether the contents are within his/her range of interest. Bad titles have generally more than 12 words. Around 10 words is good, a shorter is better.

Desirable titles contain few words or excluding unimportant words such as- "effects", "evaluation", "study", "experiments", "trials", "observations", "investigations", "test", "factors" and "analysis".

We are to include common and scientific name of a relatively unknown crop in the title, e.g. tamarind (Tamarindus indica L.).

Making title attractive following some steps:

1. Listing all the main data shown in Tables, figures, the crop, treatment etc.
2. Grouped together under a descriptive word
3. Compose the words to form an eye-catching and informative title
4. Review for grammar and remove some of the words which do not damage the meaning.

Example (a):

Height, weight, flowers, fruits, cucumber and sawdust mulch

Height, weight (growth), flowers, fruits (development) cucumber and sawdust mulch

Growth and development of cucumber mulched with sawdust

Growth and development of sawdust-mulched cucumber

Example (b)
Height, weight, flowers, fruits, cucumber and sawdust mulch

Height, weight (growth), flowers, fruits (development) cucumber and sawdust mulch

Growth and development of cucumber mulched with sawdust

Growth and development of sawdust-mulched cucumber

Example (c)

A qualitative and quantitative study of tidal storm Sidr's damage to the Boro rice and other non-rice crops in saline and non-saline areas of Barisal, Patuakhali and Barguna districts (31 words)

A study of tidal storm Sidr's damage to the Boro rice and other non-rice crops in saline and non-saline areas of Barisal, Patuakhali and Barguna districts (28 words)

Sidr's damage to the Boro and rabi crops in saline and non-saline areas of Barisal, Patuakhali and Barguna districts (20 words)

Sidr's damage to Boro and rabi crops in Barisal region (10 words)

Objective
Objectives usually written at the end of the introduction either as merged of separately. The introduction answers the questions: -What was the **problem**? Why was it necessary to solve the problem (**justification**)? What were the findings of previous authors who worked on aspects related to the problem (**review of past work**)? What did I expect to accomplish (**objectives**) or prove (**hypothesis**)?

Examples
Objective: Our study aimed to evaluate the effects of drum seeding and transplanting of rice with better crop management on productivity, resource (land, water, and labor) use, and economic return in aman and boro seasons.
Therefore, an experiment was conducted to evaluate the comparative efficacy of hand weeding and pretilachlor applied on different days after seeding rice for effectively and economically controlling weeds and improving the productivity of rice wet-seeded using a drum seeder, during the aman and boro seasons.

Hypotheses: This study addresses the following research questions: Is community training effective to the stress and non-stressed environment for adopting rice production technology? Does the adopted technology impact on rice productivity? Is a community training enough to convince the farmers to adopt rice production practices?

Conclusions and recommendations

It's the implications and usefulness of the research. Make recommendations on how to benefit from the findings, present new avenues for research or related areas of research that need to be explored. If necessary, comment also on the reliability of the results. Make sure that your conclusions satisfy your objectives.

Link of Title, Objective and Conclusion

Title:
Mechanised non-puddled transplanting of boro rice following mustard conserves resources and enhances productivity
Here-
Target or best Treatment: Mechanised non-puddled transplanting
Test crop: boro rice
Specific situation/environment: boro rice followed by mustard
Key results: conserves resources and enhances productivity
Objective:
Therefore, the present study was designed to evaluate (1) the effect of tillage method on the performance of manually and mechanically transplanted boro rice, and (2) mechanical transplanting of the boro crop in comparison with manual transplanting. The evaluation was conducted in an aman-mustard-boro rotation, and treatments were compared in terms of boro rice yield, labour requirement, irrigation water productivity and profitability.
Here-
Objective 1: tillage method on the performance of manually and mechanically transplanted boro rice is linked with the title part- Mechanised non-puddled transplanting of boro rice.
Objective 2: mechanical transplanting of the boro crop in comparison with manual transplanting is linked with title part- conserves resources and enhances productivity

Conclusion:
The results show that puddling is not essential for maintaining yield of boro rice transplanted after mustard harvest. Similar yields were obtained when transplanting into puddled and reduced (dry) tilled soil with both manual and mechanical transplanting. However, there was usually a small yield decline with transplanting into non-tilled (ZT) soil. Yield of mechanically transplanted rice was higher than or similar to that of manually transplanted rice, regardless of tillage treatment. Both reducing tillage and mechanical transplanting facilitate rapid and earlier establishment of the boro crop, with potential yield benefits in addition to reduced labour requirement.
Here-

The answer of Objective 1:
The results show that puddling is not essential for maintaining yield of boro rice transplanted after mustard harvest. Similar yields were obtained when transplanting into puddled and reduced (dry) tilled soil with both manual and mechanical transplanting. However, there was usually a small yield decline with transplanting into non-tilled (ZT) soil.

The answer of Objective 2:
Yield of mechanically transplanted rice was higher than or similar to that of manually transplanted rice, regardless of tillage treatment. Both reducing tillage and mechanical transplanting facilitate rapid and earlier establishment of the boro crop, with potential yield benefits in addition to reduced labour requirement

Thus the objectives are linked with title and the conclusion is linked with objectives.

How to Address Reviewer's Comments

Md. Harunur Rashid, PhD
Director, SAARC Agriculture Centre
and Director, Nutrition Unit, BARC

Understanding of reviewers Comments and decision to re-submit

The reviewers usually comment for major or minor correction. In case of major correction, it needs to decide whether it is within the capacity and patience or not. If there is most doubt to accept by the reviewer, better to revise for an alternate journal. The authors are to check the language and editorial aspects and comments carefully and proceed to comply when it is decided to revise and re-submit. The following ways may be followed for revising a reviewed manuscript.

Steps of addressing Reviewer's Comments

Responding to reviewers' comments on a submitted manuscript is an important step in the publication process. Responding to reviewers' comments requires careful attention to detail, clear communication, and a professional attitude. Make the revisions they suggest if you believe they will improve your work. If you are going to resubmit to the same journal, include a cover letter pointing out the revisions you have made. If you decide not to follow all of the reviewers' suggestions, also briefly indicate why. Remember that your goal is not just to get your paper past the reviewers, but to publish a clearly written, high quality paper that will reflect well on you, be a contribution to the field and be cited in future work. The peer reviewers' role is to assist you in that goal, as well as to maintain the reputation of the journal.

Key steps to effectively address reviewer comments

Take time to understand the comments: Carefully read and try to understand the reviewers' comments, and make sure you address each point that they raise.

Acknowledge and thank the reviewers: Start your response by expressing gratitude for their time and insightful feedback.

Read comments thoroughly: Carefully analyze each comment to fully understand the reviewer's concerns.

Respond to each comment individually: Address each point raised by the reviewers, providing specific explanations for any changes made or reasons for not making a suggested change. If you disagree with some, justify your decisions if necessary by citing relevant literature or data. Avoid giving yes or no answers. Regarding responding to the harsh or negative peer reviewer comments, you should deal with them as you would deal with any other comment.

Be specific and clear: When describing revisions, use precise language and reference specific page numbers or sections of the manuscript where changes were made.

Be clear and concise: Make sure your response is clear and concise, and avoid unnecessary jargon or technical terms.

Justify disagreements politely: If you disagree with a reviewer's comment, explain your reasoning clearly and provide supporting evidence if possible.

Highlight key revisions: Emphasize the most significant changes made to your manuscript based on the reviewer feedback.

Consider adding new data or analysis if necessary: If reviewers raise concerns that could be addressed by additional data, explain how you plan to incorporate this new information.

Proofread carefully: Before submitting your response, double-check for any errors in grammar or clarity.

Important points to remember:

Maintain a professional tone: Even if you disagree with a reviewer, always maintain a respectful and polite manner
Avoid personal attacks: Never criticize the reviewer's expertise or intentions.
Be concise: While providing detailed explanations, aim to be succinct and avoid unnecessary repetition.
Consult with your co-authors: If you have co-authors, discuss the reviewer comments together and develop a unified response.

The way of responding to reviewers' comments
The authors can respond to reviewer's comments either by following textual template or in tabular form.
How to respond to comments that you agree with
Comments from Reviewer 1
• Comment 1: [Paste the full comment here and italicize it.]
Response: [Type your response here.] Thank you for pointing this out. I/We agree with this comment. Therefore, I/we have….[Explain what change you have made. Mention exactly where in the revised manuscript this change can be found – page number, paragraph, and line.]
• Comment 2: [Paste the full comment here and italicize it.]

Response: Agree. I/We have, accordingly, done/revised/changed/modified…..to emphasize this point. [Discuss the changes made, providing the necessary explanation/clarification. Mention exactly where in the revised manuscript this change can be found – page number, paragraph, and line.]

• Comment 3: [Paste the full comment here and italicize it.]

Response: I/We agree with this and have incorporated your suggestion throughout the manuscript.

How to respond to comments that you disagree with

• Comment 1: [Paste the full comment here and italicize it.]

Response: [Type your response here.] Thank you for this suggestion. It would have been interesting to explore this aspect. However, in the case of our study, it seems slightly out of scope because…. [Provide a clear explanation/justification providing supporting evidence as far as possible.]

Comment 2: [Paste the full comment here and italicize it.]

Response: [Type your response here.] You have raised an important point here. However, I/we believe that ….would be more appropriate because….[Provide your justification with clear reasoning/supporting evidence.]

Table: Responses on Reviewers comments for the article ID

Line/page/Section of the V2 of MS	**Reviewers'/Co-Editor-in-Chief's Comments**	**Responses**
Line 1	Modify the MS title as "Mechanized non-puddled transplanting of Boro Rice following Mustard Conserves Resources and Enhances Productivity"	Modified the title with "non-puddled" instead of un-puddled
Line 12-33	Abstract highlighted.	Revised with combined analysis data.
Line 13	non-puddled instead of unpuddled	Revised as non-puddled in whole MS
Line 34	Don't use words that appear in the title	Replaced the words that appear in the title
Line 37-43	Addition and deletion of some phrases and sentences.	Agreed and accepted the revision.
Line 41-42	The aman-fallow-boro system accounts for X % of the rice produced in Bangladesh (REF)	Figure for the aman-fallow-boro system with reference mentioned.

Line/page/Section of the V2 of MS	Reviewers'/Co-Editor-in-Chief's Comments	Responses
Section/page	Reviewer's Comments/suggestions	Authors responses
Overall	This manuscript presents valuable insights into the effects of planting density on seed yield and profitability in zero-tilled dibbled sunflower under saline conditions. The study design is robust, and the results provide meaningful contributions to understanding the dynamics of crop management in challenging environments. However, the manuscript would benefit from a deeper analysis of the long-term implications of increased planting density on soil health and ecosystem sustainability, as well as a clearer discussion on the broader applicability of these findings across different establishment methods. Additionally, minor clarifications on the statistical analysis and further justification for the chosen salinity levels would strengthen the paper. With these improvements, I would recommend accepting the manuscript for publication.	Clarifications on the suggested areas in different parts of the article have been discussed.
Abstract	The abstract provides essential data, but the structure could be clearer. Consider reorganizing for better readability by first summarizing the experiment's purpose, then presenting key results in sequence.	Complied.
	This look a little bit high planting density treatment (74074 ha-1)	It was assumed that the higher yield in high saline site may be addressed with high planting density. Therefore, high planting density was included as a treatment.
	Expand slightly on how the gross margin changes with each planting density impact	Complied.

Line/page/Section of the V2 of MS	Reviewers'/Co-Editor-in-Chief's Comments	Responses
	profitability to clarify the economic implications.	
Introduction	While the introduction provides a clear rationale for studying plant density effects on yield and profitability in saline conditions, it lacks an explanation for choosing the zero-till dibbled planting system. Providing context on why this specific planting method was selected—such as its potential benefits for soil health, reduced labor, cost-efficiency, or adaptability to saline environments—would strengthen the study's foundation and help readers understand the relevance of this approach in achieving the research objectives.	Explanation is added for choosing zero-tilled dibbled planting system.
	It is better to explain why this system or condition was choose for your experiment!!	
Materials and methods	The methodology section is well-detailed, particularly the clear explanation of sowing, nutrient management, and irrigation practices. However, it would be beneficial to provide more context on the choice of fertilizer application rates, especially in relation to the soil nutrient status at the experimental sites. It would also be useful to discuss how irrigation scheduling aligns with the crop's growth stages and water requirements, particularly in saline conditions, to better understand its impact on sunflower yield. Additionally, some mention of how the zero-till practice affects soil health and water retention over time would enhance the practical relevance of this study.	The fertilizer application rate and irrigation scheduling have been discussed in crop establishment section under Materials and methods.

Line/page/Section of the V2 of MS	Reviewers'/Co-Editor-in-Chief's Comments	Responses
	The experimental design and selection of planting densities are well-explained; however, the rationale for choosing zero-till dibbled sunflower after monsoon rice could be further elaborated. Specifically, addressing how this practice aligns with soil conservation goals, reduces input costs, or enhances soil moisture retention in saline-prone regions would strengthen the study's relevance. Additionally, more context on why the two alternative densities were expected to improve yield or profitability over the traditional practice would provide valuable insight into the hypotheses guiding this research.	Discussed in introduction section of revised article.
	Statistical Analysis: Reference for CropStat 7.2	Reference cited and listed
Results and Discussions : Soil moisture	The author has presented interesting results regarding the variation in soil moisture across locations, but it would strengthen the manuscript to compare these findings with previous studies on the impact of salt-affected soils on soil moisture. Specifically, a discussion of how the higher soil moisture in Sreefalkathi, despite higher salinity, aligns or contrasts with existing literature would provide valuable context. Including relevant citations and referencing prior research on soil moisture dynamics in saline environments would help frame these findings within the broader scientific understanding and support the interpretation of the observed results.	Complied.
Results and Discussions : Soil salinity	Although the result part is insignificant, but discussion is relevant here!!	The soil salinity was insignificant in different treatments and the interaction between treatment and locations.

Line/page/Section of the V2 of MS	Reviewers'/Co-Editor-in-Chief's Comments	Responses
		However, ECe varied significantly across locations throughout the study period, with soil salinity following the trend of Sreefalkathi > Bharasimla > Shadpur from sowing to 90 DAS. That's why the discussion is justified.
Conclusions	The conclusion effectively highlights the key findings regarding the impact of planting density on seed yield and profitability in zero-tilled dibbled sunflower within saline ecosystems. However, it would be beneficial to further discuss the potential implications of these findings on long-term sustainability and soil health in saline environments. Additionally, providing a comparison with other sunflower establishment methods or addressing possible limitations in the study's methodology could strengthen the recommendations for promoting the 37,037 plants ha-1 density.	Complied.
References	Please strictly follow the journal guidelines.	In case of references, the guidelines of the journal strictly followed.

Take home message

- Be polite, grateful, and professional, even when you think a reviewer is wrong
- Never assume a reviewer is "stupid" or a nonexpert
- Respond to ALL queries and ALL author instructions
- Provide thorough responses-do not leave any stone unturned
- Make it EASY for the reviewer and editor to understand your response
- If you do not understand a review comment, it is okay to admit it.

Basics of Academic and Scientific Writing

Dr. Kazi Mostak Gausul Hoq.
Professor
Dept. of Information Science and Library Management
University of Dhaka and
Associate Editor
Dhaka University Studies

Academic writing is **clear, concise, focused**, structured and **backed up by evidence**. It is formal, objective (impersonal) and technical. It follows a particular 'tone' and adheres to traditional conventions of punctuation, grammar, and spelling.

Types of academic writing

Descriptive

Based largely on writing statements without providing any explanation. Often answers the basic questions of "who", "what", "when", and "where" to depict people and setting.

Analytical

Characterized by the questions "why" and "so what“, focusing on interpretation of the facts. Information is re-organized into categories, groups, parts, types or relationships.

Descriptive Writing	Analytical writing
States what happened.	Explain what the impact of the event was.
Explains what a theory says.	Explains how this is relevant to the key issue(s) and research question(s).
Notes the methods used.	Explains whether these methods were relevant or not.
States what time/date something happened.	Explains why the timing is important/relevant.
Explains how something works.	Explains whether and why this is positive or negative.

Persuasive

Writers analyze their own argument with the intent to persuade readers to agree with them. Most essays are persuasive, and there is a persuasive element in the discussion and conclusion of a research article.

Critical
Characterized by consideration and critique of multiple sources on a particular argument. It demonstrates the writer's ability to consider and evaluate multiple points of view and then focus on what s/he believes to be the most accurate argument.

Key features of Academic Writing
Formal
Colloquial expressions, abbreviated forms of verbs, contractions, sexist and racial terms, idioms and emotional language should be generally avoided.

Explicit
It is explicit in relation to the message communicated. Sentences need to be connected in a clear way by means of words and phrases that show the logical organization of texts.

Precise
Sentences, terms, dates, figures and data must be precise and texts must be focused. There should be clear focus for each paragraph.

Structured
Different forms of academic writing have specific structures. It ensures that information is presented in a logical way and that ideas can be developed clearly and function as a unit.

Unbiased
Academic writing tries to convince using arguments that can be evaluated. Therefore, we have to use language and arguments that express neutrality.

Supported
Academic writing is characterized by acknowledging sources used to develop the writer's own views and ideas. Plagiarism is considered a severe academic crime.

The Dos and Don'ts of Academic Writing

Do not use slang, jargon, colloquialisms, clichés or sexist language. **Example:** **Colloquialisms** (the use of informal or everyday language): Wanna – want to, Gonna – going to. **Jargon** (words that are meaningless outside of a certain context) ▪ low-hanging fruit – Business jargon meaning the easiest problems to fix. **Clichés** (overused phrases or expressions): "every cloud has a silver lining," "don't judge a book by its cover".	**Use formal language** **Use words that do not show sexist bias** (Chairperson, Spokesperson, his/her, S/he, etc.)

Do not use shortened verb forms (contractions), such as they're, isn't, can't.	Use the full verb form instead, e.g. they are, is not, cannot
Do not use common vocabulary, such as have got, a lot, nice.	Make more formal vocabulary choices, e.g. have found, a great deal, etc.

Do not use personal pronouns e.g. I, you, we (unless specifically required)..	Be non-personal.
Do not use sweeping generalizations e.g. the people of the village were illiterate.	Be cautious in choosing words and leave room for exceptions. e.g. The overwhelming majority of the villagers were illiterate (James 2016).
Do not use bullet points or lists, unless it is in a report.	Use complete sentences and link these into logical paragraphs.
Do not rely too much on the computer spell checker. The spell check will not pick up on whether vs weather.	Check spelling, grammar and punctuation etcetera. Proofread and use a dictionary. Ask somebody to proofread your text for you.
Avoid making assumptions or giving personal opinion (unless specifically asked).	Be objective.

Steps of writing
Pre-writing
Points to be considered:

- audience and purpose (who you are writing to and why)
- tone and style (how you transmit the information)
- gathering of information (brainstorming, analysing sources of information, etc.)
- outlining (organization of information)

Writing
Writing the first draft. At this stage, it is important to consider the main parts of the text, paragraph development and coherence as well as genre conventions.

Post-writing

- Revising content and organization
- Checking for grammatical accuracy
- Editing for style
- Proofreading and peer review

Research Paper

Key features of research papers

- Clear statement of the problem and proposed solutions and results.
- Description of what has been done before and what is new.
- Description of the results in sufficient detail.
- Identification of the major aspects and significance of research.
- Description of what improvements they might suggest and the impacts they might have.
- An abstract with all necessary information presented briefly but comprehensively.

General format of a research paper

- Title
- Abstract
- Introduction
- Literature Review
- Research problem
- Objective(s)
- Methodology
- Result
- Discussion
- Conclusion
- References
- Appendices
- Acknowledgment

Key considerations

Keeping abreast of new knowledge

- New and relevant articles get published all the time. Two very important sources to keep abreast of new research are SCOPUS and Web of Science.

- **Scopus** is Elsevier's abstract and citation database. It covers nearly 36,377 journals from approximately 11,678 publishers, of which 34,346 are peer-reviewed journals in top-level subject fields: life sciences, social sciences, physical sciences and health sciences.

Criteria for manuscript evaluation

- Appropriateness of the topic.
- Originality or significance of the research.
- Strength of the conclusions, results, or interpretations.
- The validity of the research methods.
- The quality of the writing.

Reading the 'Guide for Authors' carefully

- Applying the Guide for Authors to the manuscript is vital (text layout, paper citation, figures and table, etc.).
- Editors dislike wasting time on poorly prepared manuscripts. It is considered as a sign of disrespect.

The abstract: the advertisement of an article

A good abstract:

- Is precise and honest
- Can stand alone
- Uses no technical jargon
- Is brief and specific
- Cites no references

The quality of an abstract will strongly influence the editor's decision

Thesis/Dissertations

Key features of thesis/dissertation

- The thesis/dissertation should be "original" and "substantial".
- It should highlight original contributions. The essence of a thesis/dissertation is critical thinking. Analysis and concepts form the core of the work.
- Every major statement in a thesis/dissertation must be supported either by a reference to published scientific literature or by original work.

Common structure of a thesis/dissertation

Title	Should be succinct, specific, descriptive, and representative of the research
Abstract	It should be able to stand alone in representing why and how you did what you did, and what the results and implications are.
Acknowledgements	Different kinds of help are appreciated and mentioned.
Contents page(s)	Shows the structure of the dissertation

Introduction	Provides general background of the relevant issues, articulates research problem, rationale and the research objectives.
Literature review	To show that the researcher is aware of where his/her own research fits into the overall context of research in the concerned field
Methodology	Describes the tools, processes, or materials used for the research
Results/Findings	Representation of the findings of the research
Discussion	Review of the research in relation to the wider context in which it is located
Conclusion	Summing up the finding and indication for future research
References and bibliography	Includes all references in the required referencing style.
Appendices	Contains all supporting materials used for the research

Policy Paper

Policy papers contain critical analysis of an important issue or problem that involves research and development of a defensible plan (policy proposal) for solving the problem and formulation of workable strategies for implementing the plan.

The purpose of the policy paper is to provide a comprehensive and persuasive argument justifying the policy recommendations presented in the paper. It acts as a decision-making tool and a call to action for the target audience.

The purpose of the policy paper is to provide a comprehensive and persuasive argument justifying the policy recommendations presented in the paper. It acts as a decision-making tool and a call to action for the target audience.

Major parts of a policy paper

- Introduction and Background of the issue
- Statement of the problem
- Current policies
- Policy recommendations, feasibility & implementation strategies

- Summation and Conclusion
- Works cited/Reference

Research Ethics

Research ethics involves the application of fundamental ethical principles to research activities.

Ethical dilemmas in research

- Analyzing and sharing data
- Assigning authorship
- Conflict of interest
- Peer review
- Reporting misconduct
- Human subjects research
- Animal research
- Social responsibility

Core principles

- Maximize benefit for individuals and society, and minimize risk and harm.
- Rights and dignity of individuals/ groups should be respected.
- Participation should be voluntary and appropriately informed.
- Conducted with integrity and transparency.
- Lines of responsibility and accountability clearly defined.
- Challenge any form of harassment, discrimination, intimidation, exploitation, abuse.

Authorship

Authorship and accountability go hand in hand. People should be listed as an author only if they:

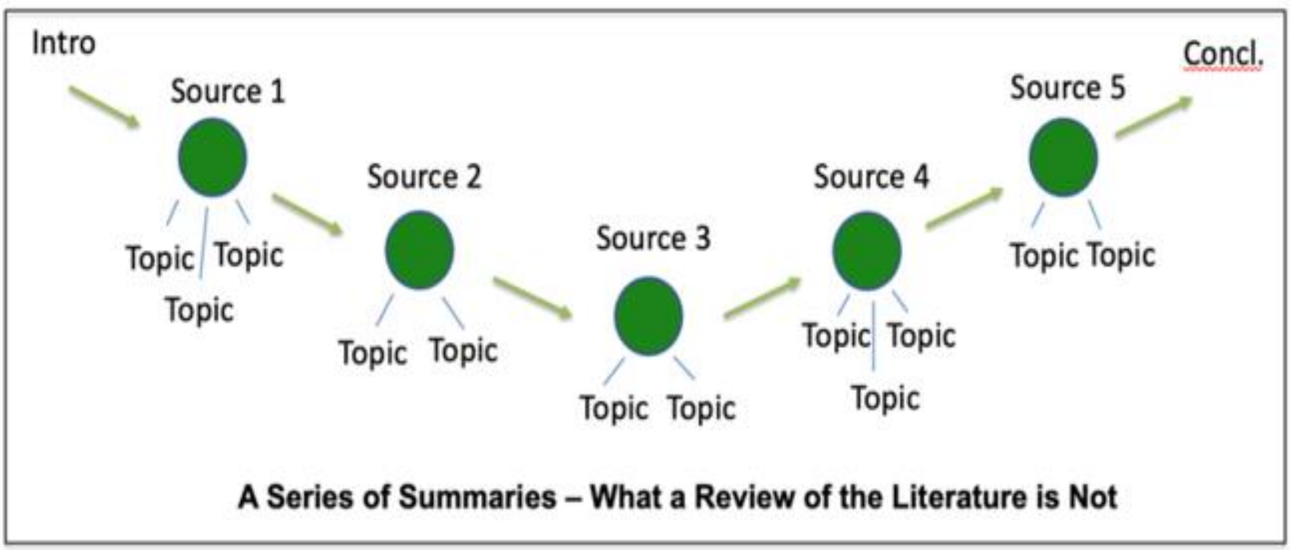
- Have made a significant intellectual contribution to the paper.
- Are prepared to defend and explain the paper and its results.

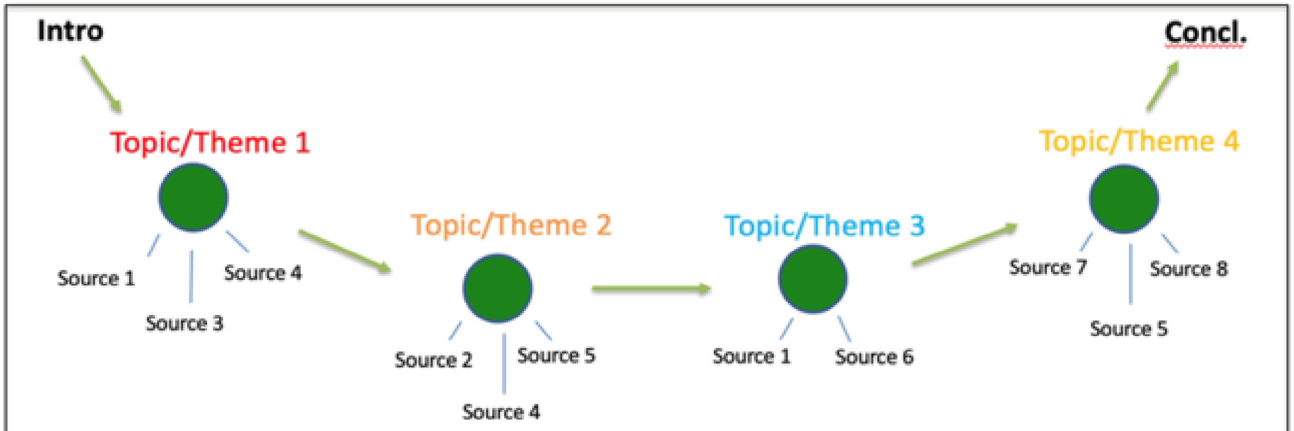
Literature Review and Plagiarism

Dr. Kazi Mostak Gausul Hoq.
Professor
Dept. of Information Science and Library Management
University of Dhaka and
Associate Editor
Dhaka University Studies

A literature review synthesizes and analyzes previous research in a field to inform an audience and establish background knowledge.

What is NOT a Literature Review
Not simply a chronological catalog of all relevant sources, but an evaluation.
Not a collection of quotes and paraphrasing from other sources. A good LR critically evaluates the quality and findings of the research.





A review of the literature is organized around the topics or themes the sources discuss

Yes!

Purposes of literature review

- Find out what information already exists in a field of research.
- Identify gaps in literature.
- Find other researchers working in the same field.
- Identify major/seminal works.
- Identify main methodologies and research techniques.
- Provide a context for the researcher's own research.
- Show relationships between previous studies or theories.

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- Show relationships between previous studies or theories.

Common errors

- Accepting another researcher's finding as valid without evaluating methodology and data.
- Ignoring contrary findings and alternative interpretations.
- Using findings that are not clearly related to the present study.
- Dedicating insufficient time to literature searching.
- Simply reporting isolated statistical results, rather than synthesizing the results.

- Relying too heavily on secondary sources.
- Overusing quotations from sources.

Types of Literature Review

Narrative literature review

Provides a broad summary and synthesis of existing research on a topic. Typically employs a narrative approach to reporting the review findings.

Rapid review

Summarizes existing research quickly for decision-making. Tries to identify key concepts, theories and resources in a field, and to survey the major research studies.

Scoping review

Preliminary assessment of potential size and scope of available research literature. Explores the breadth of research on a topic and identifies gaps.

Systematic Review

Seeks to systematically search for, appraise, and synthesize research evidence so as to aid decision-making and determine best practice. The main functions:

- Identifying relevant research
- Systematically critiquing research studies
- Synthesizing findings
- Understanding conclusions from the research

Gough, Oliver, and Thomas (2017)
https://www.futurelearn.com/info/courses/systematic-literature-review/0/steps/89023

Literature review process

Search for relevant literature

Think about the types of literature that are leading the research in your field of study and the materials that are the most up to date. Examples of sources :

- Peer reviewed journals
- Reports
- Academic books
- Government documents

Evaluate sources

To ensure that the sources are fit for purpose you must look at their credibility and what they offer to your field of study. Once you have decided a source is trustworthy you can then take a closer look at the information offered. Some questions to consider:

- Is this source trustworthy and credible?
- Is this source relevant to my field of study?
- What are the key terms and concepts?
- Are there any gaps for further study?

Determine the themes, debates, and gaps

- Reading through the sources will help to piece together common themes and ideas. Try to ascertain how each relates to your overall theme and how they can work together. This should also present to you the areas which require further study. Identifying key themes and debates will help to outline your structure.

Outline the structure

Make sure that your themes and debates are laid out concisely so that you can present a balanced and well-thought-out discussion.
Consider the following questions:

- What do you want the reader to take away from your literature review?
- How can you organize your sources concisely?

Write the literature review

A literature review is split into three sections:
Introduction: Presents the general context of the literature, including basic background information. Describes the process in collecting and reviewing the literature.
Main body: Summarizes, synthesizes, and critically analyzes the literature included in the review.
Conclusion: Describes the most significant conclusions from the results and discussion sections.

Ways to structure Literature Review

- **Thematic order:** Grouping and discussing sources dependent on the themes and topics they cover. This method helps see how many sources have been found for each issue.
- **Chronological order:** Grouping and discussing the sources in order of publication date. The discussion will start with the earliest released literature leading up to the most recent.

Other structures

- Problem-cause-solution order
- General to specific order
- Comparison and contrast order
- Specific to general order

Literature search procedure

1. Request scholars, librarians or other specialists to suggest relevant literature.
2. Find out if any bibliography already exists on the subject.
3. Consult bibliographies in the concerned fields.
4. Examine periodicals, monographs, reports, conference proceedings and materials.
5. Consult references cited in books and articles already located.
6. Consult the abstracts on the subjects.
7. See the book review pages in newspapers.
8. Consult electronic databases and use search engine.

Sources of literature

Primary literature sources
Primary literature are the first occurrence of a piece of works. They include reports, conference papers, theses etc.

Secondary literature sources
Secondary sources such as books and journals are subsequent publications of primary literature. These publications are aimed at wider audience.

Tertiary literature sources
These are also called 'search tools' and are designed either to help locate primary and secondary literature or to introduce a topic. They include indexes and abstracts as well as encyclopedias and bibliographies.

Predatory Journals and Plagiarism

'Most lies succeed because no one goes through the work to figure out how to catch them.
Paul Ekman

Plagiarism is an instance of someone using someone else's intellectual product (such as texts, ideas, or results), thereby implying that it is their own.
Gert Helgesson
Stefan Eriksson

Percentage of plagiarized papers is presently unknown though rates of 11-19% have been reported and some journals have rejected around 23% of articles due to this problem.

If I have been able to see farther than others, it was because I stood on the shoulders of giants.
Isaac Newton

Why plagiarize?

- Inherent desire to be successful by cutting corners.
- Fear of discrimination for failure, promotion, financial or job gains.
- Laziness combined with weak ethics.
- Lack of education and awareness.
- Shortage of time, inadequate preparation, poor English or writing skills.

Direct plagiarism: overt passing-off of another writer's words as your own.
Paraphrasing plagiarism: when a writer reuses another's work and changes a few words or phrases.
Self-plagiarism: Reusing content from one's previous works without proper citation.
Patchwork plagiarism: Where plagiarized work is interwoven with the writer's original work.

Source-based plagiarism: Citing sources correctly but present the sources in a misleading way, e.g. referencing a secondary source but only crediting the primary source from which that secondary source is derived or citing an incorrect source and even making up sources.

Accidental plagiarism: Forgetting to cite your sources in your work, not citing your sources correctly or failing to put quotes around cited material.

CLONE–Submitting someone else's work, which is just transcribed, as his/hers own;
CTRL-C–Contains most of the text from a single source, without alterations;
RE–TWEET–Includes proper citation, but with too much text used from the original.
ERROR 404–Includes quoting non-existent or inaccurate source;
FIND–REPLACE–Changing key words and phrases, but retaining a substantial part of the content of the primary sources;
RECYCLE–The use of own work (if the article is already published somewhere and not cited).
HYBRID–Combine perfectly cited sources with the copied without citation.

One message sent by a company offered a slot as first author in an arti-cle to be published in a journal included in the *ScienceCitation Index* for $14 880, and two such slots for S26 300.

Articles accepted by prestigious journals are offered to researchers that have only to pay to add their names to the list of authors and thus expand their curriculum.

5 Deadly sins

Unethical practices can earn rejection and even a ban from publishing in the journal

- Multiple submissions

- Redundant publications (submitting previously published papers)
- Plagiarism
- Data fabrication and falsification
- Improper author contribution

Be smart and safe. Avoid plagiarism

- Always acknowledge the original source of the idea, text, or illustration.
- Enclose within quotation marks, all the text that has been copied verbatim from another source.
- Avoid writing multiple separate articles if you can present a large complex study in a cohesive manner in a single article.
- Along with the manuscript, submit a cover letter to the editor, clearly stating any instances of overlapping from previous publications and asking for advice.
- Cite references accurately. Read the instructions to authors to know what style you need to use.
- Don't misinterpret or manipulate what was intended in a source to suit your needs.

Predatory journals A global threat

Predatory journals arose with the onset of the open-access movement, when some people saw it as an opportunity to make financial profit.

In 2011, Beall's list included 18 predatory publishers. By 2016, that number had grown to 923 publishers.

This journal blacklist, based on 52 criteria developed by Beall, was forced to shut down in 2017 due to increasing threats and political issues.

"Cabells' Predatory Reports" is a paid subscription service featuring a database of deceptive and predatory journals

Reasons behind the boom in PJs

1. The 'publish or perish' research culture.
2. Commercialization of the scholarly enterprise.
3. Lack of transparency in peer review.

How to spot Predatory Journals

- Not indexed by Scopus, Web of Science, or other legitimate abstracting or indexing services or databases.
- Journal title mirrors the title of an established journal with one or two words being different.

- Journal is not published by reputable or known publisher.
- No regular publication activity visible. Does not state a fixed number of issues and volumes to be published per year.
- Rapid publication is promised.
- Does not have clear policies on retraction, corrections or plagiarism.
- Publishes papers that are far outside the scope of the journal.
- The contact email address is non-professional and non-journal related.
- Manuscripts are requested to be submitted by email instead of through an online submission system.

Good articles are not written. They are re-written.

Hard work is always rewarded, and truth always surfaces to the top.

Research published in predatory journals will not be recognized and may become inaccessible, hence the effort and risk of research as well as funding are wasted.

Be safe than sorry

1. Always check the website thoroughly.

2. Check if the journal is a member of DOAJ, COPE, OASPA or STM.

3. Check the journal's contact information.

4. Research the editorial board.

5. Take a look at their peer review process and publication timelines.

6. Read through past issues of the journal.

Know more

- **DOAJ** (Directory of Open Access Journals)

- **COPE** (Committee on Publishing Ethics)

- **OASPA** (Open Access Scholarly Publishers Association)

Report Writing and Institutional Innovations

Dr. Wais Kabir
Former Executive Chairman, BARC

The two segments of the lecture are different by nature

Report Wring

- Reports are not mere documentation - they are tools for institutional learning.
- Well-written reports capture lessons, identify gaps, and propose improvements.
- Report writing is critical in any professional undertaking, public and private or non-governmental offices

Types of reports

- Analytical Report
- Research Report
- Progress Report
- Technical Report
- Field Report
- Proposal Report

The report must be focused on the audience it is prepared for, clear, structured, and objective in a manner to convey your findings, facts, or recommendations on a particular issue.

It is in our daily lives wherever we work. In the competitive job market, it is very critical. A successful report must attempt to convince the authority for whom it is prepared, having the following elements

- Title, likely focused, precise, and short
- Introduction
- Executive summary
- Objective
- Method or process followed
- Findings/Results
- Discussion/Analysis:
- Conclusion:
- Recommendations:
- References:
- Appendices: supporting materials

Maintain logical flow- from evidence → analysis → recommendation.
Keep clarity over complexity -short sentences, active voice.

Policy landscape

- Reporting
- Policy -National Agri Policy 2018, National Extension Policy 2020, Mechanization Policy 2020
- Act/ordinance -BARC Act 2012, BARI Act 2018, Water Act 2013, Environmental Conservation, and so on
- Rules -Service rule, Water rule 2018,

Institutional Innovation
Institutional Innovation: Meaning and Mechanisms

Definition:

Institutional innovation refers to new practices, systems, or procedures that improve organizational performance, efficiency, or responsiveness.

Forms of innovation:

- Process innovation: New methods for workflow or data management.
- Structural innovation: New units, cross-sectoral teams, or partnerships.
- Policy innovation: Revised guidelines or regulatory frameworks.
- Technological innovation: Use of digital tools, automation, or AI in reporting, varietal development, machine for farming, process for jackfruit for consumers with longer shelf life etc.

Drivers of innovation in institutions:

- Evidence-based decision-making
- Internal feedback and evaluation
- Knowledge sharing and collaboration
- Capacity development and leadership

Agricultural research system is mandated for technological innovation. It made splendid during last decades and made the country comfortable with food production in growing population and reducing land base.

Natural resources are deteriorating with intensification of land use. Policy shifts to food security associated with safe and nutritional security. Newer challenges are emerging to address by the NARS.

Institutions remain the same with a complex arrangement that makes the science practice unproductive.

- We need to fix the gaps of the institution management to make it more productive with better accountability.

- The research system requires periodic institutional upgrades to address national needs and priorities.
- Accountability to the society it serves and privileges
- All autonomous ARIs of NARS are legally different, highly inconsistent services.
- Service rules are different that prohibit uniform service delivery.
- In many cases, Service Rules (SR) are older than the acts and not updated accordingly.
- The high-powered Governing Board of BARC could not deliver effective problem-solving decisions.
- The recruitment of scientists are done by the ARIs individually, which is cumbersome, involves time, attention and resources of the senior management with a non-uniform standard of promotion/recruitment criteria
- Promotion is restricted based on vacancy and is central to human resource management, affecting research performance.
- The opportunity of extraordinary promotions and hiring experts which is in the legal framework has not been exploited either by the leadership or at the policy level.
- In-service training on research and research management is not sustainable (lack of funds), unlike other services of the government to create future leaders. Undertaken by ad hoc arrangement by project.
- The institutional framework (Acts) favours higher education without an implementation strategy and/or budget support.

Quantitative Research

Dr. Mirza Hasanuzzaman
Professor
Department of Agronomy
Faculty of Agriculture, Sher-e-Bangla Agricultural University

Introduction to Quantitative Research

The following definition, taken from Aliaga and Gunderson (2000), describes what we mean by quantitative research methods very well:

"Quantitative research is 'Explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics)".

Quantitative Research

"Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon".

Babbie, Earl R. The Practice of Social Research. 12th ed. Belmont, CA: Wadsworth Cengage, 2010; Muijs, Daniel. *Doing Quantitative Research in Education with SPSS*. 2nd edition. London: SAGE Publications, 2010.

What is quantitative research?

6

Quantitative research is a means for testing objective theories by examining the relationship among variables.

The final written report has a set structure consisting of introduction, literature and theory, methods, results, and discussion (Creswell, 2008).

What is quantitative research?

7

Quantitative research is the systematic empirical investigation of observable phenomena via statistical, mathematical or computational technique. The objective of quantitative research is to develop and employ mathematical models, theories, and hypotheses pertaining to phenomena.

Quantitative research provides the fundamental connection between empirical observation and mathematical expression of quantitative relationship.

When do Quantitative Research?

• If your study aims to find out the answer to an inquiry through numerical evidence, then you should make use of the Quantitative Research.
• In general, use qualitative research at the beginning of a design process to uncover innovations. Use quantitative research at the end of a design process to measure improvement.
• French sociology Pierre Bourdieu followed a typical arc to the narrative research by first investigating economic class in an open-ended fashion. Once he established what he thought was going on, he tested these ideas with large surveys.
• The main activity for which quantitative research is especially suited is the testing of *hypotheses*.

Quantitative Data

"Quantitative data is information about quantities; that is, information that can be measured and written down with numbers."

• Some examples of quantitative data are your height, your shoe size, and the length of your fingernails.
• Quantitative data defines whereas qualitative data describes

Units and variables in Quantitative data

• Units:
When we collect data in quantitative educational research, we have to collect them from someone or something. The people or things (e.g. schools) we collect data on or from are known as units or cases.
• Variables:
The data that we are collecting from these units are known as variables. Variables are any characteristic of the unit we are interested in and want to collect (e.g. gender, age, self-esteem).

Units and Variables

• The label 'variable' refers to the fact that these data will differ between units.

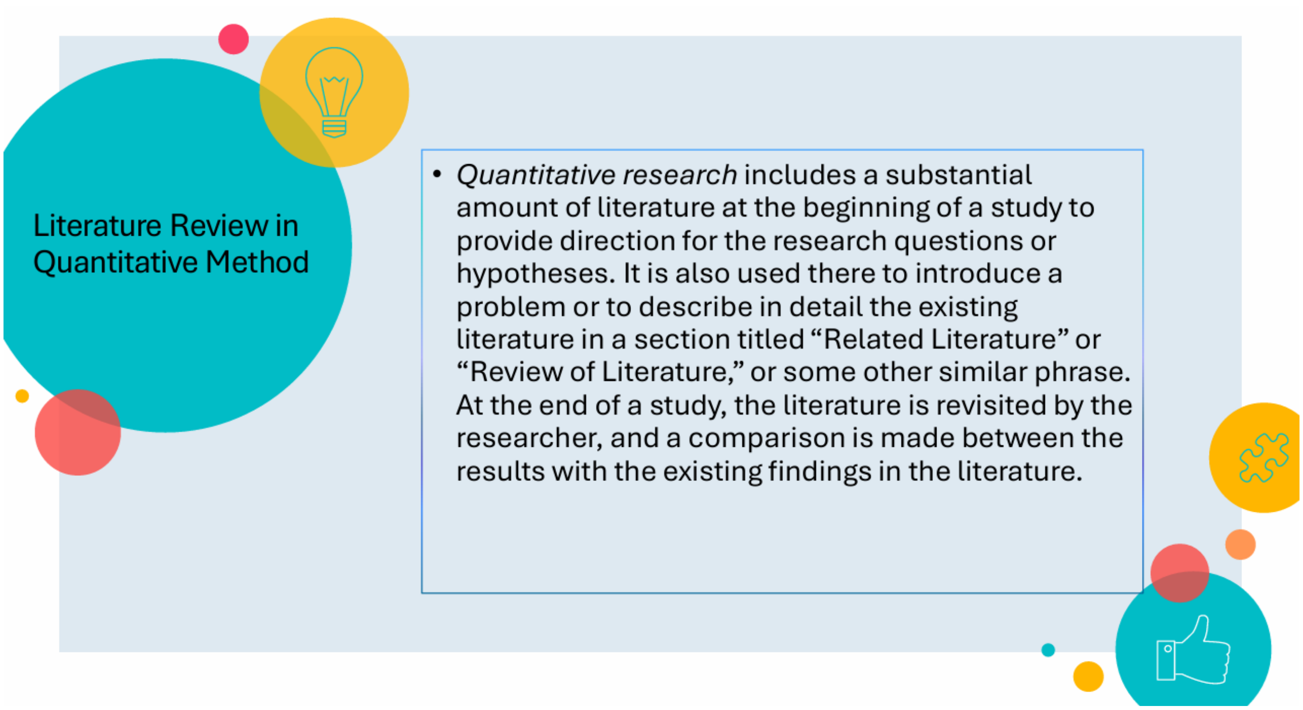
For example, achievement will differ between pupils and schools, gender will differ between pupils, and so on.

• If there are no differences at all between the units we want to study, we probably aren't going to be able to do any interesting research (for example, studying whether pupils are human would not yield interesting findings).

Quantitative Research Design

• Randomization of any study groups is essential, and a control group should be included, wherever possible. A sound quantitative design should only manipulate one variable at a time, or statistical analysis becomes cumbersome and open to question.

• Ideally, the research should be constructed in a manner that allows others to repeat the experiment and obtain similar results.



QUANTITATIVE THEORY USE

- In *quantitative studies, one uses theory deductively and places it toward the beginning of the* proposal for a study.
- The researcher tests or verifies a theory by examining hypotheses or questions derived from it. These hypotheses or questions contain variables (or constructs) that the researcher needs to define.

Writing Quantitative Research Questions

- Research questions describe the participants' reactions to a single variable, compare groups on an outcome, or relate to variables. Research questions are found in all designs in quantitative research, such as in experiments, correlational studies, and surveys.
- ***Guidelines***

  The basic steps in forming a research question are:
  - Pose a question
  - Begin with "how," "what," or "why"
  - Specify the independent, dependent, and mediating or control variables
  - Use the words *describe, compare, or relate to indicate the action or connection* among the variables
  - Indicate the participants and the research site for the study

The Steps in The Process of Quantitative Data Analysis

- The first step is to prepare the data for analysis. This involves determining how to assign numeric scores to the data, assessing the types of scores to use, selecting a statistical program, and inputting the data into a program, and then cleaning up the database for analysis.
- The second step begins the data analysis. Typically you conduct a descriptive analysis of the data reporting measures of central tendency and variation.
- The next step is to report the results that are found using tables, figures, and a discussion of the key results. Finally, you interpret the results from the data analysis.

Quantitative Research Design

• There are four main types of Quantitative research:
1. Descriptive
2. Co relational
3. Causal-Comparative/Quasi-Experimental
4. Experimental Research.

Descriptive Research

• This type of research describes what exists and may help to uncover new facts and meaning. The purpose of descriptive research is to observe, describe, document aspects of a situation as it naturally occurs.

• This involves the collection of data that will provide an account or description of individuals, groups or situations. Instruments we use to obtain data in descriptive studies include questionnaires, interviews (closed questions), observation (checklists, etc.)

• There is no experimental manipulation or indeed any random selection to groups, as there is in experimental research.

• The characteristics of individuals and groups such as nurses, patients and families may be the focus of descriptive research. It can provide a knowledge base which can act as a springboard for other types of quantitative research methods.

Correlational Research

• Quantitative correlational research aims to systematically investigate and explain the nature of the relationship between variables in the real world. Often the quantifiable data (i.e. data that we can quantify or count) from descriptive studies are frequently analysed in this way.

• Correlational research studies go beyond simply describing what exists and are concerned with systematically investigating relationships between two or more variables of interest (Porter & Carter 2000).

• Such studies only describe and attempt to explain the nature of relationships that exist, and do not examine causality (i.e. whether one variable causes the other).

Causal-comparative/quasi-experimental Research

• Quasi-experimental research attempts to establish cause-effect relationships among the variables. These types of design are very similar to true experiments, but with some key differences.

• An independent variable is identified but not manipulated by the experimenter, and effects of the independent variable on the dependent variable are measured.

• It is not the same as true experimental research because quasi-experimental research studies lack one or both of the essential properties of randomisation and a control group.

• The researcher does not randomly assign groups and must use ones that are naturally formed or pre-existing groups.

• The major drawback with quasi-experimental research is that, compared to experimental research, it has a weakness in that is not possible to deliver 'cause and effect' results.

• In other words, we cannot infer from quasi-experimental research that, for example, doing one thing causes a particular phenomenon (e.g. smoking cigarettes causes cancer).

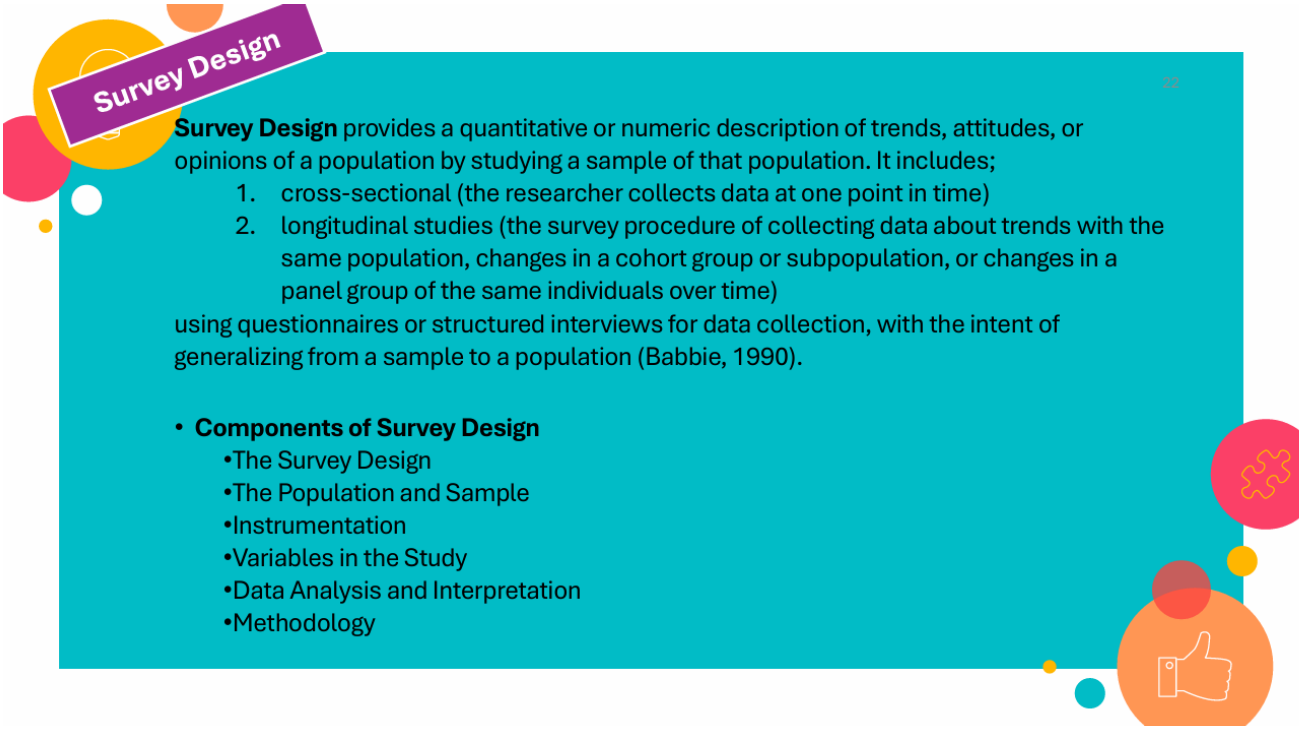
• Identified control groups exposed to the treatment variable are studied and compared to groups who are not.

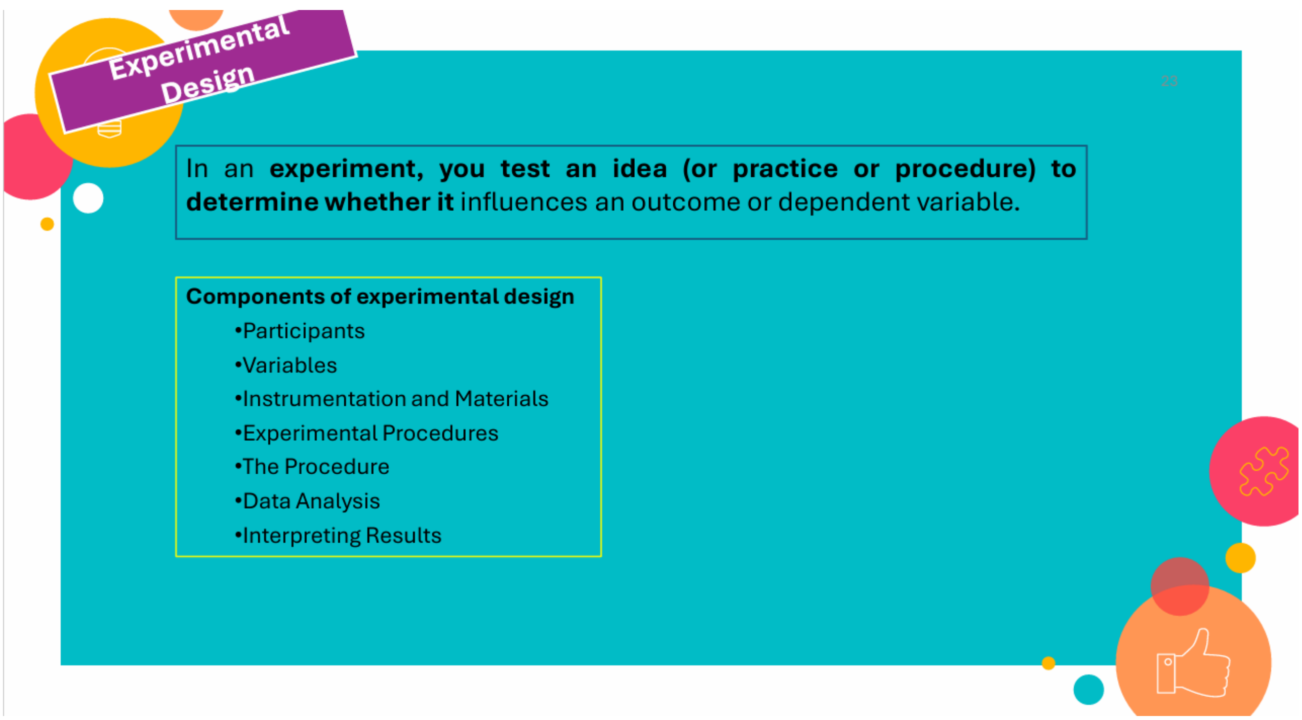
Experimental Research

• often called true experimentation, uses the scientific method to establish the cause-effect relationship among a group of variables that make up a study.

• The true experiment is often thought of as a laboratory study, but this is not always the case; a laboratory setting has nothing to do with it. A true experiment is any study where an effort is made to identify and impose control over all other variables except one.

• An independent variable is manipulated to determine the effects on the dependent variables. Subjects are randomly assigned to experimental treatments rather than identified in naturally occurring groups





What is the basic methodology for a quantitative research design?

The overall structure for a quantitative design is based in the scientific method. It uses **deductive** reasoning, where the researcher forms an hypothesis, collects data in an investigation of the problem, and then uses the data from the investigation, after analysis is made and conclusions are shared, to prove the hypotheses not false or false. The basic procedure of a quantitative design is:

1. Make your observations about something that is unknown, unexplained, or new. Investigate current theory surrounding your problem or issue.

2. Hypothesize an explanation for those observations.

3. Make a prediction of outcomes based on your hypotheses. Formulate a plan to test your prediction.

4. Collect and process your data. If your prediction was correct, go to step

5. If not, the hypothesis has been proven false. Return to step 2 to form a new hypothesis based on your new knowledge.

6. Verify your findings. Make your final conclusions. Present your findings in an appropriate form for your audience.

Advantages of Quantitative Research

• Quantitative research design is an excellent way of finalizing results and proving or disproving a hypothesis. The structure has not changed for centuries, so is standard across many scientific fields and disciplines.

• After statistical analysis of the results, a comprehensive answer is reached, and the results can be legitimately discussed and published.

• Quantitative experiments also filter out external factors, if properly designed, and so the results gained can be seen as real andunbiased.

• Quantitative experiments are useful for testing the results gained by a series of qualitative experiments, leading to a final answer, and a narrowing down of possible directions for follow up research to take.

Disadvantages of Quantitative Research

• Quantitative experiments can be difficult and expensive and require a lot of time to perform.

• They must be carefully planned to ensure that there is complete randomization and correct designation of control groups.

• Quantitative studies usually require extensive statistical analysis, which can be difficult, due to most scientists not being statisticians. The field of statistical study is a whole scientific discipline and can be difficult for non-mathematicians

• The requirements for the successful statistical confirmation of results are very stringent, with very few experiments comprehensively proving a hypothesis; there is usually some ambiguity, which requires retesting and refinement to the design. This means another investment of time and resources must be committed to fine-tune the results.

• Quantitative research design also tends to generate only proved or unproven results, with there being very little room for grey areas and uncertainty. For the social sciences, education, anthropology and psychology, human nature is a lot more complex than just a simple yes or no response.

• Quantitative research is a systematic investigation that involves collecting and analyzing numerical data to identify patterns, test relationships, and make predictions. It uses statistical methods to test theories and hypotheses by gathering measurable data through structured tools like surveys, experiments, and questionnaires. This method is widely used in natural and social sciences to provide objective, generalizable results.

Key Characteristics
• Numerical data.
• Focuses on data that can be measured and converted into numbers.
• Statistical analysis.
• Uses statistical techniques to analyze data, such as calculating averages, correlations, and frequencies.
• Objective and generalizable.
• Aims for objective measurements to produce results that can be generalized to larger populations.

Characteristics of Quantitative Research
Its main characteristics are:
• The data is usually gathered using structured research instruments.
• The results are based on larger sample sizes that are representative of the population.
• The research study can usually be replicated or repeated, given its high reliability.

• Researcher has a clearly defined research question to which objective answers are sought.
• All aspects of the study are carefully designed before data is collected.
• Data are in the form of numbers and statistics, often arranged in tables, charts, figures, or other non-textual forms.
• Project can be used to generalize concepts more widely, predict future results, or investigate causal relationships.
• Researcher uses tools, such as questionnaires or computer software, to collect numerical data.
• The overarching aim of a quantitative research study is to classify features, count them, and construct statistical models in an attempt to explain what is observed.
• Structured approach
• Uses a structured, sequential process that includes hypothesis testing and pre-defined questions with clear answer options.
• Representative sample size.
• Involves collecting data from a statistically significant and representative sample of the population being studied.

Common Methods
• Surveys: Collecting data through questionnaires with closed ended questions and predefined answers.
• Experiments: Manipulating variables in a controlled environment to test causal relationships.
• Observations: Counting and measuring observable attributes or behaviors.

Applications
• Social Sciences:
• Used in fields like psychology, economics, and sociology to study trends and relationships in populations.
• Natural Sciences:
• Essential for fields like biology and chemistry to quantify and analyze experimental results.
• Marketing:
• Helps businesses understand customer behavior, preferences, and market trends through surveys and data analysis.

Data Presentation in Scientific Report Writing

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1. Introduction

Data presentation is one of the most critical stages of scientific reporting. After collecting and analyzing data, a researcher must communicate findings clearly, accurately, and efficiently. The aim of data presentation is not merely to "show numbers" but to translate complex statistical outcomes into comprehensible visual or tabular formats that reveal trends, patterns, and relationships.

In scientific reports, data presentation bridges the gap between data analysis and interpretation. Well- constructed tables, graphs, and figures help readers grasp the significance of findings quickly, verify the validity of conclusions, and, if necessary, reproduce the results. Conversely, poor or misleading presentation can distort meaning and compromise scientific credibility.

2. Objectives of Data Presentation

By the end of this lecture, learners should be able to:

1) Explain the purpose and principles of effective data presentation in scientific writing.
2) Identify appropriate methods of data display (tables, charts, figures).
3) Apply conventions for labeling, captioning, and referencing data visuals.
4) Interpret and discuss data correctly in the results section of a scientific report.
5) Avoid common errors and uphold ethical standards in data display.

3. Importance of Data Presentation in Scientific Reports

1) **Clarity and Understanding** – Visuals simplify complex information, allowing readers to understand key findings quickly.
2) **Precision and** Transparency – Numerical data presented systematically allow readers to check calculations or replicate analyses.
3) Credibility and Objectivity – Properly constructed visuals demonstrate professionalism and scientific integrity.
4) Efficiency of Communication – Well-designed tables and figures can replace lengthy text descriptions, saving space and time.
5) Retention and Impact – Visual information is more memorable; readers tend to remember trends shown graphically

4. Forms of Data Presentation

Data may be presented in **three complementary forms**: **textual, tabular,** and **graphical**. Effective reports often combine all three.

5. Textual Presentation

- Involves describing numerical results or key findings within the paragraph.
- Used when reporting a few simple figures or percentages.

Advantages: Simple, integrates smoothly with discussion.
Limitations: Becomes unreadable when too many numbers are included.

6. Tabular Presentation

Tables arrange data systematically in rows and columns, allowing comparison and quick location of specific information.

Components of a scientific table:

1. **Table number and title** – e.g., Table 1. Mean Blood Glucose Levels by Treatment Group
2. **Headings and subheadings** – Identify variables and measurement units.
3. **Body** – Contains the main data organized logically.
4. **Footnotes** – Clarify abbreviations, statistical tests, or notes about missing data.
5. **Source note** (if applicable) – Cites data origin when secondary data are used.

Guidelines for tables:

- Use tables only when exact numerical values are needed.
- Align decimals for easy comparison.
- Avoid unnecessary gridlines or shading.
- Mention the table in text (“As shown in Table 1…”).
- Include measures of variability (e.g., SD, SE, CI).

7. Graphical Presentation

Graphs, charts, and figures convey trends, relationships, and distributions visually. Common types of scientific graphs:

Type	Purpose / Typical Use
Bar Chart	Compare categories or groups (e.g., male vs. female).
Histogram	Show frequency distribution of continuous data.
Line Graph	Display trends over time or ordered categories.
Scatter Plot	Show relationships between two continuous variables.
Boxplot	Display distribution, median, and variability across groups.
Pie Chart	Show proportionate composition.
Forest Plot	Display effect sizes and confidence intervals (meta-analysis).
Matrix Plot	Show correlations or complex datasets.

Essential elements of a scientific figure:

- Descriptive title and numbered label (e.g., Figure 2. Correlation between *Yield* and *Nitrogen rates*).
- Labeled axes with units of measurement.
- Clear legends explaining symbols, colors, and abbreviations.
- Error bars or confidence intervals where relevant.
- Caption explaining what the figure shows, sample size (n), and statistical results (e.g., $r = 0.82$, $p < 0.001$).

Good practice: Figures should be self-explanatory even when viewed independently from the main text.

8. Principles of Effective Data Presentation

Principle	Description
Accuracy	Present data without distortion. Avoid truncated axes, exaggerated scales, or selective data omission.
Clarity	Simplify visuals; avoid clutter or excessive colors. Each figure should convey one clear message.
Consistency	Use uniform font, scale, and format throughout the report.
Appropriateness	Choose the most suitable form of display for each dataset (table vs. graph).
Sufficiency	Include enough detail (units, n, statistical tests) for interpretation.
Reproducibility	Figures and tables should be easily reproducible using described methods.
Accessibility	Use color-blind–friendly palettes and readable font sizes; ensure clarity in grayscale printing.

9. Integrating Data Presentation in the Structure of a Scientific Report

In the standard structure of a scientific paper - Introduction, Methods, Results, Discussion — data presentation belongs primarily in the Results section, sometimes supplemented by appendices.

1. **Results Section**
   - Present summarized data objectively without interpretation.
   - Use tables and figures to highlight patterns.
   - Reference each visual explicitly: "As illustrated in Figure 3…"
2. **Discussion Section**
   - Interpret the trends shown by data.
   - Compare with literature and explain deviations.
   - Avoid repeating numerical details; focus on meaning and implications.
3. Appendices or Supplementary Materials
   - Place large datasets or secondary tables here for transparency.

10. Representing Statistical Information

Scientific data presentation must reflect both **central tendency** and **variability**.

- Report **mean ± SD** for normally distributed data, **median (IQR)** for skewed data.
- Show **confidence intervals (CI)** or **error bars** to represent uncertainty.
- Indicate **sample size (n)** and **p-values** for significance testing.
- For correlation or regression, present **effect size (r, β, OR)** with CI.
- Example (caption):

"Error bars represent 95% confidence intervals; statistical differences determined using ANOVA ($p < 0.05$)."

11. Common Mistakes in Data Presentation

1. **Overuse of numbers in text** – makes reading difficult.
2. **Duplicating information** – same data in both text and figure unnecessarily.
3. **Inadequate labeling** – missing units, legends, or sample sizes.
4. **Distorted scales** – misleading axis truncation.
5. **Overloaded figures** – too many variables or colors.
6. **Improper use of chart types** – e.g., pie chart for time-series data.
7. **Neglecting uncertainty** – no error bars or confidence intervals.
8. **Omitting context** – lack of methods or data source description.

12. Ethical and Professional Considerations

- **Integrity**: Never manipulate images or selectively remove data to strengthen a conclusion.
- **Transparency**: State any data exclusions or transformations.
- **Attribution**: Acknowledge sources of secondary data and figures.
- **Reproducibility**: Provide enough detail (or code) so others can replicate the figure or table.
- **Confidentiality**: When working with human subjects, ensure anonymity in displayed data.

13. Software and Tools for Data Visualization

- **Spreadsheet programs**: Microsoft Excel, Google Sheets (basic charts, quick summaries).
- **Statistical software**: SPSS, Stata, R, SAS — for integrated analysis and graphing.

14. Caption and Referencing Standards

1. Figures and tables are numbered separately (Figure 1, Figure 2 … / Table 1, Table 2 …).
2. Captions are placed below figures and above tables.
3. All visuals must be referred to in the text.
4. Captions should include:
   - Title and concise explanation of content.
   - Variable definitions and measurement units.
   - Description of symbols, abbreviations, and error bars.
   - Statistical information (n, test type, p-value). Example:

Figure 4. Relationship between total cholesterol and body mass index among adults ($n = 250$). Scatterplot with fitted regression line ($r = 0.63$, $p < 0.001$). Shaded area indicates 95% confidence interval.

15. Checklist for Reviewing Data Presentation

Before submitting a scientific report:

- Are all figures and tables numbered and cited in text?
- Do captions fully describe the data and units?

- Is each visual self-explanatory?
- Are scales, colors, and labels appropriate and consistent?
- Are statistical tests and measures of uncertainty reported?
- Is there any duplication between text and visuals?
- Have ethical and reproducibility standards been observed?

16. Summary

Data presentation transforms raw results into scientific evidence. It demands clarity, precision, and honesty.

Key takeaways include:

1) Select the right presentation mode (text, table, or figure).
2) Maintain scientific accuracy and ethical transparency.
3) Follow discipline-specific and journal-specific formatting standards.
4) Support visuals with concise, informative captions and contextual explanation.

Effective data presentation is not about decoration — it is about communication, credibility, and comprehension.

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Editing with AI

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Goal: To equip editors and writers with the knowledge and practical skills to integrate AI tools effectively, ethically, and strategically into their editing workflow, enhancing both efficiency and quality.

1. The Core Mechanics: What AI Can Do? (Approx. 25 minutes) Topic: AI as a Research Tool

This section focuses on using AI to build a foundational understanding and gather supporting material *before* the deep editing begins.

- **Contextual Deep Dives:** Use AI to quickly generate **summaries** of complex documents, articles, or books, providing the editor with rapid domain expertise or a quick understanding of the source material's core argument.
- **Fact-Checking/Verification (The First Pass):** While AI is not the final fact-checker, it can flag *potential inconsistencies* or areas that require manual verification. For instance, asking an AI to "check the current standard terminology for X" or "list the key events in Y period."
- **Terminology and Jargon Mastery:** Use AI to build **glossaries** or define industry- specific terms to ensure the edited text uses precise and current language.
- **Idea Generation and 'Devil's Advocate':** Ask the AI to generate counter-arguments or potential reader questions. This helps the editor anticipate weaknesses in the argument and suggests areas for strengthening the text.

Topic: Differentiating Between AI-Powered Correction and Creative Enhancement

It's crucial for editors to understand the **spectrum of AI assistance** to choose the right tool for the job.

Feature	AI-Powered Correction (Technical)	AI-Powered Creative Enhancement (Substantive)
Goal	**Fixing mistakes** and ensuring adherence to basic linguistic rules.	**Improving clarity, impact,** and the reader experience.
Examples	**Grammar** (subject-verb agreement), **Spelling** (typos), **Syntax** (sentence structure), **Punctuation** (comma usage), **Style Guide** adherence (e.g., APA, Chicago).	**Tone Adjustment** (e.g., *formal to casual*), **Structural Suggestions** (e.g., *reordering paragraphs*), **Clarity Enhancement** (*simplifying complex sentences*), **Suggesting Alternative Wordings** (for stronger impact).
Editor's Role	**Accept/Reject** with minimal thought. The editor becomes a **validator**.	**Critique/Refine** the suggestion, often requiring additional prompting. The editor becomes a **collaborator and director**.

2. Workflow Integration and Efficiency (Approx. 35 minutes) Topic: Optimizing the Human-AI Tools: Prompt Engineering

This is the **practical skill** that unlocks AI's true power. A well-crafted prompt turns the AI from a general tool into a specialized editing assistant.

- **The 'Role-Play' Prompt:** Always specify the AI's persona.
  - Example: "Act as a **senior copy editor** for a financial news publication."
- **The 'Constraint' Prompt:** Define the rules and limits for the AI's output.
  - Example: "Critique the attached article. **Do not rewrite it**. Focus only on **flow and argument structure**. Ensure the tone remains **professional** and **objective**."
- **The 'Input-Output' Prompt:** Provide the AI with examples of *what* you want.
  - Example: "Here is a paragraph: [Insert Text]. My company's style is concise and direct. **Rewrite it to sound like this example**: [Insert Sample]."

- **Iterative Refinement:** Emphasize that prompt engineering is a **dialogue**. The first output is a draft. Editors should learn to follow up with focused prompts like: "That was too formal. Make the introduction 20% more engaging without changing the core facts."
- **Hands-On Exercise: Challenge:** Rewrite a provided weak paragraph using a 3-step iterative prompt.

3. Ethical and Quality Concerns (Approx. 35 minutes) Topic: The Issue of Voice and Originality

AI editing can polish text so much that it loses the author's unique "voice" or, worse, over-homogenizes content.

- **Maintaining Stylistic Fingerprints:** Train editors to use AI for **mechanical cleanup** (grammar, spelling) while **guarding the author's unique rhetorical choices** (word choice, cadence, complex syntax).
- **The "AI Homogenization Trap":** Discuss the risk of all content sounding generic or "AI- clean." The editor's job shifts to ensuring the text remains *human* and *distinctive*.
- **Originality/Plagiarism:** While editing is less prone to plagiarism than content generation, editors must be mindful if they ask the AI to "suggest a better opening paragraph" or "rewrite this section entirely." If the AI draws too heavily on its training data, it can introduce issues. **Rule of Thumb:** AI should augment the author's work, not replace large sections of it.

Topic: Bias and Training Data in Editing AI

AI models are trained on vast datasets, and if that data is biased (e.g., favoring certain perspectives, dialects, or demographic language), the AI suggestions will reflect that.

- **Stereotype Amplification:** AI might suggest language changes that inadvertently **reinforce stereotypes** (e.g., favoring masculine-coded language in technical fields).
- **Dialect and Niche Language Discrimination:** AI often favors **Standard American English (SAE)** or **Standard British English (SBE)**. Editors must manually override suggestions that flatten culturally rich or dialect-specific language.
- **The Editor as the Ethical Filter:** The editor is the **final line of defense** against biased language. They must critically evaluate *why* the AI suggests a change and whether that change introduces or eliminates bias.

4. The Future of the Editor Role (Approx. 25 minutes) Topic: Reskilling and The "AI Editor" Job Description

The role of the editor isn't disappearing; it's **evolving** from a meticulous corrector to a strategic director.

- **From "Mechanic" to "Architect":** The AI takes over the mechanical, lower-level tasks (spelling, basic grammar). The editor is freed up to focus on **high-level, substantive editing**: **Narrative arc, logical flow, voice consistency, and strategic communication goals.**
- The New Core Competencies:
    - **Prompt Engineering** (as covered in Section 2).
    - **Ethical Oversight** (as covered in Section 3).
    - **Tool Agnosticism:** Knowing *when* to use AI and *when* to rely on traditional human judgment or other tools.
    - **Strategic Vision:** Ensuring the edited text aligns with the client's or publication's overarching goals.

Topic: Beyond Text: AI Editing in Multimedia

AI's editing capabilities are rapidly expanding beyond simple prose.

- **Video/Audio Transcriptions and Subtitles:** AI can instantly generate transcripts, but the editor must refine them for **accuracy, speaker identification, and readability** (e.g., breaking long sentences into multiple subtitle frames).
- **Image/Visual Editing:** AI tools for background removal, style transfer, and image generation are becoming common. The editor/producer's role is to ensure these visuals **support the narrative and are ethically sourced/created**.
- **Code and Structured Data:** Even in technical documentation, AI can check for code syntax or database structure issues, allowing the editor to focus on **clarity and user experience** in the accompanying instructions.

How to Publish Research Article in a Reputed Journal

Dr. Md. Monowar Karim Khan
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Reputed/Peer-reviewed Journal

Peer-reviewed (refereed or scholarly) Journal: Articles are written by experts and are reviewed by several other experts in the field before the article is published in the journal in order to ensure the article's quality. The article is more likely to be scientifically valid, reach reasonable conclusions, etc.). To find out whether a journal is refereed, simply check on the publisher's website for information on the journal and/or open the print journal to the front cover and the names of scholars on the Editorial board.

Impact factor and impact factor journal

An impact factor is one measure of the quality of a journal. This is calculated by the number of citations received by the journal, from other journals within the Web of Science database. A journal impact factor is the average number of times that articles published in a specific journal in the two previous years (e.g. 2022-23) were cited in a particular year (i.e. 2024). Journal impact factors are found in Journal Citation Reports (JCR). JCR is a unique database which is used to determine the relative importance of journals within their subject categories.

The Institute for Scientific Information (ISI) which is known as Thomson. ISI publishes the Annual Citation Report which lists an impact factor for each of the journals that in tracks. A journal is indexed in the Web of Science is used to be called an ISI journal. These are Science Citation Index (SCI), Social Science Citation Index (SSCI) and Arts and Humanities Citation Index (AHCI). For an example, we can find the list of SCI and SCI expanded journals in the web www.niuniv.com › files › research › List-of-SCI-and-SCI-Expanded-Jou...

Consideration for Publishing in a Reputed Journal

Authors of an article should serious from planning to submission and even in the review process for publishing n a reputed journal. Considerations in different stages for publishing an article to a reputed journal are highlighted below:

1) Research planning and implementation stage:

a) Problem is to be addressed: Local, regional and global. Reputed journal encourages regional and global problem, b) Research gap: Through rigorous review of previous related work, c) Set appropriate research question (objective) to solve the problem, d) Appropriate Materials and Methods/Methodology, e) Sufficient data capture/collection following standard protocol, f) Data authentication and validation. If necessary repetition of data collection, g) Relevant and related data collection (e.g. weather data).

2) Manuscript preparation stage

Full length article: It is a detailed article. Basic parts are title, by-line, abstracts, key words, introduction and review of literature, methods, results and discussion, references or literature cited. conclusions and recommendations, acknowledgement may not be added or required by a journal.

One can follow the IMRAD Format for writing a full length article where, I= Introduction, what question (problem) was studied; M = Methods, how was the problem studied; R = Results, what are the findings; A = and; D = Discussion, what do these findings mean.

Tips for Preparing a Manuscript

Sequence of writing: Methods, Results and discussion, Introduction with relevant review and objectives, Abstracts, Title. We need to start writing the paper as soon as one part of the experiment is finished. Because observations are then fresh in mind and there is possibility to further check of data or experimentation.

Title: It helps the reader to know whether the contents are within his/her range of interest. Bad titles have generally more than 12 words. Around 10 words is good, a shorter is better. Desirable titles contain few words or excluding unimportant words such as- "effects", "evaluation", "study", "experiments", "trials", "observations", "investigations", "test", "factors" and "analysis". We are to include common and scientific name of a relatively unknown crop in the title, e.g. tamarind (*Tamarindusindica* L.).

By-line (Authors and their affiliation): We need to full names of the authors. The editor can abbreviate them when necessary. The addresses of the authors and the electronic communications of the corresponding author (e.g. e-mail, cell number) should follow the name of author (s).

Abstract: It is better to start with a lead sentence stating the problem to be addressed. Then write one or two sweeping statements about the method, experiment, location and or objective. Mention the most important findings in a few compact sentences. It is better present the results in 2-4 sentences. Give the conclusion if applicable. It should answer the objectives of the work. The length of the abstract depends on editors. Normally it is 200-300 words.

Key words: Key words or additional index words are important words or phrase in addition to those already in the title. They reflect the information contained in the paper. The key words included in articles are-names of plants, organisms, insects, diseases, substances (e.g. peroxidase), processes (seed treatment), criteria (respiration rate), factors (CN ratio), phenomena (osmosis), mechanism (incompatibility), fields of study (phenology), techniques (tree injection, bioassay), concepts (plant resistance, salt tolerance).

Introduction: The introduction answers the questions: -What was the problem? Why was it necessary to solve the problem? What were the findings of previous authors who worked on aspects related to the problem? What did I expect to accomplish (objectives) or prove (hypothesis)? So, introduction includes- problem, justification, review of past work, objectives.

Materials and Methods/Methodology: Some readers judge the value of a research paper by the information obtained from the Materials and Methods. It should give sufficient details so another researcher can follow the procedures. A good method may not necessarily mean a good paper but a doubtful method already makes a paper questionable. All materials used e.g. treatment, replications, statistical design, crops, variety, duration, crop management, site etc. ;data collection procedure along with special equipment used and process with reference (if necessary); data transformation (if any) should be included. Analysis of data along with analysis package (CropStat, Excel sheet, SAS etc.) are to be mentioned. Methods may be written in sub-section or with some paragraph depending upon the style of journal. In case of socio-economic study this section termed as methodology and termed as materials and methods in experimental trial.

Results: This is the heart of the article. The results answer the question “What did I observe” while the discussion answers “What does it mean”. It communicates the facts, measurements and observations of the research worker. It is not about the presented but how meaningful the data are that counts. Use simple past tense with straight and strong sentence. Break ideas into paragraphs, each dealing with one idea. Present results and discussion together or separately depending on researcher’s ability and the demand of journal.You can present results and discuss at the same time, following a concluding paragraph.

Discussion: It is the hardest section to write. Its primary purpose is to show the relationships among observed facts. It should end with a short summary or conclusion regarding the significance of the work. For writing this section, show the relationships among observed facts. Group together related results and discuss them as a whole. Show how your results and interpretations agree or contrast with previously published work. End with a short summary or conclusion regarding the significance of the work. State your conclusions as clearly as possible.

Conclusions and recommendations: It’s the implications and usefulness of the research. Make recommendations on how to benefit from the findings, present new avenues for research or related areas of research that need to be explored. If necessary, comment also on the reliability of the results. Make sure that your conclusions satisfy your objectives. Reviewer first look at the objective and judge with conclusion,

3. Preliminary Review

Review by the principal/senior author at least after 7 days after drafting. Reviewing by the co-author, senior colleagues, and friends of relevant field or native language. Do not rush submit your article for publication. Select an appropriate publication outlet/journal.

4. Selection of a Reputed/Peer Reviewed/Impact factor journal

- The Institute for Scientific Information (ISI) which is known as Thomson ISI
- It publishes the Annual Citation Report which lists an impact factor for each of the journals.
- Search ISI Journal:
- Check the impact factor:
- Free for process/publication:
- Read the aims and scope and author guideline of your target journal carefully
- Take time to read at least some of the articles (particularly relevant to your own research).
- Publication charge/Article Processing Charge/handling fee etc.

5. Checking a Manuscript to align with the Selected Journal

- Check the manuscript prepared following the basic principles and with common format with the selected journal
- **Formatting Manuscript Carefully**
  - ❑ Title (word limit, scientific name of plant/crop)
  - ❑ Abstract (word limit and style)
  - ❑ Materials and methods (section)
  - ❑ Results and discussion (jointly or separately-hard job)
  - ❑ Line number required?
  - ❑ Reference: how long update, % update reference, Style (author, year; number)
- Make a good first impression with your title and abstract.
- Be careful about the citation style of author year (Elahi et al., 2001) or number [1, 2] style
- Double check that you've properly cited all your sources in the text and in the literature cited.
- Read carefully the checklist of the submission requirements and documents
- Check whether Tables & Figures to be placed in the text or separately
- Check whether line number is required or not.

6. Submission

- Check submission through online/e-mail
- Registration for online submission? Username, password required
- Open Researcher and Contributor ID (ORCID) number required?
- Document required (MS, Tables & figures, Cover letter, author's declaration etc.)

7. Review Stage

- Address reviewer comments very carefully
- Submit revised version of MS along with cover letter and responses to the reviewer/editor comments and suggestions.
- Do not disappoint for longer time for acceptance process.
- **If MS rejected:**
  - Take the decision positively
  - Rewrite the article addressing reviewer comments
  - Target alternate journal and submit following their format

The Art of Simplicity: Writing Popular Articles for Agricultural Professionals

Dr. Susmita Das
Director, AIC, BARC

1. Introduction

As agricultural scientists, we often generate valuable knowledge through experiments, research, and fieldwork. Yet, scientific impact does not end in the laboratory or research paper—it begins when ideas reach the people who need them most: farmers, policymakers, students, and the general public. Writing popular articles is one of the most effective ways to share agricultural knowledge in an understandable and engaging form. Unlike research papers, these articles are not written for experts but for general audiences. Key media writing helps scientists turn technical content into popular, readable stories. They translate complex science into everyday language, making it relevant and useful for society.

2. Ask the Right Questions (5Ws and 1H)

Start by asking yourself:
What, Where, When, Why, Who, and How?
These six guiding questions—known as the 5Ws and 1H—help organize your ideas and clarify the purpose of your article.
Answering these questions gives your article a clear direction and purpose.
Example:
What: New pest-resistant rice variety
Where: Developed at the regional agricultural station
When: Released in 2024
Who: Local research team
Why: To reduce pesticide, use and increase yield
How: Through cross-breeding and genetic selection

3. Structure with Clarity and Flow

A well-organized article keeps readers interested from start to finish.
Introduction: Start with an interesting question or real-life situation from the field.
Middle: Present facts and findings using examples and explanations.
End: Conclude with practical applications or future prospects.
People tend to remember the beginning, a strong middle point, and the ending-so make each part count.

4. Craft a Catchy Title

A good title grabs attention immediately. It should be short, simple, and interesting. Avoid technical jargon. A good title sparks curiosity and invites readers to learn more.
Examples for agricultural articles:

"Feeding the Future: The Power of Soil Microbes"
How women are revolutionizing our agriculture
"Rice that Fights Drought"
"Exploiting the potential of agro-tourism to boost rural economies"

5. Simplify the Science

Your audience might include farmers, students, or policymakers—people with varied scientific backgrounds. Present only the key findings in simple language.
Example:
Instead of: The genotype demonstrated superior resistance to Xanthomonas oryzae under controlled conditions.
Say: The new rice variety showed strong resistance to bacterial blight disease in field trials.
Use short sentences, explain unfamiliar terms, and focus on meaning—not technical detail.

6. Avoid Jargon

Every discipline has its specialized terms, but too much jargon can lose readers. Use familiar words, and explain any necessary technical ones.
Example:
Instead of "integrated pest management (IPM)" alone, say:
Integrated pest management (IPM)-a method that combines biological, cultural, and chemical approaches to control pests safely.

7. Use the Active Voice

Active voice brings energy and clarity.
Example:
Active: We tested new fertilizer formulations in farmer fields.
Passive: New fertilizer formulations were tested in farmer fields.
The active voice makes your writing more direct and engaging.

8. Add a Human Touch: Storytelling

Stories make science relatable. Share experiences from the field, describe challenges, or highlight farmers' success stories.
Example:
When Mr. Karim, a farmer from Khulna, tried the new biofertilizer, his wheat yield increased by 15%. He now calls it 'the friendly soil tonic.'"
Stories connect data to real life.

9. Use Literary Devices to Create Interest

Simile: "The farmer worked as patiently as a bee tending its hive."
Metaphor: "Soil is the heart of agriculture."
Personification: "The thirsty soil drank up the first monsoon rain."

Such expressions make your article vivid and memorable.

10. Create Curiosity or Concern

Sometimes, a sense of urgency or threat can motivate readers to act.
Examples:
"Invisible Enemies: The Rise of Soil-Borne Diseases"
This technique captures attention and encourages readers to seek solutions.

11. End with a Strong Conclusion

Just as the opening must hook the reader, the conclusion should leave a lasting impression. Summarize your main idea and offer a look toward the future.
Example:
"As climate change reshapes agriculture, innovative farming practices will be our strongest defense. The research continues-but awareness starts here."

12. Conclusion

Writing popular articles is not merely a communication skill but also a social responsibility for scientists. By translating complex research into clear and engaging language, researchers ensure that their innovations reach farmers, students, policymakers, and other stakeholders who can apply them in real-world contexts. To achieve this, scientists should follow a few golden rules: keep the writing simple and well-structured, use active and lively language, replace technical jargon with relatable examples, and incorporate emotion, storytelling, and a strong conclusion. Mastering these media writing techniques enables agricultural scientists to transform their knowledge into meaningful impact, allowing both science and society to grow together.

Building Logical Flow: How to Make Your Report Easy to Follow and Well-Connected

Md. Anwarul Islam, PhD
Professor, Dept. of Information Science
and Library Management, University of Dhaka

Background of the session

Have you ever read an article that left you puzzled? When you find yourself rereading a paragraph several times without understanding its main idea, it's often because the writing lacks a clear and logical flow. Writing a report or a scientific article is much like telling a story—you need to keep your audience engaged and guide them smoothly from one point to the next. Think of it like water flowing down a staircase: if there's a blockage, the flow slows or stops. The same happens in writing—when readers struggle to follow your ideas, the flow of your report is disrupted. That's why maintaining a logical flow is essential; it keeps readers interested and helps them grasp your message effortlessly.

This report writing process is essentials to demonstrate this through PowerPoint presentation, classroom environment and in a group discussion. This session will demonstrate some of the guidelines and techniques for the audiences which might helpful for them in the working environment. The outcome of this presentation is to;

- Understand what logical flow means in report writing
- Identify key elements of coherence and cohesion
- Learn techniques for connecting sections, paragraphs, and ideas
- Practice strategies to improve logical structure and transitions

Through some hands-on session and practical examples, participant will become more confident to write report writing in the professional activities. The following are the contents will be covered in one our session.

Why logical flow matters?

- Makes your report clear and convincing
- Helps readers follow your reasoning easily
- Enhances credibility and professionalism
- Prevents misinterpretation or confusion

What is logical flow?

- Logical flow = smooth progression of ideas from start to finish
- Ensures that **each section connects naturally** to the next
- Involves both **macro-structure** (report organization) and **micro-structure** (sentence links)

Components of logical flow

- **Organization:** Clear structure (intro–body–conclusion)
- **Cohesion:** Linguistic links between sentences
- **Coherence:** Conceptual unity of ideas
- **Signposting:** Guiding the reader through transitions

Structuring for flow

- Abstract / executive summary
- Introduction (purpose, scope)
- Literature review / background
- Methods
- Findings / results
- Discussion
- Conclusion / recommendations

Paragraph-level flow

- Each paragraph = one main idea
- Begin with a **topic sentence**
- Follow with **supporting evidence**
- End with a **linking or transition sentence**

Visual and structural cues

- Use **headings and subheadings** logically
- Apply **consistent numbering and formatting**
- Integrate **tables, charts, and bullet points** where appropriate
- Use **white space** to separate ideas visually

Building connections across sections

- End each section by summarizing key points
- Begin the next by connecting back to what came before

Common pitfalls

- Jumping between unrelated ideas
- Overusing transitions without real connections
- Mixing analysis with results prematurely
- Repetition without adding new insight
- Lack of clear topic sentences

Conclusion

A well-structured report doesn't just present information—it guides the reader on a smooth and meaningful journey. Logical flow ensures that each idea naturally connects to the next, creating clarity, coherence, and engagement. By organizing your sections thoughtfully, crafting clear transitions, and maintaining consistency in tone and structure, you help your audience follow your reasoning with ease. Remember, writing with flow is not only about grammar or style—it's about communication. A report with strong logical flow invites readers to stay engaged, understand your message, and appreciate the professionalism behind your work.

Ethical Dimensions of Technical Writing and Reporting

Md. Anwarul Islam, PhD
Professor, Dept. of Information Science
and Library Management, University of Dhaka

Background of the session

Ethics in technical writing and reporting is closely linked to the concept of information ethics, which refers to the responsible and ethical use of information in all aspects of communication and research. This dimension primarily encompasses issues related to intellectual property rights (IPR), including copyright, patents, plagiarism, and the ethical use of generative AI tools in research and writing. Upholding these principles requires understanding and addressing stakeholders' needs, presenting information truthfully, safeguarding confidentiality, ensuring quality, treating all parties fairly, and respecting intellectual property rights.

While modern generative AI tools have made life easier and more efficient by offering user-friendly solutions, they have also introduced several ethical challenges. The boundaries of recognition in academic practices have become increasingly blurred, leading many to overlook or forget to credit the original creators of knowledge. With the rapid growth of digital content—such as images, videos, and scholarly materials—the risk of failing to cite original sources continues to rise. Therefore, the ethical dimension of writing and reporting has become more crucial than ever, emphasizing the need to follow established ethical guidelines to ensure integrity and proper attribution.

By the end of this session, participants will be able to:

- Understand what ethics means in technical writing and reporting
- Identify common ethical dilemmas in writing and data presentation
- Recognize the importance of honesty, transparency, and accountability
- Apply ethical principles to real-world writing and reporting tasks.

Through some hands-on session and practical examples, participant will become more confident to maintain ethical guidelines writing in the professional activities. The following are the contents will be covered in one our session.

Why ethics matters in technical writing

- Technical writing shapes decisions, safety, and trust
- Inaccurate or biased information can cause harm
- Ethical writing ensures credibility, reliability, and professional integrity

Defining ethics in technical writing

- Ethics = principles that guide right and wrong behavior
- In writing: involves truthfulness, fairness, accuracy, and respect
- Ethical responsibility includes both content (what we say) and process (how we say it)

Core ethical principles

- **Honesty:** Present facts accurately-never distort data.
- **Objectivity:** Avoid bias or personal opinions.
- **Integrity:** Follow professional standards consistently.
- **Accountability:** Take responsibility for your work.
- **Transparency:** Disclose methods, limitations, and sources.

Accuracy and honesty in reporting

- Verify all facts, figures, and citations
- Avoid plagiarism or misrepresentation
- Distinguish between verified data and assumptions
- Use reliable and verifiable sources

Objectivity and bias

- Keep writing neutral avoid emotional or persuasive tone
- Represent data fairly (no selective omission)
- Acknowledge limitations and uncertainties
- Recognize personal or institutional bias and mitigate it

Ethical challenges in technical writing

- **Data manipulation:** altering results to fit expectations
- **Plagiarism:** using others' work without proper credit
- **Confidentiality breaches:** revealing private or proprietary information
- **Conflict of interest:** reporting influenced by external pressure
- **Inaccurate citation or misrepresentation:** misleading the reader

Ethical decision-making framework
When in doubt, ask:

- Is it true?
- Is it fair?
- Is it clear and complete?
- Does it respect confidentiality and consent?
- Would I stand by it if published publicly?

Best practices for ethical writing

Ethical technical writing requires a strong commitment to integrity and accountability at every stage of the process. Writers must cite all sources properly to acknowledge others' contributions and avoid plagiarism or any form of data manipulation. Maintaining confidentiality is essential, especially when handling sensitive or proprietary information. Transparency about research methods and limitations helps build trust and credibility with readers. Before submission, all information should be thoroughly reviewed and verified to ensure accuracy and reliability. Finally, writers should consistently uphold organizational and professional codes of ethics to maintain the highest standards of honesty and responsibility in their work.

Conclusion

In summary, ethical technical writing is built on integrity, accountability, and respect for intellectual property. By citing sources accurately, avoiding plagiarism, maintaining confidentiality, being transparent, and adhering to professional ethical standards, writers ensure their work is credible, reliable, and trustworthy. Upholding these principles not only protects the writer but also strengthens the value and impact of the information presented.

Structure of Research Report Writing in Social Science

Dr. Md. Mosharraf Uddin Molla
Member Director (AERS)
Bangladesh Agricultural Research Council

1. What is a Social Science Research Paper?

A social science research paper is an academic research paper that looks into different aspects of how people live and interact in society. It covers topics like sociology, psychology, economics, and politics. These papers use evidence and organized investigation to answer questions or test ideas.

2. Steps to Write a Social Science Research Paper

Here are simple steps to write your social science research document.

Step 1. Craft the Title Page

For a social science research paper, the title page should typically include the following information in a clear and standardized format:

- **Title:** The research paper title should accurately and concisely reflect the main focus of the research. It should be centered on the page and written in the title case (capitalize the first letter of each major word).
- **Author(s):** List the full name(s) of the author(s) below the title, centered on the page.
- **Institutional Affiliation(s):** Beneath the author(s)' names, include the name of the institution(s) to which the author(s) are affiliated. If there are multiple authors with different affiliations, use superscript numbers to match authors to their respective institutions.
- **Date of Submission (Optional):** Some instructors or publications may require or prefer the inclusion of the date of submission.

Step 2. Write Your Social Science Research Paper Abstract

The abstract is a concise summary of the research paper, typically ranging from 150 to 250 words. It should include the following elements:

- **Objective or Purpose:** Briefly state the research question, objective, or purpose of the study.
- **Methods:** Describe the methods and procedures used to conduct the research, including the study design, participants, data collection methods, and analytical techniques.
- **Results:** Summarize the key findings of the study, including any important statistical results or trends.
- **Conclusion:** Provide a brief conclusion that highlights the significance of the findings and their implications for the broader field of study.

The abstract should be written in a single paragraph, without indentation, and should be concise. Also, make sure it is comprehensive enough to provide readers with a clear understanding of the research paper's content and significance.
Here is an example of a good social science research paper abstract:

> ***The Impact of Parental Involvement on Academic Achievement in Primary Schools***
>
> ***Abstract***
>
> *This study investigates the relationship between parental involvement and academic achievement among primary school students. The sample consists of 300 students from three urban elementary schools in Dhaka city. Parental involvement is measured using a standardized questionnaire assessing various dimensions of parental engagement, including communication with teachers, involvement in school activities, and support for homework completion. Academic achievement is assessed based on students' standardized test scores in mathematics and language arts. Results from hierarchical multiple regression analyses indicate a significant positive association between parental involvement and academic achievement, even after controlling for students' socioeconomic status and prior academic performance. Specifically, higher levels of parental involvement are associated with greater gains in standardized test scores in both mathematics and language arts. These findings highlight the important role that parental involvement plays in promoting academic success among primary school students and underscore the need for collaborative efforts between schools, families, and communities to enhance parental engagement initiatives.*

Step 3. Write the Introduction

Begin your research paper introduction by providing background information on the topic to give readers context. Introduce the research question or hypothesis clearly and concisely. Explain why the topic is important and why your study is relevant.
Outline the objectives and scope of your research. Ensure that your introduction is engaging and clearly communicates the purpose of your study to the reader.

Step 4. Pen Down Your Literature Review

Start the literature review by summarizing key findings and theories from existing research on your topic. Identify any gaps or areas where further investigation is needed. Provide a critical analysis of the literature, discussing the strengths and weaknesses of previous studies.
Be sure to cite relevant sources and organize your literature review in a logical and coherent manner. Aim to demonstrate your understanding of the existing research and how it informs your own study.

Step 5. Provide Details about the Research Methodology

Here's how you should write the methodology section.

- Begin the methodology section by briefly outlining the overall approach used to address the research problem or hypotheses.

- Describe the **research design** employed in the study, whether it's experimental, observational, correlational, qualitative, quantitative, or mixed methods.
- Provide details about the **participants** or subjects involved in the study. Include information on their demographics (age, gender, socio-economic status, etc.), recruitment procedures, and any criteria used to select participants.
- Explain **how data was collected**, including the instruments or tools used (e.g., surveys, interviews, observations), their validity and reliability.
- Outline the step-by-step procedures followed during the study, from participant recruitment to data collection and analysis. Be specific about each stage of the process to provide transparency and enable replication by other researchers.
- Describe the analysis techniques applied to the collected data.

Step 6. Provide Results

Write the results section by presenting your findings objectively, using tables, figures, or descriptive narratives to illustrate the key points. Report your results in a clear and organized manner, following the structure outlined in your methodology.
Be sure to only present the data relevant to your research questions or hypotheses. Avoid interpretation or discussion of the results in this section; simply report what you found.
Step 7. Write the Discussion Section

In the discussion section, interpret the results in relation to your research questions or hypotheses. Compare your findings with existing literature and theories, and discuss any discrepancies or unexpected results you faced.
Consider the implications of your findings and how they contribute to our understanding of the topic. Address any limitations of your study and suggest areas for future research. Engage critically with the literature and offer insights based on your analysis.

Step 8. Conclude Your Social Science Research Paper

Summarize the main findings of your study and their significance in your research paper conclusion. Reiterate the research question or hypothesis and discuss how your study addressed it. Emphasize the importance of your research and its contributions to the field.
Always avoid introducing new information or arguments in the conclusion; instead, provide a synthesis of your findings and their implications. End with a strong closing statement that leaves a lasting impression on the reader.

Step 9. List Down Your References

At the end, compile a list of all sources cited in your paper, following the citation style specified by your instructor or academic institution. Double-check the accuracy and completeness of each reference. Organize your references alphabetically by the author's last name or, if no author, by the title of the source.

Step 10. Appendices (if applicable):
Add supplementary materials such as interview transcripts, survey instruments, or additional data tables.

It's important to adhere to the formatting guidelines provided by your institution or preferred academic journal. Additionally, maintaining consistency in formatting, citation style, and language throughout the paper is essential for clarity and professionalism.

3. Some General Tips for Social Science Research Paper Writing

Here are straight-forward tips for writing social science research papers:

- **Third-Person Perspective:** Discuss procedures objectively; avoid using "I" or "we.
- **Correct Verb Tenses:** Use past tense for research process, and present tense for findings.
- **Accuracy in Reporting:** Report actual events, even if results differ; focus on precise data presentation.
- **Structured Organization:** Arrange logically – introduction, literature review, methodology, results, discussion, and conclusion.
- **Peer Review and Feedback:** Get input from peers or instructors for improvement; incorporate constructive feedback.

4. Recommendations in Social Research Paper

Recommendations provide guidance on what actions or steps should be taken based on the research findings. Recommendations are typically directed towards policymakers, practitioners or other stakeholders who can use the research to inform decision-making or take specific action.

Making Your Research Matter: The Essential Guide to Abstract Writing for Agricultural Scientists

Dr. Md. Mahfuz Alam
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Effective scientific communication is a critical skill for agricultural researchers, especially in an era when global food systems face increasing pressure from climate change, pest outbreaks, soil degradation, and rapid population growth. Among all components of a scientific paper, the abstract plays the most decisive role in determining whether research achieves visibility, acceptance, and real-world impact. For many readers, journal editors, reviewers, extension personnel, policy planners and international collaborators, the abstract is the first contact with your work and often the only section they will read before making a judgment. A well-written abstract summarizes the essence of a study with clarity, precision and scientific value. It highlights the importance of the research problem, articulates the specific objective, briefly outlines the methodology, and presents the most significant results with quantifiable data. Ultimately, the abstract must state why the findings matter and how they may contribute to agricultural innovation, improved productivity, or sustainable resource management. In other words, it must clearly communicate both what was discovered and why it makes a difference. For agricultural scientists, this skill is particularly crucial. Research outputs must compete for attention in a rapidly growing body of literature, where editorial decisions are highly selective and early rejection, often based solely on the abstract, is common. To ensure acceptance, abstracts must demonstrate novelty, methodological soundness, and practical applicability to farming and food systems. This guide is designed to support agricultural scientists in strengthening their abstract-writing capabilities. It offers practical strategies, structural guidelines, common pitfalls to avoid, and real examples from agricultural research disciplines. By mastering these principles, researchers can increase their publication success rate, improve visibility in high-impact journals, and ensure that their scientific contributions effectively reach the communities and stakeholders who need them most.

Part 1: The "Why" - The Abstract as a Strategic Tool

Before we discuss how to write an abstract, we must fully internalize why it demands our utmost attention.

1.1. The Gatekeeper Function

For journal editors and conference organizers, the abstract is a triage tool. A leading plant pathology journal might receive thousands of submissions annually. The editor’s first, and sometimes only, read is the abstract. A poorly written, unclear, or unpersuasive abstract often leads to a "desk rejection," no matter how robust the underlying science. It is the first and most critical filter your research must pass.

1.2. The Discovery Engine

In the digital age, researchers, policymakers, and industry professionals discover your work through databases like Scopus, Web of Science, Google Scholar, and AGRICOLA. These databases primarily index titles and abstracts. The keywords and phrases you choose determine whether your paper appears in a search query. A well-crafted abstract, rich with relevant terminology, is your SEO (Search Engine Optimization) for scientific discovery.

1.3. The Decision-Maker's Brief

Consider your audience beyond academia. A busy policy advisor at the FAO, a research director at a seed company, or a program manager at a development NGO does not have time to read every full-text paper. They rely on abstracts to quickly grasp the essence of your findings and decide if it's relevant to their work. Your abstract must speak to them directly, answering their implicit question: "What is here for me?"

1.4. The Synthesis Catalyst

For fellow scientists, your abstract is the entry point for meta-analyses, systematic reviews, and literature maps. If your findings are buried in a vague summary, they may be overlooked in larger syntheses that shape the direction of your field. In essence, the abstract is not a summary of the paper; it is a proxy for the paper. For the vast majority of your audience, it is the paper.

Part 2: The Anatomy of a Powerful Abstract - The "What"

While formats can vary slightly, most high-impact journals in the agricultural sciences expect a structured abstract that follows a logical narrative flow. Let's dissect this structure, component by component.

2.1. Background/Context (1-2 sentences)

- Purpose: To set the stage. Why was this research necessary? What problem or knowledge gap does it address?
- Common Pitfall: Being too broad or generic. "Feeding a growing population is a challenge" is weak. Instead, be specific.
- Agricultural Example:
  - Weak: "Wheat is an important crop, and drought stress affects its yield."

- Strong: "Recurrent drought spells in the North China Plain, a global breadbasket, are threatening the sustainability of winter wheat production, yet the efficacy of new drought-tolerant cultivars under realistic field conditions remains poorly quantified."

2.2. Objective/Aim (1 sentence)

- Purpose: To state clearly and concisely what the study set out to achieve. This is your research question.
- Common Pitfall: Confusing the objective with the methods.
- Agricultural Example:
  - Weak (describes method): "We used RNA-seq to analyze gene expression in maize."
  - Strong (states aim): "This study aimed to identify key transcriptional regulators underlying the resistance of maize inbred line CML343 to the foliar disease, Northern Corn Leaf Blight."

2.3. Methods (2-4 sentences)

- Purpose: To provide a high-level overview of how you conducted the study. The key is to be descriptive without drowning in detail.
- Common Pitfall: Listing materials and methods like a recipe. Focus on the core experimental design.
- Agricultural Example:
  - Weak (overly detailed): "We planted seeds in 10 cm pots filled with a 3:1 mixture of peat and vermiculite. Plants were grown in a greenhouse at 25°C with a 16/8 hour light/dark cycle. We applied 100 mL of nutrient solution every three days."
  - Strong (conceptual): "A two-year field experiment was conducted using a randomized complete block design to compare the yield performance of three new rice genotypes against a widely cultivated check variety under two contrasting nitrogen regimes (0 and 120 kg N ha^{-1})."

2.4. Results (2-4 sentences)

- Purpose: To present your most significant findings. This is the core of the abstract. Be specific and quantitative. Use data, but sparingly and meaningfully.
- Common Pitfall: Making vague, qualitative statements or simply stating that "significant differences were observed."
- Agricultural Example:
  - Weak (vague): "The biofertilizer treatment showed better growth and yield."
  - Strong (specific and quantitative): "Inoculation with the PGPR strain Bacillus subtilis ABX increased shoot biomass by 32% and grain yield by 18% compared to the non-inoculated control. This was coupled with a 25% increase in nitrogen use efficiency and a significant enhancement in soil microbial dehydrogenase activity."

2.5. Conclusion/Interpretation (1-2 sentences)

- Purpose: To answer the "so what?" question. What is the broader meaning of your findings? How do they address the problem stated in the background? What is the key take-home message?
- Common Pitfall: Simply restating the results. The conclusion must interpret and synthesize.
- Agricultural Example:
  - Weak (restates result): "Therefore, the biofertilizer increased yield."
  - Strong (interprets and suggests impact): "Our findings demonstrate that B. subtilis ABX is a potent bio-inoculant that can substantially enhance wheat productivity and nutrient acquisition, offering a sustainable strategy to reduce reliance on synthetic nitrogen fertilizers."

This five-part structure: Background, Objective, Methods, Results, Conclusion creates a compelling and easy-to-follow narrative arc. It mirrors the IMRaD (Introduction, Methods, Results, and Discussion) structure of the paper itself, providing a miniature version of the entire story.

Example 1.

Alam *et al. Rice* 2014, **7**:9
http://www.thericejournal.com/content/7/1/9

Rice
a SpringerOpen Journal

RESEARCH **Open Access**

Response of an *aspartic protease* gene *OsAP77* to fungal, bacterial and viral infections in rice

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Abstract

Background: Aspartic protease (APs) plays important roles in plant growth, development and biotic and abiotic stresses. We previously reported that the expression of a rice *AP* gene (*OsAP77*, Os10g0537800) was induced by probenazole (PBZ), a chemical inducer of disease resistance. In this study we examined some characteristics of this gene in response to fungal, bacterial and viral pathogens.

Results: To elucidate the spatial and temporal expression of *OsAP77*, the chimeric gene was constructed carrying the structural gene encoding β-glucuronidase (GUS) driven by the *OsAP77* promoter. This construct was introduced into rice and the transgenic lines were tested to analyze gene expression by fungal, bacterial and viral infections. Inoculation with *Magnaporthe oryzae* or *Xanthomonas oryzae* pv. *oryzae* revealed the enhanced GUS activities in vascular tissues surrounding the symptom sites by each pathogen. Moreover, GUS activity also increased after inoculation with *Cucumber mosaic virus* (CMV). Transgenic plants immersed in a solution containing salicylic acid (SA), isonicotinic acid (INA), hydrogen peroxide (H_2O_2) or abscisic acid (ABA) showed an increased level of GUS activity exclusively in vascular tissues. RT-PCR analysis showed that *OsAP77* was induced not only by infection with these pathogens, but also after treatment with SA, INA, H_2O_2 or ABA. A knockout mutant line of *OsAP77* by the insertion of *Tos17* after inoculation with *M. oryzae*, *X. oryzae* pv. *oryzae* or CMV showed an enhanced susceptibility compared to wild type.

Conclusion: These results suggest that the expression of *OsAP77* is induced by pathogen infection and defense related signaling molecules in a vascular tissue specific manner and that this gene has a positive role of defense response against fungal, bacterial and viral infections.

Keywords: Aspartic protease; Rice; *Magnaprthe oryzae*; *Xanthomonas oryzae* pv. *oryzae*; *Cucumber mosaic virus*; *Tos17* mutant; Probenazole; Salicylic acid; Hydrogen peroxide; Abscisic acidv

Example. 2.

Plant Biotechnology Journal

Research Article

Overexpression of a rice *heme activator protein* gene (*OsHAP2E*) confers resistance to pathogens, salinity and drought, and increases photosynthesis and tiller number

Correction(s) for this article

Md. Mahfuz Alam, Toru Tanaka, Hidemitsu Nakamura, Hiroaki Ichikawa, Kappei Kobayashi, Takashi Yaeno, Naoto Yamaoka, Kota Shimomoto, Kotaro Takayama ... See all authors

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Summary

Heme activator protein (HAP), also known as nuclear factor Y or CCAAT binding factor (HAP/NF-Y/CBF), has important functions in regulating plant growth, development and stress responses. The expression of rice *HAP* gene (*OsHAP2E*) was induced by probenazole (PBZ), a chemical inducer of disease resistance. To characterize the gene, the chimeric gene (*OsHAP2E::GUS*) engineered to carry the structural gene encoding β-glucuronidase (GUS) driven by the promoter from *OsHAP2E* was introduced into rice. The transgenic lines of *OsHAP2Ein::GUS* with the intron showed high GUS activity in the wounds and surrounding tissues. When treated by salicylic acid (SA), isonicotinic acid (INA), abscisic acid (ABA) and hydrogen peroxide (H_2O_2), the lines showed GUS activity exclusively in vascular tissues and mesophyll cells. This activity was enhanced after inoculation with *Magnaporthe oryzae* or *Xanthomonas oryzae* pv. *oryzae*. The *OsHAP2E* expression level was also induced after inoculation of rice with *M. oryzae* and *X. oryzae* pv. oryzae and after treatment with SA, INA, ABA and H_2O_2, respectively. We further produced transgenic rice overexpressing *OsHAP2E*. These lines conferred resistance to *M. oryzae* or *X. oryzae* pv. *oryzae* and to salinity and drought. Furthermore, they showed a higher photosynthetic rate and an increased number of tillers. Microarray analysis showed up-regulation of defence-related genes. These results suggest that this gene could contribute to conferring biotic and abiotic resistances and increasing photosynthesis and tiller numbers

ELSEVIER

Plant Science

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In Press, Journal Pre-proof What's this?

Rice *OsRDR1* and *OsSGS3b* enhance defense against viral, bacterial, and fungal infections

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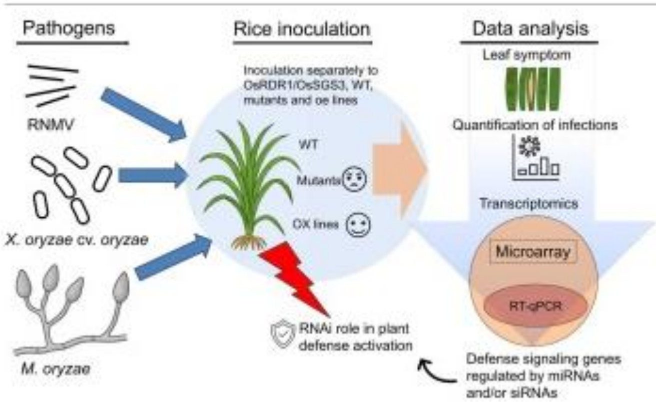
Abstract

RNA-dependent RNA polymerase 1 (*RDR1*) and *Suppressor of Gene Silencing 3* (*SGS3*) are central components of RNA silencing in plants. Here, we investigated the rice homologs of the genes *OsRDR1* and *OsSGS3b* to determine their roles in defense against viral, bacterial, and fungal pathogens in rice. *Tos17* retrotransposon insertion rice mutant lines were used to generate single mutant lines (*Osrdr1 and Ossgs3b*), and a double mutant line (*Osrdr1/Ossgs3b*) was created through crossing. In addition, overexpressed (oe) lines of *OsRDR1* and *OsSGS3b* were developed (OsRDR1oe and OsSGS3boe). These lines were inoculated with *Cucumovirus cucumber mosaic virus* (CMV), Bymovirus rice necrosis mosaic virus (RNMV), *Xanthomonas oryzae* pv. *Oryzae* (XO) and *Magnaporthe oryzae* (MO), respectively. Among all lines tested, the double mutant showed the highest susceptibility to all pathogens, while single mutants were more susceptible than the wild type. Microarray analysis of the mutant lines revealed downregulation of defense-related and signaling pathway genes. Together, these findings demonstrate that *OsRDR1* and *OsSGS3b* positively regulate broad-spectrum disease resistance in rice, highlighting the contribution of RNA silencing not only to antiviral defense but also to antibacterial and antifungal immunity.

Graphical abstract



Part 3: Discipline-Specific Nuances for Agricultural Sciences

Agricultural research is uniquely applied and interdisciplinary. Your abstract must reflect this. Let's tailor the general structure to our field's specific contexts.

3.1. Emphasizing the System and Scale

Is your study a lab-based pot trial, a controlled greenhouse experiment, a multi-year field trial, or a large-scale socioeconomic survey? The scale and context are critical for interpreting the validity and applicability of your results.

Always specify: The system (e.g., "field-based," "in silico," "on-farm participatory research"), the duration (e.g., "a three-year study"), and the location if relevant (e.g., "in the Brazilian Cerrado").

3.2. Defining the Organism and Cultivar

Precision is paramount. Don't just say "soybean." Specify the species and cultivar (e.g., "Glycine max cv. 'Williams 82'"). For livestock studies, specify the breed, age, and production system (e.g., "Holstein-Friesian dairy cows in a confinement system").

3.3. Quantifying the Intervention
Vague descriptions of treatments are a major weakness. Be precise.

- Weak: "We applied organic fertilizer."
- Strong: "Composted cattle manure was applied at a rate of 10 t ha^{-1} (dry weight basis) and incorporated into the top 15 cm of soil pre-planting."

3.4. Highlighting the Impact Pathway
Connect your findings to real-world outcomes. Are you contributing to:

- Productivity: "Yield increased by X%."
- Sustainability: "Nitrate leaching was reduced by Y%."
- Resilience: "The new genotype maintained yield under drought stress."
- Economics: "The intervention resulted in a net profit increase of Z $/ha."
- Social Impact: "The technology adoption led to a 40% reduction in women's labor burden."

Explicitly stating this impact pathway in your conclusion makes the relevance of your work immediately apparent.

Part 4: The Craft of Clarity and Precision - The "How"

Now that we have the structure and content, let's focus on the language. Clarity is not a stylistic choice; it is a scientific and ethical imperative.

4.1. The Active vs. Passive Voice Debate
The old scientific tradition demanded the passive voice ("It was observed that...") to create a sense of objectivity. Modern scientific communication strongly favors the active voice. It is more direct, concise, and engaging.

- Passive (wordy and weak): "It was found that the application of the pesticide resulted in a reduction of pest populations."
- Active (direct and strong): "The pesticide application reduced pest populations by 75%."

Use the first person ("we") confidently. "We conducted," "We found," "We conclude." It is clear and assigns appropriate agency.

4.2. Vocabulary: Choosing the Right Tool for the Job

- Use Strong Verbs: Replace weak verb + noun constructions with powerful verbs.
  - Weak: "We conducted an investigation into..."
  - Strong: "We investigated..."
  - Weak: "Made a comparison of..."
  - Strong: "Compared..."
- Be Wary of Jargon: Use technical terms that are essential and familiar to your target audience. Avoid obscure acronyms without definition. If your work is interdisciplinary, define terms that might be unfamiliar to one segment of your audience.
- Eliminate Clichés and Vague Language: Avoid phrases like "very promising," "interesting results," or "a novel approach." Let your specific findings speak for themselves.

4.3. The Power of a Single, Clear Narrative

Your abstract should tell one coherent story. Every sentence should logically lead to the next. A common mistake is to include a "throwaway" result that distracts from the main message. Be ruthless. If a finding isn't central to your primary conclusion, leave it out of the abstract. The reader should finish the abstract with one clear, dominant idea in mind.

4.4. Adherence to Journal Guidelines

This seems obvious but is frequently overlooked. Journals have specific rules for abstract length (often 150-300 words), structure (structured vs. unstructured), and style. Ignoring these guidelines signals a lack of attention to detail and can lead to immediate rejection.

Part 5: Beyond the Journal Article - Abstracts for Different Forums

The principles we've discussed are universal, but the execution may vary depending on the forum.

5.1. Conference Abstracts

These are often written before the research is complete. Therefore, you must balance promise with honesty.

- Focus on the Why and How: Spend more time on the compelling background and the rigorous methodology. This builds confidence in your ongoing work.
- State Expected Outcomes: You can phrase your results section as "Preliminary results indicate..." or "We will present data on..." This manages expectations.
- Highlight Novelty: Conference organizers are looking for cutting-edge, timely research. Explicitly state what is new about your approach or question.

5.2. The "Lay Summary" or "Key Findings" Abstract

Increasingly, funders and journals require a summary for a non-specialist audience. This is a different skill.

- Eliminate Jargon: Explain concepts in plain English. Instead of "PGPR," say "naturally occurring soil bacteria that help plants grow."
- Lead with the Problem and Solution: Start with the big-picture problem (e.g., "Food waste") and immediately state how your research helps solve it.
- Use Analogies: Compare complex ideas to familiar concepts.
- Focus on Impact, Not Process: They care about the "so what?" more than the "how?"

Part 6: A Practical Framework for Writing and Revising

Here is a step-by-step process you can implement today.

Step 1: The "Zero Draft" (Write without constraints)
After you have written your paper, open a new document. Without looking at your paper, write a one-paragraph summary answering these questions:

- What problem did I solve?
- What did I do?
- What is the single most important finding?
- Why does it matter?

This forces you to distill the core narrative without getting bogged down in details.

Step 2: The Structural Outline
Take your zero draft and map its sentences onto the five-part structure: Background, Objective, Methods, Results, Conclusion. You will likely see gaps and imbalances.

Step 3: The First Formal Draft
Now, write a proper draft using the structure, filling in the gaps. Aim for the word limit. Don't worry about perfect phrasing yet.

Step 4: The Keyword Audit

Read your draft and highlight all nouns and noun phrases. Are these the terms a fellow scientist would use to search for your paper? If not, replace generic terms with specific, standard keywords.

Step 5: The "Read-Aloud" Edit

Read your abstract aloud. This is the most effective way to catch awkward phrasing, run-on sentences, and breaks in logical flow. If you stumble over a sentence, it needs to be rewritten.

Step 6: The Colleague Test

Give your abstract to a colleague from a slightly different sub-discipline (e.g., a soil scientist gives their abstract to an agronomist). Can they accurately explain back to you the objective, key finding, and significance? Their confusion is your guide to improvement.

Step 7: The Final Polish
Check for grammar, spelling, and adherence to journal guidelines. Ensure every word is pulling its weight.

Part 7: Case Studies in Transformation

Let's look at two "before and after" examples from fictional agricultural studies.

Case Study 1: A Crop Science Paper

Title: Evaluation of New Wheat Lines
Original Abstract (Weak):

"Wheat is a major staple food. We studied some new wheat lines to see if they were any good. A field experiment was done. Data on yield and other traits were collected. Some lines did better than others. The best line had higher yield. This is important for breeding."

Critique: Vague, passive, no data, no context, weak conclusion.

Revised Abstract (Strong):

"Background: Developing wheat varieties with enhanced heat tolerance is critical for maintaining yield stability under climate change. Objective: We evaluated the agronomic performance of five novel synthetic hexaploid wheat-derived lines under terminal heat stress. Methods: A two-year field study was conducted in a heat-prone region of India, using a randomized block design to compare the new lines against two commercial check varieties. Results: Line SHW-7 consistently outperformed the checks, exhibiting a 15% higher grain yield under heat stress, coupled with superior thousand-kernel weight and canopy temperature depression. Conclusion: SHW-7 represents a promising genetic resource for breeding climate-resilient wheat, potentially safeguarding productivity in heat-stressed environments."

Analysis

Specific background, clear objective, defined methods, quantitative results, and a powerful conclusion that links back to the initial problem.

Case Study 2: An Agricultural Economics Paper
Title: A Study on Farmer Adoption
Original Abstract (Weak):

"This paper looks at why farmers do or do not use a new soil moisture sensor. Surveys were given to farmers. We ran some models. The results show that cost and education are factors. We discuss the implications."

Critique: Informal language ("looks at"), vague methods and results, no specific findings, weak conclusion.

Revised Abstract (Strong):

"Background: Despite the potential of precision irrigation technologies to conserve water, their adoption among smallholder farmers remains low. Objective: This study identified the key socioeconomic and perceptual determinants influencing the adoption of a low-cost soil moisture sensor in a groundwater-stressed region of Bangladesh. Methods: We conducted structured interviews with 250 farmers and analyzed the data using a logistic regression model. Results: Adoption was significantly positively associated with access to extension services (Odds Ratio: 3.2) and membership in farmer cooperatives (OR: 2.8), and negatively associated with perceived technology complexity (OR: 0.5). Cost was not a significant barrier due to a subsidy program. Conclusion: Our findings suggest that policy interventions focused on strengthening extension networks and facilitating peer-to-peer learning within cooperations may be more effective than further subsidies in promoting the adoption of this water-saving technology."

Analysis: Clear problem, specific location, robust methodology, statistically precise results, and a targeted, actionable conclusion for policymakers.

Example 3.


ASM Journals / Journal of Virology / Vol. 95, No. 17
/ Proof of Concept of the Yadokari Nature: a Capsidless Replicase-Encoding but Replication-Dependent Positive-Sense Single-Stranded RNA Virus Hosted by an Unrelated Double-Stranded RNA Virus

Research Article | 10 August 2021

Proof of Concept of the Yadokari Nature: a Capsidless Replicase-Encoding but Replication-Dependent Positive-Sense Single-Stranded RNA Virus Hosted by an Unrelated Double-Stranded RNA Virus

Authors: Subha Das, Md Mahfuz Alam, Rui Zhang, Sakae Hisano, Nobuhiro Suzuki | AUTHORS INFO & AFFILIATIONS

https://doi.org/10.1128/jvi.00467-21 • Check for updates

16 / 1,616

CITE PDF/EPUB

ABSTRACT We previously proposed a new virus lifestyle or yadokari/yadonushi nature exhibited by a positive-sense single-stranded RNA (ssRNA) virus, yadokari virus 1 (YkV1), and an unrelated double-stranded RNA (dsRNA) virus, yadonushi virus 1 (YnV1) in a phytopathogenic ascomycete, *Rosellinia necatrix*. We have proposed that YkV1 diverts the YnV1 capsid to *trans*-encapsidate YkV1 RNA and RNA-dependent RNA polymerase (RdRp) and replicate in the heterocapsid. However, it remains uncertain whether YkV1 replicates using its own RdRp and whether YnV1 capsid copackages both YkV1 and YnV1 components. To address these questions, we first took advantage of the reverse genetics tools available for YkV1. Mutations in the GDD RdRp motif, one of the two identifiable functional motifs in the YkV1 polyprotein, abolished its replication competency. Mutations were also introduced in the conserved 2A-like peptide motif, hypothesized to cleave the YkV1 polyprotein cotranslationally. Interestingly, the replication proficiency of YkV1 mutants in the host fungus agreed with the cleavage activity of the 2A-like peptide tested using a baculovirus expression system. Cesium chloride equilibrium density gradient centrifugation allowed for the separation of particles, with a subset of YnV1 capsids solely packaging YkV1 dsRNA and RdRp. These results provide proof of concept that a capsidless positive-sense ssRNA [(+)ssRNA] virus is hosted by an unrelated dsRNA virus.

IMPORTANCE Viruses typically encode their own capsids that encase their genomes. However, a capsidless positive-sense single-stranded RNA [(+)ssRNA] virus, YkV1, depends on an unrelated double-stranded RNA (dsRNA) virus, YnV1, for encapsidation and replication. We previously showed that YkV1 highjacks the capsid of YnV1 for *trans*-encapsidation of its own RNA and RdRp. YkV1 was hypothesized to divert the heterocapsid as the replication site, as is commonly observed for dsRNA viruses. Herein, mutational analyses showed that the RdRp and 2A-like domains of the YkV1 polyprotein are important for its replication. The active RdRp must be cleaved by a 2A-like peptide from the C-proximal protein. Cesium chloride equilibrium density gradient centrifugation allowed for the separation of particles, with YnV1 capsids solely packaging YkV1 dsRNA and RdRp. This study provides proof of concept of a virus neo-lifestyle where a (+)ssRNA virus snatches capsids from an unrelated dsRNA virus to replicate with its own RdRp, thereby mimicking the typical dsRNA virus lifestyle.

Conclusion

In agricultural research, new knowledge holds value only when it is clearly communicated and accessible to the scientific community and stakeholders who can apply it. The abstract, though brief, plays the most strategic role in achieving that goal. It serves as the gateway to your research, shaping first impressions, influencing editorial decisions, and determining how widely your findings will be read, cited, and utilized. Mastering the art of abstract writing requires precision, structure, and a strong focus on relevance. Effective abstracts highlight a pressing agricultural challenge, clearly define the research objective, provide a concise overview of methods, present quantified and credible results, and conclude with meaningful implications for farming systems, food security, or environmental sustainability. By avoiding common pitfalls, such as vague language, unnecessary details, or lack of novelty, researchers can significantly strengthen the impact of their publications. For mid-career agricultural scientists seeking greater visibility and influence, strong writing skills are not optional; they are integral to scientific success. By applying the principles in this guide, your research will not only reach the right audience but also contribute more effectively to innovation and progress in agriculture, where every insight has the potential to improve livelihoods and strengthen food systems.

Citation & Reference Writing Style in a Scientific Paper

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1.0 Introduction

Modern research is a documented writing published in the academic journals containing original results. The standard of any sort of research depends on how it is documented by the researcher himself. Besides, reliability, practicality and validity matter much in bench-marking the scientific papers. Every scientific paper is documented in an establishing documenting style. It is called a reference style. Citation occurs inside the text and reference is placed at the end of the writing. Every scientific study follows citation outlines too. What researches cite inside the text is called in text citation.

Scientific journal paper, thesis, dissertation or any other research are valued by the sophistication of documentation. Using sources in research paper is an important part of building and supporting researcher's argument. An essential part of the writing process involves documenting research and acknowledging the ideas of others. A researcher must be sure that he/she is acknowledging the ideas, quotations or images that are found in other electronic and print sources. Honest and thorough citations are important for many reasons. First, the ideas and words of an author are his/her intellectual property. Second, academic scholarship is a system in which authors publish their opinions so that they can be read by a community of scholars. Plagiarism is the failure to acknowledge ideas or words that do not belong to the researcher. A researcher plagiarizes if he inserts exact words or phrases from another author's work into his own work or if he uses another author's ideas into his own words.

Referencing allows a researcher to acknowledge the contribution of other writers and researchers in his work. Referencing is also a way to give credit to the writers from whom researchers have borrowed words and ideas. It is a way to provide evidence to support the assertions and claims in the researcher's own assignments. References should always be accurate, allowing the readers to trace the sources of information they have used. The best way to make sure a researcher reference accurately is to keep a record of all the sources he/she used when reading and researching for an assignment.

2.0 In-text Citation

A citation tells the readers where the information came from. In the writing, researchers cite or refer to the source of information. An in-text citation is documented when researchers refer to, summarize, paraphrase, or quote from another source. For example, APA in-text citation style uses the author's last name and the year of publication (Field, 2005). Direct quotations include the page number as well, for example: (Field, 2005, p. 14)

2.1 Types of In-text Citation

Citation is generally of three types: **Parenthetical citation, Note citation** and **Numeric citation. Researchers can** put the source reference in parenthesis directly in the text. This usually includes the author's last name along with the publication date and/or the page number. The example is (Das, 2019). Researchers can put the source reference in a footnote or endnote. They can number each of their sources in the reference list and use the correct number when they want to cite a source. Parenthesis with author-page number is used in MLA reference style in the field of Humanities. It is also used with author-date in APA in the field of Psychology, Education, and Social Sciences. Chicago A uses Notes in the field of History and Humanities but Chicago B uses Parenthesis with author-date for sciences, social sciences and humanities. Parenthesis with author-date is used in Harvard reference style for Economics. Number is used in AMA, NLM and Vancouver in the field of Medicine whereas AAA uses Number in the field of Anthropology and Social Studies. Number, author-page number and note are used in ACS in the field of Chemistry. Number is used in IEEE in the field of Engineering and IT whereas Note is used in OSCOLA reference style in the field of Law. Parenthesis with author-date is used in APSA reference style in the field of Political Science.

3.0 Reference

A reference gives the readers details about the source so that they have a good understanding of what kind of source it is and could find the source themselves if necessary. Academic writing relies on more than just the ideas and experience of one author. It also uses the ideas and research of other sources: books, journal articles, websites, and so forth. These other sources may be used to support the author's ideas, or the author may be discussing, analysing, or critiquing other sources. Referencing is used to tell the reader where ideas from other sources have been used in an assignment. There are many reasons why it is important to reference sources correctly. It shows the reader that a researcher can find and use sources to create a solid argument. It properly credits the originators of ideas, theories, and research findings. It shows the reader how researcher's argument relates to the big picture.

Reference refers to the sources of words, facts, ideas, theories, or interpretations borrowed in writings from other sources. It is honest that those sources must be referenced. It is clear that referencing is needed when words from a book, article, or other source exactly are copied. Referencing is needed when an idea or fact from an outside source is taken even if their exact wording isn't used.

3.1 Types of Reference Style

Every authentic writing follows validated reference style. Difference academic disciplines prefer difference referencing styles. Most of the academic organizations that invented the reference styles are American. **American Psychological Association** developed APA reference style for the field of psychology. Another academic organization, Modern Language Association, created MLA referencing style for the discipline of Humanities. The Chicago Manual of Style presented reference styles Chicago A for the disciplines of History and Humanities and Chicago B for the disciplines of Humanities, social sciences, sciences. Besides, the other remarkable reference styles such as Harvard, AMA, NLM, Vancouver, ACS, IEEE, OSCOLA, APSA reference styles are being used in the standard publications.

3.2 APA Reference Style:

APA style was created by the American Psychological Association. This reference style was originally used in psychology and social sciences. Today many other disciplines also use it. APA citation style uses an author-date system of parenthetical citation. APA reference Style for a journal paper goes as follow:

Das, S., Munshi, M. N., & Kabir, W. (2016). The Impact of ICTs on Agricultural production in Bangladesh: A study with Food Crops. *SAARC Journal of Agriculture, 14*(2), 83-94.

APA Reference Style for a book goes as follow:

Verne, J. (1873). *Around the world in Eighty Days.* London: Penguin.

3.3 MLA Reference Style

MLA style was developed by the Modern Language Association. It is especially popular in language and literary studies. MLA uses parenthetical citations containing the author and page number. MLA reference Style for a journal paper goes as follow:

Harris, Rob, and Andrew C. Revkin. "Clinton on Climate Change." *The New York Times*, 17 May 2007, www.nytimes.com/video/world/americas/1194817109438/clinton-on-climate-change.html. Accessed 29 July 2016.

3.4 Chicago Reference Style

Chicago style is published by The Chicago Manual of Style. There are two variations: Chicago A: and Chicago B. Chicago reference Style for a journal paper goes as follows:

Stewart, Dave and Mark Simmons. *The Business Playground: Where Creativity and Commerce Collide*. Berkeley: New Riders Press, 2010.

Chicago reference Style for a book goes as follow:

Stewart, Dave and Mark Simmons. 2010. *The Business Playground: Where Creativity and Commerce Collide*. Berkeley: New Riders Press.

3. 5 Harvard Reference Style

Harvard referencing style is often used in the field of economics. There is no official style guide, which means there are a few variations. British Standards Institution and Australian Government Publishing Service (AGPS) have published their own style guides for Harvard style. Harvard reference Style for a journal paper goes as follow:

Stewart, D. and Simmons, M. (2010) *The business playground: Where creativity and commerce collide.* Berkeley: New Riders Press.

3.6 Vancouver Reference Style

Vancouver style was developed by the International Committee of Medical Journal Editors (ICMJE) and is mostly used in medical disciplines.

Vancouver style works with a numeric system. In the text, the source is indicated by a number, and the full source details appear next to that number in the reference list. Vancouver Reference Style reference Style for a journal paper goes as follow:

Stewart D, Simmons M. The business playground: where creativity and commerce collide. Berkeley: New Riders Press: 2010.

4.0 Plagiarism

Plagiarism is the unethical practice of using words or ideas (either planned or accidental) of another author/researcher or the present researcher's own previous works without proper acknowledgment. It is considered as a serious academic and intellectual offense. It is currently a grave problem in academic publishing. It is thus imperative for researchers to increase their understanding about plagiarism. In some cultures, academic traditions and nuances may not insist on authentication by citing the source of words or ideas. Researchers should not copy or paste the text verbatim from the reference paper. Instead, they should restate the idea in their own words. They should understand the idea(s) of the reference source well in order to paraphrase correctly. Therefore, they should use an established citation and reference style. Mendeley is a free reference manager and academic social network developed by Elsevier, designed to help researchers organize their research, collaborate with others, and manage citations efficiently. It allows users to store and organize references, annotate PDF documents, and generate citations and bibliographies instantly using its built-in citation plugin for Microsoft Word and other writing tools. Available on Windows, macOS, and mobile devices, Mendeley enables seamless access to research libraries from anywhere through cloud synchronization. Additionally, it fosters academic collaboration by allowing users to share papers, join research groups, and discover new publications relevant to their field, making it a valuable tool for students, academics, and professionals engaged in scholarly research.

5.0 Research Metrics: H-index and Impact Factor

Research metrics are tools used to measure the impact and quality of academic work. The **h-index** is a metric that reflects both the productivity and citation impact of a researcher's publications. A scholar has an h-index of *h* if they have published *h* papers each cited at least *h* times. This means it balances quantity (number of papers) and quality (citations). On the other hand, the **impact factor** measures the average number of citations received per paper published in a particular journal during the previous two years. It is commonly used to evaluate the influence and reputation of academic journals. While both metrics help in assessing research performance, they have limitations — the h-index favors established researchers, and the impact factor may not fully represent the quality of individual articles.

6.0 Mendeley (Reference manager and academic social network)

Mendeley is a free reference manager and academic social network developed by **Elsevier**, designed to help researchers organize their research, collaborate with others, and manage citations efficiently. It allows users to store and organize references, annotate PDF documents, and generate citations and bibliographies instantly using its built-in citation plugin for Microsoft Word and other writing tools. Available on **Windows**, **macOS**, and **mobile devices**, Mendeley enables seamless access to research libraries from anywhere through cloud synchronization. Additionally, it fosters academic collaboration by allowing users to share papers, join research groups, and discover new publications relevant to their field, making it a valuable tool for students, academics, and professionals engaged in scholarly research.

7.0 Conclusion

A researcher should follow proper citation practices to avoid plagiarism and maintain the quality and credibility of research work. First, they should include relevant citations and ensure they have thoroughly read the sources they reference. Citations must be accurate, transparent, and contextually appropriate. Self-citation should be used only when necessary and should not overshadow other important sources. It is essential to use a single, consistent reference style throughout the paper. Moreover, researchers should evaluate citations within their rhetorical and academic context to ensure they strengthen the argument and uphold scholarly integrity.

Enhancing Clarity, Rigor, and Precision in Academic Writing and Editing and Refining Research Writing for Effective Communication

Dr. Qumrul Hasan Chowdhury
Associate Professor, Department of English
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High-impact research in agriculture depends not only on robust experimentation and data but also on communicating that research effectively to a global audience. With the growing prominence of English in global academia, it has become increasingly important to use English meaningfully to enhance the dissemination, accessibility, and impact of research publications. These two focused sessions aim to strengthen participants' academic writing and editing abilities for research and publication. They orient the trainees to the key skills required to maintain rigour, precision, and equality in writing, with the aim of maximising their potential for effective scholarly communication.

The first session introduces trainees to the lexical, syntactic, and structural distinctions between formal and informal writing. It begins with a macro-level understanding of the differences between academic and informal writing in terms of target audience, purpose, and impact. It highlights that informal or colloquial expressions, such as nice, bad, quite, or thing, are avoided in academic contexts. Instead, participants are encouraged to use discipline-specific and nuanced word choices that reflect academic rigour. For example, instead of saying, 'The new irrigation system used quite a bit less water,' authors could write, 'The drip irrigation system used 40% less water than the flood irrigation control.' Similarly, the use of slang, contractions, be-verbs, and personal pronouns is minimised to maintain an impersonal and objective tone, thereby enhancing overall formality and clarity. For instance, 'The new fertilizer is highly effective for increasing crop yield' may be improved to 'The new fertilizer significantly increases crop yield.'

At the syntactic level, the session emphasises that academic writing often favours moderately long and complex sentence structures over short or overly simplistic ones, as this allows for nuanced argumentation and logical subordination of ideas. However, clarity and readability must remain priorities, so participants learn to balance complexity with coherence. The session also compares active and passive structures, making trainees aware of the rhetorical and disciplinary purposes each serves.

Effective paragraph writing, at a broader structural level, requires a clear and comprehensive thesis statement. A thesis statement summarises the central argument or main idea of the text and provides a guiding framework for both the writer and the reader. Within each paragraph, the topic sentence introduces the central idea and is often accompanied by a controlling idea that defines the scope of discussion. The session demonstrates the difference between weakly constructed topic sentences, those that are vague, overly broad, or disconnected from the main argument, and strong ones that are specific, focused, and directly aligned with the thesis. For example, a topic sentence such as 'Farmers face many problems in Bangladesh' is weak, vague, and overly general. On the other hand, a topic sentence like 'Smallholder farmers in rural Bangladesh face declining productivity due to soil degradation and insufficient access to modern irrigation technologies' is well-controlled, focused, and specific. It also illustrates how effective paragraphs are substantiated through supporting details such as examples, empirical data, citations, and explanations. Overall, the session emphasises that effective paragraphing is not only about content but also about clarity, organisation, and reader engagement.

The session further familiarises participants with techniques for achieving cohesion and coherence across paragraphs. It explores the use of linking devices, transitional expressions, and parallel structures to create a logical flow of ideas. In addition, various signposting strategies, such as phrases indicating sequence, contrast, or cause and effect, are introduced to help writers guide readers through their arguments. Numerous examples and activities are carried out to strengthen participants' understanding of cohesive devices, including additive, contrastive, causal, sequential, exemplifying, summative, comparative, conditional, concessive, and emphatic linking words.

The session also briefly addresses other key areas of academic writing, such as hedging, to maintain academic integrity and caution in claims. Through activities, trainees develop a clearer understanding of the difference between direct and hedged statements for enhancing readability and precision. It also introduces the techniques of paraphrasing, summarising, quoting, and synthesising, showing how their effective use can minimise plagiarism and enhance originality.

The second session, Editing, Refining, and Fine-tuning Academic Drafts, demonstrates the critical shift from a writer-based to a reader-based perspective, focusing on both macro and micro levels of revision. It gives particular attention to balancing intellectual depth with linguistic clarity and shows how trainees can sculpt their drafts to produce coherent and persuasive arguments.

The session highlights the indispensable value of revision as a process of structural and thematic refinement rather than mere surface correction. Through hands-on activities, trainees explore how to fine-tune arguments, enhance logical progression, and ensure that each section of the paper contributes effectively to the central thesis. The session shows how to establish rigour in editing by writing concisely and avoiding redundancy or cliché to maintain the contemporary standard of academic writing. For example, instead of writing, 'It is quite clear that farmers in rural areas are facing a number of different kinds of challenges because of the changing climate conditions,' a more concise and rigorous version would be, 'Rural farmers encounter multiple challenges due to climate change. Punctuation accuracy and stylistic consistency are also discussed in detail.

The session introduces peer review and self-assessment strategies, encouraging participants to critically evaluate their own and others' writing for structure, flow, rigour, and persuasiveness. It begins with macro-level revision, focusing on the robustness of the overall structure by addressing key questions such as: Is the thesis statement comprehensive and compelling? Is there logical flow across sections? Does each paragraph contribute meaningfully to the central argument? It then proceeds to micro-level editing, including tightening wordy constructions, reducing jargon, and ensuring precise vocabulary. The session concludes with proofreading strategies, often considered the final safeguard against grammatical, punctuation, and formatting errors.

Finally, the session highlights that writing is a multidimensional, steadfast, and recursive process, from brainstorming and drafting to revising and finalizing, rather than a one-time act. It also acknowledges the emergence of generative artificial intelligence, prompting participants to consider how such technologies can be used judiciously to improve drafts. Through this multifaceted process of editing and refinement, a draft evolves from a personal exploration into a polished, public-facing text ready to engage and convince its intended academic audience with precision and authority.

Together, the two sessions equip participants with a rigorous and comprehensive understanding of academic writing within the domain of scientific research. The first session builds a strong foundation in clarity, structure, and coherence, while the second develops the critical capacity to revise and refine with rigour. By combining a wide range of techniques and practical strategies, these sessions aim to empower agricultural researchers to communicate their research findings with greater confidence, precision, and global relevance on the international stage.

Effective Journal Management: A Roadmap for Successful Publications

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Introduction

Effective journal management is a crucial aspect of scholarly publishing. As academic journals continue to serve as vital platforms for disseminating knowledge, it is essential to ensure their success through efficient operations, strategic planning, and quality control. Successful journal management involves overseeing all aspects of a journal's workflow, from content submission to final publication. In this essay, we will explore the key components of effective journal management, including editorial processes, content curation, marketing, financial sustainability, and technological integration. Proper management ensures adherence to ethical guidelines, such as avoiding plagiarism and managing conflicts of interest.

Key Components of Effective Journal Management

Editorial Management

"Editorial Management" refers to overseeing the creation, review, and publication of written content across various platforms. It involves tasks like planning content strategies, assigning tasks to writers and editors, ensuring adherence to style and quality guidelines, and managing deadlines to meet publishing schedules.

- Article Submission: Establishing a system for authors to submit manuscripts. Authors submit articles via an online submission system or email. Steps to submit:
  - Preparing cover letters
  - Uploading manuscript and supplementary materials
  - Confirming compliance with ethical standards
  - Navigating submission platforms (e.g., Scholar One, Editorial Manager)

- Initial Screening: Editors perform a preliminary review to check for relevance, originality, and adherence to journal guidelines.
  - Peer Review Process: Organizing unbiased reviews by experts to ensure quality and relevance. Major revisions
  - Minor revisions
  - Rejections

- Editorial Board: Selecting and coordinating with editors and reviewers.
- Decision-making: Deciding whether submissions are accepted, revised, or rejected.

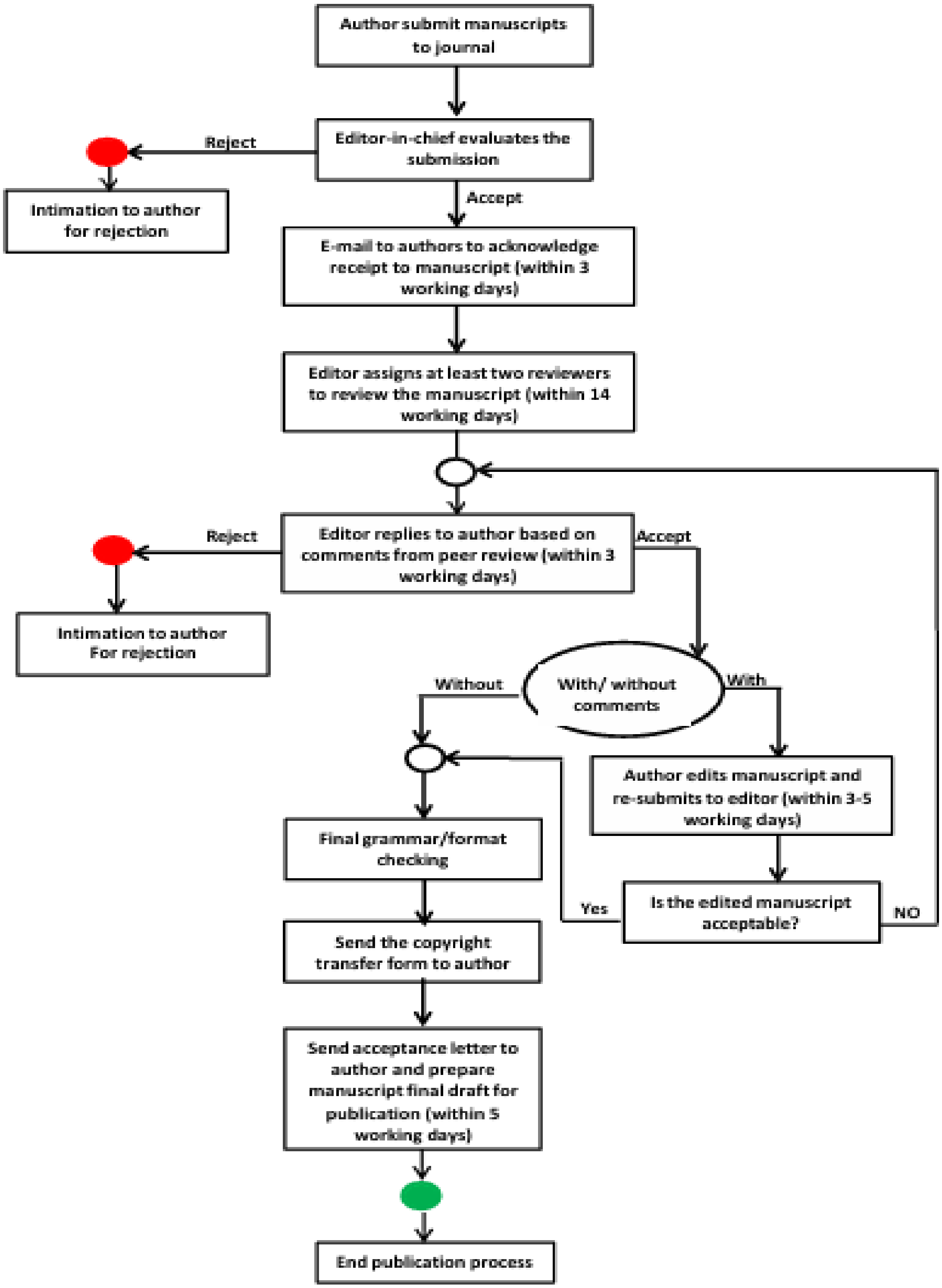

Fig. 1: Flowchart of the peer review process

Technology and Tools

- Manuscript Management Systems (MMS): Tools like Editorial Manager, Scholar One, or Open Journal Systems streamline submissions, peer review, and tracking.
- Digital Platforms: Hosting content on websites or platforms like PubMed, Scopus, or journal aggregators for greater visibility.
- Analytics: Tracking metrics such as downloads, citations, and impact factors to measure journal performance.

Quality Control and Consistency

Ensuring the quality and consistency of the content published in the journal is fundamental to its success. The editorial team must have clear guidelines for formatting, style, and referencing. Moreover, journal management should be focused on maintaining ethical standards in publishing, including adherence to plagiarism policies, ethical treatment of human and animal subjects, and transparent funding sources. Regular audits of the content's accuracy, clarity, and relevance are essential to ensuring the journal maintains its reputation for quality.

Time Management

The publication process can be long, with revisions, re-submissions, and time delays. This can frustrate both authors and readers and can negatively affect journal impact.

- Set realistic timelines for each stage of the publication process, and communicate these timelines to authors.
- Keep track of pending tasks through a project management tool to ensure deadlines are met.
- Consider the possibility of a 'fast track' option for time-sensitive articles, but maintain rigorous quality control.

Production Workflow

- Copyediting: Manuscripts are checked for language clarity, grammar, formatting, and adherence to journal style.
- Typesetting: Accepted articles are formatted for publication, including layouts for digital or print formats.
- Proofreading: Final checks are performed to correct any errors before publication.
- Publication: Articles are published online, in print, or both, and may be assigned digital object identifiers (DOIs) for tracking and referencing.

Continuous Evaluation and Improvement

Finally, effective journal management requires ongoing evaluation and improvement. Regular assessments of the editorial process, peer review system, and financial stability are essential for adapting to changes within the academic publishing landscape. Journals should collect feedback from authors, reviewers, and readers to identify areas for improvement and make adjustments accordingly.

Metrics such as impact factor, citation rates, and article downloads can help measure the success of a journal, but qualitative feedback is equally important. A commitment to continuous improvement ensures that the journal remains relevant, competitive, and respected within its academic community.

Tips for Successful Publications

- Start early and plan ahead
- Focus on quality over quantity
- Seek feedback from peers
- Stay updated on trends in your field
- Provide clear guidelines for authors and reviewers
- Incorporate diversity in content

Conclusion

Effective journal management is a multifaceted endeavor that requires careful planning, strategic execution, and continuous adaptation. By establishing a clear editorial vision, streamlining peer review processes, maintaining publishing ethics, leveraging technology, engaging in strategic marketing, ensuring financial sustainability, and committing to ongoing improvement, journals can position themselves for success. As the academic publishing landscape continues to evolve, journals that embrace these best practices will remain at the forefront of scholarly communication, contributing to the advancement of knowledge and the global academic community.

The process of journal management extends beyond editorial decisions to include operations, marketing, and fostering a robust submission pipeline. Effective journal management involves a balance of editorial expertise, operational efficiency, ethical publishing practices, and strategic outreach. By following this roadmap, journals can maximize their impact, attract high-quality submissions, and establish themselves as trusted and influential resources in their fields.

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