REF-N-WRITE

LOOKUP AND LEARN



ACADEMIC PHRASES HANDBOOK

A GUIDE FOR WRITING RESEARCH PAPERS

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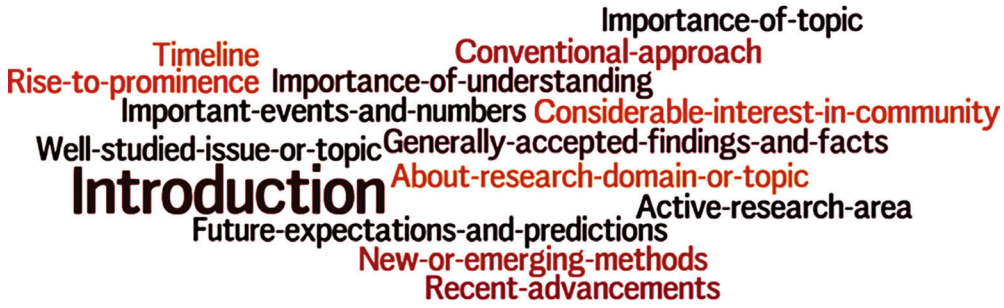
This document elaborates on a typical research paper format and provides practical ideas for sketching the research paper outline for your work. Before starting to write your research paper, it is essential to spend some time understanding the research paper format required for your field. Different fields use different research paper formats. It is a good idea to start with the research paper outline with various headings, sub-headings, fonts, references, and placeholders for the content. Once you have the research paper format and outline, then it can be considered to be your first draft, and you can start to work on it and improve it gradually.

In the following sections, we cover all the main headings you will need to include when constructing your research paper outline. The research paper format illustrated in this document is a standard basic format that is applicable to most academic papers. This document is intended for beginners who are looking for guidance to write their first research paper. However, this can be used as a refresher or teaching resource by researchers and academics who have published several research papers.

1. INTRODUCTION



The introduction section of the research paper should start with a brief outline of the research domain or topic and end with the justification for researching this domain. The research paper outline for the introduction section of the paper should touch upon the themes shown in the above figure. Suppose your research paper is about a specific technique, method, or approach. In that case, you can start the introduction with a couple of lines, clearly explaining what it is and its application domain. This section should contain information about the timelines of various events about the research topic and how it has progressed over time. This may include things like recent advancements in the field and future predictions. It is vital to provide the audience with general facts about the topic that is widely known and relevant to the paper's content. Make sure you backup the known facts with adequate references.

1.1. ABOUT RESEARCH

Research in this arena has a long tradition ...
It has been a focus of research for more than a decade ...
This is a growing and competitive area of research ...
This has been a topic of interest for nearly half a century ...
The work considered has a rich background ...

1.2. IMPORTANCE OF TOPIC

This is a topic of pivotal importance in ...
This represents an important topic to study because ...
This is a prevalent area of importance because ...
This is a very timely issue since, as you know ...
More attention needs to be paid to this area because ...

1.3. TIMELINES & RECENT ADVANCEMENTS

The past decade has seen an increase in the use of ...
Much of the recent progress has come from ...
In recent years, this area has seen significant advances in ...
The concept has evolved over the years to ...
This has recently become a very popular area due to ...

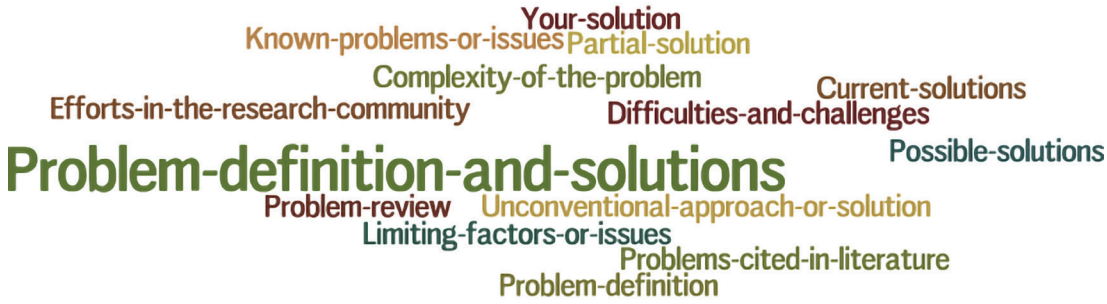
1.4. FUTURE PREDICTIONS

Future advancements are expected to result in ...
Breakthrough is expected to lead towards the development of ...
Recent advancements should soon provide the power to deal with ...
This technology is expected to subsume others of its kind in ...
Use of this method will drive many new applications in the near future ...

1.5. GENERALLY ACCEPTED FACTS

This effect has widely been reported in ...
It is generally agreed that ...
The current consensus is that ...
We know that these can be very common in ...
This has been widely observed in ...

2. PROBLEM DEFINITION



The problem definition can be a part of the introduction section or the subsequent paragraph that follows the introduction. The research paper format for this section typically includes themes shown in the above figure. Here is where you define the problem and provide an overview of current solutions. You must explain why the existing solutions are inadequate and also outline various difficulties and challenges associated with the problem. You can briefly explain what your solution is and how you propose to tackle the problem.

2.1. PROBLEM DEFINITION

Let us illustrate the problem with a simple example ...
This is a well-documented problem with this method ...
Another way to look at the problem is to consider the ...
Here we see a problem synonymous with the classical problem of ...
One way to realize the problem is to ...

2.2. CURRENT SOLUTIONS

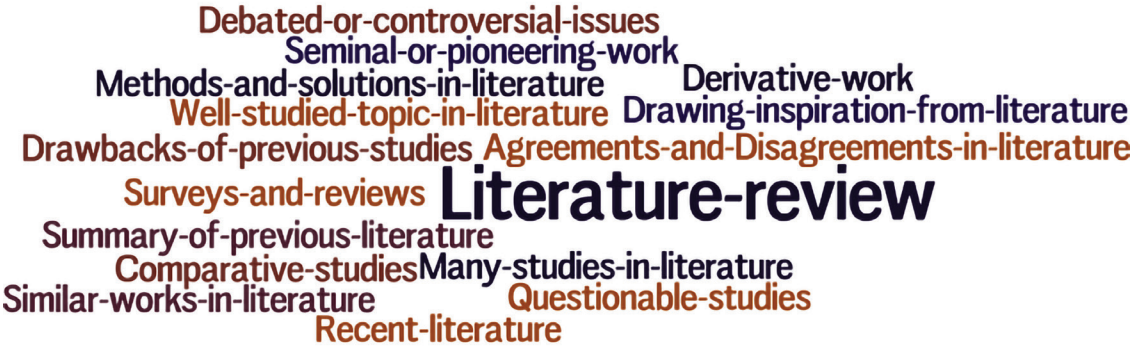
Most papers have used two main techniques to resolve ...
More recently this issue has been tackled by ...
This problem is solvable to some extent by ...
The simplest approach is to use ...
This can be solved in a variety of ways, for example ...

2.3. YOUR SOLUTION

Here we aim to overcome the problems by ...
The key idea in this paper is to use ...
A slightly more advanced method has been proposed by employing ...
Here we adopt a different approach by exploiting ...
The idea behind the proposed algorithm is ...



3. LITERATURE REVIEW



The literature review should provide adequate background information about your research topic. The literature review should touch upon the themes shown in the above figure. This section should explain the state-of-the-art methods and highlight other important seminal and pioneering works. It is good to cite a few survey papers that review and summarize all the significant findings in the area. This is an excellent place to discuss controversial studies and other debated issues surrounding the topic. The references should cover studies published at different periods and include the most recent studies relevant to your work. If your research is inspired by the findings or statements made in an existing paper, then add a few statements explaining how this has influenced your research into this topic.

3.1. SEMINAL AND PIONEERING WORKS

Some of the pioneering work was undertaken in the early 1990s by ...
The influential work of [ref] gave rise to a renewed interest in ...
Work in this arena was heavily influenced by ...
The most influential work in the area is the works of ...
Much of the early work here was undertaken by ...

3.2. WELL STUDIED TOPIC

There exists a very extensive literature on the topic of ...
An enormous amount of work has been carried out in this arena ...
Literature on this topic are plentiful and easy to find ...
This subject has been extensively explored in the ...
There have been multiple previous attempts to ...

3.3. DEBATED AND CONTROVERSIAL ISSUES

There is a great deal of debate surrounding the ...
This has been a controversial point widely discussed in the literature ...
This still causes some confusion in research communities due to ...
This has led to speculation that the ...
There has been much debate over the credibility of ...

3.4. DRAWBACKS OF PREVIOUS STUDIES

Many of the techniques still exhibit issues related to ...
Many studies have neglected the issue of ...
Existing methods is flawed due to ...
Practical failings of this method are well established in the literature ...
Another important constraint on all the work discussed in this area is ...

3.5. DRAWING INSPIRATION FROM LITERATURE

The inspiration behind this design came from ...
In keeping more closely with the spirit of [ref], in this work we ...
Our approach is inspired by the work of these eminent researchers ...
The motivation is the work of another popular paper by [ref] ...
This research is inspired by similar work in the area ...

4. RESEARCH GAP



The research gap should follow the literature review. This is where you explain the lack of adequate research about your chosen topic and make a case for the need for more research. You can point to references in the literature review section and explain why the existing evidence or work is inadequate. You can point to drawbacks and shortcomings of existing methods and also flaws in the previous studies. This is an excellent place to formulate your research question and create your niche. The research paper format for this section typically includes themes shown in the above figure.

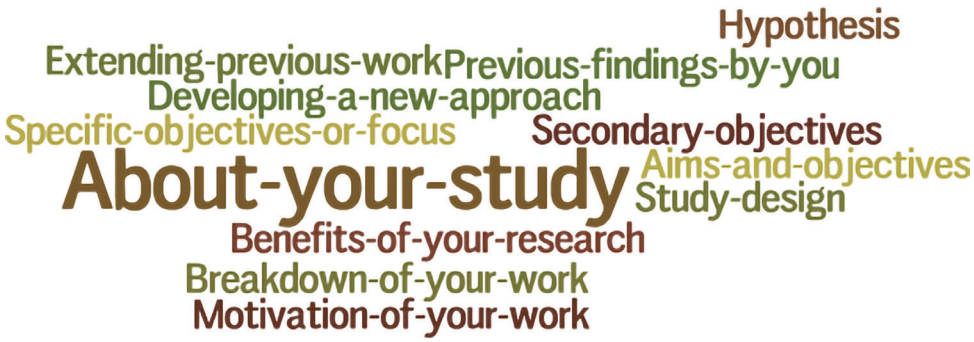
4.1. LIMITED PREVIOUS STUDIES

There are very few published results about ...
There are very limited studies on the ...
The study of this issue is rarely reported in literature ...
There has been very little effort to ...
This is less well studied in literature ...

4.2. RESEARCH QUESTION

Our related question here is ...
Open questions that this work identified includes the ...
It will also be interesting to see, whether ...
Researchers are now faced with the question of ...
A number of questions remain to be addressed, for example ...

5. YOUR WORK



After establishing the research gap, the next step is to elaborate on your work and how you intend to execute them. You can link to the research gap by adding a statement about your motivation to undertake this work. You have to define your aims and objectives here. If your work is hypothesis-driven, then you have to define the hypothesis underpinning your work here. You can elaborate on the study design, reference previous work by you on this topic, and explain how you intend to build upon your previous findings. You can add a brief statement stating how you expect the research outcomes to benefit the research domain. You can finish with an outline of the rest of the paper by providing a breakdown of the sections.

5.1. AIMS, OBJECTIVES AND HYPOTHESIS

The objective of the present investigation is to ...

This study is set out to explore the ...

The main purpose of this study was to compare ...

In the present study I tested the hypothesis that ...

To test this theory, we hypothesized that ...

5.2. STUDY DESIGN

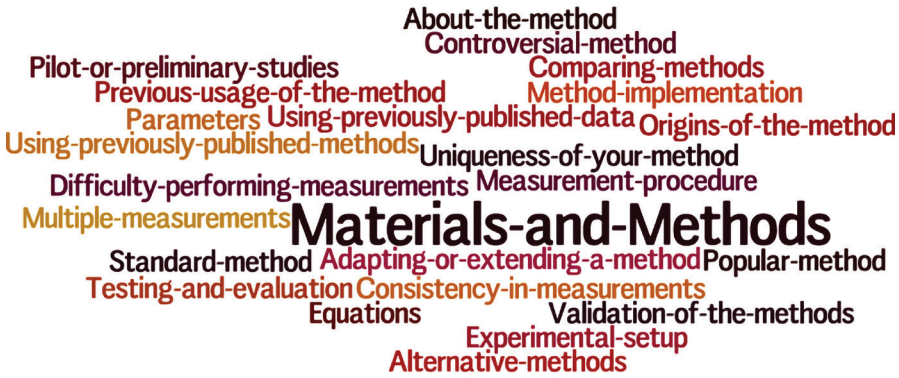
A questionnaire-based study was undertaken to study ...
I undertook a retrospective cohort study to investigate the ...
We designed a double blind, randomized study to evaluate the impact of ...
In this investigation we propose a novel method to determine ...
In order to reach our objective, we developed a new technique for ...

5.3. EXTENDING PREVIOUS WORK

The technique extends prior work in the field by ...
Here, we utilize the method by [ref], as the basis for our work ...
Our work extends and generalizes the concept of ...
This premise is based on existing work by researchers in this field ...
This study extends our earlier work on ...



6. MATERIALS AND METHODS



The materials and methods section should be dedicated to elaborating the technical details of your method or approach. The details provided in this section should be adequate for other researchers to reproduce your method and results. You have to detail your method implementation and execution along with necessary equations, figures, and tables. This is an excellent place to explain the origins of the method and any supporting information available in the literature to back up using this method. You should also explain how the method was validated by providing details of any pilot studies or pointing to previously published papers. If your method deals with measurements, it is imperative to provide information pertaining to the experimental setup, measurement procedure, and parameters. The research paper outline should touch upon the themes shown in the above figure.

6.1. EXPERIMENTAL SETUP AND METHOD IMPLEMENTATION

This is a typical setup for this system ...

A simple setup has been employed here to study the ...

This is the preferred setup employed by ...

These were performed using commercial software from ...

There exist several packages which are widely available to ...

6.2. USING PREVIOUSLY PUBLISHED METHODS

The process, which is fully described in [ref], was used to ...
We employed the methods of [ref] to ...
The details of the procedure have been reported previously in [ref] ...
A process, similar to that of [ref] is used to ...
The processes described in [ref] are reproduced here ...

6.3. VALIDATION OF METHODS

We demonstrated the validity of the approach by ...
This has been widely validated in the literature ...
This test is designed to verify the validity of ...
In order to provide credibility to the results, it is extremely important to ...
A number of studies have validated this technique to ...

6.4. ADVANTAGES OF THE CHOSEN METHODS

An advantage of this approach is that ...
The method offers attractive features in terms of ...
To give some idea of the benefits of our approach ...
The technique presented here is capable of ...
The potential of this approach is tremendous in terms of ...

7. DATA COLLECTION



If your research is data-driven, you should have a section dedicated to data collection and analysis procedures. This can be a part of the materials and methods section if appropriate. Here is where you explain the recruitment procedure, sample size, consenting procedure, inclusion and exclusion criteria. Suppose your study is questionnaire or interview-based. This section should elaborate the details of the interview procedure, description of the task, questionnaire design etc. It is also essential to explain the steps taken to keep the data secure and maintain participant confidentiality. The research paper format for this section typically includes themes shown in the above figure.

7.1. ABOUT THE STUDY POPULATION

A total of x subjects were included in our analysis ...
The study population was predominantly made up of ...
The subjects were at an average age of x years ...
All study participants were recruited after careful interview by ...
The participants meeting the inclusion criteria were identified and contacted for ...

7.2. CONSENT AND ETHICAL APPROVAL

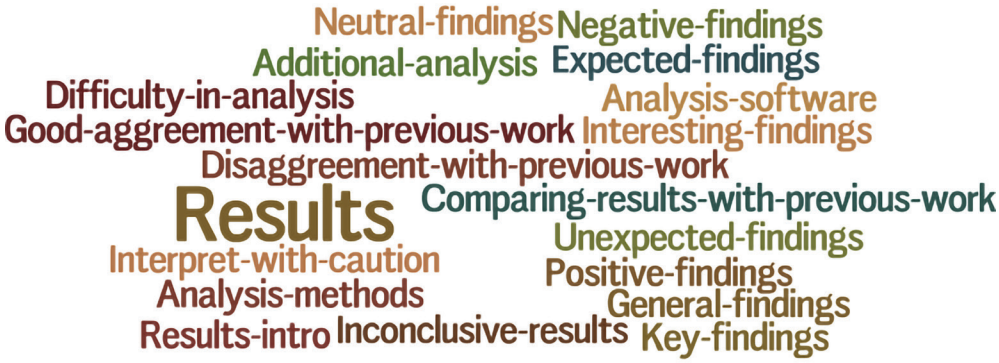
All subjects provided informed consent for ...
Informed consent was sought for all participants prior to ...
The study protocol was approved by the committee ...
Ethical approval was not required for this study, as ...
The study protocols, procedures, and consent form were approved by the ...

7.3. QUESTIONNAIRES AND INTERVIEWS

The following validated questionnaires were used: ...
The total score from the questionnaire ranged from 0-10 ...
Responses to the questions were provided on a 5-point scale ...
Interviews were used as an opportunity to explore ...
The key themes covered through the interview process were ...



8. RESULTS



The results section summarizes the outcome of your research. In this section you must try to illustrate your data by means of plots and tables. You must also include the details of statistical tests and p-values to justify significance. You can provide your interpretation of you results by listing your key findings and explaining whether it was expected or unexpected, positive or negative, inconclusive or concrete. You can draw comparisons to previous relevant works and explain if your results are in agreement or disagreement with previous findings. You can also explain any challenging aspects of data analysis and how you overcame it.

8.1. KEY FINDINGS

From the short review above, key findings emerge: ...
By carefully examining the data, it is found that ...
Taken together, these results suggest that ...
My findings seem to suggest that ...
From these results it is clear that ...

8.2. POSITIVE & NEGATIVE FINDINGS

The results demonstrate the adequacy of the method for ...
The results are substantially better than the ...
Superior results are seen for all the ...
The method performs the worst in terms of ...
The method did not yield expected improvements in ...

8.3. UNEXPECTED AND INCONCLUSIVE FINDINGS

It is difficult to draw conclusions from ...
It is not possible to draw any strong conclusions from this because ...
This study does not clearly show if these factors are responsible for ...
Our findings are somewhat surprising since ...
This method provides a surprisingly good result ...

8.4 AGREEMENTS AND DISAGREEMENTS WITH PREVIOUS WORK

[Ref] reported similar observations in their experiments ...
This is consistent with the findings of [ref] which suggest that ...
These findings are echoed more recently by ...
This is in contrast with the findings of ...
The results of this experiment are quite different to ...

9. DISCUSSION



The discussion section is one of the most important sections of the research paper. This section should summarize your paper's overall results and provide an honest and unbiased assessment of your work. It is vital that you don't add any new details about your method or approach in this section. This is an excellent place to highlight the strengths of your work and the implications of your findings. You must also explain your work's limitations and shortcomings and explain how further research will be beneficial to address the outstanding issues.

9.1 IMPLICATIONS OF YOUR FINDINGS

This finding may lead to better understanding of how ...
The results of this work will shed light on the understanding of ...
Our results emphasize the importance of ...
We believe that reported results are of significance for ...
This research has addressed this gap within ...

9.2 YOUR CONTRIBUTIONS

The key contribution of this work is the solution it provides for ...
This is an important study, and it adds tremendously to the literature by ...
In summary, the main contributions of this work can be considered as ...
These are the major contributions of our proposed design ...
This framework provides an advancement of state-of-the-art by ...

9.3 NOVELTY OF YOUR WORK

It has been shown for the first time that ...
This work is novel in describing ...
Techniques such as these have not previously been employed in ...
No previous study has used this to investigate the effects of ...
To the best of my knowledge, this is the first study to report ...

9.4 LIMITATIONS

The limitations are discussed alongside strengths ...
This study has an important limitation that ...
The most obvious shortcoming of the work described here is ...
The study is limited by the fact that ...
However, some study limitations should be acknowledged such as ...

9.5 FUTURE WORK

This poses an area for future work ...
Further research should focus on ...
The next step should be to explore ...
Clearly, further work is necessary on this subject ...
There is ample scope for further work in this area ...

10. ACKNOWLEDGEMENTS



Acknowledgements should go before references in your research paper. Here is where you thank your friends, colleagues and supervisors for their help. You can thank funders and mention the details of the research grants that provided financial support for your research here.

10.1 THANKING PEOPLE

I would like to thank my family and friends for ...
We gratefully acknowledge the assistance of ...
I am deeply grateful for my supervisor's guidance, and also for ...
My colleagues deserve to be acknowledged for ...
The authors appreciate the referee's valuable and profound comments ...

10.2 ACKNOWLEDGING FINANCIAL SUPPORT & PARTNERSHIP

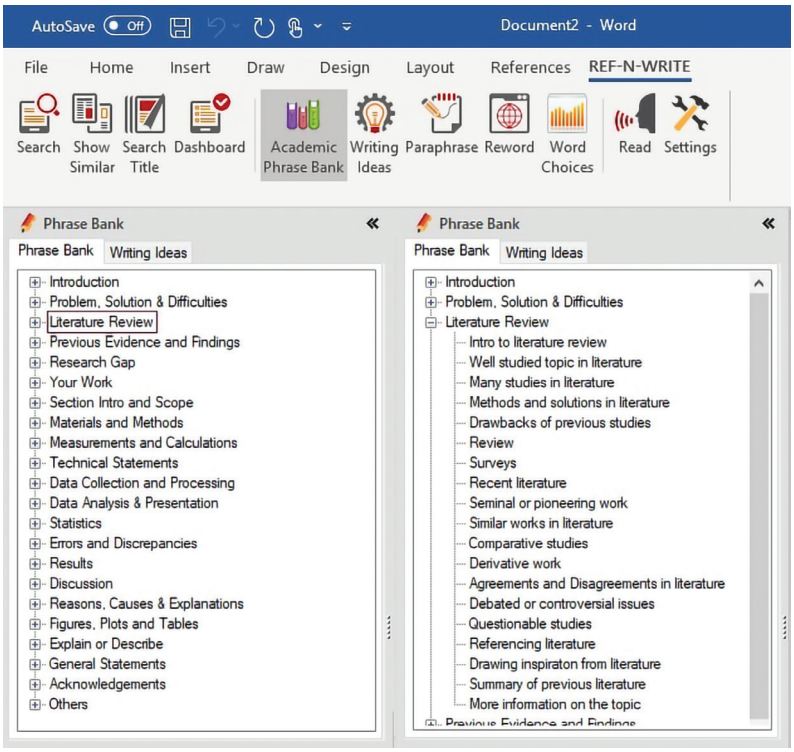
The authors gratefully acknowledge the financial support of ...
The work was supported by the research funding from ...
This work was supported in part by a grant from ...
It was a collaborative partnership between ...
The study was performed in collaboration with the ...

11. ABOUT REF-N-WRITE SOFTWARE

Ref-n-Write is a very popular research tool used by PhD students, PostDocs and Academics worldwide for writing research papers and theses. Ref-n-Write offers tools for referencing, paraphrasing and rewording.

11.1 ACADEMIC PHRASEBANK

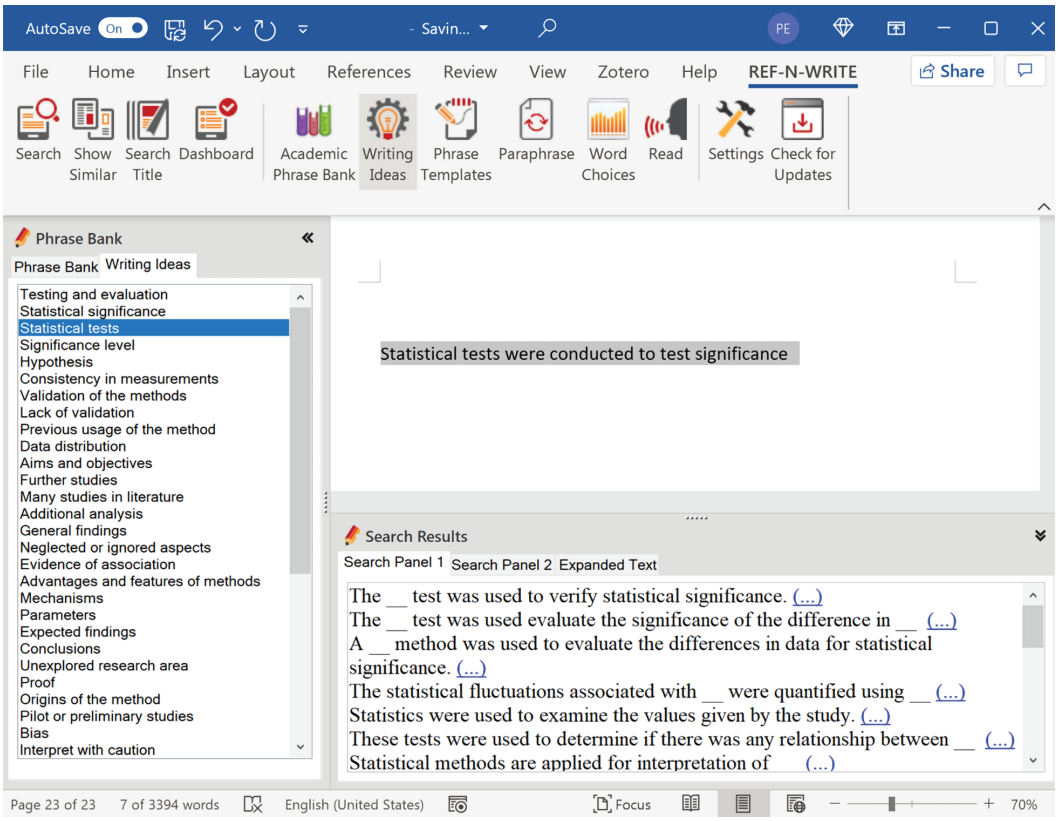
Ref-n-write is home to one of the largest academic phrasebanks. Academic phrasebank refers to a library that contains a collection of English phrases that can be easily used in scientific papers and academic reports. The Ref-n-Write team has carefully created a phrase database of 20,000 academic writing phrases. These academic phrases have been extracted from high-quality scientific journal articles by a team of academic experts. The academic phrases in the phrasebank are organized in the order in which you need to use them in a scientific paper.



Screenshot of Ref-n-Write's academic phrasebank

11.2 WRITING IDEAS TOOL

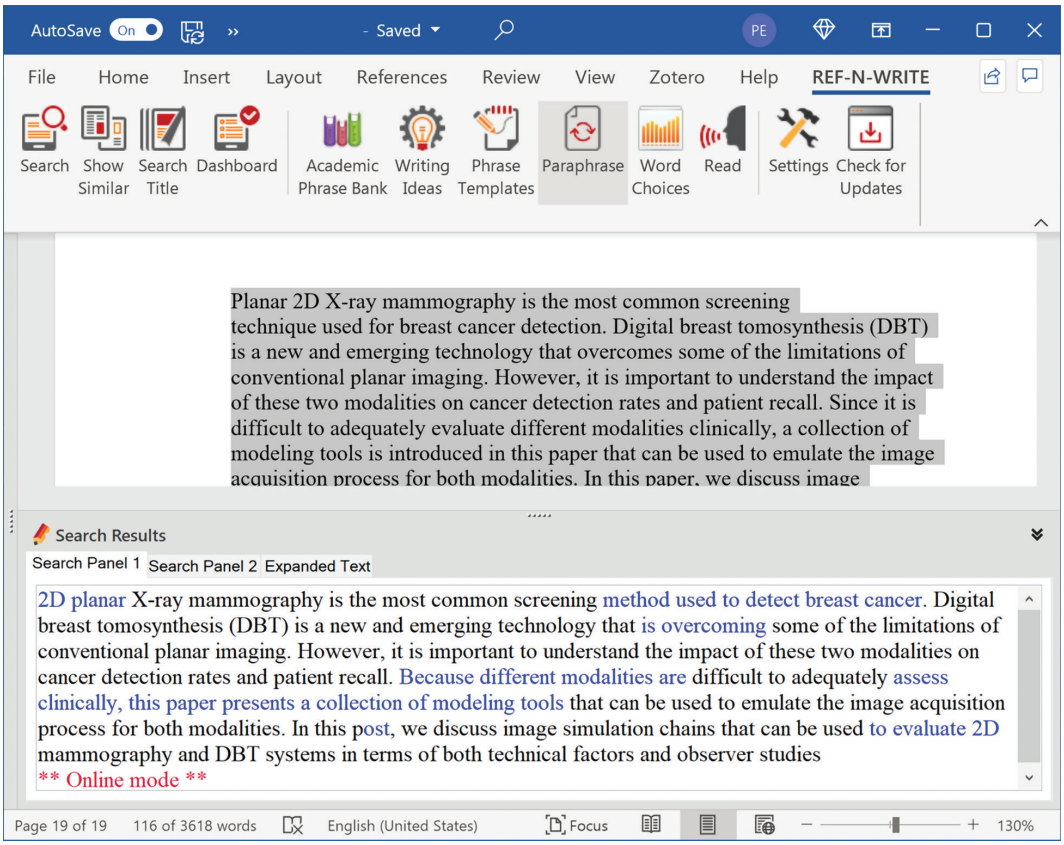
You can search the academic phrasebank for topics and ideas by simply selecting a piece of text in MS Word and then clicking the 'Writing Ideas' button. The tool performs an analysis of the selected text and displays relevant categories from the academic phrasebank. Then the academic phrases belonging to the categories can be accessed by simply clicking on the category name. The screenshot below shows how to search the academic phrasebank for categories that are relevant to your writing.



Screenshot of Ref-n-Write's writing ideas tool

11.3 PARAPHRASING TOOL

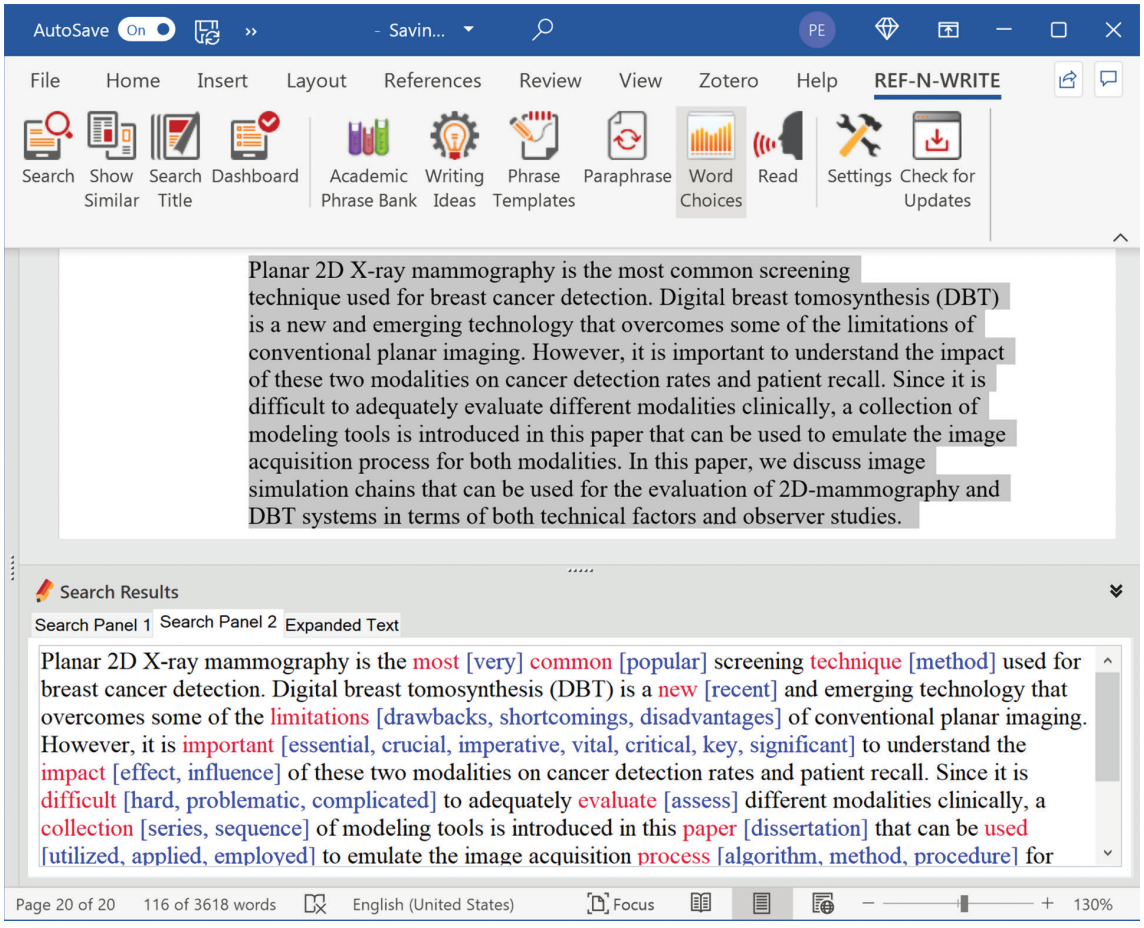
The Ref-n-Write's paraphrasing tool has a powerful AI (Artificial Intelligence) module specifically designed for academic writing. In academic writing, it is very important to avoid plagiarism. The main difference between the Ref-n-write's paraphrasing tool and other rephrase tools available in the market is that our paraphrasing tool is exclusively designed for academic writing. When you rephrase a paragraph using the Ref-n-write's paraphrasing tool, it is assured that the rephrased sentences are academically acceptable as the formal structure of the text and scientific word choices are maintained. The following screenshot shows the Ref-n-Write's paraphrasing tool in action.



Screenshot of Ref-n-Write's paraphrasing tool

11.4 REWORDING TOOL

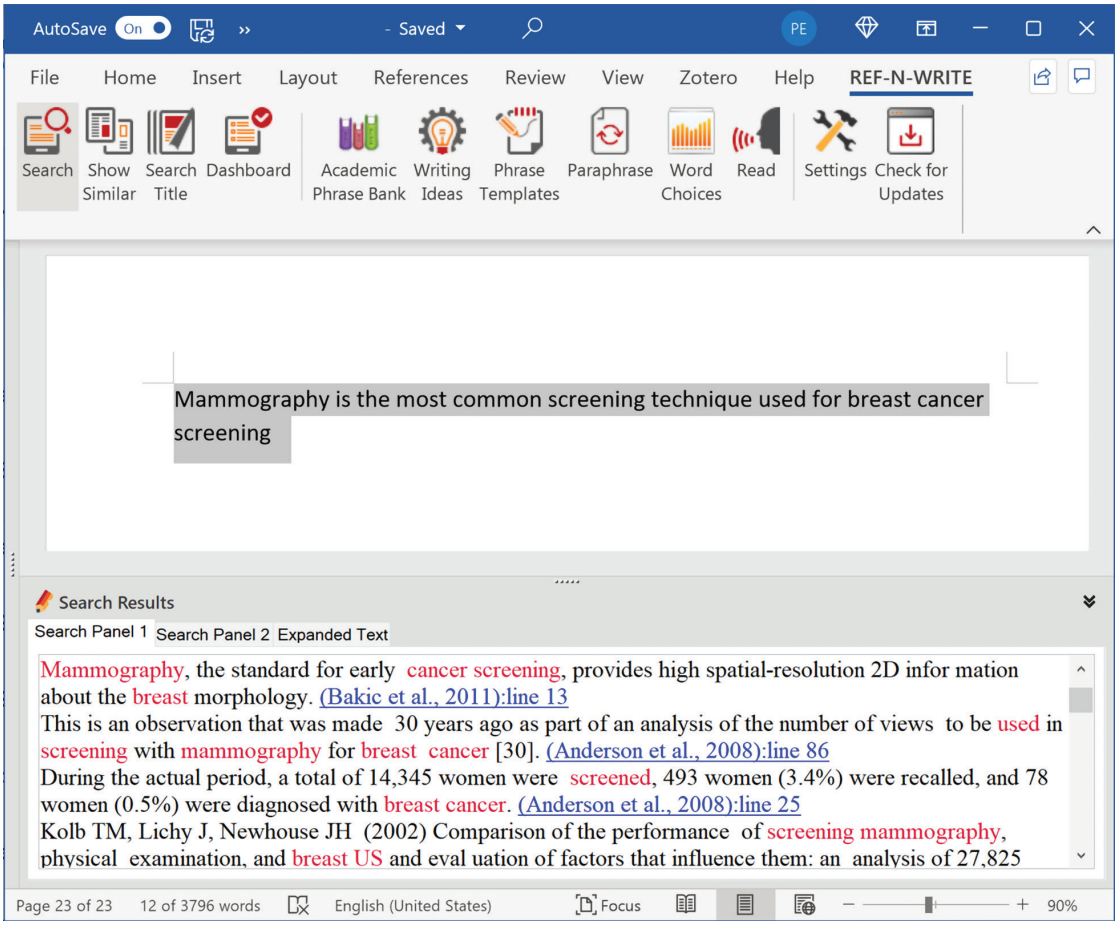
Ref-n-Write's rewording tool enables sentences to be reformulated by offering scientific word substitutions. The paraphrasing tool modifies the sentence structure, while the rewording tool allows words to be replaced without changing the structure. Most of the existing tools in the market simply offer a long list of synonyms. The Ref-n-Write's reword tool only provides words that can be replaced directly without errors. The word replacements are sorted in descending order of frequency in previous high quality published works. The following screenshot shows the Ref-n-Write's rewording tool in action.



Screenshot of Ref-n-write's rewording tool

11.5 SEARCH AND REFRENCING TOOLS

Ref-n-Write's search tool offers the facility to import documents in PDF, Word and Txt file formats into MS Word. Users can perform a real-time search and bring up search results from these documents. This is very handy for referencing previous documents. This information can be used to improve the general quality of academic writing, reuse previous texts, check for text similarities and troubleshoot plagiarism problems. It's also easy to have a look at similar statements from previously published documents and get a feel for the type of vocabulary used by your peers. The figure below demonstrates Ref-n-Write's search functionality.



Screenshot of Ref-n-write's referencing/search tool



REF-N-WRITE

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