Academic Phrases for Writing Methods Section of a Research Paper

Source: https://www.ref-n-write.com/blog/research-paper-sample-writing-methods-section-academic-phrasebank-vocabulary/

The methods section that follows the introduction section should provide a clear description of the experimental procedure, and the reasons behind the choice of specific experimental methods. The methods section should be elaborate enough so that the readers can repeat the experimental procedure and reproduce the results. The scientific rigor of the paper is judged by your materials and methods section, so make sure you elaborate on all the fine details of your experiment. Explain the procedures step-by-step by splitting the main section into multiple sub-sections. Order procedures chronologically with subheadings. Use past tense to describe what you did since you are reporting on a completed experiment. The methods section should describe how the research question was answered and explain how the results were analyzed. Clearly explain various statistical methods used for significance testing and the reasons behind the choice.

The methods section of your research paper should include the following:

- Experimental setup
- Data collection
- Data analysis
- Statistical testing
- Assumptions
- Remit of the experiment

1. Experimental setup

This experimental design was employed because __
In the course of the experiment, __ played an important role.
The experiments were performed with __
This was experimentally investigated by __
Most experiments have been carried out with __
The main focus of the experiments was to calculate __
Prior to each experiment __
The experiments are completely based on __
In our preliminary experiments we estimated that __
In this experiment, we introduced a __
Methods were based on previous experiments __
This proceeds in two stages: __
After a series of experiments it was found that __
Therefore, in this experiment we define goals as __
In this experiment, we introduced a __
We consider the setup generic, however, __

This was designed to acquire approximately __
These were designed in such a way that __
This experimental design was employed because __
This was specifically designed for __
This was designed to acquire approximately __

2. Data collection

There were __ participants in this sample.
Participants first provided informed consent about __
We performed additional data collection with __
For this study, we analyzed the data collected from __
The data are less clear-cut than __
Data were collected and maintained by __
For this purpose, we employ survey data collected from __
The application employs data obtained from __
The analyzed data included: __
The procedures of handling the data followed the suggestions of __
Subsequently, __ were then used to elicit further data.
The experimental data on __ is very scarce.
The data in this work consists of __
Survey data were collected from __
This study used different data collection methods such as __
The quality can be enhanced by providing additional data for__
Such data are prone to __
We utilize secondary data from __
The data was divided into __
Participants in the first data collection were __
The sample was heterogeneous with respect to __
The sample size in this study was not considered large enough for__
We cannot deny the presence of some sample selection biases because __
The sample of respondents included __
The researchers pooled samples to __
The sample strategy was the same as for__

3. Data analysis

However, there are trends in our data to suggest that __
The trend values were then subjected to __
We analysed data as a function of __
We used an established technique, namely __, to analyse __
This showed a judgement error of __
To investigate this statistically, we calculated __
A __ test was used to determine the significance of data
Our data show that there is __
Our data suggest that __ which may be based partly on __
Data also revealed a significant __
Our data also address the __

Data were analyzed and correlated with __
The data are presented in Table __
However, according to our data __
We undertake the empirical analysis using data collected in __
The data is analyzed from different points of view such as __
The data reveals significant differences in __
Thus, the data supports the premise that __
Results provides a good fit to the data __
We compared the results with the original data in ways __
The evaluation of the data is shown in __
We explicitly accounted for __
Missing values were replaced using __
This analysis was confined to __
The evaluation of the data presented in this work leads to __

4. Statistical testing

We explored these effects statistically by __
Statistical analyses was performed by using the __ applying a significance level of __
The results were statistically significant when compared using __
This was normally distributed throughout the study population.
This distribution resulted in __
Significant differences in the __ remained.
This was the only parameter that had a statistically significant correlation with __
We used __ statistics to report __
This had a statistically significant impact on __
The correlation between __ and __ is positive and statistically significant at __
We calculate __ statistic to test the null hypothesis that __
As shown in Table __ are statistically significant at all levels.
We can clearly see that the estimated values are positive and statistically significant at __
This revealed no statistical differences on __
The test for __ found no significant differences.
Our results show a statistically significant improvement in __
All differences in performance were statistically significant in __
The method achieves a statistically significant improvement compared to __
In order to obtain statistically representative __ it is required to __
To investigate this statistically, we calculated __
Descriptive statistics were calculated for all variables used in the study using __
The significance testing was based on __
All statistical analyses were performed using __

5. Assumptions

Such a potentially unrealistic assumption arises from the fact that __
Based on these assumptions, hypotheses were developed: __
Based on these assumptions, __ have been treated as __
This is based on assumptions that __
These assumptions are generally accepted these days__
The fundamental assumptions of the models are: __
This assumption is supported by the fact that __
Under certain assumptions, __ can be construed as __
These assumptions result in __
This assumption might be addressed in future studies by __
This compilation of research assumptions should result in __
These assumptions have been disproved by __
According to __ assumption, the study reports faithfully __

6. Remit of the experiment

For the current work, it is sufficient to point out that __
Because we were interested in __, we considered only __
This was sufficient to __
This is sufficiently generic to be adapted to other __
This is generally sufficient to produce good results.
Still, results might be sufficient, especially in __
This was not possible due to insufficient observations.
After a series of experiments __ was considered as sufficient.
It has been proven that __ must be sufficient to __
This was not sensitive enough to __
This study cannot be considered large enough for __
This is simpler and usually sufficient to __
It turns out that it is sufficiently accurate for __
There is in fact sufficient information present in __
This is considered sufficiently unique for __
This is enough to get a sufficiently accurate solution.