Department of Education
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Practical Research 2

Second Quarter-Module 11
Logical Conclusions from Research Findings

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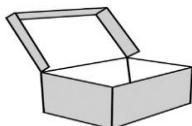
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What I Need to Know

Hello Grade 12 learners! In this module for the 2nd grading period, you will learn how to:

Draw logical conclusions from research findings

You can say that you have understood the lesson in this module if you can already:

1. define conclusions in research;
2. identify the strategies for writing an effective conclusion;
3. generalize how to arrive at a conclusion using guidelines; and
4. write conclusions from research findings.

What I Know

Answer the questions below to the best you can.

1. What are conclusions and how are these important in research?
_____
_____
_____
_____
_____

2. How do you write effective conclusions?
_____
_____
_____
_____
_____

Lesson 1	Logical Conclusions from Research Findings

What's In

In the previous lessons, you learned on the uses of statistical techniques to analyze data – study of difference and relationship limited for bivariate analysis. Can you still remember what you've learned? Can you tell uses of statistical techniques to analyze data in research without browsing back the pages of this module? Let us see if you could do the tasks below as directed.

In your own words, do the following as directed.

A. Write a short paragraph differentiating univariate and bivariate data.

_____
_____
_____
_____
_____

B. In at least 100 words, explain the importance of statistics in research.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

C. What are conclusions in research?

_____
_____
_____
_____
_____
_____
_____

? What's New

A. Before Reading Activity

During the quarantine period due to the Covid-19, what have you observed on the behaviors of those who are around you and those of your neighbors? How do you assess their behavior?

B. During Reading Activity

Let us read this information on the Covid-19 pandemic response.

"*The coronavirus disease continues to spread across the world following a trajectory that is difficult to predict. The health, humanitarian and socio-economic policies adopted by countries will determine the speed and strength of the recovery.*"

C. After Reading Activity

Let us analyze the information on the Covid-19 pandemic by answering the following questions:

1. What assessment on the virus is given as regard its spread?
   _____
   _____

2. Is the course of the spread of the virus easy to predict? Copy the line which proves your answer.
   _____
   _____

3. What will determine the speed and strength of the recovery from the virus?
   _____
   _____

4. What do you call the information above?
   _____

What is It

Dear learner, you are about to be done with the study you are conducting. Bear in mind that a study should have conclusions. A **conclusion**, according to library.sacredheart.edu, *is intended to help the reader understand why your research should matter to them after they have finished reading the paper*. Furthermore, *a conclusion is not merely a summary of your points or a re-statement of your research problem but a synthesis of key points*.

Prieto, et al. say that conclusions represent inferences drawn from the findings of the study. An **inference** as Sage Research Methods puts it, *is a process whereby a conclusion is drawn without complete certainty, but with some degree of probability relative to the evidence on which it is based.*

You have to always put in mind that the number of conclusions coincide with the number of specific findings and that you have to formulate the conclusions concisely and briefly. You also need to remember that a conclusion should not contain any number or measurement. Now if there are tested hypotheses in the study, the rejection or acceptance or hypotheses are placed under conclusions.

Conclusion is the final result and should give the final impression and should summarize the learnings of the study. It should leave the readers in no doubt that you have answered the questions posed in your paper.

A conclusion, dear learner, should be a wrapped-up of your entire paper and its completeness.

For you to be easily guided on how to arrive at a logical conclusion of your paper, let us have the following strategies for writing an effective conclusion from the same authors I mentioned earlier:

Strategies for Writing an Effective Conclusion (Prieto, et al.)
Here are some suggestions from the above authors including the examples for effective conclusions. I am using the same examples given in the book for you to easily understand the topic.
1. **Conclusions are intertwined with the Introduction**
You have to remember that conclusions should be connected with the Introduction you have in your paper. Accordingly, intertwining your conclusion with the Introduction of your research paper can be a good strategy as you will end with the scenario that you have evidences to contribute a new understanding to a field of study.

Let us look at this example:

https://www.google.com/search?source=univ&tbm=isch&q=clipart+on+making+conclusions+in+research&sa=X&ved=2ahUKEwjZ_tiitKnqAhXPPXAKHduRDtIQsAR6BAgJEAE#imgrc=0uweEUwmC5qKQM

Introduction

Reproductive health education is one area of research that should be tackled in schools. High school students should be exposed to innovative ways of disseminating and communicating issues or reproductive health education of high school students shall be the focus of the study.

Conclusion

The high school student respondents are not fully aware and have little knowledge in reproductive health education on the following areas: social and gender related issues, family planning and other clinical services.

Note dear learner that the focus of the study as stated in the Introduction is reproductive health education issues of high school students. This is answered or shall we say, the conclusion is connected to the introduction as it says that high school students are not fully aware or have little knowledge on reproductive health education.

2. **Conclusions are inferences and generalizations based upon the findings**

For you to easily get what this part of the lesson means, let us have this example:

Based on a research study on *"Factors Affecting the Career Choices of High School Students"* two (2) conclusions can be drawn from the findings of the study:

Conclusion 1: Males prefer technology-based courses while females prefer business-related courses.

Conclusion 2: There is a significant difference between the career choices of male and female high school respondents.

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As stated in the preliminary part of our lesson, an inference is a process whereby a conclusion is drawn without complete certainty, but with some degree of probability relative to the evidence on which it is based.

Note that the conclusions in the above given samples are based on the findings of a research study on factors affecting career choices of high school students.

3. **Conclusions should specifically answer the questions posed in the "Statement of the Problem" of the research study**

Let us have these examples for a better understanding on this part of the lesson. Let us suppose that in your statement of the problem you include the profile of the respondents and have the variables of age, religion, and gender:

Example 1: *If the profile of the respondents will be used to test for variation on other measures*

Conclusion 1: *Majority of the respondents are aged 12-16 and mostly are males.*

Here, your conclusion simply states the age bracket (12-16) of the respondents and their number in the study.

Conclusion 2: *Respondents of the study are mostly Catholics.*

The conclusion simply states the number of respondents who belong mostly to a certain religion as compared to others.

Conclusion 3: *Among the profile of the respondents, age and gender are significantly related to achievement in Mathematics.*

Remember that part of the profile is age and gender and we suppose that you are trying to see if there is a significant relationship between these variables and achievement in the Mathematics subject. Here, you simply state about the findings of your study that age and gender affect academic achievement in mathematics. Do not forget, dear learner, that you can only have this conclusion based on the findings.

Now, let us have another example. Let us suppose that the problems raised in a research study entitled "Reading Difficulties of First Year Students" were the following:

Problem 1: *In what areas do the student respondents encounter difficulties in reading?*

Problem 2: *Is the profile of the student respondents significantly related to their reading difficulties?*

Given the above research questions, the corresponding conclusions may be the following statements:

Conclusion 1: *The student respondents had problems in the following areas of English reading test: vocabulary, sentence structure and reading comprehension.*

Conclusion 2: *Profile of the student respondents such as gender and mental ability are significantly related to the reading difficulties of the student respondents.*

Take note that the conclusions answer the research questions and are based on the findings of the study.

4. **Conclusions should contain facts or actual results from the inquiry or research study. Conclusions should never be based from implied or indirect implications of the findings.**

To explain this, let us have these examples:

Example 1: *In a research study on the "Evaluation of Mainstream Special Education (SPED) for Visually Impaired" of DepEd, results indicated that teachers are not majors of SPED and that the facilities are inadequate to support the program.*

Dear learner, bear in mind that it cannot be concluded that mainstreaming SPED for visually impaired is weak due to non-qualification of teachers and lack of facilities. These statements are implied and indirect. In this case, you recommend that a further study should be made to determine the weakness of the SPED program (in this case) due to school factors such as teacher qualifications and adequacy of facilities.

I hope that you are now on the right track, dear learner, and is getting the points already. But to make you understand more our topic, let us discuss why a conclusion is important in your study.

According to library.sacredheart.edu, a conclusion should be factual and is based on findings and that you, dear student-researcher, have to see to it that what you are writing and giving your readers is based on the data as indicated in your study.
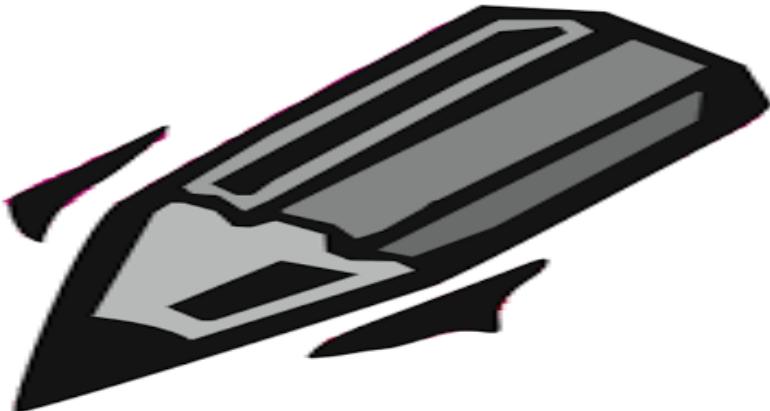
The same site says that a well-written conclusion provides you with several important opportunities to demonstrate your overall understanding of the research problem to the reader.

These are the importance of a good conclusion:

1. *Presenting the last word on the issues you raised in your paper.*

A good introduction gives a first impression to the reader, right? Just as the good introduction gives a first impression to the reader, the conclusion offers a chance to leave a lasting impression. How are you going to do this?

You can do this dear learner, for example, by highlighting key points in your analysis or findings.

https://www.google.com/search?source=univ&tbm=isch&q=clipart+on+making+conclusions+in+research&sa=X&ved=2ahUKEwjZ_tiitKnqAhXPPXAKHduRDtIQsAR6BAgJEAE#imgrc=Xgq5cSCmic5PEM

2. *Summarizing your thoughts and conveying the larger implications of your study.*

The conclusion is an opportunity for you to succinctly answer the "so what?" question by placing your study within the context of past research about the topic you've investigated.

3. *Demonstrating the importance of your ideas.*

Don't be shy. The conclusion offers you a chance to elaborate on the significance of your findings.

4. *Introducing possible new or expanded ways of thinking about the research problem.*

My dear learner, this is not about introducing new information. Here, you offer new insight and creative approaches for framing/contextualizing the research problem based on the results of your study.

Now how about some tips on writing conclusions? Below are some helpful tips according to *indeed.com* for you to keep in mind when you write your research paper conclusion:

- Keep your thesis, main points and summarizing facts clear and concise. Avoid beginning your conclusion with statements like "in conclusion" or in summary", as these basic statements can come across as redundant.
- If you get overwhelmed, try sticking to a basic summarizing format for your conclusion.
- Synthesize your information by providing questions and answers, results, suggestions or a resolution to your arguments.
- Include only the most relevant points and arguments you presented in your paper.
- Avoid repeating information that you have already discussed.

There you are dear learner! I think you are now ready to draw a logical conclusion on your paper. But before you do that, let us have these guidelines in writing conclusions given by Prieto, et al. I am simplifying these guidelines for your better understanding by giving some explanations on each of the guideline.

1. Conclusions should be clearly, concisely and briefly stated.

Your conclusion dear learner, must be short and direct to the point. Include only the most important information. See to it that the conclusion you are giving is clear so that the readers understand well.

2. Conclusions should be original and accurate.

Conclusions should be original, meaning, the words and the statements that you use are your own. You also need to see to it that what you are giving is accurate. For accuracy, you focus on the results of your study and build your conclusion around these.

3. Conclusions should not introduce new arguments, new ideas or information not related to your research study.

Refrain from adding information that are not part of your study. In your conclusion, include only information that are based on the data or the results of your study.

4. Conclusions should leave the reader with an interesting final impression.

Bear in mind that your conclusion wraps up your study. Therefore, try to see to it that it interests your readers and makes them convince that your study is really beneficial.

5. Conclusions should refer only to the subjects or population of your research study.

Please do not forget, dear learner, that there is no study without a topic and respondents. You have to always bear in mind that your conclusion should revolve around your subject and the respondents or population of your study.
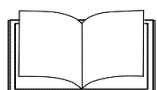
6. Conclusions should contain categorical statements. Refrain from using words like perhaps or maybe, or those words that would imply unresolved issues.

Simplify your conclusion. One of the best ways for you to do this is through the use of categorical statements. Categorical statements, dear learner, indicate how things relate to each other. Avoid using words that would make your conclusion doubtful.

7. Conclusions should not contain apologetic statements for unresolved problems in the study.

Never apologize for problems in the study that are not answered or resolved. Remember to be direct to the point. And if there are unresolved problems, you can simply make a recommendation to have a further study on your topic to find out if these issues will be resolved.

What's More

Answer the following activities to practice your knowledge and skill about the topic of drawing logical conclusions from research findings.

Activity 1

In your own words, define conclusions in research. Write three sentences containing at least 50 words explaining your answer below.

_____
_____
_____
_____
_____

Activity 2

Identify the different strategies for writing an effective conclusion by writing them on the numbered rows on the left side of the table below. Then using your own words, write on the right column one or two sentences discussing each strategy.

Be guided with the rubrics below when writing your task.

Rubrics for Grading Output:

Criteria	Outstanding 10 points	Very Satisfactory 8 points	Satisfactory 6 points		Needs Improvement 4 points
Content	Strategy is completely written and is well discussed.	Strategy is satisfactorily written and discussed.	Strategy is somehow given and discussed.		Strategy is not given and discussed.

Do your task here:

Strategies for Writing an Effective Conclusion	
Strategy	Discussion
1.	
2.	
3.	
4.	

Activity 3

You were given the guidelines in writing conclusions. Without reading back, discuss using your own words the guidelines in one or two paragraphs.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

What I Have Learned

In this module, you have studied about drawing conclusions from research findings. Express what you have learned by answering the questions below.

1. What is conclusion in research?
   _____
   _____

2. What are the strategies for writing an effective conclusion?
   _____
   _____
   _____
   _____
   _____

3. How do you arrive at a conclusion based on the guidelines in forming logical conclusions?
   _____
   _____

4. How important is giving a valid conclusion?
   _____

What I Can Do

Apply what you have learned in this module by doing this activity.

Below are parts of a study I wrote on the socio-economic status and the academic performance of selected students. Study the statement of the problem and the table below and come up with a conclusion.

Research Title: **Socio-economic Status and Academic Performance of Selected Students of Concepcion Integrated School-Secondary Level**

Statement of the Problem

This study aimed to determine the relationship of socio-economic status and academic performance in English for Academic and Professional Purposes (EAPP) of selected Grade 12- Arts and Design students of Concepcion Integrated School Secondary level during the first semester of school year 2019-2020.

More specifically, it sought answers to the following questions:
1. What is the monthly family income of the respondents?
2. What is the academic performance of the respondents during the first semester?
3. Is there a significant relationship between the socio-economic status and the academic performance of the respondents?

RESPONDENTS	MONTHLY INCOME	ACADEMIC AVERAGE
Jason Cedric Andres	15, 120 (LOW)	92 (Outstanding)
Eljohn Bailon	14, 000 (LOW)	75 (Fairly Satisfactory)
James Daniel Cortez	35, 000 (MIDDLE)	78 (Fairly Satisfactory)
Jhun Gabriel Gabayno	100, 000 (HIGH)	82 (Satisfactory)
John Mark Macadat	30, 000 (MIDDLE)	78 (Fairly Satisfactory)
Ernest Uriel Malimban	25, 000 (LOW)	82 (Satisfactory)
Arvin Santos	13, 000 (LOW)	90 (Outstanding)
Raistlyn Balais	10, 000 (LOW)	84 (Satisfactory)
Sofilyn Beltran	21, 000 (LOW)	90 (Outstanding)
Mikhail Carlos	53, 000 (HIGH)	93 (outstanding)
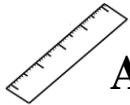
| RESPONDENTS	MONTHLY INCOME	ACADEMIC AVERAGE
Kenzel Delos Reyes	31, 450 (MIDDLE)	91 (Outstanding)
Princess Yvonne Leyte	13, 900 (LOW)	89 (Very Satisfactory)
Meanne Marquez	10, 000 (LOW)	77 (Fairly Satisfactory)
Jennylyn Merilo	8, 000 (LOW)	83 (Satisfactory)
Jubilee Nayve	20, 000 (LOW)	91(Outstanding)
Jennylyn Ocbian	12, 000 (LOW)	79 (Fairly Satisfactory)
Allysssa Mae Saguid	30, 000 (MIDDLE)	91(Outstanding)
Ria Angeli Tarlac	30, 000 (MIDDLE)	82 (Satisfactory)
Criscencia Tumbocon	150, 000 (HIGH)	84 (Satisfactory)
Leila Marie Villanueva	60, 000 (HIGH)	88 (Very Satisfactory)

Conclusions:
_____
_____
_____
_____

Assessment

Fill in the blank with the correct answer. Write the letter of the correct answer on the space provided.

1. Conclusion is the final result and should give the final impression and should _____ the learnings of the study.

    A. discuss   C. recommend
    B. formulate   D. summarize

2. A conclusion should be a/an _____ of the entire paper and its completeness.

    A. analysis   C. recommendation
    B. discussion   D. wrapped-up

3. What makes an effective conclusion depends on the specific question or problem that should be thoroughly studied and _____.

    A. analyzed   C. discussed
    B. answered   D. interpreted

4. Conclusions should cover the accomplished _____ work of the researcher.

    A. analytical   C. intellectual
    B. creative   D. interpretative

5. Conclusions are typically written at the end of the research report after all the results and findings were _____.

    A. decided   C. devised
    B. developed   D. discussed

6. Conclusions should contain _____ statements.

    A. apologetic   C. categorical
    B. broad   D. implied

7. Conclusions should not introduce new_____, new ideas or information not related to your research study.

    A. analysis   C. discussion
    B. arguments   D. interpretation

8. Conclusions should be _____ and accurate.

    A. analyzed   C. original
    B. interpretative   D. understandable

9. Conclusions should specifically answer the questions posed in the _____ of the research study.

    A. Background of the Study   C. Significance of the Study
    B. Scope and Delimitation   D. Statement of the Problem

10. Conclusions are intertwined with the _____.

    A. Introduction   C. Significance of the Study
    B. Scope and Delimitation   D. Statement of the Problem

Additional Activities

The principal of your school conducted a research on possible reasons on the decline in the number of students entering and buying in the canteen.

Write a conclusion to address the issues and problems identified on the following areas:

1. **Variety of food**

    Conclusion:
    _____
    _____
    _____
    _____

2. **Price of food**

    Conclusion:
    _____
    _____
    _____
    _____

3. **Cleanliness**

    Conclusion:
    _____
    _____
    _____
    _____

4. **Quality of food**

    Conclusion:
    _____
    _____
    _____
    _____

5. **Quality of service of canteen staff**

    Conclusion:
    _____
    _____
    _____
    _____
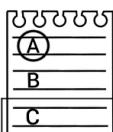
Write the letter of the correct answer on the space before the number.

1. Which of the following best explains the word "inference"?
   A. A conclusion with complete certainty.
   B. A conclusion without complete certainty.
   C. A conclusion reached based on evidence.
   D. A conclusion reached with complete reasoning.

2. A conclusion should be a/an _____ of the entire paper and its completeness.
   A. Wrap up   C. Discussion
   B. Recommendation   D. Analysis

3. Which of the following statements is NOT a characteristic of a good conclusion?
   A. Conclusions are bias.
   B. Conclusions are inferences.
   C. Conclusions are interpretations.
   D. Conclusions are general statements.

4. An effective conclusion depends on the specific question or problem that should be thoroughly studied and _____.
   A. Interpreted   C. Answered
   B. Discussed   D. Analyzed

5. Conclusions should cover the accomplished _____ work of the researcher.
   A. Analytical   C. Intellectual
   B. Creative   D. Interpretative

6. Which of the following may result to incorrect generalization?
   A. Manipulation of data.
   B. Limited body of information.
   C. General rule is applied to a specific case.
   D. Comparing two things that are not comparable.

7. Conclusions are typically written at the end of the research report after all the results and findings were _____.
   A. Decided   C. Devised
   B. Developed   D. Discussed

8. Which of the following words is referred to as the synthesis of key points?
   A. Conclusion   C. Recommendations
   B. Findings   D. Summary

9. Conclusion is the result and should give the final impression and should _____ the learnings of the study.
   A. Summarize   C. Formulate
   B. Recommend   D. Discuss

10.   Conclusions should contain _____ statements.
   A. Apologetic   C. Categorical
   B. Broad   D. Implied

11.   Conclusions should not introduce new_____, new ideas or information not related to your research study.
   A. Analysis   C. Discussion
   B. Arguments   D. Interpretation

12.   Conclusions are _____ and accurate.
   A. Analyzed   C. Original
   B. Interpretative   D. Understandable

13.   Conclusions should specifically answer the questions posed in the _____ of the research study.
   A. Background of the Study   C. Significance of the Study
   B. Scope and Delimitation   D. Statement of the Problem

14.   Conclusions are intertwined with the _____.
   A. Introduction   C. Significance of the Study
   B. Scope and Delimitation   D. Statement of the problem

15.   In your respondents' demographic profile there are 242 males, and 108 females, which of the following statements will give you the best conclusion?
   A. Sixty nine percent of the respondents are male.
   B. Thirty one percent of the respondents are female.
   C. There were more male than female respondents.
   D. There are 242 male, and 108 female respondents.

Answer Key

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