



ENGLISH



# QUANTITATIVE RESEARCH

## LESSON 1

# I CAN



**describe characteristics,  
strengths, weaknesses, and  
kinds of quantitative research**



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# REMEMBER



*If any of you lacks wisdom, you should ask God, who gives generously to all without finding fault, and it will be given to you.*

**James 1:5**



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Q

A



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# What are the assumptions about quantitative research?



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# ELEMENT

# QUANTITATIVE RESEARCH

## Assumptions

Data can be objectively and reliably drawn from a sample and accurately reflect results.



**Table 1**  
***Grammar Proficiency Profile***

Indicators	Average	Rating Scale	Frequency	Percentage
<b>Excellent</b>	95-100	5	0	0.00
<b>Very Good</b>	89-94	4	5	14.29
<b>Good</b>	83-88	3	8	22.86
<b>Fair</b>	76-82	2	17	48.57
<b>Poor</b>	70-75	1	5	14.29
<b>Total</b>			<b>35</b>	<b>100.00</b>



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**What are the goals in doing quantitative (QN) research?**



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# Research Goal and Purpose

To explain the causes of phenomena  
through objective measurement and  
numerical analysis

To predict and establish relationships,  
and generalize findings





**Despite efforts on implementing health protocols, which factors mainly contribute to the surging number of cases of people infected with COVID 19?**



**Emotional  
Intelligence  
(IV)**



**Academic  
Performance  
(DV)**



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**What about the subjects/  
participants in QN research?**



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# Sampling

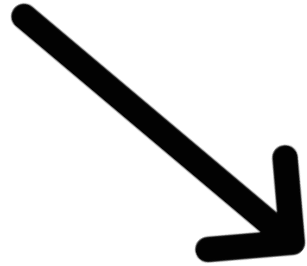
A sample usually  
represents the population.



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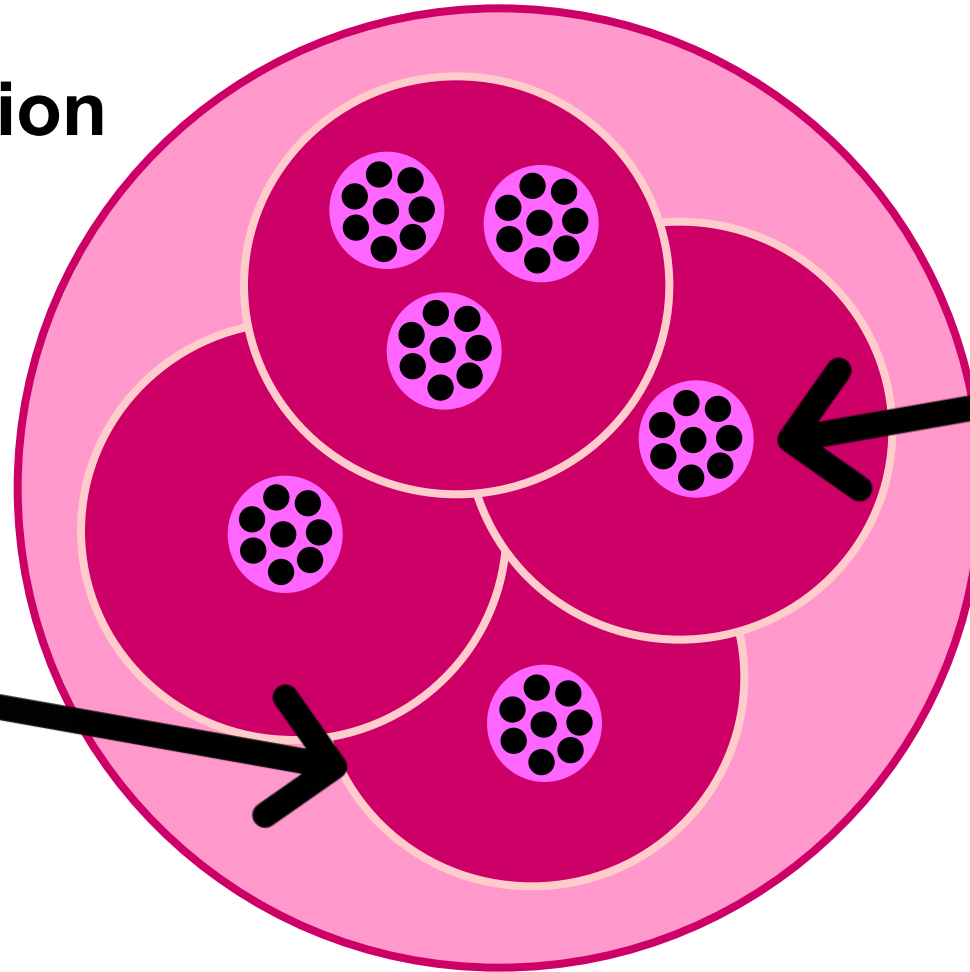
**SHS total population**



**SHS section**



**SHS strand**



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## Slovin's Formula

$$n = \frac{N}{1 + Ne^2}$$

**Where,**

*N is the size of the population*

*e is the desired margin of error*



Kepik\_Lab Slovin's Sample Size Calculator



# Slovin's Sample Size

*Calculator*

Population Size (N)

Error (e)

%

Sample Size

Ok

Information

Warning



**+ STRENGTH**

**Accuracy  
of Data**

**– WEAKNESS**

**Large number  
of participants**



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# How do we collect data in quantitative research?



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# Data Collection Techniques

include administration of tests and questionnaires, experimentation, survey and use of existing data sets



**+ STRENGTH**

**Numerical Data/  
Laboratory Setting**

**– WEAKNESS**

**Not in the Real  
World Setting**



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**What is the  
process/design in  
quantitative research?**



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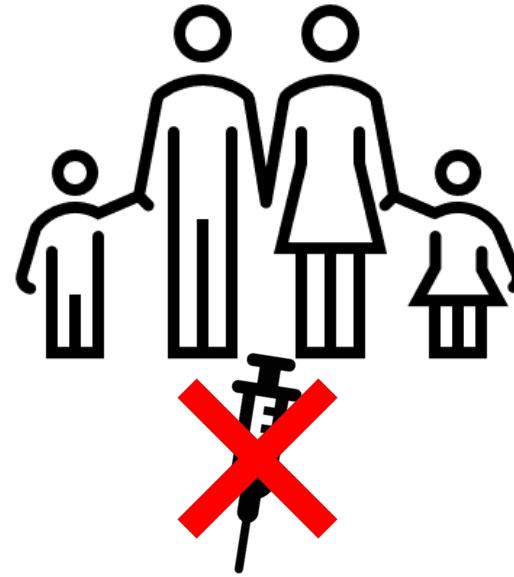
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# Research Design

It uses instrumentation that is designed and structured to verify the hypothesis.

It usually involves an intervention and manipulation of variables.





**+ STRENGTH**

**Instrumentation**

**– WEAKNESS**

**Inflexible  
Research Design**



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**What else is there when we say QN research?**



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# Hypothesis

**Specific, testable and stated at the onset of the study**



# Sample Hypothesis:

***Students who get test anxiety  
get higher scores than  
students who do not  
experience test anxiety.***



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# How are results summarized in QN research?



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## Generalizability

During the inquiry process, the researcher seeks for regularities in samples of individuals or groups.



	Grades	Test Questions									
		1	2	3	4	5	6	7	8	9	10
Andres	100	1	1	1	1	1	1	1	1	1	1
Maria	90	1	1	1	1	1	1	1	1	0	1
Sam	80	1	1	0	1	1	1	1	1	0	0
Nancy	70	0	1	1	1	1	1	0	1	0	1
Kim	70	1	1	1	0	1	1	1	0	0	1
Jose	60	1	1	1	0	1	1	0	1	0	0
Liz	60	0	1	1	0	1	1	0	1	0	1
Jim	50	0	1	1	1	0	0	1	0	1	0
Raul	40	1	1	1	0	1	0	0	0	0	1
Delmar	30	0	1	0	0	0	1	0	0	1	0

Source: Wordpress.com



**+ STRENGTH**

**Comparative  
Results**

**– WEAKNESS**

**Non-Detailed  
Accounts (Data)**



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# How is data analyzed in QN research?



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# Data Analysis

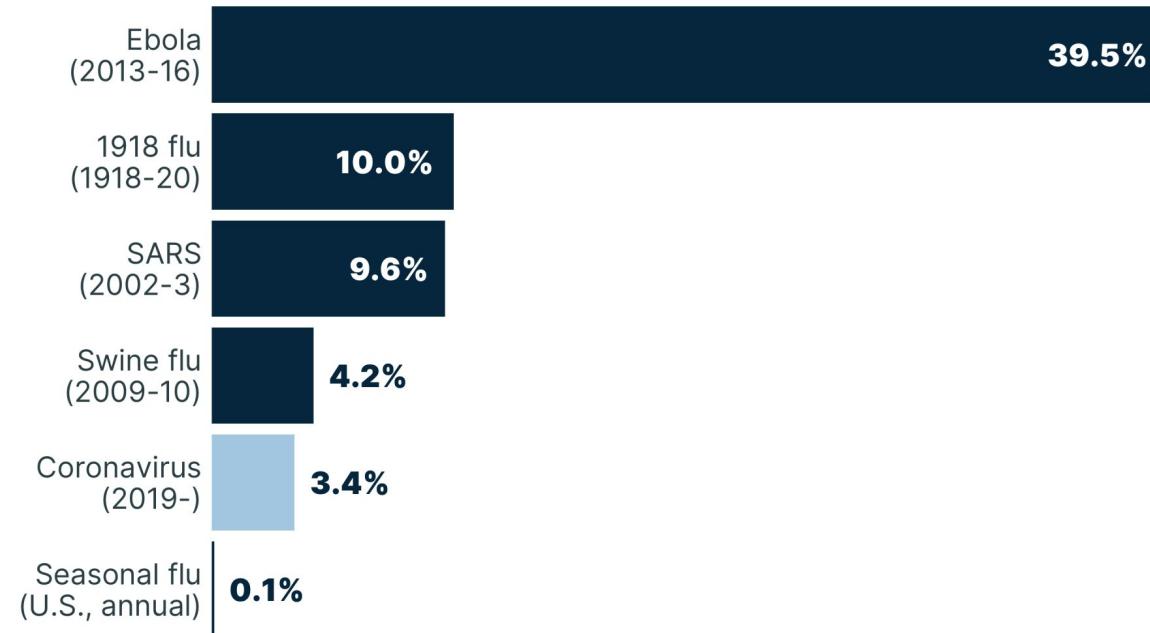
Deductive and statistical.  
This implies that numeric  
data are subjected to  
statistical analysis.





## Estimated disease mortality rates

Share of reported infections leading to death. All figures are worldwide unless specified. Coronavirus mortality figures are being revised as more data comes in on the ongoing outbreak.



Source: CDC, WHO, Paget et al (2019). Graphic by David H. Montgomery | MPR News

MPRnews



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# What is the role of a researcher in QN research?



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# Role of the Researcher

**objective, impartial, and  
detached**



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**+ STRENGTH**

**Personal bias is  
avoided.**

**– WEAKNESS**

**Limited  
Response**

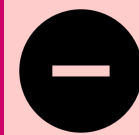


# SUMMARY



## STRENGTHS

1. Instrumentation
2. Accuracy of data
3. Comparative results
4. Numerical data
5. Personal bias is avoided.



## WEAKNESSES

- vs. inflexible research design
- vs. large number of participants
- vs. non-detailed accounts (data)
- vs. not in real world setting
- vs. limited response



# REFERENCES

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