

# Research Methodology

BS MLT  
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Q1.

## **Experimental research**

According to my mind the experimental method of data collection is better one than the others, the experimental method identify the relationship between causes and effects. This type of research is mainly used in psychology, chemistry, medicine and biology fields. It gets us the valid and reliable data because it's only based on personal experiments and protects us from the subjective opinions.

As a Laboratory Technologist if I want to know about the cause of a disease spreading in a community, I have to do experimental research via collecting the specimen (sample) and performed lab tests accordingly. So I will find out the main factors that lead to cause the disease in the area of interest and the complications of this disease.

On the other hand experimental research is used in pharmaceuticals to check out the effect of manufactured drug by administering it to an individual and check out that whether it have therapeutic effect or whether it have adverse effect.

Q2.

## **QUESTIONNAIRES IN RESEARCH SURVEY**

The series of written questions which are giving to participant in order to collect information.

## **Points need to design questionnaires**

1. When we are conducting our research we have to choose a small group of people that will represent a large population, and then we consider that this small group of people are the representative of our target population.
2. The format of our questions would depend on the method of research accordingly.
3. For the better result if possible we have to avoid open ended questions (if you want them to write something about your question), ask only close ended questions (giving some options to choose one of them).
4. If needed we can ask open ended questions if we want to know that what is their thoughts about the research topic, but this open ended questions should be few number and will ask firstly than closed ended. For the purpose to capture some valuable information.

5. Try to minimize the number of questions because if there are too many questions the people will feel reluctant and will not give you an effective answer.
6. The question should not be too long if it is, there might be some confusion to the participants and they will be feeling hesitant and bashful of it.
7. The question should be short or precise, limited and clear.
8. The question should move from simple to complex like first of all ask
9. We have to decide to conduct our research whether in one time or more time frame, because some hypothesis cannot be tested with one time frame.
10. Added the questions that should be about the attributes of our target group. **e.g.** age group, to discriminate whether our participants are males or females, their income and demographics.
11. For the good research we have to avoid the category “other” in options because the participant would not think too much and will click the category “other” that will decrease the research quality.
12. First we have pre-test our research survey on few people to see that whether the participants understanding the questions or there is any confusion, if there is confusing or miss interpretation we have to clear the questions.

Q3.

There are two methods used to put references in the research paper.

### 1. Manual method

To put reference I have to put firstly the reference number at the end of a sentence in the paragraph, and then I have to go to the website from where I obtained the paragraph  $\implies$  Copy the topic name  $\implies$  paste and search at Google scholar  $\implies$  after searching I have to click on (↔) like symbol from where I have to copy the desired reference style for example; APA, MLA, Harvard, Chicago and Vancouver.

#### **Example;**

The childhood leukemia's are a study in contrasts. Acute lymphoblastic leukemia (ALL) is diagnosed in approximately 2000 children in the United States each year, whereas acute myeloid leukemia (AML) is diagnosed in only about 500 children, and chronic myeloid leukemia (CML) in fewer than 100.(1). Chronic lymphocytic leukemia (CLL), one of the most common leukemias in adults.(2)seldom occurs in children. Current chemotherapeutic regimens cure as many as 70 percent of children with ALL (Figure 1)<sup>14</sup> but only 30 to 40 percent of those with

AML,<sup>510</sup> and they are ineffective against CML without allogeneic bone marrow transplantation.(3)

### References

1. Pui, C. H. (1995). *Childhood leukemias. New England Journal of Medicine*, 332(24), 1618-1630.
2. Kelly, Louise M., and D. Gary Gilliland. "Genetics of myeloid leukemias." *Annual review of genomics and human genetics* 3, no. 1 (2002): 179-198.
3. Kelly, L.M. and Gilliland, D.G., 2002. *Genetics of myeloid leukemias. Annual review of genomics and human genetics*, 3(1), pp.179-198.

### End note

To put reference I have to go to the website from where I obtained the paragraph  
⇒ Copy the topic name ⇒ paste and search at Google scholar ⇒ after searching

I have to click on (↵) like symbol from where I have to select the desired reference style for example; APA, MLA, Harvard, Chicago and Vancouver ⇒ click on end-note to download it ⇒ open it in end-note app ⇒ in end-note I have to click on insert citation so the cite will insert or put in the end of sentence or paragraph.

### Example;

The childhood leukemia's are a study in contrasts. Acute lymphoblastic leukemia (ALL) is diagnosed in approximately 2000 children in the United States each year, whereas acute myeloid leukemia (AML) is diagnosed in only about 500 children, and chronic myeloid leukemia (CML) in fewer than 100.(Pui, C. H. (1995). Chronic lymphocytic leukemia (CLL), one of the most common leukemias in adults.(Kelly, Louise M(2002))seldom occurs in children. Current chemotherapeutic regimens cure as many as 70 percent of children with ALL (Figure 1)<sup>14</sup> but only 30 to 40 percent of those with AML,<sup>510</sup> and they are ineffective against CML without allogeneic bone marrow transplantation.( Kelly, L.M. and Gilliland, D.G., 2002)

#### Q4. Difference between result and discussion portion of research

<b>Result</b>	<b>Discussion</b>
<p>Result is prepared data by doing research after correction and verification of all data.</p> <p>Result is the heart of the research result includes the experimental data but not the interpretation.</p>	<p>Discussion portion discusses the meaning of the result.</p> <p>Stating cause for specific result.</p>
<p>Result includes tables and figures</p> <p>Result is empirical findings of your research data</p>	<p>Interpret and explain finding more effectively</p> <p>Mention limitation if present there.</p>
<p>Avoid further speculation in research data.</p>	<p>Relate materials to what other have already done.</p>
<p>This should enough detail for those who are not familiar with scientific papers.</p>	<p>Discussion is the explanation and interpretation of your finding data about research.</p>
<p>Results are more important in answering the goals in finding of a research.</p>	<p>Discussion describes the interesting points, possible answers, putting of new questions for the entire field.</p>