



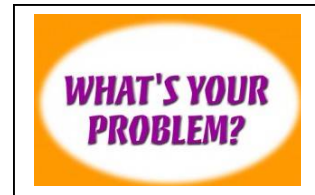
KEY WORDS TVET RESEARCH 1A: PROBLEM STATEMENT

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Research Problem Statement

Your Research Problem statement is the foundation and focus of your research report. It is a clear, stand-alone statement that makes explicit what it is you are aiming to discover or establish. Get this right and you are setting yourself up for success.



If your Research Problem is poorly worded, unfocused or ambiguous, the rest of your research is likely to go off-track very early; you will do a great deal of unnecessary reading and writing, losing sight of the big picture (and probably your mind!).

Definition:

A research problem is a statement about an area of concern, a condition to be improved upon, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation. In some social science disciplines the research problem is typically posed in the form of one or more questions. A research problem does not state how to do something, offer a vague or broad proposition, or present a value question.

Importance of...

The purpose of a problem statement is to:

1. **Introduce the reader to the importance of the topic being studied.** The reader is oriented to the significance of the study and the research questions or hypotheses to follow.
2. **Place the problem into a particular context** that defines the parameters of what is to be investigated.
3. **Provide the framework for reporting the results** and indicates what is probably necessary to conduct the study and explain how the findings will present this information.

So What!

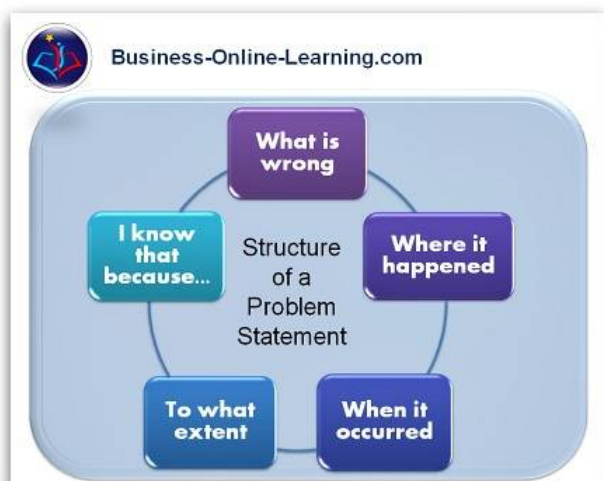
In the social sciences, the research problem establishes the means by which you must answer the "So What" question. **The "So What" question refers to a research problem surviving the relevancy test [the quality of a measurement procedure that provides repeatability and accuracy].** Note that answering the "So What" question requires a commitment on your part to

not only show that you have researched the material, but that you have thought about its significance.

To survive the "So What" question, problem statements should possess the following attributes:

- Clarity and precision [a well-written statement does not make sweeping generalizations and irresponsible statements],
- Demonstrate a researchable topic or issue [i.e., feasibility of conducting the study is based upon access to information that can be effectively acquired, interpreted, synthesized, and understood],
- Identification of what would be studied, while avoiding the use of value-laden words and terms,
- Identification of an overarching question or small set of questions accompanied by key factors or variables,
- Identification of key concepts and terms,
- Articulation of the study's boundaries or parameters or limitations,
- Some generalizability in regards to applicability and bringing results into general use,
- Conveyance of the study's importance, benefits, and justification [i.e., regardless of the type of research, it is important to demonstrate that the research is not trivial],
- Does not have unnecessary jargon or overly complex sentence constructions; and,
- Conveyance of more than the mere gathering of descriptive data providing only a snapshot of the issue or phenomenon under investigation.

The Basic Structure of A Problem Statement



A Problem Statement contains

- **What?** What objects have the defect? What is the defect?
- **Where?** Where is the effect observed geographically? Where on the object?
- **When?** – When was the defect first observed? What is the history? Is there a pattern?
- **How much?** How many objects have these defects? How many defects on each object? Is there a trend?

What A Problem Statement doesn't have:

A Problem statement

- does not include causes of the deficiency
- does not include likely actions or solutions
- is clear concise and specific.

General more specific GUIDELINES for writing your Research Problem Statement:

1. First select your research topic, which is the issue or subject area that you intend to investigate.
2. Describe the TVET problem based on your topic that you intend to research. Do this right at the beginning of your research proposal or report as laid out in the templates (remember to reference any facts that you are basing your research on). This will set the scene for your Research Problem statement, so that you can write a clear, stand-alone Research Problem.
3. A Research Problem is not the same as a general work problem, i.e. it is not a "problem" in the normal sense of the word; it is research jargon that happens to be a bit confusing. You can think of your Research Problem as **the unknown part of your TVET problem.**
4. We prefer Research Problem statements to have an outcomes-based verb at or near the beginning.
Some good outcome based verbs are:
Identify define relate describe review justify indicate formulate explain compare contrast suggest interpret analyze assess construct apply demonstrate illustrate categorize deduce create resolve debate propose differentiate construct argue derive design evaluate establish conceptualize suggest integrate compile develop challenge consolidate clarify criticize formulate ascertain appraise calculate recommend
5. Verbs such as "understand", "explore", "investigate", "examine" and "discuss" are poor verbs as they describe processes, not outcomes, e. g. you can discuss something endlessly without ever having to make recommendations, draw conclusions or offer a result. **Exploring, examining or discussing can be part of your process, but they cannot be the end result of your research, which should be more tangible.**
6. If your Research Problem contains two or more concepts / ideas, then break it down into sub- problems, so that each sub-problem consists of one idea only. Each sub-problem should contain key words that you can use in your literature search (using the **electronic library databases** and **Google Scholar**) on that sub-problem.
7. Your Research Problem statement should be your sub-problems added together – no more and no less. Do not introduce any new ideas when you write your sub-problems. For example: The main problem is to Analyze and evaluate the role of entrepreneurship in the establishment of private training centers and ascertain the value of the educational contributions of these private centers in TVET.

Sub-problem 1: Analyze and evaluate the role of entrepreneurship in establishing private training centers. (Here your key search terms for your literature review could be “entrepreneurship”, “private training centers” and “new TVET institutions”)

Sub-problem 2: Evaluate the educational contribution of private training centers in the TVET market. (Here your search terms could be “educational contribution”, “contribution of private training centers”, “TVET market development” or “private TVET market”). Your literature review would be likely to have headings similar or related to the search terms, as well as other topic areas that you find and are relevant but that you may not have anticipated – in fact you will find a lot of information and related topics that you won’t (and cannot be expected to) have anticipated. **Use the search terms both alone and combined with each other.**

You won’t find many articles on exactly your own research problem (that’s why you are researching it), so your literature review will be on topics broader than, but encompassing your specific problem.

Another example, starting with the research context and topic: Research topic and context (stated exactly as submitted by a student):

The large Colleges of Technology (CoT) need to be encouraged to assist small training centers in empowering them with the necessary skills and resources to deliver high value training. Social Responsibility is one avenue that small training centers can benefit from big TVET colleges in this regard.

My aim in this research is to establish if large CoTs are using educational social responsibility to empower small training centers and, if not, how this can be done.

Therefore, the topic of this research is to identify the role of educational social responsibility in empowering small training centers. The Problem Statement was constructed by tightening up the context to eliminate repetition, correcting the grammar, removing the personal pronoun “my” and rephrasing it in the passive voice.

In addition, the statement “. . . establish IF large CoTs . . .” was rephrased to “whether and how” because “if” has a yes / no answer (not OK) and “whether and how” requires a detailed, contextualised and rich response (OK).

Problem statement: The intention of this research is to establish the purposes for which large CoTs are using their internal further educational and quality enhancement programs, with particular reference to whether and how they are using such programs to empower small training centers, and, further, to gather ideas to expand such investments.

Sub-problem 1: Establish the purposes for which large CoTs are using their internal further education and quality enhancement programs.

Sub-problem 2: Identify ways in which large CoTs are using their internal further education and quality enhancement programs to empower small training centers, and further, to gather ideas for expanding such actions.

8. Your sub-problems should NOT be steps in the process of finding the solution to your Research Problem. This is a common and understandable error, but the steps the researcher intends to follow in the research can be described in the methodology chapter. **They are not invalid - they are just not sub- problems.**

Keep an open mind to finding other factors in the literature that you may not have thought about. The literature review is a process of discovery, and you don't know what's been published until you get there.

9. Your problem and sub-problems should not have a yes / no answer or solution.
10. Your problem and sub-problems should not suggest the solution / finding that you expect, otherwise **you are introducing bias.**
11. **Not all problems have sub-problems;** if your problem statement contains only one concept or idea, and cannot be broken down into smaller concepts, you will have only a problem statement with no sub-problems.
12. A sub-problem should not depend on a particular answer to a previous sub-problem – you will be in trouble if it does not work out the way you anticipated. To avoid this, make sure that each sub-problem can stand alone, i. e. it could be a small research project by itself.
13. You should only have a small number of sub-problems – no more than 2 to 3 preferably. **If you have too many, your project may be too big.** In this case, exclude some of the investigation and state what you will NOT be including in your research under the heading “Delimitations”.
14. Your sub-problems with their key words are your guide as to what to look up in the literature to see what has already been published on your topic. **Your literature review is based on one sub-problem at a time.** Thus your sub-problems will keep you on track – but they may be tweaked from time to time as you read more and more – it is an iterative process.

Prepare to do a LOT of reading around your topic. To be a “Master” of your topic, you need to know most of what has been written about it, what the main ideas are, who the most important authors are, and be able to differentiate credible sources from those that are not.