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# Identifying and Formulating the Research Problem

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## Abstract

The first and most important step of a research is formulation of research problems. It is like the foundation of a building to be constructed. To solve a problem someone has to know about the problem. So, the problem identification and formulation is very crucial for the researcher before conducting a research, and this is perhaps one of the most difficult aspects of any research undertaking. The “problem” is stated in the opening passages of a study and, in effect, provides a reader the rationale for why the study is important and why it is necessary to read. This module discusses the concepts and activities for identifying, specifying, and stating a research problem in both quantitative and qualitative research and positioning it within a section that introduces a study, i.e., the “statement of the problem” section. By the end of this module, readers should be able to: (1) Differentiate a research area of interest from a research topic and research problem; (2) Identify one’s own area of interest; (3) Determining the most suitable topic to study; (4) Explain the importance of a research problem in a study; (3) Distinguish between a research problem and other parts of research process; (5) Identify criteria for deciding whether a problem can and should be researched; (6) Describe how quantitative and qualitative research problems differ; (7) Write a good problem statement section; and (8) Write research questions and hypothesis.

**Key words:** English Language Teaching, area of interest, research topic, research problem, research question, hypothesis, knowledge gap.

## INTRODUCTION

Research, in a very general term, is a systematic way for finding things you and other people did not know, which are called as research problems. In this sense, as what the discussion on the research process in previous modules has indicated, research is a process consisting of the identifying and defining research problem, formulating and testing the hypothesis through data collection, organization and analysis, making deductions and reaching of conclusion from the test results of the hypotheses, and reporting and evaluating the research. Viewing its process, research is essentially a problem driven activity.

Since research is problem driven, the first thing to deal in undertaking a study is to identify and determine the problem to study. Identifying a research problem is important because, as the issue or concern in a particular setting that motivates and guides the need

for conducting a study, it lays the foundation for an entire project. If the foundation is shaky the entire project is doomed to failure. This is why novice researchers necessitates absolute caution in the initial stages of a research project. Professional researchers could easily identify a research problem because they have been quite familiar with the phenomena in which a problem generally presents itself. By considering the phenomena which include (1) a difficulty or deficiency to be overcome; (2) a condition to be improved upon; (3) a gap in knowledge that exists in scholarly literature that is to be filled; (4) a theory that requires meaningful understanding; or (5) a body of knowledge or views held in different clime that requires validation or confirmation for local application, professional researchers could easily recognize suitable problem to study.

To make the concepts in this module clearer and more realistic, read the following four research articles: (1) Use of Mother Tongue in EFL Classes of Secondary Schools in Jabodetabek: Students' and Teachers' Perception (Pardede, 2018); (2) The Effect of Edmodo on EFL Learners' Writing Performance (Shams-Abadi, Ahmadi and Mehrdad, 2015), Attitudes of Pre-Service EFL Teachers toward Research (Pardede, 2012), and The Contribution of Students' Beliefs about Language Learning, Learning Styles, and Language Learning Strategies toward The English Achievement of The Eleventh Grade Students of State Senior High Schools in Singaraja (Angelianawati, 2012).

## **RESEARCH FIELD, AREA OF INTEREST, TOPIC AND PROBLEM**

Why could professional researchers identify a research problem relatively easy but novice researchers find it difficult? The answer, as it has previously been indicated, is that professional researchers are familiar with their field of the study, while novice researchers still have a relatively familiarity to it. Thus, to be able to identify a research problem, you should first make English language teaching (ELT) research, the field in which you are undertake a research well known to you. To achieve this, overviewing the ELT research and its area is worth doing.

Before making an overview of ELT research field, it a good idea first to clarify the four terminologies in this subsection: research field, area, topic and problem. Research field refers to the whole areas of research undertaken in a specific scientific discipline. Thus, ELT research field covers the whole studies carried out in English teaching discipline. A research area is a specific part or section of a research field. A research area covers many topics researchers can study in the context of a scientific discipline. A research topic is "the broad subject matter addressed in a study" (Creswell, 2012, p. 60). Since it is the broad subject matter of a research, many investigators begin here. A research problem, as mentioned previously, is the issue being addressed. It helps in narrowing the topic down to something that is reasonable for conducting a study. Creswell, 2012) defined research problem as "a general educational issue, concern, or controversy addressed in research that narrows the topic" p. 60).

The relationship of research field, area of interest, topic and problem is illustrated by Figure 1. It shows that ELT research field is divided into many research areas. Each research area is divided further into many topics, and each topic could is divided into some research problems.

### **ELT Research Area of Interest**

ELT is a highly developing field of study all over the world because of two reasons. First,

English is the major means of global communication and the main language of scientific, cultural, diplomacy, and business affairs. This makes ELT cover a broad area. Second, English teaching is interrelated to many other sciences and cover many aspects of life. Consequently researches undertaken in this field should include these sciences and aspects of life. Table 1 lists some of the common ELT research areas. Overview the list so that you can choose one or two most interesting items to study.

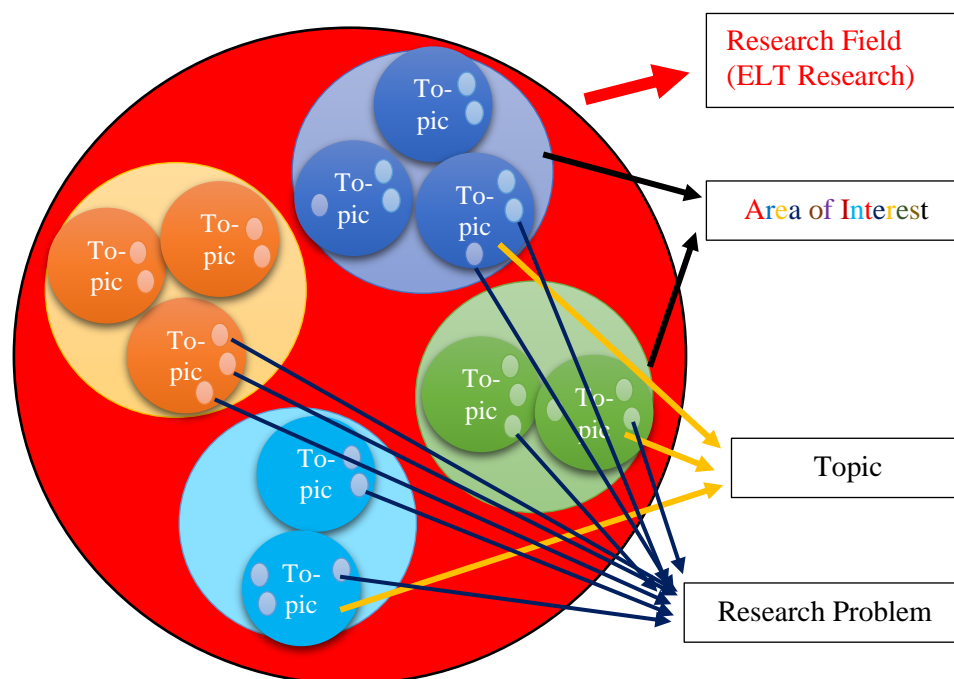


Figure 1. Research Field, Research Area, Topic, and Research Problem

### ELT Research Area of Interest

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Since ELT field covers a very complex and covers broad elements and aspects, no researcher could study it as a whole. That's why researchers select only some of the research areas to focus on. The well-known TESOL expert, Anne Burns of Aston University, for instance, focuses on six areas as her research interests, i.e. Adult immigrant and ESOL policy, theory and practice; analysis of spoken discourse for education and professional purposes; teaching speaking and listening; language teacher and learner beliefs and cognition; literacy/reading and writing research in educational settings; language teacher education ESP and EAP theory and practice; qualitative/action research based in language classrooms; and theory and practice of language curriculum development (Languages and Social Sciences, n/d). Another example, the research interests of Mackey, an ESL expert from Georgetown

University, are Second Language Acquisition, Roles of Attention and Memory in Second Language Development, and Second Language Research Methodology (Georgetown University, 2018).

There are some factors a researcher needs to consider when selecting a research area. The most important factors are his professional and personal interest, his capabilities and the academic captivity of the research area. Professional interest should be made the first priority because one's research area should relate to his future career path and potentially contribute to the achievement of his career objectives. Personal interest is also very important because conducting a study requires one to get himself involved in it for months or sometimes even a full year. If he works on a subject she is really interested in, he will be motivated to work consistently with passion and the quality will be awesomely great. One's capabilities (knowledge and skills) also play a great role in carrying out a study. Conducting a study on a new topic in which one does not have good knowledge requires him to be ready to invest much more time and energy in it. The best way to finish a research project in less time with better quality is to select an area of one's expertise. The academic captivity of a research area is also very important to consider. Producing a research which is captivating to many people in the field is certainly very exciting.

**Table 1. List of Common ELT Research Areas**

1. English Teaching Methods	14. English Teaching for Specific Purposes
2. English Pedagogical Techniques	15. Assessment and Evaluation in ELT
3. English Curriculum Development	16. Literature in ELT
4. Program, Syllabus, And Materials Design	17. ELT Research Methodology
5. English Language Planning And Policy	18. Applied Linguistics
6. English as a Second or Foreign Language Teaching and Learning	19. Phonetics, Phonology, And Morphology
7. English Teacher Education and Professional Development	20. Syntax And Semantics
8. ELT and Technology	21. Sociolinguistics, Psycholinguistics, Neurolinguistics, or Pragmatics in ELT
9. Culture and English Teaching	22. Discourse Analysis
10. English as a Second or Foreign Language Acquisition	23. Stylistics
11. Teaching English to Young Learners	24. Language, Cognition, and Brain
12. Translation in ELT	25. Psychology, Anthropology, and Sociology in ELT
13. Teaching of Specific Skills	26. Theories and Practice in Related Fields
	27. Bilingual And Multilingual Education

Different from professional researchers, as an undergraduate student, you are not expected to know exactly what your area of focus will be, because, you are probably still discovering and developing your interests. However, the sooner you decide your research interests the better it will be. By having some research interests, it will be easier for you to

determine what topic to study, and having decided the topic, you can quickly start and finish your research project.

To begin your trial at finding your research interests, overview Table 1 which lists the current common ELT research areas. While doing it, keep three things in mind. One, the list is not exhausted because there might be some other areas which are not included. Second, some of the items may be overlapping because many of the areas cannot be strictly separated one from another. Third, to make the list more meaningful to you, relate a research area to a real research report available. For instances, in his *Use of Mother Tongue in EFL Classes of Secondary Schools in Jabodebek: Students' and Teachers' Perception*, Pardede (2018) focused on two factors: students and teachers perceptions and the use of translation technique in English classes. The first factor belongs to the research area of “Psychology, Anthropology, and Sociology in ELT” while the second belongs to “Translation in ELT”. Additionally, in their study titled *The Effect of Edmodo on EFL Learners' Writing Performance*, Shams-Abadi, Ahmadi and Mehrdad (2015) studied “Etmodo” a variable included in “ELT and Technology” research area. At the same time, they also include the variable of “writing”, an element of “Teaching of Specific Skill” research area.

After overviewing the current common ELT research areas in Table 1, answer the following questions suggested by UR Office of Arizona University (2018) to map your research interest. Try to give three five responses to each question. After that, analyze all of the responses to see the most common themes.

1. What subjects covered in my field(s) of study interest me the most? (do this for each major/minor you have)
2. Which class or classes have been the most interesting, what specifically made them interesting, and what questions did I still have after the class finished?
3. What questions or problems am I most interested in exploring and/or solving?
4. What other topics, areas, or fields am I interested in outside of my major/minor?
5. What research topics relate to that field or sector I want to end up in and/or what interests me in that field?
6. What (if any) research topics relate to my hobbies, personal interests, or extracurricular activities?
7. What skills am I interested in developing which aren't addressed by my major/minor?

In your responses, what topics come up more frequently? Are any of the topics closely related or linked? Then relate those most frequently emerged topics to the items in Table 1. Finishing this, you have figured out what your interests are.

In addition, Sivakumar & Szalinski (2016) suggested three ways to help you pick up a research area. First, read scientific literature. ELT published research literature provides some good ideas related to the research field and various recommendations for further studies. Literature reviews on your research area are often useful to understand the big discoveries in the field and the anticipated future studies that will provide more information. Literature reviews can also certain unanswered questions that will be interesting to study. Second, attend conferences/seminars disseminating your research area. Attending both large and small meetings help us connect with our peers and have insightful discussions. Meetings also have poster sessions on various topics that may be useful to learn about the different research

areas out there. Such meetings are also a good place to learn about technical details or new experimental strategies, which are often important when forging into a different field. Third, brainstorm ideas with peers. Talking to peers about their experiences and perspectives may provide useful feedback.

### **Research Topic**

As mentioned earlier, after having research interests, it will be easier for you to determine the topic or “the broad subject matter addressed in a study” (Creswell, 2012, p. 60). Pardede (2018), for instance, might have decided “Translation in ELT” as one of his research area. Based on this, he selected “the use mother tongue in foreign language learning” the topic of his study. In the same way, Angelianawati (2012) might have decided “Psychology, Anthropology, and Sociology in ELT” as her area of interest. Then she selected “students’ beliefs about language learning, learning styles, and language learning strategies” as her research topic.

What should you do to identify and select a topic based on your interested research area? Just follow these three steps. First, broaden and deepen your understanding about the research area. Second, make a list of possible topics to study based on the research area. Third, choose the best topic by putting the eleven points below into consideration. The first step could be accomplished by reading literature review, research articles, handbooks and encyclopedias related to the research areas. After having broader and deeper knowledge about the research areas, you are ready to take step two, i.e. listing the possible topics to study. After that, use the eleven considerations proposed by Reis (1999):

1. Can it be enthusiastically pursued?
2. Can interest be sustained by it?
3. Is the problem solvable?
4. Is it manageable in size?
5. Will it lead to other research problems?
6. Is it worth doing?
7. What is the potential for making an original contribution to the literature in the field?
8. If the problem is solved, will the results be reviewed well by scholars in your field?
9. Are you, or will you become, competent to solve it?
10. By solving it, will you have demonstrated independent skills in your discipline?
11. Will the necessary research prepare you in an area of demand or promise for the future?

As indicated by the eleven points, there are some factors to consider when selecting a research topic. Some of them are related to your particular interests, capabilities, and motivations. Some others have to do with the areas that will be of greatest interest to both the academic and private sectors. The first and second points, which concerns with your interest, have previously been discussed. Now let’s have a closer look at the other nine points.

To make sure that you can finish your research on time you should make sure that the topic you are selecting could be solved in a reasonable period of time (3), it is manageable in size (4), and it will lead to further research (5). You should also make certain that the topic is worth doing (6), so that your study makes an original contribution to the literature ELT field (7), and if the problem solved, your study will give results that will take the attention of scholars

in ELT (8). Last but not least, you should consider your capacity (knowledge, skills, technical understanding, research expertise, and resources) to tackle the problem (9). To develop independent skills in your discipline (10), you can start by defining and developing a problem that is sufficiently robust based on the topic. To do so, you need to acquire a fundamental understanding of certain phenomena or behaviors and experimental techniques in order to solve the problem. Selecting a topic that will be in future demand (11) can be tricky. Some ELT research areas, such as error analysis and the teaching of grammar may have been exciting for some time, but are now approaching maturity and shifting focus and are likely to be less promising in the future. Other areas, like “ELT and Technology” and “Language, Cognition, and Brain” are quite popular. However, their newness and complexity may make the many of the topics derived from them beyond your capacity as an undergraduate student.

### **Research Problem**

A research problem, as mentioned previously, is the issue being addressed in a study. The issue can be a difficulty or conflict to be eliminated; a condition to be improved; a concern to handle; a troubling question, a theoretical or practical controversy (or a gap) that exists in scholarly literature. A research problem helps in narrowing the topic down to something that is reasonable for conducting a study. Creswell, (2012) defined research problem as “a general educational issue, concern, or controversy addressed in research that narrows the topic” p. 60).

Continuing with the topic identified by Pardede (2018), he looked at the perception of secondary schools students and teachers of the use of Indonesian in EFL classes. The problem is that very little attention has been given to the issue of first language use in English classes in Indonesia so that there is no appropriate empirical data to prepare the ground for a more reasoned use of Indonesian in the English classroom. By researching this problem, such necessitated data could be obtained. Based on the topic she identified, Angelianawati (2012) focused on the contribution of students’ beliefs about language learning, learning styles, and language learning strategies on students’ English achievement as the problem of her study. By knowing the role of those students’ beliefs it would be easier to facilitate them to succeed their learning.

Locating the research problem in a research could be accomplished by asking ourselves the following questions. (1) What was the issue, problem, or controversy that the researcher wanted to address? (2) What controversy leads to a need for this study? (3) What was the concern being addressed “behind” this study? (4) Is there a sentence like “The problem addressed in this study is . . .”? (Creswell, 2012, p. 59). The “problems” addressed in a study are usually stated at the end of the introduction or the literature review section. Some research article include them in a passage called the “statement of the problem” or in a paragraph put at the end of the introduction or the literature review section. Pardede (2018) stated his research problem at the final paragraph of the literature review. He wrote: “The problem addressed in this study is the perception students and English teachers towards the use of Indonesian in English classrooms at senior high schools around Jabodebek (Jakarta, Bogor, Depok, and Bekasi). Angelianawati, (2012) stated her research problem by writing “Therefore, this research was aimed at investigating how senior high schools students’ beliefs about English language learning, their learning styles, and language learning strategies contributed to their English achievement” at the end of the final paragraph of the introduction section.



To better understand research problems, Creswell (2012, pp. 59-60) suggested to compare it to other parts of the research process, i.e. research topic, purpose, and research questions. After looking at their differences, you will see that they differ in terms of breadth from broad (topic) to narrow (specific research questions). According to him, as it has been previously mentioned, a *research topic* is the “broad subject matter addressed by the study.” Pardede’s (2018), research topic, for instance, is “the use mother tongue in foreign language learning”. A *research problem* is “a general educational issue, concern, or controversy addressed in research that narrows the topic. The problem Pardede (2018) addressed is the perception students and English teachers towards the use of Indonesian in English classrooms at senior high schools around Jabodebek (Jakarta, Bogor, Depok, and Bekasi).

A *purpose* is “the major intent or objective of the study used to address the problem. Pardede (2018) stated the purpose of his study as follows: “This study aims to investigate senior high school students and teachers’ perception of the use of Indonesian in their English classes. *Research questions* “narrow the purpose into specific questions that the researcher would like answered or addressed in the study”. Pardede (2018) specified his research questions by writing:

More specifically, the study tried to seek answers to the following questions: (1) What is the perception of teachers and students towards using Indonesian in their English classroom? (2) What is teachers and students’ belief in the role of Indonesian in learning language skills? (3) What is teachers and students’ belief in the role of Indonesian in the role of Indonesian in learning language components? (4) How do the students and teachers’ view of the role of Indonesian in classroom interactions? (5) What are the students and teachers view of the role of Indonesian in understanding learning materials? (6) What is the students and teachers’ expectation of the proportion of the use of English vs. Indonesian in their English classes? (7) What is the relationship between the students’ level of English mastery with their expectation in the proportion of the use of English and Indonesian? (8) What is the relationship between years of English teaching experience and teachers’ use of Indonesian?

### **Differentiating Quantitative from Qualitative Research Problems**

After identifying a research problem, you should also consider if it better suits a quantitative or qualitative approach. Both approaches have merit, but since they differ in their essential characteristics, you need to decide which one is more appropriate to use for your specific research problem. Look once again at the study of the contribution of students’ beliefs about language learning, learning styles, and language learning strategies on students’ English achievement (Angelianawati, 2012). In this quantitative study, the researcher made a case that we knew about the role of the students’ beliefs about language learning, learning styles, and language learning strategies in English learning. Her literature review on current relevant studies showed that someone’s beliefs about language learning, language learning strategies and learning styles gave significant contribution toward his/her success of learning. Thus, the researcher predicted that the dependent variables (students’ beliefs about language learning, learning styles, and language learning strategies) contributed to the independent variables (students’ English learning achievement). To test this prediction, she measured both dependent and independent variables and tested their correlation. This study, which *predicts and explains* the correlation of variables, is one of the typical nature of the quantitative research.

That topic can also be studied by focusing on the problem of the effect of one of the dependent variables, e.g. the students' learning styles, to learning achievement. To carry out the study investigating this problem, the researcher should first classify the students based on their predominant learning style, i.e. communicative, analytical, authority-oriented, and concrete. Then after the students are taught the same materials in some sessions, they are given a posttest. The results of the test are compared to see which of the four learning styles affected the learning achievement. Such study, which *explains* or *predicts* the cause and effect of variables is also typical of quantitative research.

The topic of "students' beliefs about language learning, learning styles, and language learning strategies" could also be directed to understand the beliefs students hold and the learning styles and strategies they employed. In this case, the researcher does not measure these three factors. He/she just tries to obtain detailed information to understand more about the phenomena. A study focusing on the exploration and understanding of issues is typical of qualitative research.

Based on the discussion, *explaining* or *exploring* and *predicting* or *understanding* could be used as a standard to determine whether a research problem fits better to either a quantitative or qualitative study. If the problem tend to explain or predict the connections, relations or comparisons between variables, it fits to quantitative research. On the other hand, if it tends to explore or understand a phenomenon, it suits qualitative research.

To make it easier for you to determine for sure, you can use the more complete typical differences between quantitative and qualitative research problem listed in Table 1.

Table 2. Differences between Quantitative and Qualitative Research Problem

Quantitative Research Problem	Qualitative Research Problem
<ul style="list-style-type: none"> <li>• Explains or predicts the connections, relations or comparisons between variables</li> <li>• Contains independent <i>and</i> dependent variables</li> <li>• Measures variables for getting quantified data</li> <li>• Tests theories or broad explanations</li> <li>• generalizes results to a large number of people</li> </ul>	<ul style="list-style-type: none"> <li>• Explores, understands, describes, generates, discovers phenomenon</li> <li>• Learn and describe individuals' views</li> <li>• Assess a process over time</li> <li>• Generate theories based on participants' views</li> <li>• The results cannot be generalized</li> </ul>

### Writing the Problem Statement

After determining the research problem and deciding the research approach to use, it is time to begin writing about the "problem" in a statement of the problem section that introduces your research study. Bryman (2007) defined a problem as "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 theory or in practice that points to the need for meaningful understanding and deliberate investigation." A problem statement concisely overviews the issues or problems existing in the concerned area selected for the research. It explains the issues predominant in a particular

area which drives the researcher to do in-depth study and analysis in order to understand the issues and/or solve the problem.

**Table 3. An Example of Research problem Statement Using the “Ideal, Reality, and Consequences” Format**

(Part A):

The issue of using mother tongue (MT) in foreign language (FL) classrooms has globally grown in importance in the light of recent research. Current empirical studies have suggested that MT is likely to be unavoidable in SL/FL classrooms, especially when students speak the same MT and when teachers know their students’ MT (Macaro, 2001; Auerbach, 1993; McCann, 2005) and judicious use of MT is found to be necessary in some situations (Tang, 2002; Anh, 2010; Al-Nofaie, 2010).

*actual research problem;*

*justification*

(Part B):

However, very little attention has been specifically given to this issue in Indonesian public schools, and only few studies have been conducted to investigate the role of Indonesia in English classes. To the present writer’s knowledge, there are only two accessible studies carried out concerning this issue in Indonesian context so far. Zacharias’ (2003) research showed tertiary education English teachers’ account about the possible uses of MT in the process of teaching EFL, including explaining the new words meaning and grammatical points, giving instructions, checking learners’ understanding and giving feedback to individual learners. Usadiati’s (2009) study revealed that the use of Indonesian interchangeably with English in the explanations of concepts and rules for teaching students to write English sentences in Present Perfect Tense improved the students’ achievement. Since English has recently been taught in all levels of education, such lack of attention to the use of Indonesian in English classrooms is a great disadvantage because most English teachers in the public school are Indonesians. Having similar mother tongue, both teachers and students must be apt to resort to Indonesian as a support to survive or to make sense of whatever is going on in their English class.

*deficiency (gap)*

(Part C):

In response to the problem, this cross-sectional survey is proposed to obtain the perception students and English teachers towards the use of Indonesian in English classrooms at senior high schools around Jabodebek (Jakarta, Bogor, Depok, and Bekasi). By having such appropriate empirical information on this issue, we will be able to raise our awareness of where we are at present in our use of Indonesian in English classes and prepare the ground for a more reasoned use of Indonesian in the English classroom.

*method; participants; location*

*benefit*

Written in one or more concise paragraph (but not exceeds one page), a problem statement usually includes five aspects: (1) the actual research problem, (2) justification of the importance of the problem as found in current studies and practice, (3) deficiency (gap) in present literature about the problem, (4) method (timeframe, participants, location and trend), and (5) the organization, and/or the individuals that will benefit from a better understanding or solution to the problem. By including these aspects the problem statement clearly identifies

the purpose of the proposed research project you will propose. It also serves as the basis for the introductory section of your proposal, which directs the reader's attention quickly to the issues to be addressed and provides the reader with a concise statement of the proposed project itself.

How should a problem statement be written? There are some formats offered for this, and every researcher can use one of them. What is important is that the problem statement covers the five aspects mentioned above. The first common format divides a problem statement into three parts. Part A (The Ideal) explains how things should be by describing a desired goal or ideal situation or value. Part B (The Reality) describes a condition that avoids the goal, state, or value in Part A from being achieved or realized at this time. This part explains how the current situation falls short of the goal or ideal. Part C (The Consequences) pinpoints the proposed way to improve the current situation and move it closer to the goal or ideal. The example in Table 3 was adapted from Pardede (2018). Look how it illustrates the use of the format.

### The Research Question and Hypothesis

Research questions are questions derived from the purpose that a researcher is trying to answer in a study. A research question should be as specific as possible. If the purpose is quite complex, the researcher can make two or more research questions to cover it.

... Thus, the present study is an attempt to investigate the effect of blended learning implementation on EFL learners' scientific writing performance. *purpose*

Does blended learning have effect on EFL learners' scientific writing performance? *research question*

H<sub>0</sub>: Blended learning does not have any significant effect on EFL learners' scientific writing performance. *hypothesis*

H<sub>a</sub>: Blended learning does not have any significant effect on EFL learners' scientific writing performance.

The objective of this study was to find out the attitudes of students' and instructors to a one-semester blended learning scientific writing course and their views on its effectiveness. *purpose*

The questions to be addressed in the study are stated as follow: *research questions*

1. What are the students' and instructors' perceptions of blended learning in a one-semester blended learning scientific writing course?
2. To what extent does blended learning respond to the needs and expectations of the students?
3. Do the students' perceptions change throughout the one-semester blended learning scientific writing course?

In a quantitative research, the research question is followed by hypothesis, while a qualitative research does not have hypothesis. A hypothesis is a statement that can be proved or disproved. A research question can be made into a hypothesis by changing it into a statement. A hypothesis is commonly stated into two forms: null (h<sub>0</sub>) and alternative (h<sub>a</sub>). A

null hypothesis is a hypothesis to be disproved. It is usually made by adding “not” to the alternative hypothesis. To illustrate, look at the two examples above. The first one is typical of a quantitative research, while second belongs to a qualitative research.

## CONCLUSION

Identifying and determining the research problem, is the issue being addressed in a study, is the first and most important step in undertaking a research. A research problem is derived from a topic, or the broad subject matter addressed in a study. Since a topic is selected by considering the factors of interests, capabilities, motivations, manageability, and contribution to literature, the research problem is supposed to have fulfilled these factors. The fulfillment of these factor can indicate that the problem can and should be studied.

Before writing the research problem statement, the investigator also needs to consider whether the problem will better suit a quantitative or qualitative approach. If the problem concerns with the issue that needs to be explained, it is best addressed by quantitative research. If the problem concerns with the issue that needs to be explored, it is best addressed by the qualitative approach.

A research problem is succinctly stated in one or more concise paragraph (but not exceeds one page by including five elements: the actual research problem, justification of the importance of the problem as found in current studies and practice, deficiency (gap) in literature about the problem, method (timeframe, participants, location and trend), and the organization, and/or the individuals that will benefit from a better understanding or solution to the problem. The problem statement is then followed by purpose, research questions. Exclusively, the research questions of a quantitative research is followed by the hypothesis.



### Quiz 1

To item 1-5 in this quiz, choose the most suitable option for each of the following item. To item 6, match each item in the left column to the corresponding item in the right column.

To do this quiz, go to the Edmodo class by clicking this link:

<https://>



### Follow-up Activity 1

This activity is meant to solidify and depend your understanding of the topic you have just studied. It also aims to facilitate you to apply the new knowledge you have just taken. So, try your best to finish this activity.

To do this activity, go to the Edmodo class by clicking this link: ...

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