Abdelhafid Boussouf University Centre / Mila

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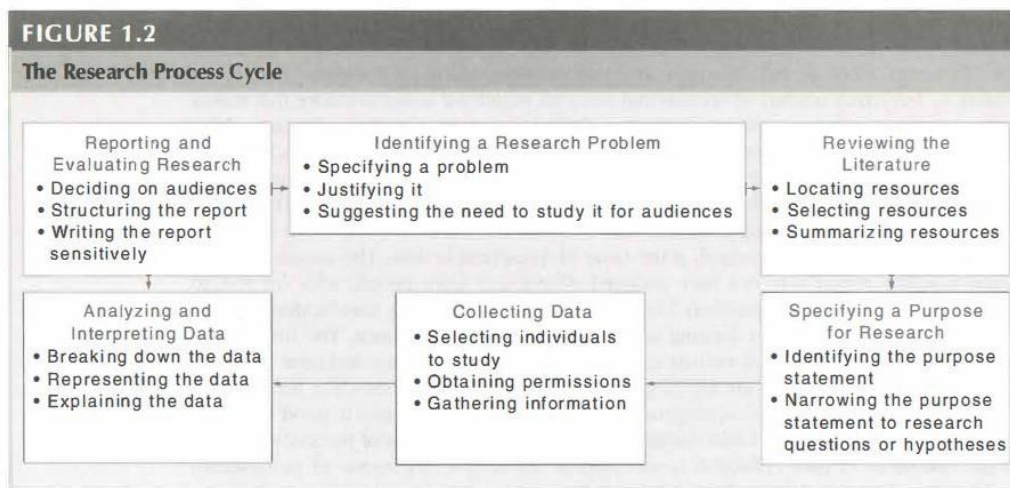Research Methodology

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Master

Lecture 4: Identifying a Research Problem

Introduction

In research, our journey is not a linear path but a series of interconnected steps, each playing a pivotal role in reaching the ultimate destination. Creswell (2015) outlines key steps in the research process, encompassing finding a research problem, reviewing existing research, articulating the purpose, collecting data, comprehending and analyzing data, and finally, presenting and evaluating the research.

This lecture delves into a critical aspect of the process: ***identifying the research problem***. This step can be likened to laying the foundation of a building before construction begins. Just as one must comprehend and define a problem to solve it, researchers must identify and articulate the problem before embarking on a research project. It is worth noting that this initial step is often among the most challenging aspects of conducting research.

FIGURE 1.2

The Research Process Cycle

Reporting and Evaluating Research	Identifying a Research Problem	Reviewing the Literature
• Deciding on audiences • Structuring the report • Writing the report sensitively	• Specifying a problem • Justifying it • Suggesting the need to study it for audiences	• Locating resources • Selecting resources • Summarizing resources
Analyzing and Interpreting Data	**Collecting Data**	**Specifying a Purpose for Research**
• Breaking down the data • Representing the data • Explaining the data	• Selecting individuals to study • Obtaining permissions • Gathering information	• Identifying the purpose statement • Narrowing the purpose statement to research questions or hypotheses

Research Process Cycle (**Cresswell,** 2015)

1. What is a Research Problem?

The initial stage in research involves recognizing a challenge, obstacle, or problem that puzzles the researcher. In that, embarking on a research journey without first identifying a research problem would be futile. A research problem is a statement that outlines the issue or

problem the research aims to tackle. This step is crucial in the entire research process. Without understanding the research problem, readers won't grasp the study's significance or why they should read it. Additionally, the researcher cannot proceed with the research without identifying and acknowledging the research problem. According to Shoket (2014, p. 512), a research problem is **"area of concern, a condition to be improved, 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".** For Johnson and Christensen (2012), a research problem is "**An education issue or problem within a broad topic area".** Creswell (2015) argued that **a research problem "represents the problem addressed in the study**".

In many instances, the origin of a research problem stems from a deficiency or gap within the existing knowledge base on a particular topic. These issues may arise from challenges, complexities, or current practices. As highlighted by Lochmiller and Lester (2015), a research problem goes beyond a mere declaration that 'this study is about...'—instead, it shapes the topic to articulate why the research is essential and outlines the intended accomplishments" (Biddix, 2018).

Kothari (2004) stated that a research problem is an issue or a difficulty which a researcher experiences in the context of either a theoretical or practical situation and wants to obtain a solution for it. Usually we say that a research problem does exist if the following conditions are met with:

I. There must be an individual or a group which has some difficulty or the problem.

II. There must be some objective(s) to be attained at. If one wants nothing, one cannot have a problem.

III. There must be alternative means (or the courses of action) for obtaining the objective(s) one wishes to attain. This means that there must be at least two means available to a researcher for if he has no choice of means, he cannot have a problem.

IV. There must remain some doubt in the mind of a researcher with regard to the selection of alternatives. This means that the research must answer the question concerning the relative efficiency of the possible alternatives.

V. There must be some environment(s) to which the difficulty pertains.

A common error is stating research problems as the purpose of the study or as the research question. The following examples show how you might reshape a purpose or a research question as a research problem.

Poor model: A researcher intends to write about the research problem but instead identifies the *research question:* The research question in this study is "What factors influence homesickness in college students?"

Improved model: An improved version as a *research problem:* Homesickness is a major issue on college campuses today. When students get homesick, they leave school or start missing classes, leading to student attrition or poor achievement in classes during their first semester of college.
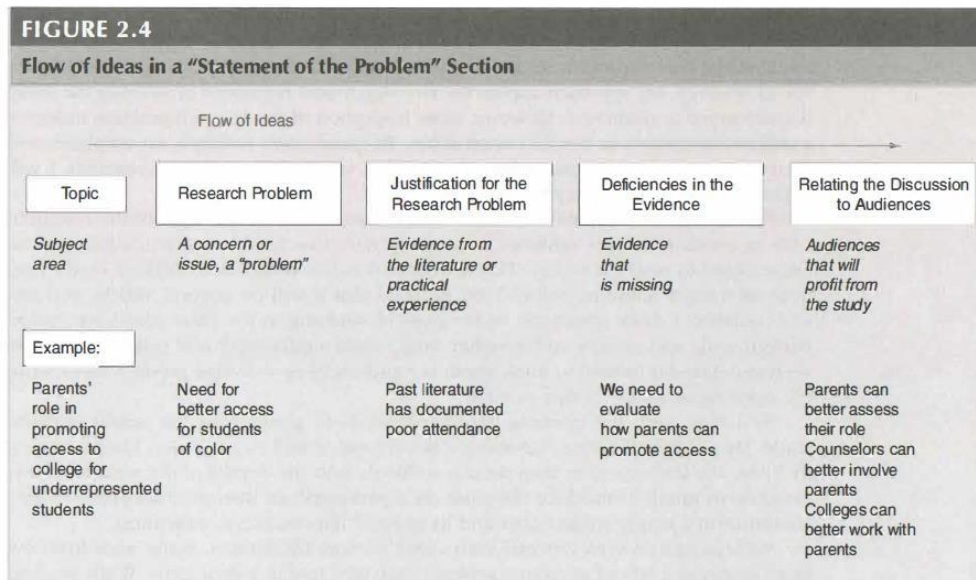
2. How do we Write a Statement of the Problem?

According to Biddix (2018), the statement of the problem specifies the need and value of a study by answering three questions

1. What is known about the topic?
2. What is not known about the topic?
3. Why do we need to know what is not known about the topic?

The information about the topic represents a concise summary of the present research or past discoveries, providing background to the research subject and showcasing the researcher's familiarity with prior work in the field. Identifying the gaps in knowledge about the topic indicates the absence of certain information, experiences, or findings in the current knowledge base. Understanding why it is essential to know what remains unknown about the topic constitutes the rationale for the study, articulating the necessity for research in the field and the potential contributions it could make (Know your research contributions "in what way(s)" does your study add significant contribution(s) to : **extant theory** or **relevant practice**).

On the other hand, Creswell (2015) asserted that the statement of the problem section includes the actual research problem in addition to (1) the topic, (2) A justification of the importance of the problem as found in the past research and in Practice, (4) the deficiencies in our existing knowledge about the problem (5) the audiences that will benefit from a study of the problem.

FIGURE 2.4
Flow of Ideas in a "Statement of the Problem" Section

Topic	Research Problem	Justification for the Research Problem	Deficiencies in the Evidence	Relating the Discussion to Audiences
Subject area	A concern or issue, a "problem"	Evidence from the literature or practical experience	Evidence that is missing	Audiences that will profit from the study

Example:

| Parents' role in promoting access to college for underrepresented students | Need for better access for students of color | Past literature has documented poor attendance | We need to evaluate how parents can promote access | Parents can better assess their role Counselors can better involve parents Colleges can better work with parents |

The Flow of Ideas in a Statement of the Problem (adapted from Crewell , 2015, p.71)

Example

Statement of the Problem

The Topic

Distance education via online platforms is a rapidly growing method of education delivery due to its convenience, wide reach, relatively low cost, and ability to support the achievement of learning objectives. Whether the platform is Blackboard, WebCT, Moodle, Angel, or some other learning management system, online education utilizes a variety of common learning tools including discussion boards, drop boxes, automated testing, and wikis. Chief among these tools are live online sessions.

The Research Problem

Live online sessions may be delivered in virtual classrooms from Adobe Connect, Elluminate, GoToMeeting, Wimba, or other software programs. Regardless of the software used, student attendance at live online sessions, especially optional ones, can be unpredictable at best. It is a common complaint among the online faculty at a university in the south that many, oftentimes most, of their students do not attend the live online sessions. This study will address the problem of low student attendance at nonmandatory virtual classroom meetings in online college courses.

Background and Justification

Offir, Lev, and Bezalel (2008) found the interaction level in a synchronous class, also known as web conferencing, to be a significant factor in the effectiveness of the class.

Other researchers describe "the power of a synchronous online system to empower students in conversation and expression (McBrien, Jones, & Cheng, 2009). However, if students do not attend, then they cannot interact nor express themselves.

Deficiencies in the Evidence

According to Skylar (2009), "research concerning the use of newer multimedia technologies, such as interactive synchronous web conferencing tools, is in its infancy and needs further and continued study" (p. 82). McBrien, Jones, and Cheng (2009) stated that "more studies are needed to explore students' perceptions of the synchronous learning experience." A variety of studies have explored the differences in functionalities of the various platforms (Kenning, 2010; Lavolette, Venable, Gose, & Huang, 2010), but they did not get to the heart of why students do or do not attend.

Audience

This study will benefit college and university administrators who can create or revise policies based upon the results. Administrators may even decide to change virtual classroom providers. Faculty may benefit if results indicate a change is needed in their own practices. Finally, the study will benefit online students whose learning experiences will be improved by the findings.

3. Types of Research Problems

Crsewell (2015) identifies **two types of research problems**;

A: Practical research problems

If you are doing practical research, you can identify a problem by reading reports, following up on previous research, and talking to people who work in the relevant field or organization. You might look for:

- Issues with performance or efficiency in an organization
- Processes that could be improved in an institution
- Areas of concern among practitioners in a field
- Difficulties faced by specific groups of people in society

If your research is connected to a job or internship, you will need to find a research problem that has practical relevance for the organization.

Examples of practical research problems

- Voter turnout in region X has been decreasing, in contrast to the rest of the country.
- Department A of Company B has a high staff turnover rate, affecting productivity and team cohesion.

B: Theoretical Research Problems

Theoretical research focuses on expanding knowledge and understanding rather than directly contributing to change. You can identify a research problem by reading recent research, theory and debates on your topic to find a gap in what is currently known about it. You might look for:

- A phenomenon or context that has not been closely studied
- A contradiction between two or more perspectives
- A situation or relationship that is not well understood
- A troubling question that has yet to be resolved

Examples of theoretical research problems

The effects of long-term Vitamin D deficiency on cardiovascular health are not well understood.

Historians of Scottish nationalism disagree about the role of the British Empire in the development of Scotland's national identity.

4. Selecting the Problem:

As you discuss and read about your topic, look for **under-explored** aspects and areas of concern, conflict or controversy. Your goal is to find a gap that your research project can fill. As outlined by Kothari (2004), a researcher should consider the following points when selecting a research problem or subject:

(i)   Subject which is overdone should not be normally chosen, for it will be a difficult task to throw any new light in such a case.

(ii)   (ii) Controversial subject should not become the choice of an average researcher.

(iii)   (iii) Too narrow or too vague problems should be avoided.(iv) The subject selected for research should be familiar and feasible so that the related research material or sources of research are within one's reach.

(iv)   (v) The importance of the subject, the qualifications and the training of a researcher, the costs involved, the time factor are few other criteria that must also be considered in selecting a problem.

(v)   (vi) The selection of a problem must be preceded by a preliminary study. This may not be necessary when the problem requires the conduct of a research closely

similar to one that has already been done. But when the field of inquiry is relatively new and does not have available a set of well developed techniques, a brief feasibility study must always be undertaken.

5. Distinguishing among the topic, Research problem, purpose, and Research Questions

Creswell (2015, p. 60) introduces a series of concise definitions. Delve into the distinctions among these various components of research as outlined below:

• A *research topic* is the broad subject matter addressed by the study. Maria, for example, seeks to study **weapon possession by students in schools**.

• A *research problem* is a general educational issue, concern, or controversy addressed in research that narrows the topic. The problem Maria addresses is the escalating violence in schools due, in part, to students possessing weapons.

• A *purpose* is the major intent or objective of the study used to address the problem.

Maria might state the purpose of her study as follows: "The purpose of my study will be to identify factors that influence the extent to which students carry weapons in high schools."

• *Research questions* narrow the purpose into specific questions that the researcher would like answered or addressed in the study. Maria might ask, "Do peers influence students to carry weapons?"

01 . 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 *deficiency* Indonesian public schools, and only few studies have been conducted to *(gap)* 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.

(Part C):

In response to the problem, this cross-sectional survey is proposed to *method;* obtain the perception students and English teachers towards the use of *participants;* Indonesian in English classrooms at senior high schools around Jabodebek *location* (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 *benefit* 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.

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