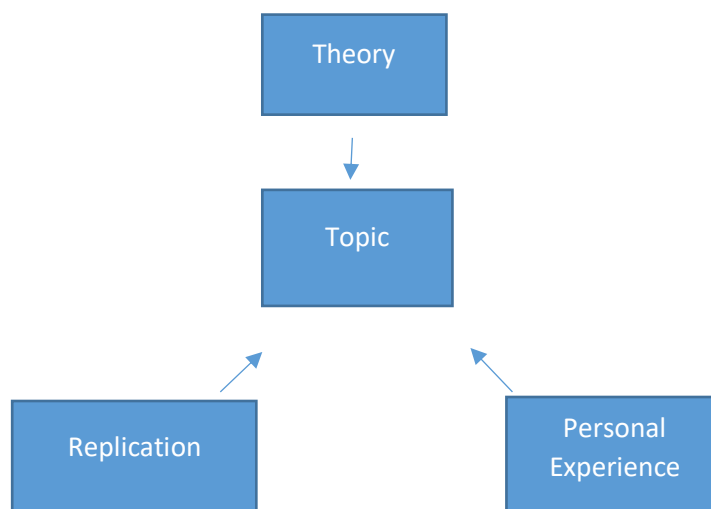


## IDENTIFYING AND RESEARCHING A TOPIC

### 1. Developing Ideas for Research Studies: Possible Topics

The first task in developing a research study is coming to some decision about a possible research topic. Most students in a research course begin by initially deciding on a couple of broad research topics. In educational research, these broad research topics can be wide ranging, including—but by no means limited to—the following examples: emergent literacy, technology integration, strategies in educational leadership, or counselling intervention practices. It should be noted that many students have the common misperception about educational research that it must take place within the context of a school building or classroom. This is a limited view of educational research, and although most educational research does indeed take place more or less within such a setting, many studies are done in non-traditional educational settings outside the brick-and-mortar infrastructure of the school building. For example, research conducted on how companies train new employees using distance learning and other technology hardware and software would certainly be considered in the realm of education-related topics and suitable for study in an educational research course. Educational research also includes research on programs and activities in after-school settings and in the communities surrounding schools. Although there is no specific formula or proven method for selecting a topic to pursue, students and most professional researchers gravitate toward a specific topic for one of three reasons: *past experience*, *theory testing*, or *replication of previous research* (see Figure 2.1).

FIGURE 2.1 WAYS TO GENERATE A RESEARCH TOPIC



**Experience.** For most students in a research course, past experience is one thing that drives their interests in pursuing a particular topic. Past experience can also be a strong motivational factor for professional researchers, who sometimes devote their whole life to pursuing a certain area of study. For those in a graduate course on educational research, experience may be related to their current career as a teacher in the classroom, a school psychologist, counsellor, or as a school administrator. In those situations, individuals should ask themselves questions such as

- I wonder if we did it this way, rather than the old way, would that make a difference.
- I wonder if I taught the class using an activity first, followed by an explanation of the content, would that make a difference in my students' understanding and increase their performance on the next chapter test.
- I wonder what intervention would be best for a student with multiple disabilities.
- I wonder what that new teacher in fifth grade is doing to keep her students so attentive during class

All of these questions are cornerstones to developing a more comprehensive, researchable research topic. *Keep in mind that researchers do not always pursue a topic of interest because they had a positive experience with it in the past. In fact, many researchers pursue topics based on a past negative experience for the sole purpose of improving practices and making them better for the next generation of learners.* For example, one of our students explored student experiences in gifted education programs in her proposal because she experienced significant problems within her own high school gifted education program.

**Theory.** *Research studies can also be developed based on theory.* For some researchers, a single theory might provide the focus for most of their research. For example, Robbie Case (1992) conducted many studies of Piagetian theory. These studies eventually led him to construct his own theory that blends Piaget's original stages with concepts from information-processing theory. *Students might use theories presented in any of their classes as the basis for a research study.* For example, several of our students have examined implications of a well-known theory of parenting styles (Baumrind, 1967) in relation to educational issues, such as student achievement, discipline problems, and attention disorders.

**Replication.** The third approach to doing a study is through what is referred to as replication. Although this approach may sound complicated, in essence, *it is a "do over but do better"*

*approach*. Typically, a researcher conducts a replication by first selecting a research study that she or he recognizes (or learns through others' reviews of studies) *as flawed; that is, it either uses poor methods to collect the data or sample participants or is poorly designed*. Some of these issues may be directly related to poor planning and practice by the researcher. Aware of these methodologic limitations, *the researcher conducts the study again, paying careful attention that such oversights do not repeat themselves*. Other times, an existing study is replicated not so much because of methodological flaws per se but because the researcher wants *to redo the study with a slightly different population* (e.g., using fifth graders instead of fourth graders) to see if the findings are the same. For example, one of our students replicated a classic study of the benefits of preschool programs, but he included measures of attitudes toward school as well as student achievement and extended the follow-up for more years. Some other sample research topics from our students' proposals that were based on either experience, theory, or replication are listed in Box 2.1.

### **Box 2.1**

#### **Sample Topics for Research Proposals**

- Student perceptions of school violence
- Approaches to classroom management at the middle-school level
- Involvement of single parents in their children's education
- Development of new instructional strategies for students with reading problems
- Divorce and students' school performance
- Attention deficit hyperactivity and strategies to improve behaviour
- The principal's role in training new teachers

## **2. from Topics to Questions**

After a topic has been selected, the next step in the process is an initial review of the literature. *This initial review may consist of reading only a handful of research studies, literature reviews, and other articles on the topic*. You are in the "exploratory" stage of your

study where your goal is to simply increase your knowledge on your selected topic. Specifically, as you read, you should pay close attention to the issues and questions that are addressed within your topic. For example, you select a topic that involves the following: successful urban schools and teachers. Certainly a broad topic! You might begin your investigative process by selecting a few articles that focus on successful urban schools and teachers and find that the following issues are identified:

- Teaching urban students
- Issues related to teaching diverse populations
- Characteristics of quality urban teachers
- Training quality urban teachers

Your initial review has identified some of the major areas of investigation around the topic of successful urban teachers and students, which should help you to identify your research question(s).

Research studies typically are the result of a lot of planning and preparation, both in developing and refining the research question and carrying out the study. Generally research studies stem from a research question (or in some cases, a series of questions). One mistake that many students make when selecting a topic is to think that they need to generate a final, detailed research question at the exact moment they come up with their topic. *In general, we recommend that students start with a general question that can be further developed after they begin to read the literature related to it.* Students should not avoid a topic just because they cannot think of a research question to ask. *Sophisticated research studies can begin with simple questions that are refined repeatedly as one reviews past research.* Because the research question is the seed from which the study will eventually grow, *it is imperative that the question be what is often referred to as researchable or doable. Researchable questions can be answered through the systematic collection of data and clearly meet ethical guidelines.* Although the issues of ethics will be discussed in detail elsewhere in this text, all human research should protect participants from harm, provide confidentiality, and include informed consent. *Researchable questions should also clearly define the variables (quantitative research) and identify themes, processes, and meanings (qualitative research) being investigated.*

*A variable is a characteristic or attribute that varies!* This definition is the ultimate circular definition. As is, it does not tell us much. Let us back up and consider a few important elements that will help us to understand the term variable(s). In education and psychology, we are often confronted with constructs. *A construct is a hypothetical concept that cannot be directly observed. For example, intelligence is a construct.* We hypothesize that intelligence exists, but we cannot see it. We cannot surgically open up someone's brain and locate intelligence. However, based on theory, we know that that person has intelligence. Some of us have more intelligence, and some of us have less intelligence. To measure constructs, they must be operationally defined, that is, defined in terms of how they will be measured. *The operational definition allows researchers to identify the variables that are being used to measure the construct.* So if we operationally define intelligence as a score on the Stanford Intelligence Test, other researchers understand that in our study, intelligence is conceptualized as the ability to successfully complete the items on the test. Of course, operational definitions are limited, and the construct of intelligence is much broader and more complex. Therefore, some researchers might also include a more conceptual definition of intelligence, such as intelligence is the ability to solve complex problems.

As you begin to explore the research on your topic, make note of the variables, themes, processes, and meanings that are reported in the studies. You will likely include some of these in your research question.

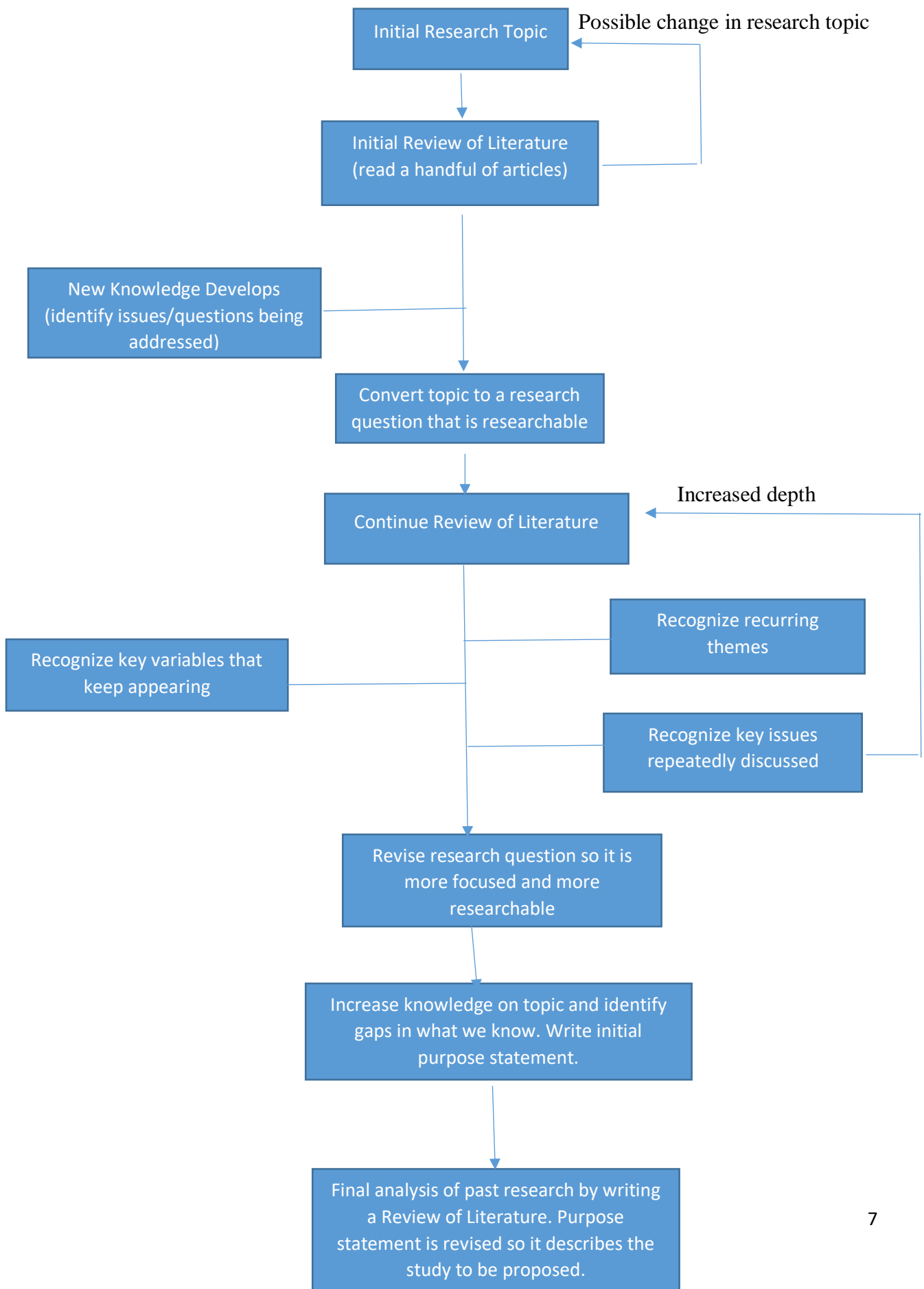
### **3. Developing a More Focused Research Question**

What is an appropriate research question? This is the fundamental issue for most researchers. There are two considerations, the topic and the scope. With respect to topic, you need a question which will sustain your interest and one in which your colleagues or supervisors can assist you. You should also consider its relevance and potency in the field of research at this point in time. This is where a sound review of the research literature is important. It should tell you whether your topic is timely or whether interest in it has waned. You might also want to review recent theses in your university to see whether others might have begun related explorations which suggest the utility of continuation. Once you have defined a general topic area, the problem is to formulate the specific research problem or questions with just the right scope. It is easy and tempting to 'research the world'. That is, it is simple to ask a question so broad that it will always contain more meat. For example, 'what is an effective school?' Such questions are good topics for a speech or a book, but they are too

big to be useful research questions. By the same token, a question which is overly specific can easily be addressed, but it may have no relevance beyond the immediate situation and little interest except to those directly involved. The challenge is to ask a question at the right level of breadth or abstraction. It is relatively easy to generate research questions but less easy to generate questions at the right level of abstraction for your resources and abilities. To choose a problem which is overly specific is to rob quantitative research from any generalizability. To select a problem that is overly broad, particularly in qualitative research, will hinder your ability to resolve it. The challenge, therefore, is to choose a problem at the right level of abstraction.

Although there is some variation between quantitative and qualitative researchers, one would next conduct an exhaustive search of the literature. Some students might also call this an exhausting search as well because it is time consuming and labour-intensive. Foremost, one begins to develop new knowledge on the topic, including what themes or issues recur, what settings or groups have been studied, and what the results of previous studies have been. Students should also continue to analyse the studies, identifying themes or issues that seem important and gaps or questions that have not been addressed. After each round of collecting and reading relevant research, students should be able to ask a more appropriate and researchable research question and to begin to generate ideas about a possible study that could be proposed. The research question will be continually refined down to a much more specific question and a statement of the purpose of the study. See Figure 2.2 for a summary of this process.

Figure 2.2 Development of a Research Question.



#### **4. Characteristics of a Good Thesis Research Problem**

The ten important characteristics of a good research problem for a thesis are summarized below. The list enables one to examine any research problem and see the extent to which it measures up. Obviously, few problems will achieve all ten characteristics but good problems should fulfil most of these requirements. A few words are in order about each of them.

- 1 The problem can be stated clearly and concisely.
- 2 The problem generates research questions.
- 3 It is grounded in theory.
- 4 It relates to one or more academic fields of study.
- 5 It has a base in the research literature.
- 6 It has potential significance/importance.
- 7 It is do-able within the time frame, budget.
- 8 Sufficient data are available or can be obtained.
- 9 The researcher's methodological strengths can be applied to the problem.
- 10 The problem is new; it is not already answered sufficiently.

##### **1. The Problem Can Be Stated Clearly and Concisely**

Unless the problem can be stated clearly and concisely it is probably a poor problem or a non-problem. The best way to test the problem statement is to write it into a concise sentence or paragraph and to share it with others. If the problem cannot be stated in a clear paragraph it has difficulties and will not endure as a suitable problem. Of course, it is not easy to express complex issues in simplistic terms and it may take many weeks and countless drafts before the statement is satisfactory. Good critics are essential. If your spouse or mother cannot understand it, it is probably flaky.

##### **2. The Problem Generates Research Questions**

The problem should generate a number of more specific research questions. These turn the problem into a question format and represent various aspects or components of the problem. The research questions make the more general statement easier to address and provide a



framework for the research. Formulating these questions can be a challenge, particularly specifying them at the right level of abstraction.

### 3 It Is Grounded in Theory

Good problems have theoretical and/or conceptual frameworks for their analysis. They relate the specifics of what is being investigated to a more general background of theory which helps interpret the results and link it to the field.

### 4 It Relates to One or More Academic Fields of Study

Good problems relate to academic fields which have adherents and boundaries. They typically have journals to which adherents relate. Research problems which do not have clear links to one or two such fields of study are generally in trouble. Without such a field it becomes impossible to determine where, in the universe of knowledge, the problem lies.

### 5 It Has a Base in the Research Literature

Related to the former points, a well-stated problem will relate to a research literature. Tight problems often relate to a well-defined body of literature, written by a select group of researchers and published in a small number of journals. With some problems it might at first be difficult to establish the connections and literature base, but there should be a base somewhere.

### 6 It Has Potential Significance/importance

This is the important ‘so what’ question: Who cares once you solve the problem? Assume that you have solved the problem and answered the questions and then ask yourself if you are any further ahead. At the very least, the problem must have importance to the researcher, but ideally it should also be of consequence to others.

### 7 It Is Do-able Within the Time Frame, Budget

There are logistic factors in terms of your ability actually to carry out the research. There is no point pursuing a problem which is not feasible to research. Do not do a study of education in India unless you have the means to go there and collect data—which may require years to collect. This factor helps explain why few theses relate to longitudinal data. The only exceptions come from research shops where there is a long history of collecting and studying data on a defined population.

### 8 Sufficient Data Are Available or Can Be Obtained

In some cases, there are insufficient data to address the problem. Historical persons may have died, archival materials may be lost, or there may be restrictions on access to certain environments. As noted, it is difficult to conduct research on a distant country unless you can go there and collect local data. One under-used approach is to use an existing data base. Some data banks have been developed over many years and contain many opportunities for exploration of new questions and issues.

### 9 The Researcher's Methodological Strengths Can Be Applied to the Problem

As well as being grounded in a discipline, a good problem generally relates to some sort of standard methodology. This might be historical, or comparative or empirical, but it should build on the strengths of the investigator. There is no point conducting research on a problem that is best addressed with statistics if statistics are not your strength. Consider your problem carefully and ask whether your background is appropriate to tackle it.

### 10 The Problem Is New; It Is Not Already Answered Sufficiently

While this is often a concern to new researchers, it is generally not an insurmountable problem. Once one knows the field, it becomes clear what has been done and what needs to be done. The danger applies mostly to problems that are stated prematurely without adequate knowledge of the field. If you know and can analyse the relevant literature you can often easily identify the most logical steps that need to be researched.