Contents

Chapter 3

Developing research questions

Developing research questions is not an instantaneous process, but one that takes place over time. During this period, you are likely to do a lot of background reading, discuss with other researchers, and think about the significance, originality, and feasibility of the questions. This chapter will describe general procedures for the development of research questions and discuss some common problems in formulating research questions.

PROCEDURES

In developing research questions, you usually undertake the following tasks as shown in Figure 3.1:
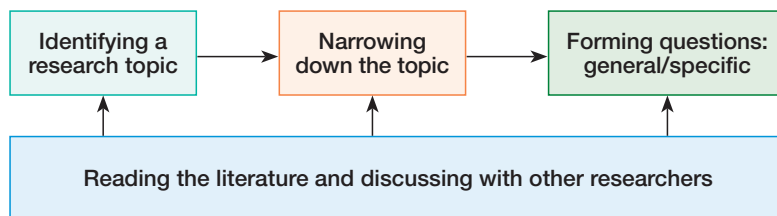
Figure 3.1: Developing research questions

According to Figure 3.1, you start with identifying a general topic and then narrow down the topic to get a focus, after which you formulate general and specific questions. While you are researching a general topic to find the focus and form the questions, you need to read relevant literature extensively and discuss with your supervisors or classmates frequently. In this section, I will explain how to accomplish the above four tasks one by one.

Identifying a research topic

At an initial step, you engage in a literature search for a general research topic. You might decide that you are interested in the area of L2 teaching or L2 learning. These two areas are related but each has its own focus and different perspectives. If L2 learning is your starting point, then the topic is extremely general. Suppose your initial chosen area is L2 writing or more specifically, L2 expository writing. Then your topic is obviously less general than L2 learning. Evidently, the journey of developing research questions varies from person to person when the starting points are different. The more specific the topic you start with, the less heavy the workload for you at the second step, i.e. narrowing down the research topic.

What needs to be considered in topic selection? If you asked me for suggestions, I would say personal interest should be placed on the top of the list. The reasons are obvious. In the process of postgraduate study, there is more hardship than happiness. You might have to key in thousands of responses to questionnaire items; you might have to transcribe dozens of hours of recordings; you might find that you have searched in the library for several days without finding out the materials needed. Your personal interest in the topic is always the best driving force for you to reach the end of your arduous journey.

The second thing you need to consider is that you should not select topics which may evoke strong emotional reactions that can lead you astray. For example, some students show a high degree of anxiety and are very much afraid of speaking. Suppose one of them decides to study the relation between the degree of anxiety and oral English proficiency. He/she is likely to have a "position" on the subject that will interfere with his/her completing the research satisfactorily on a number of levels. The most important of these is the self-fulfilling prophecy phenomenon (Ambady & Rosenthal, 1992). If he/she is convinced that a high degree of anxiety will lead to failure in acquiring good speaking skills, the data collected can be biased. Furthermore, suggestions from supervisors or other people might be hard to accept when they are inconsistent with his/her personal understanding of the problem. However, according to the constructivists' view, all studies are somewhat biased. What is essential for the researcher is to reduce the degree of bias.

The third suggestion is that you should "avoid a topic which is overly ambitious and overly challenging" (Rudestam & Newton, 1992, p. 10). Many postgraduate

students, before embarking on their journey of research, have made up their minds to do something unique so that they can make a remarkable contribution to the field they are investigating. These students, I should say, should be admired but their perceptions of the thesis are a bit unrealistic. Those apparently spectacular theses may end in two fates, either remaining unfinished or being completed with lower quality. Therefore, you have to temper your enthusiasm with practical concerns. Remember that even the best thesis is very often a result of compromises among our own ambition, the requirements of the supervisor, and practical constraints. What is being said here, however, does not mean that you are encouraged to choose a simple and easy topic and write a mediocre thesis.

In a word, I would suggest that you should select a small piece of an important topic or a small piece of an area that intrigues you.

Narrowing down the research topic

Narrowing down the topic usually causes researchers, particularly novices, the most trouble. There is no clear-cut rule specifying what is the right size of the topic that is sufficient for an M.A. thesis or a doctoral dissertation. Experienced supervisors can give their students help in this regard.

You can start with the questions beginning with "who," "what," and "how." Suppose you have selected the research topic "the acquisition of English vocabulary." Obviously, the topic is rather broad. Now you may first ask yourself: Who are the learners? Are they middle school students or university students? If they are university students, are they English majors or non-English majors? If they are English majors, are they freshmen, sophomores, juniors, or seniors? Let's decide to select sophomores. The second question is what kind of vocabulary you are interested in. Are you interested in receptive or productive vocabulary? If your interest is in productive vocabulary, then you have to decide whether you are interested in vocabulary in speaking or in writing. Let's say you are interested in speaking. The last question concerns how you will go about your research. Do you interview the students or ask them to answer a questionnaire, or observe their performance in class? Do you plan to measure the size of their productive vocabulary? Finally, how do you do it? Do you give them each a personal interview or an oral test in a laboratory? When you keep on asking yourself such questions, the topic will become narrower and narrower and better defined. When does this end? It depends on your research purpose.

Formulating general and specific questions

General questions serve as a blueprint that provides the direction for your research but they are not specific enough to be answered. Specific questions that

are derived from the general questions are directly related to the details of research procedures such as subject selection, data collection, and data analysis.

The questions should not be finalized in a hurry since hasty decisions might overlook possibilities. You had better budget enough time to look for all the possibilities available before you reach closure on the specific questions. Often you may experience a stage where a small set of questions are expanded into a large set which you have to delimit again afterward. Such experiences are very common and you do not need to worry about them. In Punch's opinion (1998), the absence of such experiences may indicate insufficient time spent in generating possibilities in the first place.

Once the expansion of the initial set of questions is over, you must examine all the questions to weed out those unimportant ones. The general principle here is that it is better to answer fewer questions thoroughly than many questions superficially. In a study for M.A. or doctoral programs, you are unlikely to tackle five or more major questions. If you have more than five, you should probably be thinking of cutting them down in number and focusing on fewer.

Research questions should finally be grouped and ordered in a logical sequence. In other words, the hierarchical relationship among the questions should be self-evident. Such a relationship can be described diagrammatically in Figure 3.2.
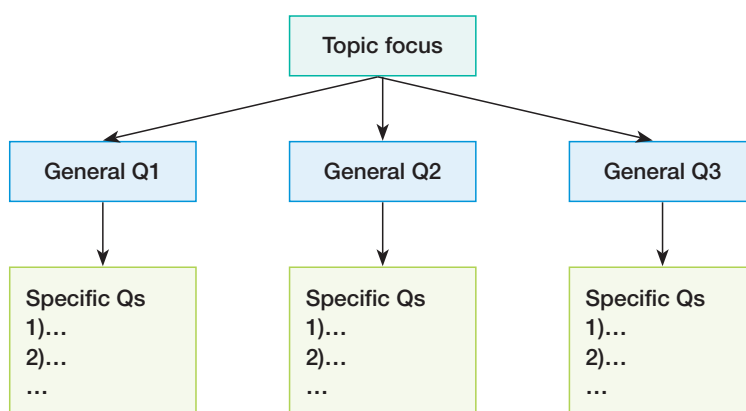
Figure 3.2: Relations between general and specific questions

Questions for quantitative research are often, if not always, constructed ahead of empirical work. They are sometimes stated as hypotheses. But for most people, straightforward questions are fine. Questions for qualitative research are usually general before data collection and specific questions only emerge as the research unfolds.

The following are research questions selected from some of our M.A. students' theses in 1998, quoted here in a slightly modified form.

In Example 1, the students' rhetorical knowledge is an independent variable, the discourse pattern, a dependent variable, and L2 proficiency, a moderator variable.

Research topic: L2 argumentative writing
Topic focus: A study of university students' argumentative writing in English: rhetorical knowledge and discourse patterns
General and specific questions:
GQ1: What is the relationship between the students' rhetorical knowledge and discourse patterns?
SQ1: Do the students' perceptions of the rhetorical organization of English argumentative discourse vary from the expected English norms?
SQ2: Do the English argumentative essays written by the students demonstrate any deviations in rhetorical organization from the expected English norms?
SQ3: Are there any correlations between the students' rhetorical knowledge and the discourse patterns of their English argumentative texts?
GQ2: Does L2 proficiency moderate the relationship between rhetorical knowledge and the discourse patterns?
SQ1: Are the students of different linguistic proficiency levels different from one another in their perceptions of the rhetorical organization of English argumentative essay?
SQ2: Do the students show any differences in their performance in creating an English argumentative essay?
SQ3: What is the relationship between the students' rhetorical knowledge and their performance in writing if they are divided into groups according to their L2 proficiency?
(Wu, 1998, p. 3)

The first general question is to investigate the relationship between the independent variable and the dependent variable, while the second general question is to find out to what extent L2 proficiency as a moderator variable modifies the relationship between the students' rhetorical knowledge and the discourse patterns. Each general question contains three specific questions. Take the first general question as an example to see the internal logical relations among the three specific questions. The first general research question involves three specific aspects. The first one is related to the students' perceptions of rhetorical discourse organization; the second one concerns the students' actual performance in English argumentative writing; the third one is the relation between the students' perceptions of the rhetorical knowledge and their actual performance. One thing that must be emphasized here is that general questions should be constructed before specific questions since general questions help decide on the overall direction of the research. If they were not right, specific questions would not work at all.

In Example 2, the task variation and the length of planning time are two independent variables and L2 oral performance is a dependent variable which is operationalized as accuracy, complexity, and fluency of L2 oral performance. It is clear that this study intends to investigate more variables than the study in Example 1.

Example 2

Research topic: L2 oral performance
Topic focus: Influence of different tasks and lengths of planning time on second language oral performance
General research questions and specific hypotheses:
GQ1: What is the relationship between the familiarity of tasks and L2 oral performance?
Hypothesis 1: The task with which students are most familiar would be performed with the highest degree of accuracy while with the most unfamiliar and difficult task, students might produce the lowest degree of accuracy.
Hypothesis 2: The task which is most unfamiliar and difficult would generate language with the highest degree of complexity. In contrast, the task which is most familiar to students might be performed with the lowest degree of language complexity.
Hypothesis 3: The task which is most familiar to students might be performed with the highest degree of fluency while the task that is least familiar to students might be performed with the lowest degree of fluency.
GQ2: What is the relationship between lengths of planning time and L2 oral performance?
Hypothesis 1: With more planning time, greater degrees of accuracy will be observed.
Hypothesis 2: With more planning time, more complexities in language will be displayed.
Hypothesis 3: With more planning time, more fluency will be achieved.
(Zhu, 1998, pp. 11-12)

One more difference, if compared with Example 1, is that the specific questions are stated in the form of hypotheses. In fact, all the hypotheses can be easily transformed into questions. For example, the three specific hypotheses under the first general question can be changed into the following questions:

1. To what extent does the familiarity of tasks affect the accuracy of L2 oral performance?
2. To what extent does the familiarity of tasks affect the complexity of L2 oral performance?
3. To what extent does the familiarity of tasks affect the fluency of L2 oral performance?

Reading the literature and discussing with other researchers

In the process of research, the literature is reviewed from time to time, but for different purposes. As shown in Figure 3.1, you do a literature review in identifying a general research topic, deciding on the research focus, and developing general and specific research questions. If you have not found any interesting topics, reading

others' research may give you some inspirations. You may pick up any recent issue of a well-established journal in the relevant field such as *Applied Linguistics*, *TESOL Quarterly*, or *Language Learning*, and read the papers which appeal to you. Usually, published papers include recommendations for further research in the last section. You may read the last section more carefully and see whether you can find any of the suggested topics attractive. It is also possible for you to be motivated by the findings of a reported study. For example, in Huang's study (1984), she concluded that functional practice (i.e. undertaking communicative activities) is a powerful predictor of Chinese learners' proficiency in oral English. You may be motivated to find out whether functional practice is also a good predictor of Chinese learners' proficiency in reading and writing.

If the research topic is initially motivated by your personal experience or observation, you have to read through the literature to examine whether the selected topic is worth investigating. You will go through major influential journals published in the past decade, searching for the papers relevant to your topic focus and reading the abstracts of each paper. If the reviewing of the literature reveals that your chosen focus has not been studied before or that yours differs from the previous ones in one or two aspects, you are assured that you can move on to undertake the next task, i.e. developing general questions into specific ones.

Once you reach the stage of developing general and specific research questions, you may also need to search through the literature in the relevant papers for the purpose of seeing the way the research questions are formed. You could follow the format in which the questions are stated if they are appropriate. Particularly, when you are not clear about the difference between the research question format of a quantitative study and that of a qualitative study, the short cut is to find suitable papers as models to see how the questions are presented in different types of studies.

While reviewing the literature, you need to discuss your research topic with other people, especially your supervisor. Such a discussion is very often stimulating and enlightening. It can facilitate your research topic identification and focus specification. One problem is that some students do not know how to make full use of human resources around them. They try to work on their own, seldom discussing their research with other people. As a result, they will miss opportunities to learn from others and gain help from others.

⊟ PROBLEMS IN QUESTION FORMATION

As mentioned before, developing good questions is often the first difficulty novice student researchers encounter in preparing for their theses. According to my experience as a supervisor, the following are the common problems they come across.

Problem 1: no research idea

Some postgraduate students, by the time they have finished all their courses, have not yet developed any specific research interest. When it is time for them to write a proposal, they do not know what topic they are going to investigate. They expect their supervisors to choose a research topic for them.

This is obviously a wrong and unrealistic expectation because a supervisor, as the name suggests, is responsible for supervising your work rather than doing the work for you. Moreover, to learn to identify a research topic independently is part of postgraduate study. Once you have developed such an ability, you are capable of pursuing your research after graduation. Otherwise, the accomplishment of your theses would be the end of your research career.

Some supervisors who lack experience in supervision might provide their students with suggested topics out of goodwill. However, it has more disadvantages than advantages. Apart from not giving the students proper training in developing research questions, such practice has at least two additional drawbacks which may not be discerned by either the teachers or the students at the beginning. First of all, a thesis normally takes years to finish. Often there is a period of time when the students feel bored and/or begin to lose interest in the topic. If they do not select the topic themselves, such feelings will be much stronger than otherwise. Some of them will even feel regretful that they do not make their own choice of topic. Secondly, students usually expect their supervisors to find a solution to the problem since they think this is not their topic. Therefore, if the cycle of postgraduate training is to be complete, I strongly suggest that nobody should skip over this process of choosing a research topic.

How can you find an interesting topic? In addition to the existing literature, the following are two important sources from which you may find a topic that appeals to you.

Personal experience

One's personal experience of learning an L2 and being taught an L2 are usually primary and rich sources from which you can find research topics. However, without strong curiosity and high sensitivity, you are not able to get any inspiration from such valuable experience. But curiosity and sensitivity are not inborn qualities; they have to be fostered. Therefore, I suggest that whenever you have a question about language learning or teaching, you jot it down in a research ideas journal. These ideas are like sparks, which are transient. If you do not catch them, they will disappear quickly. Only when you get hold of them can they possibly develop into a full-fledged research project. For example, it is not uncommon for English learners in China to confuse "he" with "she" in spoken English. It is also not surprising to find their mistakes in the use of articles. One question you can ask is what are the most difficult forms in English for Chinese learners to master. Another question you can pose is what are the variations

among Chinese learners in grasping these difficult forms. So long as you are curious enough about your L2 learning experience, you can find innumerable topics to investigate.

Here are two more genuine examples of finding the research topic for the undergraduate thesis from one's personal experience. One student found that in multiple-choice reading comprehension tests, she often chose the correct answer because of a wrong reason and selected the wrong answer when her comprehension was actually right. She thus had a strong doubt about the validity of such tests. She discussed her personal experience with me. Then I encouraged her to choose this topic for her study. She asked 10 students to do think-aloud[1] when they were doing multiple-choice reading test items selected from several TOEFL tests. She then analyzed the results to find out to what extent their so-called correct answers could reflect their reading comprehension ability.

Another student had a strong interest in finding out why some students read English texts much faster than other students even if they had similar English proficiency. I then pushed her to form an initial answer to the question. She guessed that the faster readers might focus their attention on the content words and ignore the functional words. The next task I asked her to undertake was to design an instrument to test her conjectured answer. By trying out various ways, she finally decided to ask 30 participants who had similar English proficiency to read a passage of 800 words as quickly as possible and underline the article "the" at the same time. After they finished reading, they were required to answer some reading comprehension questions to make sure they did reading seriously for comprehension. The reading task was undertaken individually so that the reading behavior was recorded and the reading time was measured. The eventual findings confirmed her hypothesis.

Attending conferences and talking with other researchers

The second source from which you can identify a research topic is attending conferences and talking with other researchers. Published papers usually report studies carried out two or three years ago. However, at a conference, presentations usually report recently finished studies or ongoing projects. By attending a conference, not only are you able to obtain the latest information about the studies in the field concerned, but also you can meet a group of distinguished scholars as well as active researchers themselves. The discussion section after each presentation is often the most stimulating. You can ask the presenters questions personally and get great help in a very convenient way. You should take every opportunity to attend academic conferences related to your research and try not to miss any guest speaker's lectures

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[1] Think-aloud requires the participants to speak out their inner thoughts while they are doing a task such as writing or reading. This will be discussed in detail in Chapter 8.

in your own institution. Furthermore, you should try to have a conversation with them when they finish their presentations or public speeches and ask them what questions they think need further research in their areas of expertise.

Let me share with you my own experience. The research topic for my own doctoral dissertation was on learning strategies of Chinese English learners. This was a cutting-edge research area in 1989 when there were not many books and papers for references. In July 1989, I went to participate in a conference held by The Chinese University of Hong Kong where I met the American scholar Douglas Brown, who was a keynote speaker in the conference. In his talk, he showed the audience the newly-published book written by Oxford (1990) entitled *Language learning strategies: What every teacher should know*. It was the book I most wanted, which was, however, not available in the market in Hong Kong yet. I approached him and asked whether I could buy this book from him. He said that he could post it to me after he finished his talk in Taiwan. A few days later, I got this posted book, which gave me tremendous help in my research. First of all, I had a comprehensive list of references on language learning strategies which saved me a large amount of time in reference searching. Furthermore, I got a lot of inspirations from Oxford's strategy inventory for language learning when designing my own questionnaire. Imagine that without such an incidental meeting with Douglas Brown to get this book, it would be impossible for me to finish my dissertation as I planned.

Problem 2: the topic being too broad

Topics selected by researchers with limited experience tend to be broad and without a clear focus. This is not a problem at all if it occurs at the initial stage. It is a problem only when the researcher does not know how to deal with such a situation, or worse, when he/she does not know the topic needs further narrowing down. For example, one of our students said that he wanted to investigate to what extent affective factors influence non-English major graduate students' English learning. The question was apparently appealing in the sense that most of the previous studies focused on cognitive factors and only a few of them investigated the effects of one or two affective factors. In this sense, designing a study of the learners' affective factors is desirable. The problem he had was that he was not able to see why the topic was too broad.

From his point of view, he had already tried to narrow the topic down to some extent. In his view, he selected affective factors rather than all the factors related to learners, and he only intended to study non-English major graduate students rather than all the university students. But he did not think of the fact that there might be as many as a dozen affective factors and it would be difficult, if not impossible, to cover all of them in a single study. Nor did he realize that there were very few valid instruments available for measuring the affective aspects. Eventually, with the help of his supervisor, he was able to narrow down the topic and focused on one affective

factor in his research, i.e. motivation.

According to my own research experience, the process of drawing a clear boundary of one's research area or specifying the research focus cannot be accomplished at one go. It normally takes a longer time than a researcher expects. Patience and caution are absolutely needed in the whole process. Furthermore, the supervisor is always the first person who can offer help in this regard. It is often the case that the research area is broader at the beginning than it needs to be for the final thesis. Gradually, the topic is being narrowed down along with the progress of your research. It is not rare that the research focus is finally specified when you have written up your thesis.

Problem 3: questions not worth investigating

Some questions raised by researchers may not be worth investigating if the questions are trivial and have neither practical nor theoretical value. You might wonder how this can happen. It is true that no researcher would like to invest time and effort in a meaningless way. However, an inexperienced researcher has difficulty in detecting triviality in the questions put forward. For example, one student tried to see how first-year English majors and third-year English majors differ in summary writing. The general question sounds interesting and seems not insignificant at all. Let's look at the specific questions: (1) Do these two groups of students show differences in their overall scores on summary writing? (2) Do these two groups of students show differences in the number of important points included in their summaries? (3) Do these two groups of students show differences in the total number of grammatical errors in summary writing? All these questions appear to be well constructed with a clear focus. My question is: Why did she want to find out the answers to these questions? Without the empirical data, I am sure, you can provide the answers without too much thinking because the third-year students should get higher scores, include more important points, and make fewer grammatical errors than the first-year students. Otherwise, there must be something wrong with our education system. Then what implications could we draw from such findings? Do these findings have any implications for improving our teaching or learning or do these findings have any contribution to theory building? Absolutely not. Therefore, the specific questions are trivial and are not worth investigating at all.

From the above example, you may notice that by saying questions are trivial, I mean that the answers to the questions do not have practical value or theoretical value even if the process of research is very complicated or labor intensive.

Problem 4: questions like a shopping list

It is very common for novice researchers to form a set of questions like a shopping list. The questions do not display a strong logical link and there is no

distinction between general questions and specific ones. The occurrence of such a problem is mainly due to insufficient thinking on the part of the researcher. For these researchers, the process of question formation is somewhat like shooting bullets in the sense that questions are formed one after another without considering the internal link at all. Obviously, these questions are not matured enough to serve as the final set, which need further time and effort to work at.

If you are in this situation, what should you do? I suggest that you list general questions first and then establish a link among them based on your thorough understanding of your topic. Such a link is extremely important since it enables your study to be an organic whole. Once the general questions are internally connected, you move on to the stage of developing specific questions, which is comparatively easier than the previous one. Let's look at the following example which can well illustrate what kind of questions I refer to as a shopping list and what questions have a hierarchical structure. The first set of questions is the one which was formed at the initial stage of research. It does not display a strong logical link. The second set is the final one that resulted from a substantial revision.

The first set in the early draft of one student's thesis:

1. Is there any use of first language in the second language composing process of university students? If yes, how much L1 is used in the L2 writing process?
2. When does first language occur in the second language composing process?
3. What functions does first language have in the second language writing process?
4. Why do writers use their native language in the process of composing in second language?
5. Does L1 use in L2 writing vary with the types of writing tasks?
6. Is there any correlation between L1 use in the L2 composing process and the quality of the composition?
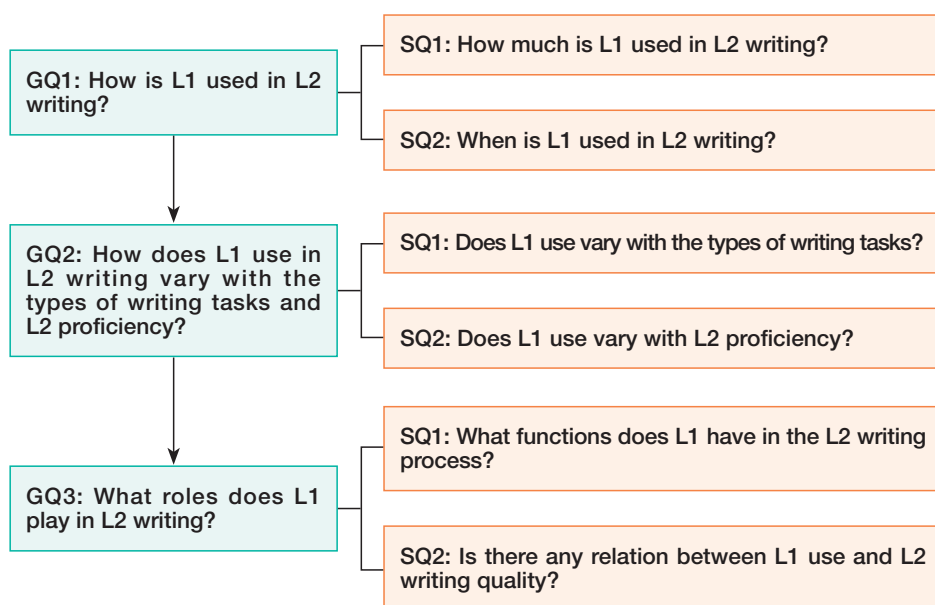
The second set which is the final version:

1. How is L1 used by tertiary level English majors in China in the L2 composing process?
(1) How much is L1 used in the L2 composing process?
(2) When is L1 used in the L2 composing process?
2. Does L1 use vary with such factors as the types of writing tasks and the development of L2 proficiency?
(1) Does L1 use in the L2 writing process vary with the types of writing tasks?
(2) Does L1 use in the L2 writing process vary with the writers' L2 proficiency?
3. What roles does L1 play in L2 writing?
(1) What functions does L1 have in the L2 writing process?
(2) Is there any relation between L1 use in the L2 composing process and the quality of the composition?

In the first set, the researcher addressed six different issues concerning the use of L1: how much, when, what functions, why, the effect of the types of writing tasks

on L1 use, and the relation between L1 use and L2 writing quality. These six issues are arranged in such a way that it is difficult for the reader to figure out the internal link among them. By contrast, the second set of questions are reorganized into three general questions and each general question contains two specific questions. The first question is to obtain an overall picture of the use of L1 in L2 writing, the second question to find out to what extent the use of L1 is affected by other factors such as the types of writing tasks and L2 proficiency, the third question to identify specific functions of L1 in L2 writing and the relation between L1 use and L2 writing quality. The link among the three general questions has thus surfaced (See Figure 3.3).

| GQ1: How is L1 used in L2 writing? | SQ1: How much is L1 used in L2 writing? |
	SQ2: When is L1 used in L2 writing?
GQ2: How does L1 use in L2 writing vary with the types of writing tasks and L2 proficiency?	SQ1: Does L1 use vary with the types of writing tasks?
	SQ2: Does L1 use vary with L2 proficiency?
GQ3: What roles does L1 play in L2 writing?	SQ1: What functions does L1 have in the L2 writing process?
	SQ2: Is there any relation between L1 use and L2 writing quality?

Figure 3.3: A graphic description of the second set of questions

Now let's work together to revise the following set of questions. The following study is to investigate the relationship between risk-taking beliefs and behaviors of English majors in China. Wang (1999) formed a set of questions at the beginning, which in my opinion is like a shopping list:

1. What do Chinese students think of risk-taking in English learning?
2. What risk-taking behaviors do Chinese students show in L2 learning?
3. To what extent are their risk-taking beliefs and risk-taking behaviors correlated to each other?
4. What do high, moderate, and low risk-takers think about risk-taking respectively?
5. What are the behaviors of high, moderate, and low risk-taking believers?
6. What is the correlation between the risk-taking beliefs and the risk-taking behaviors if the students are divided into high, moderate, and low risk-taking believers?

Suppose you were the supervisor of Wang, how would you help her revise the questions? I would like to share my experience with you when I was her supervisor. First of all, I asked her to list different types of variables. She explained that in her study, students' risk-taking beliefs are an independent variable and students' risk-taking behaviors are a dependent variable while differences in risk-taking beliefs are a moderator variable. Secondly, I asked her to form general questions first, which should cover the different types of variables she intended to investigate. She formed two questions: (1) To what extent do Chinese students' risk-taking beliefs affect their risk-taking behaviors? (2) To what extent do the differences in Chinese students' risk-taking beliefs modify the relationship between the risk-taking beliefs and the risk-taking behaviors? Once the two general questions were constructed, she moved to shape the specific questions which in fact reflected her research procedures for answering each general research question. In other words, she could not get answers to the general questions directly. What she could do was to dissect each general question into several sub-questions or specific questions. In general, once the researcher can well construct the general questions which are logically linked, it would be much easier for the researcher to shape the specific questions under each general question.

Figure 3.4 shows how to revise the questions which are not logically
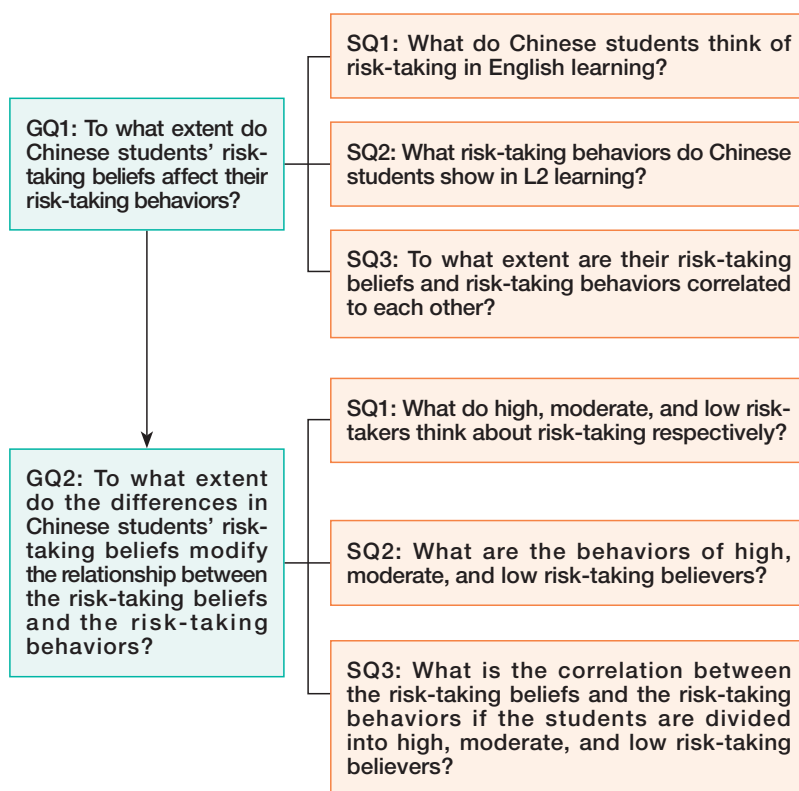
Figure 3.4: The revised version of Wang's research questions

connected. The basic procedure for such revision involves three steps. The first step is to specify the types of the variables (independent, dependent, or moderate); the second step is to form general research questions, which should involve all the variables; the third step is to construct specific questions to answer each general question. For the sake of discussion, I have described them in a sequence. However, the real practice could be recursive.

> **Focus highlight**
>
> - Why does your set of research questions look like a shopping list? This shows that your thinking of the research topic is still messy. In other words, you do not have a clear mind. As a result, the questions you list cannot illustrate a logical link within them. Thus, you must take a close examination of all the questions and try to draw a diagram to indicate the relations among the questions.
> - One thing that must be emphasized here is that developing good research questions is crucial for any research. However, it cannot be finished at the very beginning. The questions are continuously revised and fine-tuned along with your research progress.
> - Your concerted efforts in producing good research questions will always pay off.

⋮≣ SUMMARY

Developing research questions starts with identifying a research topic that needs narrowing down to obtain the focus of research. The strategy that can help you narrow down the topic is to keep on asking questions beginning with "who," "what" and "how." Reading the literature and discussing with other researchers are necessary for obtaining a research topic, determining the focus, and developing research questions. Once the focus of research is specified, general questions are expected to be developed together with a subset of more specific ones. Would-be researchers are very often troubled by having no research ideas at the initial stage. They are advised to reflect on their own learning experience, and attend conferences or guest lectures to gain inspirations. They may also be troubled by the topic being too broad or the questions being trivial. The last problem they often encounter is that their questions are presented as a shopping list without a hierarchical structure.

AFTER-READING ACTIVITIES

Reviewing

1 What are the general procedures by which research questions are developed?

2 When you identify a research topic, what should you consider first?

3 What strategies can you use in narrowing down your topic to get a focus?

4 What kind of contribution can doing literature review make to the development of research questions?

5 Why do we need to formulate general as well as specific questions?

Exploring

1 Try to narrow down the following topics.
- The learning of English articles
- The mastery of modal verbs by Chinese learners
- The teaching of English tense system
- The teaching of L2 argumentative writing
- The relationship between the use of L1 and L2 learning

2 Classify the questions given to show the logical relationship between general and specific questions. (Note: These questions are from a student's thesis with some modifications).

A study of error correction in university EFL classrooms

(1) How do intensive reading teachers correct their students' errors?

(2) Is there any difference between English-major teachers and non-English major teachers in error correction?

(3) What are the students' attitudes toward error correction?

(4) Is there any difference between English majors and non-English majors in their attitudes and preferences?

(5) As far as error treatment is concerned, to what extent can the teachers' behaviors match the students' expectations?

(Hu, 1999)