

## 5.5. RESEARCH DESIGN TYPES

### 5.5.1. Correlational (Associational) Research

Correlation can be used in different ways: for example, to test a relationship between or among variables, and to make predictions. Predictions are dependent on the outcome of a strong relationship between or among variables. That is, if variables are strongly related, we can often predict the likelihood of the presence of one from the presence of the other(s). Correlation is often used in survey-based research (see chap. 3), although it is by no means limited to that research area. Following are examples of two types of survey-based correlational research (one relational and one predictive), both from a large survey-based study of motivation by Dörnyei and Clément (2001):

*Research question:* Are student motivational characteristics related to language choice?

*Context:*

1. Motivational characteristics (e.g., direct contact with L2 speakers, cultural interest, integrativeness, linguistic self-confidence) were collected through questionnaires from more than 4700 Hungarian students.
2. Information was gathered on their language of choice in school (e.g. American vs. British English, German, French, Italian, Russian).

- Analysis:* The study was set up so that the relationship between these variables could be examined.
- Research question:* Was integrativeness (represented by questions such as “How important do you think learning these languages is in order to learn more about the culture and art of its speakers?” “How much do you like these languages?” and “How much would you like to become similar to the people who speak these languages?”) a predictor of language choice?
- Analysis:* The follow-up analysis showed that integrativeness was the best predictor of language choice.

The specific statistical analyses will be discussed in chapter 9.

### 5.5.2. Experimental and Quasi-Experimental Research

In chapter 4, we introduced the concept of random assignment of participants and the need to ensure that each participant in a particular population has an equal and independent opportunity for selection. Randomization is usually viewed as one of the hallmarks of experimental research. Design types can range from truly experimental (with random assignment) to what is known as quasi-experimental (without random assignment). Clearly, some design types are more prototypical of one end of the range than the other. In this section we deal with both types, beginning with those that include random assignment of individuals.

A typical experimental study usually uses comparison or control groups to investigate research questions. Many second language research studies involve a comparison between two or more groups. This is known as a between-groups design. This comparison can be made in one of two ways: two or more groups with different treatments; or two or more groups, one of which, the control group, receives no treatment.

#### 5.5.2.1. Comparison Group Design

In a comparison group design, participants are randomly assigned to one of the groups, with treatment (the independent variable) differing between or among the groups.

*Example:* A researcher wants to investigate whether aural input or input through conversational interaction yields better L2 learning.

- Group 1: Hears a text with input containing the target structure.
- Group 2: Interacts with someone who provides input on the target structure.

Assuming a pretest/posttest design (see later discussion), the results of the two groups would be compared, with inferences being made as to the more appropriate method of providing information to learners. In comparison research, more treatment groups can be added to the study if the research question is elaborated. The following example suggests a slightly different research question with a more elaborate design:

*Example:* A researcher wants to investigate to what extent aural input, input through conversational interaction, or a combination of aural and conversational input yields better L2 learning.

- Group 1: Listens to a text containing the target structure.
- Group 2: Interacts with someone who provides input on the target structure.
- Group 3: Receives some input through listening and some through interaction.

Were this researcher to add yet another question, the design could have a fourth group:

*Example:* A researcher wants to investigate to what extent aural input, input through conversational interaction, a combination with aural input followed by interaction, or a combination with interaction followed by aural input yields better learning.

- Group 1: Hears a text with input containing the target structure.
- Group 2: Interacts with someone who provides input on the target structure.
- Group 3: Receives some input first through listening and then through interaction.
- Group 4: Receives some input first through interaction and then through listening.

### **5.5.2.2. Control Group Design**

The second standard type of experimental design is a control group design. This is similar to the comparison group design, with the important difference that one group does not receive the treatment. The control group would typically take the same pretest and posttest as would the experimental groups, but would not have the same treatment in between tests. For control groups, some researchers may want to provide some language activity or input (of course, different from the treatment) in which the participants are doing something else with language. This is to ensure that it was the treatment, not the mere fact of doing something, that led to any change.

One aspect that all researchers grapple with in second language research is how to control for outside exposure to the language. This is much easier to control in a foreign language environment than in a second language environment. In a foreign language setting, control for exposure can often be accomplished simply by ensuring that the particular language focus is not covered in the syllabus during the time of treatment. Another way to prevent external input influencing the results of the study is not to have long periods of time between testing sessions (although there are instances when long periods of time are desirable, as in delayed posttests when testing longer-term effects of treatment), or, minimally to be able to argue that if there is additional exposure, the groups are equivalent in this regard. Each researcher must be cognizant of the problem and must determine how to deal with it in an appropriate manner.

In sum, a true experimental design will have some form of comparison between groups. The groups will differ in terms of some manipulation of the independent variable to examine the effect of manipulation on the dependent variable. Assignment will be random, or as random as possible, to avoid threats to internal validity caused by participant characteristics.