

IDEAS FOR QUANTITATIVE ACTION RESEARCH CONCEPTS

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1. Introduction

Dornyei (2007) identifies four qualities that a competent researcher must possess. According to Dornyei (2007), the first quality of good researchers is "they have a genuine and strong curiosity about their topic," which indicates that beginning researchers are motivated by their enthusiasm and sincere curiosity about their subjects. The second is common sense, since applied linguists ought to be grounded and involved in the actual world. Additionally, innovative thinking and strong ideas are crucial for effective researchers even though they employ an easy-to-understand research process founded on unique insight. Lastly, a good researcher should be disciplined and responsible having a sense of accountability to communicate her/his findings with others.

2. Selection of Research Methods

There are many different types of research methods—old, new, and mixed—because the research areas are expanding quickly. At the beginning of the research process, the most important thing is to choose paradigms—qualitative or quantitative—that are acceptable and pertinent to the research issue. If the researchers lack the necessary background knowledge about study methodologies, moving forward will be quite challenging. When various research methodologies are considered, the researcher needs to confirm if he is concerned with qualitative or quantitative data. The fact that is an additional option that he could use to gather quantitative or quantitative data. This paper's goal is to talk about quantitative action research paradigms.

3. Quantitative Research

Quantitative research is the time-honoured scientific method. It is about prediction, generalizing a sample to a larger group of subjects, and using numbers to prove or disprove a hypothesis.

For a typical study using quantitative methods, researchers tend to draw a sample of persons at random from a broader population, if possible (York, 1998). This method utilizes strict control of variables, and the focus is on static reality. The researchers are interested in generating data from a large sample of study subjects so they can generalize the conclusion to others (York, 1998). Quantitative research uses data that are structured in the form of numbers or that can be immediately transported into numbers (Ross, 1999). It is a very controlled, exact approach to research. According to Van Lier (1988), there are two important variables to consider when posing research questions and deciding on research methods. One is the amount of intervention or control that the researcher exerts. A second variable that exists in selecting a research method is what he calls structuring.

4. Qualities Essential for Sound Research

4.1 Validity

The degree to which the study's instruments measure the construct under investigation is known as contrast validity. For example, evaluating pupils' proficiency in a particular skill that has been linked to language acquisition. How much the results of one study can be applied to a larger group is known as external validity. A representative sample drawn at random from the target population is frequently used to achieve generalizability. Internal validity deals with the degree to which the research design is such that it has control on the variables that could influence the outcome of the study.

4.2 Reliability

Internal reliability relates to the extent to which someone else analysing the same data would come up with the same results. It can be judged through inter-rater reliability or intra-rated reliability.

1. To determine inter-rated reliability, two researchers examine the same data using the same categorization system to see to what extent they arrive at similar conclusion.
2. Intra-rated reliability indicates the degree to which the same researcher assigns the same rating to the data on two different occasions.

External reliability on the other hand deals with whether or not another researcher, undertaking a similar study, would come to the same conclusion.

5. Research Question and Design

The first stage in coming up with a research question is to carefully analyse one's own ideas regarding the teaching and acquisition of L2 (second languages), as these attitudes will affect how the research questions are framed and the study strategy that is selected. If the researcher recognizes his own beliefs, he is able to determine his own biases and preferences. There is indeed nothing wrong in supporting a particular view of L2 teaching and learning, however by explicitly stating these beliefs he can understand the assumptions and biases he brings to his research. While determining the research question, the first step is to specify an area of inquiry the researcher is interested in. This interest may be initiated by a particular problem or a challenge he faces in his classroom. In determining the research question, the researcher must begin with a general research question, such as “what are the characteristics of effective group work tasks?”

The researcher has to read three to four professional articles on the topic. He has to frame a general research question to explore on his topic. Finally, he has to list the kinds of data he would gather to answer his research question. He has to write up his findings by describing –

- The research area he is interested in exploring and why he is interested in that topic.
- The findings of the articles he read on the topic.
- The general research question he would like to address.
- The type of data he would gather to answer his question.

6. Developing Research Design

Cohen, Manion, and Morrison (2000) delineate a four-stage framework for planning a research project that may be helpful to the researcher in planning his research. These stages involve:

1. Orienting decisions are strategic decisions in that they describe the general nature of the research. Some of the questions that need to be addressed in this area are:

- (a) What are the general aims of the research?
- (b) Who is the likely audience of the research?
- (c) What are the constraints on the research?
- (d) What is the time frame for the research?
- (e) What ethical issues need to be dealt with in understanding the research?
- (f) What resources are required for the research?

2. Research design & methodology issues are basically tactical decisions in that they establish the practicalities of the research. Some of the questions that need addressing in this area are

- What is the main methodology of the research?
- How will validity and reliability be dealt with?
- What kinds of data will be gathered and how will it be gathered?
- Who will undertake the research?

3. In planning the data analysis the researchers need to decide how they will analyze the data that is gathered.

4. The final stage is presenting and reporting the results. Researchers need to consider questions such as

- Who will be the audience for the report?
- When will the report be written?
- Where will the report be shared?
- How will the data be presented?

7. Find the Constraints

The researcher has to consider what problems he anticipates in undertaking the project and describe how he intends to handle these problems.

8. Ethical Research

An investigator who has obtained linguistic data from members of a speech community has no obligation to use the knowledge based on that data for the benefit of the community, when it has need of it (Labov, 1982) Cameron, Frazer, Harvey, Rampton, and Richardson (1992) raise a related point when they argue that empowering research needs to be research on, for and with. They believe that teachers should not merely do research on students or classrooms but do research for the benefit of students and teachers and ideally with learners and other teachers in an interactive framework.

- First, “persons are not objects and should not be treated as objects. Researchers need to approach learners and teachers in their studies as full human beings and not merely as research objects.”

- Second, “subjects have their own agendas and researcher would try to address them.” Researchers are powerful in deciding what will be researched and which activities to undertake in doing this research. However, individuals who participate in their studies have their own agendas about what issues they would like to see investigated. Researchers should try to discover these objectives, and if possible, include them in their research.
- Finally, “if knowledge is worth having, it is worth sharing.” The expert knowledge that comes from doing research should be shared not just with other interested professionals but also with the individuals who participated in the research.

9. Gaining Access

Teachers and students from a specific university must be involved in the researcher's anticipated research effort. He needs to get in touch with important administrators at first to obtain permission to start gathering data. He ought to get in touch with the institution's principal to discuss his research. Describe his project in response to the principal's inquiries. He needs to get authorization to work in the organization. He needs to get in touch with the teachers he wants to work with once he receives this permission involve in his undertaking. The investigator ought to speak with these people directly to clarify his project and request them participation in the endeavour. After making this first encounter, he could request signed informed consent papers from possible participants.

The researcher should take pains to answer the questions of the participants and establish a good relationship with them. In most cases, he can expect the attrition due to participants dropping out or moving to other areas. For this reason, it is good to get permission from more participants than he believes he will need. The sooner he gets permission the better because his research cannot begin until this step is taken. The most important point to remember, however, is to treat the participants with respect and to make certain that the research will benefit them. The rapport the researcher establishes with the administrators and teachers before he begins collecting data, the fewer problems he will have later.

10. Action Research

It begins with the researcher identifying a concrete problem he has. He then gathers data to help solve the problem and, after carefully analysing the data, undertakes changes in his classroom to hopefully solve his initial problem. Some contend that action research involves more teacher reflection than research and as such should not be considered as a rigorous methodology for L2

classroom research. Others, however, argue that AR (Action Research) entails the essential of any research methodology: a researchable question, data gathering, and data analysis.

10.1 Defining Action Research

Nunan (1992) points out; it typically has three major characteristics: it is carried out by practitioners (i.e., classroom teachers), it is collaborative, and it is aimed at changing things. Burns (1999) expands on these characteristics, maintaining that action research exemplifies the following features.

1. Action research is contextual, small-scale, and localized – it defines and investigates problems within a specific situation.
2. It is evaluative and reflective as it aims to bring about change and improvement in practice.
3. It is participatory as it provides for collaborative investigation by teams of colleagues, practitioners, and researchers.
4. Changes in practice are based on the collection of information or data which provides the impetus for change.

Kurt Lewin, a social psychologist, who in 1940s outlined a four-stage action cycle: planning, acting, observing, and reflecting. In this cycle researchers:

- Develop a plan of critically informed action to improve what is already happening,
- Act to implement the plan,
- Observe the effects of the critically informed action in the context in which it occurs, and
- Reflect on these effects as the basis for further planning, subsequent critically informed action and so on, through a succession of stages. (Kemmis & Mc Taggart, as cited in Burns, 1999, p.32)

According to Kemmis & Mc Taggart (1992)

- Action research is more systematic and collaborative in collecting evidence on which to base rigorous group reflection.
- Action research involves problem posing, not just problem-solving. It is motivated by a quest to improve and understand the world by changing it and learning how to improve it from it from the effects of the changes made.
- Action research is research by particular people on their own work, to help them improve what they do, including how they work with and for others. . . .

- Action research is not ‘the scientific method’ applied to teaching. There is not just one view of “the scientific method”; there are many. . . . (p 21-22)

10.2 Action Research Procedures

Cohen, Manion, and Morrison (2000) provide a clear description of the stages of action research.

These stages are as follows.

1. Researchers identify, evaluate, and formulate a problem that is viewed as critical to their everyday teaching. This problem need not be restricted to a particular class but could involve a system change such as curriculum innovations in a school system.
2. Researchers consult with other interested parties – teachers, other researchers, and administrators – in order to focus the problem more clearly and perhaps suggest the cause of the problem. This stage is crucial because it involves the clarification of the objectives and assumptions of the study.
3. Researchers review research literature to find out what can be learned from comparable studies.
4. Based on their reading, researchers may modify or redefine the initial statement of the problem, which may take the form of a set of objectives or a testable hypothesis. They also explicitly state the assumptions underlying the project.
5. Researchers specify the research design including the participants, choice of materials, and procedures.
6. Researchers clarify how the project will be evaluated with an understanding that this evaluation will be continuous.
7. Researchers implement the project undertaking the data collection process.
8. Researchers analyse the data, draw inferences, and evaluate the project.

11. Designing Surveys

11.1 Selecting Respondents

In designing a survey, the primary questions the researcher needs to address are what the purpose of the survey is and who will take the survey. In order to ensure that each individual has an equal chance of being included, Brown (2001) suggests that researchers.

- Identify clearly the population of interest in the survey.
- Assign an identification number to each individual in the population.

- Choose the members of the sample on the basis of a table of random numbers. (p. 72)

11.2 Writing Questions

What questions to ask on a survey would be decided on the basis of a theoretically driven list of topics that the researcher wants to address in the survey. For example, if a researcher is designing a survey to find out to what extent students use reading strategies, the researchers would like to decide to include items that deal both with metacognitive strategies, such as planning and monitoring, as well as cognitive strategies, such as inferencing and predicting. Survey questions can take a variety of forms. The two main types of questions are open-ended and close-ended questions.

- Open-ended questions allow respondents to write in their own answers. They typically take one of the forms: fill-in or short answer.
- Close-ended questions require the respondent to choose one of several specified answers and can also take a variety of forms.

There are advantages and disadvantages to both close-ended and open-ended questions. Close-ended questions allow for more uniformity of responses and are easy to answer, code, and analyse. On the other hand, they provide a narrower range of answers and can be difficult to write. In contrast, open-ended questions can provide richer data and are relatively easy to write, but they can be extremely difficult to code and analyse.

11.3 Wording Questions

Survey questions should be short so that respondents can read them quickly and answer them easily. Questions also need to be written at a language level that students understand. The survey should be attractive in its layout and carefully edited with these parts.

- First a short statement that describes the purpose of the survey such as, “I am conducting this survey to find out more about interests and needs in learning English so that I can use this information to design classroom activities that meet your needs.”
- Next there should be instructions such as there is no right or wrong questions. Students should be told that their responses will be confidential and anonymous and will not affect their grades.
- The questionnaire should end with a brief thank you to the respondents for answering the survey.

Dorneyi (2003) offers several additional suggestions regarding the form of the final questionnaire including the following:

1. In general the questionnaire should be no more than four pages and take no more than 30 minutes to complete.
2. In deciding the content of the questionnaire, begin by generating a theoretically driven list of the main areas to be covered.
3. In the initial instructions, be certain to state the topic and importance of the questionnaire, the individual sponsoring the questionnaire, a request for honest responses, and a promise of confidentiality.
4. In the specific instructions exemplify rather than merely explain how to answer the questions.
5. Try to make the opening questions particularly involving.
6. Be certain that the questionnaire has a clear, logical, and well-marked structure.
7. Avoid open-ended questions that require lengthy answers.
8. Open-ended questions are least intrusive toward the end of the questionnaire.
9. Try to have an attractive and professional design for the questionnaire by not overcrowding pages, using various typefaces, and good paper quality.

12. Reliability

In order to assure the reliability of a survey, several measures can be used. First, the same survey can be given on two occasions to the same individuals. Then the researcher can check to see how consistently the respondents gave the same response to the same item. The second way of assuring reliability is to have two forms of a survey and have individuals take both forms. The consistency of response on these two forms could again be checked. The final way to achieve reliability is to check the internal consistency of responses in a survey. In this case, if a survey contains several items that ask similar questions but in different forms, then the researchers can check to see how consistently the respondents have answered these questions.

13. Conclusion

Identify Area of Interest and Acknowledge Biases: Researchers should start by choosing a specific area within L2 teaching and learning that interests them. It's crucial to acknowledge and clarify their own biases and beliefs, as these can influence the research process and outcomes.

Review Existing Research: Conduct a thorough review of existing research in the chosen area to understand the current state of knowledge. This literature review helps in formulating a well-informed research question and prevents duplication of previous work.

Formulate a Research Question: Based on the literature review, researchers should formulate a clear and focused research question that addresses a gap or contributes to existing knowledge.

Plan Research Design: Develop a detailed research design, including the methodology to be used (e.g., experimental, observational, qualitative, quantitative). Outline a timeline for the research project, specifying key milestones and deadlines.

Consider Practical Issues: Take into account practical problems that may arise during the research project, such as logistical challenges, resource constraints, or ethical concerns. Anticipating and addressing these issues in the planning stage can enhance the feasibility and success of the study.

Respect for Participants: Emphasize the importance of respecting the individuals who will be part of the study. Ethical considerations should be paramount, ensuring the well-being and rights of participants throughout the research process.

Share Findings Beneficially: Consider how to share research findings in a way that benefits both the academic community and the participants. This could involve disseminating results through academic publications, conferences, or other channels that reach relevant audiences.

By following these steps, researchers can conduct a comprehensive and ethical study in the field of L2 teaching and learning, contributing to the broader understanding of the subject.

References

1. Brown, J.D (2001). *Understanding Research in Second Language*. Cambridge, UK: Cambridge University Press.
2. Burns, A (1999). *Collaborative Action Research for English Teachers*. Cambridge, UK:Cambridge University Press.
3. Cameron, D., Frazer, E., Harvey, P., Rampton, M.B.H., & Richardson, K (Eds.). (1992).*Researching Language: Issues of Power and Method*. London, UK: Routledge.
4. Cohen, L., Manion, L., & Morrison, K. (2000). *Research Methods in Education*. London, UK:Routledge Falmer.

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5. Dornyei, Z. (2003). Questionnaires in Second Language Research. Mahwah, NJ: Lawrence Erlbaum associates.
6. Dornyei, Z. (2007). Research Methods in Applied Linguistics. New York, NJ: Oxford University Press.
7. Labov, W. (1982). Objectivity and Commitment in Linguistic Science: the Case of the Black English Trail in Ann Arbor. *Language in Society*, 11, 165-201.
8. Nunan, D. (1992). Research Methods in Language Learning. Cambridge, UK: Cambridge University Press.
9. Ross, J. (1999, April 10). Ways of Approaching Research. Retrieved January 25, 2002 from the World Wide Web <http://fortunecity.com/greenfield/grizzly/432/rra3.htm>
10. Van Lier, L. (1998). The classroom and the Language Learner. London: Longman
11. York, R.O. (1998). Conducting Social Work Research: An Experiential Approach. Boston: Allyn & Bacon.