

limitation of using instruments which are not as accurate as desired, Yin suggests that case study researchers use multiple instruments to measure the same construct in the same case study.

Internal validity deals with whether the insights resulting from a case study match the reality. Because the main instrument for the data collection in a case study is the researcher, as Cohen (1994:111) points out, there may be the fear that the researcher's judgment is subjective and unable to reflect the reality. To increase the internal validity of a case study, the researcher may use a number of procedures. In this case, Merriam (1998:204) suggests the researchers clarify the theoretical basis from the beginning of the study and to use triangulation, peer examination, and member check.

External validity is concerned with whether the findings can be generalized. Nunan (1992:80) states that problems related to external validity are usually raised by the proponents of a quantitative approach. They believe that inference should be derived from a sample that is representative of the population, not from a particular instance. As far as Merriam (1998:211-212) is concerned, the external validity of a case study can be enhanced by providing a thorough description of the research situation and the typicality of the case, and by applying multiple designs.

In the following sections, two recent case studies are reviewed in the light of the methodological concerns. The first one focuses on students as the case, while the second one presents a collective case study involving six teachers.

SAMPLE CASE STUDY 1

Thorson (2000) investigated the relationship between first language (L1) and foreign language (FL) writing processes. Using a computerized program, *Trace-It*, she focused on whether students studying a foreign language use the same processes and writing strategies in FL and L1 writing in two genres: letter and article. This study involved 18 students of the University of Arkansas at Little Rock enrolled in two levels of German courses. The first course is an intermediate language course and the second one is an upper-level culture course. Two English and two German assignments were given to students in each course. These students were required to write directly on the computer during class time. Thirty minutes were allocated for letter writing and 40 minutes for newspaper article writing.

The findings suggest that each individual has undergone different writing processes and revision strategies. Overall, each student wrote more words in English assignments than in German assignments. Furthermore, the students revised more frequently in the German assignments rather than in their English assignments. To focus on the writing process and strategies in detail, Thorson examined in detail the compositions of two students. Student A completed the assignments for the intermediate course, while student B for the culture course. Analysing the type of revisions in English compositions of student A, the study reveals that many of the revisions were surface-level corrections intended to fix spelling and typographical errors. Investigation of his German compositions indicates that this student wrote his ideas first in the form of a skeleton and then added further information. On the other hand, student B revised significantly less and she attempted to compose straight through, making no major revisions in English assignments. With regard to German assignments, student B used different strategies in the two assignments. In the letter writing, she wrote all the ideas first with occasionally putting English words, and then went back to revise the English words. In the article writing, she wrote ideas sentence by sentence and paragraph by paragraph with revision of words and phrases, and addition of information as she went along.

Thorson's case study addressed research questions dealing with processes and strategies in L1 and FL writing across genres. Thorson has demonstrated that the use of computer software resulted in a reliable and replicable case study. It is reliable in the sense that the use of computer has provided a way of recording writing strategies that were unobtrusive. Furthermore, the use of the computer has reduced the subjectivity of the judgment from the researcher and, therefore, made the results close to the reality. It is replicable since the computer serves as a research tool that makes it easier for other researchers to collect data and to share information. Although Thorson's study has not provided a conclusive description of the processes and strategies in L1 and FL writing, it has successfully laid both methodologically and theoretically important foundation for further research relating the first and foreign language writing.

SAMPLE CASE STUDY 2

Sarroub (2001) examined the implementation process of the *Nebraska K-12 Foreign Language Frameworks* and the impact it has on FL learning

and teaching in primary and secondary schools. The *Frameworks* were issued following the publication of the *National Standards for Foreign Language Learning: Preparing for the 21st Century* in 1996. The standards require students in the United States who are equipped linguistically and culturally to communicate successfully in a pluralistic society and abroad. The major aims of the *Frameworks* were then to draft and review the standards, to implement the standards in the form of statewide workshops, and to train approximately 400 teachers to be workshops staff.

The case study was carried out in the Lincoln Public School District, an urban school district of Midwest. It involved six teachers: two elementary, two middle school, and two high school teachers. Data for this study were collected through different methods that include semi-structured interviews, audiotaped classroom observations, and Frameworks-based lesson plans from each teacher.

The findings reveal that although there were similarities and differences in the perception of the *Frameworks* and in the implementation process, all the teachers implemented the *Frameworks* in their classrooms. The teachers are of the opinion that the Frameworks serve as a guide and have affected the teaching and learning in a positive way. The implementation process of a teacher differed from another one because of difference in length of teaching experience and period of involvement in the application of the Frameworks. Although in the beginning stages of implementation there was an interference from the traditional instruction, the implementation of the Frameworks have resulted in improvement in the teaching practice and assessment. The findings also suggest that the implementation process of the Frameworks could be made easier when factors such as technology, extra time, and class size are taken into consideration.

Sarroud's case study focussed on the implementation process of a national policy on education and the effects on the teaching and learning of foreign language in Nebraska. As an instrumental case study, the aim was not to analyze the teachers who were interviewed and observed, but to examine another bound system, i.e. the *Frameworks*. The use of various techniques in the data collection (triangulation) was likely to increase the validity of the case study. Furthermore, by examining six teachers from six different places, Sarroud attempted to present six cases collectively. By doing so, the generalizability of the case study was likely to be increased.

The review of the two case studies suggests that both Thorson (2000) and Sarroub (2001) have attempted to solve the limitations of case study as a research approach. Problems related to reliability and validity were taken into account in the stages of data collection, analysis and interpretation of the case studies. The review also indicates that case study is a useful research approach that can be applied in a classroom or a broader context of second language teaching and learning.

CONCLUSION

The case study is used to examine a unit or a system within a boundary such as an individual learner, a classroom, an event, or a construct. The two case studies reviewed in the end of this article have shown how a student and a process of implementation can be a bounded system and how limitations of case study approach can be handled. As a descriptive approach, the case study bears the characteristics of both qualitative and quantitative designs. The case study approach offers a number of advantages. In the context of L2 learning, case studies have contributed to a more comprehensive understanding of issues in L2 learning and development, and have provided useful insights for pedagogical purposes in L2 instruction. However, the case study does have some limitations in relation to reliability and validity. To minimize these limitations, certain procedures can be implemented in the planning stage of the study, and in the stages of collection, analysis, and interpretation of the data.

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