

Empowering teachers through classroom research

David Nunan
University of Hong Kong

Abstract

This paper provides an introduction and overview of language classroom research for the classroom practitioner. It begins by defining the key constructs underlying the paper: 'classrooms' and 'research', and outlines the dominant traditions in terms of research methodology. The historical background sketches out the substantive issues addressed by researchers in this area. This is followed by an exposition of the notion of 'action research', which places the classroom practitioner at the center of the investigative process. The final section of the paper offers a redefinition of the concept of 'classroom'.

Introduction and overview

The aim of this paper is to provide an introduction to research in second and foreign language classrooms. It is intended for teachers, teacher trainees, teacher educators, and those who run courses on classroom observation and research, and is predicated on the assumption that teachers can empower themselves by creating their own agenda for classroom research.

In 1983, Long advanced several reasons for the study of second language classrooms, particularly on the part of teachers in preparation. In the first place, classroom-centered research can provide a great deal of useful information about how foreign language instruction is actually carried out (in contrast to statements about what people imagine happens in classrooms). Secondly, classroom-centered research can promote self-monitoring by classroom practitioners. The various observation schemes for classifying classroom interaction can be used by teachers to monitor their own classroom and the classrooms of colleagues. Finally, involvement of teachers in classroom research can help them to resist the

temptation to jump on the various methodological bandwagons that come rolling along from time to time. Descriptive studies of what actually goes on in classrooms can help teachers evaluate the competing claims of different syllabuses, materials and methods. In short, teacher involvement in classroom-research is a powerful impetus for empowerment.

This paper has two overriding objectives. The first of these is to provide an overview and introduction to the subject. To this end, I look at both substantive issues (that is, the topics and questions that have been investigated by classroom researchers) and methodological issues (that is, the techniques and methods that the researchers have employed for collecting data, interpreting the data and presenting the results). The second objective is to help readers develop practical skills for carrying out their own empirical investigations.

My hope, then, is that at the end of the paper, the reader will have a clear idea of the 'state-of-the-art' in terms of what researchers have looked at and how they have gone about their investigations, and that they will be encouraged to research their own classroom contexts. Having read the paper, readers should understand key concepts and issues in classroom-based research. They should also be able to relate these concepts and issues to their own teaching situation.

This paper has several recurring themes. The first is that empirical research matters. The second is that there is a place for teachers in the research process. When I began my own career (more years ago now than I am prepared to admit), there was a preoccupation with a search for the one best 'method', and a range of methods was presented to the teacher for adoption. However, methodological prescriptions were rarely supported by research. As teachers, we were supposed to take such prescriptions on faith. My view is that, while research is unlikely ever to provide a 'packaged solution' to the challenge of language teaching, it does have an important place, alongside commonsense and experience, in helping to determine what teachers should do to facilitate language learning. My second theme is that there is a place for teachers in the research process. I am not suggesting that teachers should replace academic researchers, but that they should become partners in the research enterprise to find answers to questions of pedagogy.

I would like to begin by offering definitions of the two concepts that are central to this paper, namely 'classrooms' and 'research'. This is followed by a section in which I trace the historical development of classroom

research. Here I look at the evolution of the field from the large-scale, highly-expensive and largely inconclusive 'methods comparison studies' to more localized, naturalistic (and often teacher driven) studies. This section provides a backdrop to the next in which I look in greater detail at action-oriented teacher research. The final section looks at the impact of technology on language education, and in particular, how it is currently forcing a redefinition of what we mean when we talk of 'classrooms'. It concludes with questions and tasks designed to encourage the reader to contest the presented ideas against the reality of their own context and situation and provides suggestions for further reading and web sites to explore.

Defining classroom-based research

The concept of 'classroom' is probably straightforward to most readers. A classroom is a room in which teachers and learners are gathered together for instructional purposes. "The L2 classroom can be defined as the gathering, for a given period of time, of two or more persons (one of whom generally assumes the role of instructor) for the purposes of language learning." (van Lier, 1988: 47).

However, with the development of distance learning, and, in particular, the use of technology, the 'gathering together' may happen in a virtual classroom rather than a physical space. We shall look at the nature of the online classroom later in this paper.

Hatch and Lazaraton suggest that research is "the organized, systematic search for answers to the questions we ask" (1991: 1). A somewhat more elaborated description is provided in Nunan (1992) where it is suggested that 'research' is a "systematic process of inquiry consisting of three elements or components: (1) a question, problem or hypothesis, (2) data, and (3) analysis and interpretation" (Nunan, 1992: 3). To these three components, I would add that the results of the inquiry should be published (in the sense of being 'made public') so that they can be subjected to critical scrutiny. Others would argue that the activity should be capable of meeting tests of validity and reliability. (For discussion of the concepts 'validity' and 'reliability' see Nunan, 1992.)

Classroom-based or classroom-centred research then, refers to the procedure described above being conducted in classrooms.

Classroom-centered research is just that – research centered on the classroom, as distinct from, for example, research that concentrates on the inputs to the classroom (the syllabus, the teaching materials) or the outputs from the classroom (learner achievement scores). It does not ignore in any way or try to devalue the importance of such inputs and outputs. It simply tries to investigate what happens inside the classroom when learners and teachers come together. (Allwright, 1983: 191).

In addition to classroom-based research, you will find in the literature references to 'classroom-oriented research'. This is research carried out outside the classroom, in laboratory, simulated or naturalistic settings, but which makes claims for the relevance of their outcomes for the classrooms. In 1991, I carried out a detailed review of classroom and classroom-oriented studies. Of fifty studies reviewed, only fifteen were classroom based (Nunan, 1991). In this paper, I use the term 'classroom research'. While the great bulk of the work we look at is classroom based, use of the slightly broader term enables me to refer to studies conducted outside classrooms as well.

Research traditions

Two broad approaches or traditions to research have been identified. These are the psychometric and the naturalistic traditions. In psychometric (also called 'quantitative') research, the aim is to test the strength of different variables on one another through experiments of different kinds. In classroom-based research, researchers typically investigate the effect of different methods, materials, teaching techniques, types of classroom delivery etc. on language learning. A typical question might be: "Does Method X result in more effective language learning than Method Y?" Different groups of students are taught using the different methods. At the end of the process, they are tested, and their test scores are analyzed statistically to determine whether any differences between the scores are due to the different teaching method or are a matter of chance.

In naturalistic (also called 'qualitative') research, the aim is to obtain insights into the complexities of teaching and learning through uncontrolled observation and description rather than to prove that Method X works better than Method Y, or that Course book A is better than Course book B. The approach is therefore centrally concerned with documenting and analyzing what goes on in classrooms that are

constituted for the purposes of teaching and learning rather than for the purposes of controlling, manipulating and measuring teacher and learner behaviour. Large-scale, longitudinal investigations aimed at investigating classrooms as 'cultural' systems, are called ethnographies.

In his book on interpretive approaches to classroom research, van Lier (1988) justifies a focus on the subjective, qualitative tradition on five grounds:

1. Our knowledge of what actually goes on in the classroom is extremely limited.
2. It is relevant and valuable to increase that knowledge.
3. This can only be done by going into the classroom for data.
4. All data must be interpreted in the classroom context, i.e. the context of their occurrence.
5. The context is not only a linguistic or cognitive one, it is also essentially a social context.

Although written fifteen years ago, his comments remain largely true today.

Van Lier traces the roots of the ethnographic tradition to anthropology.

In anthropology, the ethnographer observes a little-known or 'exotic' group of people in their natural habitat and takes field notes. In addition, working with one or more informants is often necessary, if only to describe the language. Increasingly, recording is used for description and analysis, not just as a mnemonic device, but more importantly as an estrangement device, which enables the ethnographer to look at phenomena (such as conversations, rituals, transactions etc.) with detachment. The same ways of working are applied in classrooms. However, recording (and subsequent transcription) is of even greater importance here than in anthropological field work, since many more things go on at the same time and in rapid succession, and since the classroom is not an exotic setting for us but rather a very familiar one, laden with personal meaning. (van Lier, 1988: 37).

There is increasing interest in applying naturalistic techniques to the investigation of language classrooms. In 1996, a collection of original classroom-oriented research studies was published. In their introduction to the volume, the editors wrote that

Our hope was to bring together a series of rich descriptive and interpretive accounts, documenting the concerns of teachers and

students as they teach, learn and use languages. ...The book was born partly out of frustration as we sought in vain for appropriate qualitative studies as models for our own students, and partly out of respect for and fascination with teaching and learning. (Bailey and Nunan, 1996:9).

The gap between the two research traditions discussed above may seem impossibly wide. However, they represent the two ends of a continuum rather than two mutually exclusive domains. Many published studies contain elements of psychometric research, and elements of naturalistic research. In fact, Grotjahn (1987) argues that the quantitative/qualitative distinction can refer the three different aspects of research. These are the design (whether the study is based on an experimental or non-experimental design); the form of data collected (whether the study yields quantitative or qualitative data); and the type of analysis (whether the data are analyzed statistically or interpretively). These three elements provide two 'pure' research designs: the psychometric (experimental design, quantitative data, statistical analysis) and the naturalistic (non-experimental design, qualitative data, interpretive analysis). However, it also yields six mixed or 'hybrid' forms.

When we look at published research, we find Grotjahn's claim borne out. As Bailey (1999:16) notes:

When the experimental tradition was dominant, and alternative research paradigms were scorned for yielding "soft" data, one seldom saw researchers combining procedures drawn from the different traditions. Nowadays, however, language classroom research utilizes a variety of procedures to address research questions. For example, in a study of a Japanese FLES (foreign language in the elementary school) program, Donato, Antonek, and Tucker (1994) describe their research as a *multiple perspectives analysis* because it utilized data derived from questionnaires completed by parents and learners, oral interviews, reflections from the Japanese teacher, questionnaires from other teachers at the school, and an observation scale. Statistical analyses were conducted with some of the data, and a descriptive analysis was done of the children's interviews. The authors conclude, "To understand the complexity of FLES programs requires diverse sources of evidence anchored in the classroom and connected to the wider school community" (Donato et al., 1994, 376). In other words, the language learning and teaching these authors investigated

was too complex to be treated satisfactorily with a single type of data or a single analytic method.

In classroom-oriented and classroom-based research, the psychometric tradition underpins investigations into the mental mechanisms hypothesized to underpin second language acquisition. This research looks at questions such as “What kinds of classroom tasks maximize student-student interaction?” on the assumption that the more the interaction, the greater the acquisition.

This tradition has had an important place in classroom-oriented research. In recent years, however, a new approach has begun to emerge based on naturalistic inquiry and drawing on sociocultural theory. This approach emphasizes the social and interpersonal rather than psycholinguistic aspects of student interaction. Drawing on insights from the Russian psychologist Vygotsky, the approach focuses on ways in which learners can learn from each other through processes of social interaction.

A brief historical background

In this section, I will briefly review a number of investigations into language acquisition in instructed settings. These illustrate the development of second language classroom research and show how the different research traditions have been realized.

Scherer and Wertheimer (1964) is early example of a classroom study in the psychometric tradition. The study is a classical ‘methods-comparison’ study in which the researchers set out to compare grammar-translation with the (then) innovative audiolingual method. The research question underpinning the study was as follows: Is audiolingualism a more effective method of learning a foreign language for college-level learners than grammar-translation?” Subjects for the study were two groups of college students learning German as a foreign language. One group was instructed in listening, speaking, reading and writing using translation and grammar studies. The other group received instruction in the innovative audiolingual approach. In this approach, the emphasis was on listening and speaking rather than reading and writing, in which translation was avoided, and in which grammatical rules were learned inductively rather than deductively. At the end of the two-year experimental period, both groups were tested, and the scores were analyzed to decide whether differences were statistically significant.

As it turned out, the study was unable to demonstrate that one method was superior to the other as students' scores reflected the strengths of the respective methods. Students instructed according to the grammar-translation method did significantly better than the audiolingual students on tests of reading and translation, while the audiolingual students did significantly better at listening and speaking.

Numerous criticisms were leveled at the study. One of these was that the researchers did not look at what actually went on in the classrooms themselves. They simply assumed that the teachers were 'following the method'. Nor did they collect data on the teachers' understanding of the principles underpinning the respective methods. This type of research is referred to by Long (1983) as 'black box' research, because we have no way of knowing what actually happened in the classroom itself.

One methods comparison study that did go inside the 'black box' is that by Swaffar, Arens and Morgan (1982). In this study, the researchers set out to evaluate the relative efficacy of audiolingualism in comparison with cognitive code learning in the teaching of German as a foreign language. This study had several similarities to that by Scherer and Wertheimer in that both studies were attempting to adjudicate between two competing instructional methods. However, it differed from the earlier study in that the researchers were aware of the need to go into the classrooms and look at what was actually happening rather than making assumptions about what was happening. Before going into the classrooms, the researchers surveyed the teachers by getting them to indicate how often they used certain practices such as the explicit teaching of grammar.

The researchers found that at the level of classroom action, the concept of 'method' was questionable because teachers used a range of techniques rather than adhering slavishly to one particular method.

Methodological labels assigned to teaching activities are, in themselves, not informative because they refer to a pool of classroom practices which are uniformly used. The differences among major methodologies are to be found in the ordered hierarchy, the priorities assigned to the tasks. Not what classroom activity is used, but when and how form the crux of the matter in distinguishing methodological practice.

They go on to recommend a fundamental rethink on the issue of the search for the 'best method', because their investigation of actual

classroom practice showed that the distinction between different methods at the level of classroom activity was not a salient one. In terms of research design, they were able to demonstrate the importance of collecting process data from inside the classroom as well and product data in the form of test scores.

Despite the necessity of incorporating process and product data into the design of classroom research, the debate between proponents of quantitative and qualitative research remained heated. This was despite the fact that books were beginning to appear that attempted to demonstrate the mutual dependence of the two traditions (see, for example, Chaudron, 1987). It seemed that for some, psychometry and ethnography represented fundamentally different ways of looking at the world.

Recognition of the importance of collecting data from inside the 'black box' stimulated the development of observation instruments of various levels of complexity. One of the most comprehensive instruments is the COLT (Communicative Orientation to Language Teaching) which was originally developed for investigating different kinds of second and foreign language programs in Canada. This scheme was theoretically motivated by communicative language teaching, as can be seen in the following quote.

Our concept of communication feature has been derived from current theories of communicative competence, from the literature on communicative language teaching, and from a review of recent research into first and second language acquisition. The observational categories are designed (a) to capture significant features of verbal interaction in L2 classrooms and (b) to provide a means of comparing some aspects of classroom discourse with *natural* language as it is used outside the classroom (Allen, Frohlich and Spada 1984: 233).

By reducing classroom behavior to sets of quantifiable categories, the COLT enabled researcher to make direct comparisons between disparate language programs, and then to link the behaviors to learning outcomes. Spada (1990) for example, used the scheme to compare the ways in which three different teachers interpreted theories of communicative language teaching in their classroom practice and "to determine whether differences in the implementation of communicative language teaching principles had any effect on learning outcomes." (p. 301).

Research such as this was known as “process-product-oriented research” because it attempted to link classroom processes with learning outcomes. In the case of the Spada study, significant differences were found between the test scores of students in the three different groups, and these were linking directly to the teachers’ behavior.

In interpreting the different performance of learners on the listening test, the investigator examined both quantitative and qualitative differences in the listening practice offered in the three classes. The quantitative results revealed that class A spent considerably more time in listening practice than the other two classes, yet class A improved the least. However, because the listening practice in this class did not prepare learners for the listening input as carefully as the listening comprehension instruction did in classes B and C, the investigator concluded that qualitative rather than quantitative differences in instruction seemed a more plausible explanation for significantly more improvement in listening comprehension in classes B and C. (Spada 1990: 303).

In the mid 1990s, a large-scale collection of naturalistic studies appeared. All of the studies, which were specially commissioned for the volume, reflected the five key axioms of naturalistic inquiry set out by Lincoln and Guba (1985).

Realities are multiple, constructed and holistic.

The knower and the known are interactive and inseparable.

Only time-bound and context-bound hypotheses are possible (in contrast to the positivist desire for time-free and context-free generalization.

It is impossible to distinguish cause from effect since “all entities are in a state of mutual simultaneous shaping”.

Inquiry is value bound (in contrast with the experimentalist notion that legitimate inquiry must be value free, which is, in itself, a value statement.) (Bailey and Nunan 1996: 2).

The book was intended to illuminate processes of second and foreign language teaching and learning in different parts of the world. It was also intended as an illustrative manual for those wishing to carry out interpretive research in their own teaching or learning situations.

Action research

Action research consists of the same elements as regular research, that is, questions, data, and interpretation. What makes it unique is that it is carried out by classroom practitioners investigating some aspect of their own practice. In other words, it is carried out principally by those who are

best placed to change, and hopefully as a result, improve what goes on in the classroom. This is not to say that research carried out by non classroom-based researchers is not intended to lead to change, nor that researchers and teachers might not collaborate in the research process. However, non-practitioner driven research is more often motivated by a desire to identify relationships between variables that can be generalized beyond the specific sites where the data were collected. The primary motivation for action research is the more immediate one of bringing about change and hopefully to improve teaching and learning processes in the classrooms where the research takes place.

Cohen and Manion describe action research as small-scale interventions 'in the functioning of the real world'. Such research is intimately connected to the contexts in which it is conducted, involves the collaboration of teachers with researchers, and is self-evaluative. They outline eight stages in the action research process.

Identify the problem.

Develop a draft proposal based on discussion and negotiation between interested parties i.e. teachers, advisors, researchers and sponsors.

Review what has already been written about the issue in question.

Restate the problem or formulate hypotheses; discuss the assumptions underlying the project.

Select research procedures, resources, materials, methods etc.

Choose evaluation procedures.

Collect the data, analyze it and provide feedback.

Interpret the data, draw out inferences and evaluate the project. (Adapted from Cohen and Manion 1985: 220-1).

Carr and Kemmis (1985: 1) argue that action research is ...a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices and the situations in which these practices are carried out. They emphasise the ongoing cyclical nature of the activity. The first step is to develop a plan to improve what is already happening. The second step is to implement the plan and to observe the effects in the context in which it occurs. The final step in the cycle is to reflect critically on the process and then plan a second round of research.

Bailey contrasts action research with both experimental and naturalistic research in the following quote:

While experimental research is often directed at hypothesis testing and theory building, and naturalistic inquiry aims to understand and describe phenomena under investigation, action research has a more immediate and practical focus. Its results may contribute to emerging theory, and to the understanding of phenomena, but it does not necessarily have to be theory-driven. To say that action research has a practical focus does not demean its value, however. As van Lier observes, "We must never forget that it is ... important to do research on practical activities and for practical purposes, such as the improvement of aspects of language teaching and learning" (1994a, 31; see also van Lier, 1994b). (Bailey 1999: 13).

The classroom redefined – 'virtual' classrooms

At the present time, technology is having a profound impact on all aspects of life. In education, the ease with which the computer can bring people together across time and space is forcing a redefinition of the 'classroom'. In the opening section, I followed the line of Allwright and van Lier who suggested that classrooms could be defined as places where individuals were gathered together for purposes of teaching and learning. However, through the computer, this 'gathering together' no longer requires the individuals to inhabit the same physical space.

The following vignettes illustrate some of the changes wrought by technology.

A teacher educator in Auckland, New Zealand conducts a graduate class on second language acquisition through a text chat site with students in Tokyo, Japan, San Diego, California, Bangkok, Thailand, and Buenos Aires, Argentina.

A student in Toronto Canada, who was unable to make the class, is able to review a transcript of the lesson which is posted on to the web several hours after the conclusion of the class.

A secondary school teacher in Hong Kong posts all of her assignments and class handouts onto the class website. Students either work with these online as needed or download those that they want in hard copy.

Using voice chat, EFL students in China, Korea and Japan take part in a conversation class with a teacher based in Bogota Columbia.

A school in Osaka has its students complete an online placement test which automatically assesses and places students into instructional groupings in a fraction of the time it used to take using a pencil and paper test.

A student in an academic writing program on a field trip in Brazil submits a draft of his assignment to his teacher in California as an email attachment. The teacher inserts comments and returns the soft copy of the assignment to the student.

As Legutke notes: "These changes challenge our self-concept as foreign language teachers, because, much more than in the past, we are now called upon to redefine our roles as educators, since we need to mediate between the world of the classroom and the world of natural language acquisition." (Legutke, 2000: 1).

This redefinition is having a significant effect on classroom research. For example, a recent study into the discourse features of online ESL classes drew the following comparisons and contrasts with face-to-face classes.

1. All of the pedagogical functions identified in face-to-face classroom interaction are evident in synchronous teacher-hosted chat
 2. Choosing the appropriate 'responding' move is crucial, both to pedagogy and also the ongoing interaction.
 3. The 'responding' move enables the Teacher to build a pedagogical interaction
 4. The multilayering of discourse in chat is even more complex than in face-to-face interaction. (The 'Russian Doll' syndrome)
 5. Text chat may have pedagogical advantages over voice chat.
- (Christison and Nunan 2001)

Conclusion

The aim of this paper has been to define and exemplify classroom-oriented research from the perspective of the classroom teacher. I have attempted a definition (and redefinition) of both 'classrooms' and 'research'. I have described the main characteristics of both psychometric and naturalistic inquiry, and have looked at how those traditions have underpinned the evolution of classroom research. I have also explored and provided a rationale for the notion of teacher-initiated action research.

References

- Allen, P., M. Frohlich, and N. Spada. 1984. The communicative orientation of language teaching: an observation scheme. In . Handscombe, R. Orem, and B. Taylor (eds.) *On TESOL '83*. Alexandria VA: TESOL.
- Allwright, D. 1983. Classroom-centered research on language teaching and learning: a brief historical overview. *TESOL Quarterly*, 17, 2, 191 – 204.
- Bailey, K. 1999. What have we learned from twenty-five years of classroom research? Featured presentation, TESOL International Convention, New York, March 1999.
- Bailey, K. and D. Nunan (eds.) 1996. *Voices from the Language Classroom*. Cambridge: Cambridge University Press.
- Chaudron, C. 1987. *Second Language Classrooms*. Cambridge: Cambridge University Press.
- Christison, M.A. and D. Nunan. 2001. Pedagogical functions in synchronous elearning interaction: the online conversation class. Paper presented at TESOL 2001, St. Louis, Missouri, U.S.A.
- Cohen, L. and L. Manion. 1985. *Research Methods in Education*. London: Croom Helm.
- Donato, Richard, Janis L. Antonek, and G. Richard Tucker. (1994). A multiple perspectives analysis of a Japanese FLES program. *Foreign Language Annals*, 27 (3): 365-378.
- Grotjahn, R. 1987. On the methodological basis of introspective methods. In C Faerch and G. Kasper (eds.) *Introspection in Second Language Research*. Clevedon Avon: Multilingual Matters.
- Hatch, Evelyn and Anne Lazaration. 1991. *The Research manual: Design and Statistics for Applied Linguistics*. New York: Newbury House.
- Legutke, M. 2000. Redesigning the foreign language classroom: A critical perspective on information technology (IT) and educational change. Plenary presentation, International Language in Education Conference, University of Hong Kong, Hong Kong, December 2000.
- Long, M. H. 1983a. Training the second language teacher as a classroom research. Paper presented at the 34th Annual Round Table on Languages and Linguistics. Washington DC: Georgetown University.
- Long, M. H. 1983b. Inside the black box": Methodological issues in second language research. In. Seliger and M.H. Long (eds.) *Classroom Oriented Research in Second language Acquisition*. Rowley, Mass.: Newbury House.
- Nunan, D. 1991a. Methodological issues in classroom research. *Studies in Second Language Acquisition*, 13, 2.
- Nunan, D. 1992. *Research methods in language learning*. Cambridge: Cambridge University Press.

- Nunan, D. 1996. Issues in second language acquisition research: Examining substance and procedure. In W. Ritchie and T. Bjatia (eds.) *Handbook of second language acquisition*. New York: Academic Press
- Spada, N. 1990. Observing classroom behaviours and learning outcomes in defferent second language classrooms. In J.C. Richards and D. Nunan (eds.) *Second Language Teacher Education*. Cambridge: Cambridge University Press.
- Swaffar, ., K. Arens, and M. Morgan. 1982. Teacher classroom practices: Redefining method as task hierarchy. *Modern Language Journal*, 66, 24 – 33.
- van Lier, L. 1988. *The Classroom and the Language Learner*. London: Longman.
- van Lier, Leo. 1994a. Action research. *Sintagma*, 6: 31-37.
- van Lier, Leo. 1994b. Some features of a theory of practice. *TESOL Journal*, 4 (1): 6-10.