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# Research Methods in Foreign/Second Language Didactics

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#### **Abstract**

This article provides an analytical overview of relevant research methods in applied linguistics significant to teaching practitioners. In the canon of language teaching literature, there are numerous volumes presenting insightful analyses of research into English as a foreign or second language (EFL/ESL) context. This article seeks to familiarize English language practitioners with comprehensive, practical, and straightforward coverage of applied linguistics research within the three research paradigms of qualitative, quantitative, and mixed methods. The twenty-first century challenges societies and systems with new demands and approaches, with schools and teachers being agents of those changes, responsible for their presentation, implementation and often evaluation. Teachers must have a good understanding of such changes and should be prepared to put new knowledge into practice. This can be achieved when a teacher becomes a researcher, engaging themselves in various activities that lead to a better understanding of the processes, to reflection upon teaching, and finally, to the implementation of new practices: becoming researchers in their own right.

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## An introduction to classroom research

The twenty-first century challenges societies and systems with new demands and approaches, with schools and teachers being agents of those changes, responsible for their presentation, implementation and often evaluation. New technologies have

impacted significantly on our lives and the educational institutions can barely keep up with all the changes. However, these innovations have strong implications for teaching and learning. A teacher is no longer the main source of knowledge, papers handed in are not the only means of presenting students' work, and face-to-face communication is not the only way teachers and learners interact.

Fast changes in technology, business and economy influence society and its culture, including the culture of a classroom. Being a society in miniature, it reflects new social trends and behaviours. There is a common belief that teachers should have a good understanding of new knowledge and should be prepared to put it into practice. However, it seems that research and researchers are too far removed from teachers' and learners' immediate concerns to help educators in their everyday tasks (Broekkamp and van Hout-Wolters, 2007; Brown and Rogers, 2002; Davis, 2008; Hirschkorn and Geelan, 2008). Each setting turns out to be different and calls for individual treatment that can be provided only when the examination and exploration of this particular setting is conducted. This, in turn, can be achieved when a teacher becomes a researcher, engaging themselves in various activities that lead to a better understanding of the processes, to reflection upon teaching, and finally, to the implementation of new practices. In the following sections of this article, relevant research methods are presented to familiarize teachers with methods they can use in schools, becoming researchers in their own right.

#### An overview of research methods

In applied linguistics, different types of research can be distinguished. Traditional research experts (e.g. Bernard, 2013; Mackey and Gass, 2005) focus on a binary distinction between *qualitative* and *quantitative* research. However, other proposals have been put forward in the specialist literature. According to Chaudron (1988), for example, there are four research traditions: psychometric analysis, interaction analysis, discourse analysis, and ethnography. Brown (1988) proposes a completely different framework in which he draws a distinction between primary and secondary research, the former containing case and statistical studies, the latter subdivided into reviewing the literature in a particular field, and synthesising the research conducted by others. Lastly, Grotjahn (1987) distinguishes only two pure research paradigms, i.e. analytical-nomological, where quantitative data are experimentally collected and then statistically analysed, and exploratory-interpretative, in which qualitative data are collected non-experimentally and undergo interpretative analysis.

As can be seen, in the canon of language teaching literature, there are numerous volumes presenting insightful analyses of research into English language teaching (ELT) context. Some would appear simplistic and naïve, others complicated and intricate. This article, however, seeks to familiarize ELT practitioners with comprehensive, practical, and straightforward coverage of applied linguistic research, which falls into three research paradigms, the *qualitative*, *quantitative*, and *mixed methods*. Each will be discussed below.

## **Qualitative research**

Qualitative research is associated with a range of methods and approaches to educational studies. As Mason (1996: 2) points out, 'qualitative research - whatever it might be - certainly does not represent a unified set of techniques or philosophies, and indeed has grown out of a wide range of intellectual and interdisciplinary traditions.' However, no matter how varied the roots of investigation are, qualitative research refers to study that is grounded in descriptive data. It includes: (1) rich description, (2) natural and holistic representation, (3) few participants, (4) context-bound

perspectives, (5) possible ideological orientations and (6) research questions that are general and open-ended (Cohen, Manion, and Morrison, 2011; Lichtman, 2013; Mackey and Gass, 2005; Yin, 2016). Thus, the aim of qualitative researchers is understanding and extrapolation of findings to similar settings, not generalization. Researchers accept their involvement and roles within the research. Several qualitative research methods that can be employed by teacher-researchers (TRs) in their natural setting are presented below in the following order: classroom observation, action research, case study, portfolio, diary studies, and ethnography.

#### **Classroom observation**

Classroom observation (CO), like any form of observation, pertains to 'methods of generating data which involve the researcher immersing [themselves] in a research setting, and systematically observing dimensions of that setting, interactions relationships, actions, events, and so on, within it' (Mason, 1996: 60). There are two major approaches to observation: structured and participatory. The former type of CO is conducted by an outsider who comes to regular lessons to collect data concerning a particular issue, whereas the latter one is done by teachers who become researchers of their own practice. The second type of CO is the focus of this section. In undertaking classroom observation, a TR aims at collecting information about particular aspects of learning and teaching. The issues of interest may refer to 'such phenomena as the types of language, activities, interaction, instruction, and events that occur in second and foreign language classroom' (Mackey and Gass, 2005: 186-187). Any aspect of a lesson, of learner behaviour, or teacher behaviour might become the object of study and investigation. The variety and multiplicity of possibilities in CO constitute its strengths, at the same time leading to some weaknesses.

Some of the major strengths of using CO lie in the possibilities it creates. First of all, classroom observation permits TRs to study the processes of language learning and teaching as they occur in naturalistic settings. Observations are conducted in real classrooms during regular lessons with ordinary participants. Secondly, the results obtained from CO stimulate change as they provide authentic examples and data; subsequently, they are used to verify that the change has occurred. Thirdly, systematic classroom observations provide a substantial knowledge base that contributes to a better understanding of effective teaching (O'Leary, 2013).

The weaknesses of CO come from the human side: both from learners (the so-called Hawthorne effect) and/or TRs (subjectivity, self-fulfilling prophecies). The Hawthorne effect was first observed at the Hawthorne, Chicago branch of the Western Electronic Company and has been reported as change for the better of workers' performance in the presence of an observer (Ary, Jacobs, Sorensen, and Walker, 2014). Learners may respond to the observed situation in a similar way and modify their behaviour in the way they believe is expected of them. Doing this, they blur the results and make objectivity of analysis impossible. At the same time, TRs observing their own teaching may concentrate only on the issue of interest, neglecting behaviours and responses which are not directly related to it but crucial for the lesson and learning. This, in turn, may lead to a one-sided, narrow picture of processes observed or it may drive a TR to focus on only the expected behaviours, consequently allowing TRs only to prove a common opinion or belief.

To avoid the traps of classroom observation, TRs should use a variety of techniques such as field notes, recordings, transcripts, observation charts, and observation schemes. Examples of these can be found in Ho (2007); Park, Widodo, and Cirocki (2010); Michońska-Stadnik (2012); O'Leary (2013); Fichtman Dana and Yendol-Hoppey (2014). The plethora of existing schemes makes it possible for TRs to

choose the one that best suits their aims, being at the same time both clear and easy to use

In the literature of the subject there are many examples of classroom observations conducted by teachers. One of them is provided by Widodo (2008) and concerns the issue of extensive reading in an ESL class with the main focus on the development of speaking skills through reading for pleasure. It was conducted among fifteen students over the period of one semester. At the beginning of the study, the participants were informed that the emphasis was put on fluency of expressing opinions and ideas.

The teacher was an observer, mainly a non-participant one, employing an attentive-observing technique requiring a continuous high level of attention to detail. In practice, it meant that 'after every observed class period was finished, I jotted down what the class was doing' (Widodo, 2008: 72). To achieve reliable and valid results from observation, Widodo prescribed specific rules, such as: students were able to choose the books they read; they read the books outside class; they were allowed to stop reading one book and choose another if they did not like the first one; and books were of whatever type they wanted: adventure, travel, biography, romances, etc. The observed lesson also reflected a carefully designed pattern: (1) opening of lesson with a short introduction by the teacher in which students were informed of what they were going to do, (2) a pair-work discussion of what they had read, and (3) whole-class exchange of information.

Observing students and listening to their exchanges of information led the TR to many interesting conclusions which can be found in the article. However, what is obvious from this short description is the fact that classroom observation as a research method can be employed with any learners in any educational context. Tools and procedures are comparatively easy to set for any teacher interested in finding out more about teaching and learning in their context.

## **Action Research**

Action Research (AR), although extensively accepted as an efficient qualitative method in applied sciences such as education, appears to be more of a tool for change than for authoritative research because it focuses on specific situations, and therefore does not lead to theoretical generalizations which could be used in a broader context. However, this does not mean AR is devoid of any great value. In professional literature, a definition of AR has been proposed by many scholars, and a selection, for the sake of clarity and accuracy, is quoted below. Wallace (1998: 4) defines AR as 'a way of reflecting on your teaching [...] by systematically collecting data on your everyday practice and analysing it in order to come to some decisions about what your future practice should be', whereas Mills (2003: 4) delineates it as,

any systematic inquiry conducted by teacher researchers to gather information about the ways that their particular school operates, how they teach, and how well their students learn. The information is gathered with the goals of gaining insight, developing reflective practice, effecting positive changes in the school environment and on educational practices in general, and improving student outcomes.

According to Carr and Kemmis (1986: 162), AR 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 the practices are carried out.' Finally, Burns (2010: 2) points out that AR is 'a reflective, critical and systematic approach' to investigating classroom processes.

A scrutiny of AR frameworks discloses certain individual features. Hence, an AR project seeks to promote, firstly, a better understanding of how foreign/second languages are learnt and taught and, secondly, a commitment to improving the conditions, efficiency, and ease of learning. What is more, Zuber-Skerritt (1982) notes that AR embraces a number of further distinctive features. In her terms, AR is critical collaborative enquiry by reflective practitioners who are accountable in making the results of their enquiry public, self-evaluative in their practice, and engaged in participative problem-solving and continuing professional development.

The foregoing argumentation shows that AR is administered by and for teachers who want to understand classroom problems such as aggressive behaviour, unwillingness to deliver speeches in public, refusal to work in groups, or lack of interest in reading literary texts. As can be seen, this type of research is contextualized and meant to observe changes to classroom procedures and improve the teaching-learning process (Burns, 2010; Efron and Ravid, 2013). AR is conducted so as to focus on a current classroom problem, and entails gathering multifaceted data, and possibly an effective solution to the research problem. The collection of data is an important step in deciding what action needs to be taken. Therefore, in this phase, TRs decide to create a database with information received from several sources, e.g. interviews, diaries, audio-/videotapes, logs of meetings, records of tests, and field notes. Having collected indispensable data, TRs formulate hypotheses and design a plan of action to allow them to effect a change in their classrooms. Finally, the effects of previously established procedures are evaluated.

The present review would be incomplete without taking a brief look at a study presented by Varasarin (2007), who examined the issues of pronunciation training and communicative competence development and their influence on the learning behaviour of Thai students of English. The three research questions the TR posed in her inquiry were:

- Do pronunciation training and language learning strategies (LLS) increase confidence and improve the communicative competence of learners?
- Does pronunciation training using segmental and supra-segmental aspects and LLS contribute to the improvement of learners' competence, and help learners to speak confidently, and to what extent and at what level?
- How does this training affect learner confidence?

The entire project was divided into two cycles, displaying the significance of pronunciation training and language learning strategies that support learners and guarantee achievements, and covered three areas, namely (1) pronunciation, (2) language learning and pronunciation learning strategies learners apply in the classroom to achieve their aims, and finally (3) the use of dictionaries to assist learners to self-correct their pronunciation and support autonomous learning. All the improvements as well as confidence gains were included in the learners' reports, which next underwent thorough analysis, allowing the TR to bring to the surface the answers relevant to the previously posed research questions.

In sum, AR not only provides TRs with the skills needed to concentrate on obstacles specific to their classrooms, but also stimulates them to tailor the process of instruction to their learners and the complex settings in which they function. Following Nunan (1993: 46), AR, conducted in the complex, dynamic context of the classroom, can also be 'difficult, messy, problematic, and, in some cases,

inconclusive.' Hence, despite the fact that AR does not provide all the answers to teacher-researchers' questions about how students learn or what can be done to improve FL/SL instruction, the most important fact is that AR is found in contexts where these questions are addressed, allowing for immediate action, which in turn, offers new insights both to individual TRs and to the entire field of language education.

## Case study

Case study (CS) is perceived as the most attractive style of research, especially for novice researchers, as it poses fewer organizational and reporting constraints on them. As the very nature of case study raises many debates, it seems important to start the description of it with a few definitions to exemplify related problems. Yin (1984: 23) defines the case study method as 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used.' In second language acquisition, case study is seen as '[t]he study of the speech, writing or language use of one person, either at one point in time or over a period of time' (Richards, Platt and Weber, 1985: 36), or, as Larsen-Freeman and Long (1991: 11-12) describe:

[a] longitudinal approach (often called a case study in the SLA field) typically involves observing the development of linguistic performance, usually the spontaneous speech of one subject, when the speech data are collected at periodic intervals over a span of time. [...] The longitudinal approach could easily be characterized by at least three of the qualitative paradigms attributes: naturalistic (use of spontaneous speech), process-oriented (it takes place over time) and ungeneralizable (very few subjects) [...].

The attributes suggested above are further specified by Swanborn (2010: 22). For him, a case study is nothing less than the study of a social phenomenon:

- in one, or only a few, of its manifestations;
- in its natural surroundings;
- during a certain period;
- that focuses on detailed descriptions, interpretations and explanations that several categories of participants in the system attach to the social process;
- that exploits several sources of data;
- in which sometimes the participants in the studied case are engaged in a process of confrontation with the explanations, views and behaviours of other participants and with the resulting preliminary results of the researcher.

A TR using the case study method (CSM) observes the case: be it a learner, learner's behaviour, interaction, learning problems or progress, or any other phenomena of interest. It is this interest that makes CSM appealing to teachers, because the specific focus of the case study which emerges from the teacher's experience may lead to finding answers and solutions to their professional questions and needs. Another advantage of CSM is the possibility of identifying with an issue that it gives researchers that may lead to multiplicity of viewpoints and interpretations. Furthermore, these interpretations need not be constant they may change over time as a database, once obtained, is open to reinterpretations. Following Wallace's (1998) classification of aims of CSM, four major sources of interest may be identified:

## Solving problems.

A teacher identifies a problem and wants to analyse it to find a solution.

## Applying theory to practice.

A teacher wants to check if and how a particular theory applies in her setting.

## Generating hypotheses.

By identifying a hypothesis (e.g. What is the most effective way of giving feedback?), a teacher tries out different strategies with a student or a class, observes the reactions, collects results and arrives at some recommendations.

### Providing illustration.

Case studies are a perfect illustration of classroom practice that can be used at conferences, article writing, or any other form of professional development documentation.

In conducting a case study, TRs may follow two paths: in the first one, they start with an issue or a hypothesis and choose an instance from the class; then, they observe and study it to prove or reject the issue or hypothesis. In the second one, TRs select a case and collect data related to it to analyse this individual instance, resulting in some generalizations about this case. It is this individual character of CSM that raises the question of validity and reliability of results. The dispute over relevance of these two features continues. However, it seems justified to apply particular criteria to any method individually, as Stake says:

The principal difference between case study and other research studies is that the focus of attention is the case, not the whole population of cases. In most other studies, researchers search for an understanding that ignores the uniqueness of individual cases and generalizes beyond particular instances. They search for what is common, pervasive, and lawful. In the case study, there may or may not be an ultimate interest in the generalizable. For the time being, the search is for an understanding of the particular case, in its idiosyncrasy, in its complexity (Stake, cited in Nunan, 1992: 80).

A case study may focus on an individual, on small groups, as well as on school populations. In the example that follows, the study concentrates on one student. The aim of it was the investigation of the relationship between extensive reading and incidental vocabulary acquisition. The issue is highly debatable and there is no consensus about it among linguists. To ensure the validity of research findings, it is necessary to state research questions clearly. Pigada and Schmitt (2006) decided on the following three issues: (1) Does extensive reading lead to increased word knowledge, in terms of spelling, meaning and grammatical behaviour of words? (2) Are these three aspects equally affected by extensive reading? (3) Are words that occur more frequently in the texts more affected in these three aspects of word knowledge?

To find answers to those questions, the TRs decided to use simplified readers carefully chosen according to the language level of a participant and his interests. The study lasted for one month and the student was to read one book a week. Additionally, 133 target words were selected. The participant was tested on those words twice, first before reading books (pre-test) and then after reading books (post-test). Because this

was a case study of only one subject, the TR decided on employing the time-consuming measurement method of one-on-one interview, as used in Schmitt (1998). It meant that exactly the same test was used before and after extensive reading assignments. The tests were carefully scored and the results collected, analysed and compared to draw conclusions.

#### **Portfolio**

A portfolio is an acknowledged form of assessment in many areas of education and professions as it is believed to provide authentic 'collections of performances in naturalistic settings' (Baume and Yorke, 2001: 2). Portfolios present several advantages over other forms of assessment, of which the possibility to include whatever seems crucial for a particular profession constitutes their greatest value. However, the usefulness of a portfolio should not be limited only to evaluation. A portfolio may also be seen as a research method complementary to a diary. As a research tool, a portfolio can be placed within a broader context of retrospective methods, because participants working with it are asked to reflect upon and evaluate their learning and/or teaching (Herner-Patnode and Lee, 2009; Hsieh, Lee, and Chen, 2015).

In contemporary educational studies, the emphasis is put on recognizing learning as a process which is not liable to observation as it happens within learners' heads and passes unnoticed. What happens with learners during learning stays internal, sometimes to the point of not being realized by them. Portfolios are instruments of reflection that possess the potential of bridging the shortage of such data. Another advantage of using a portfolio for research comes from the teacher's absence at the time of compiling it. If a portfolio is compared to other introspective methods such as free-associations, think-aloud protocols, or retrospective methods, it becomes apparent that only a portfolio allows learners to make their own decisions on what and how to document, and express opinions in the way they want, not influenced by the teacher. A TR interested in improving materials, or interactions in the classroom, or any other aspect of classroom behaviour or concerned with helping students use effective learning strategies would be able to find data on these and other issues otherwise unattainable.

What makes portfolios appealing to novice TRs is the fact that they may use existing formats (e.g. European Language Portfolio) for their research. Being prepared for specific age groups, European Language Portfolio (ELP) offers readymade materials for evaluation and reflection, namely booklets with descriptors drawn from the Common European Framework of Reference for Languages (Council of Europe, 2001), conceived to help learners concentrate on particular aspects of learning and a dossier with suggestions of what might be collected as evidence of progress. TRs may also decide to add or subtract some descriptors depending on the focus of their research. However, the very fact that such descriptors are used in portfolios makes the analysis of data easier and allows for comparison as well as generalization.

There are not many reported studies with the use of portfolios as a research tool; however, the one conducted by Sawdon, Doel and Morrison (2002), stands as a useful example. The researchers set up a programme whose main aims were (1) to maintain, promote and encourage independence, (2) to provide social contact and stimulation, (3) to provide a quality service to a group of people whose needs were not met in the local area. The programme was open for people with memory problems and the membership was voluntary but at the same time rather settled. The group members were nine women and two men, aged from late 40s to late 70s. They met

regularly once a week for a two-hour session, and up to the moment of publication of results there had been over twenty meetings. The researchers decided to use a portfolio as a means of collecting information. This collaborative document included the following sets of data: (1) names of researchers and their short profiles; (2) statement of aims; (3) pen pictures of group members; (4) list of relevant literature (books, articles, policy documents, etc.) that might be used in any way during the programme; (5) description of procedures used during sessions; (6) posters advertising the programme; (7) activities used during sessions along with reflections; (8) questionnaires completed by group members; and (9) a group work log template filled in by the researchers. Although this portfolio research does not refer directly to the language classroom, it certainly serves as a helpful example of using portfolio for data collection and reflection on both one's own practice and learning. The conclusions drawn by the researchers are highly informative and reliable.

## **Diary studies**

Diary studies are inexorably linked to psychological and anthropological research. However, in language research and pedagogy they more often than not concentrate on the following aspects: (1) language learning experiences, (2) language teaching experiences, (3) teacher-learner interaction, and (4) various aspects of language use (Curtis and Bailey, 2009; Horváthová, 2012; McKay, 2006). As the very name implies, diary studies make use of introspective tools such as diaries, journals, and logs. Methodologically, there are slight differences between these terms. However, in this article they will be used interchangeably.

According to Bailey (1990: 215), 'a diary study is a first-person account of a language or teaching experience, documented through regular, candid entries in a personal diary and then analysed for recurring patterns or salient events.' Diaries can be written by both language learners and teachers, at the same time constituting part of a growing body of literature on classroom research.

For the use of diaries in classroom research, Bailey and Ochsner (1983) present a five-step procedure:

- The diarist provides an account of personal language learning or history teaching.
- The diarist systematically records events, details, and feelings about the current language experience in the diary.
- The diarist revises the journal entries for the public version of the diary, clarifying meaning in the process.
- The diarist studies the journal entries, looking for patterns and significant events. (Diary entries may also be analysed by other researchers.)
- The factors identified as important to the language learning or teaching experience are interpreted and discussed in the final diary study. Ideas from pedagogical literature may be added at this stage.

To simplify classroom diary studies, learners can be provided with some diary entries or diary writers might be required to include specific points in their journals, such as learners' reactions towards their classmates or teacher, or comments about easy and difficult aspects of particular lessons. To enhance the quality of diaries, specific guidelines (e.g. indicating regular times for writing, the amount of writing expected per entry expressed by word limits, and sample questions that the writer may want to consider for each entry) could also be provided. In addition to this, diary writers should be equipped with tools such as a notebook, a mini audio recorder, or a personal

digital assistant, to be able to note down insights as they occur, and then transfer them to the diary in due course. Nowadays, Internet access would also be desirable, as some students might prefer to keep online journals known as blogs.

These days, diaries are enjoying increasing popularity among TRs for the distinct advantages they provide. Firstly, they constitute a comprehensive history of the entire project and bring detailed material for reflection. Secondly, they encourage TRs to reflect on their practices and discourses, since introspective tools supply learners' and teachers' perspectives on the instructional factors that have an impact on FL learning and teaching. Thirdly, they foster learner autonomy and promote more successful class discussion. Fourthly, they are inexpensive to develop and can offer ready-made templates for standardized data formats, simultaneously making the data collection process more attainable, as it is 'portable and trainable' (Bailey, 1991: 88). Fifthly, they generate teacher-student (T-S) and student-student (S-S) interaction beyond the classroom. Finally, they can be employed to supplement interview data.

To become better informed about classroom research based on diaries, a study conducted by Cirocki (2009) could be recommended. In his inquiry, all the learner participants taking part in a one-semester extensive reading project wrote their own diaries in English, providing detailed accounts of their thoughts about language learning. They made daily entries according to their own schedules, which, in turn, allowed for greater flexibility and imagination on their part. Similarly, the teacher-researcher wrote his own diary in which he made daily entries devoted to issues connected with implementing the ER approach in his classroom. Apart from long descriptions of the learning/teaching process, the diary also contained all subject learners' test results, selected compositions and some lesson plans. When the project came to an end, all the diaries were meticulously analysed and produced interesting outcomes, helpful in suggesting changes to already existing methods of EFL instruction in post-primary schools or inventing new approaches to EFL didactics.

In sum, research diaries enable TRs to obtain reliable person-level information and highly subjective views on language learning and teaching, which is, in general, unavailable from observational approaches. Furthermore, diaries can be used not only as the main data collection tool, but also as a supplement to other tools.

## **Ethnography**

Ethnography, also viewed as a separate research tradition, first appeared in the fields of anthropology and sociology, although it was in the last decades of the twentieth century that it gained wide popularity when social scientists became disillusioned with the inefficiency of experimental methods to grasp the intricacy and complexity of social existence. Hence ethnography, unlike qualitative research in general, is deeply rooted in the concept of culture, which in turn, makes it quite a complex research method, reserved for highly dedicated and professional researchers. The concept of ethnography is precisely defined by Brewer (2000: 6):

[e]thnography is the study of people in naturally occurring settings or 'fields' by methods of data collection which capture their social meaning and ordinary activities, involving the researcher participating directly in the setting, if not also in the activities, in order to collect data in a systematic manner but without meaning being imposed on them externally.

Hammersley and Atkinson (1995) also offer a comprehensive definition of ethnography in which they refer to the concept in question as a method or a combination of methods. They later define ethnographic practice as:

the ethnographer participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, and/or asking questions through formal and informal interviews, collecting documents and artefacts – in fact, gathering whatever data are available to throw light on the issues that are the emerging focus of inquiry (Hammersley and Atkinson, 2007: 3).

Despite the fact that ethnographic research is inextricably connected with anthropology, it does influence language education. Particularly interesting examples of this impact can be seen in the ethnographies of (1) schools, classrooms and life histories of learning and teaching (Duff, 2002; Kim, 2006; Vassallo, 2014), (2) F/SL writing in different cultural contexts (Carson and Nelson, 1996; Gleason, 2014) and (3) language use and communication (Heath, 1983; Bloome, Carter, Christian, Otto, and Shuart-Faris, 2005; Edasawa and Kabata, 2007). In other respects, classroom ethnographies concentrate on themes such as teacher - student transactions, teaching styles, discourse styles, learner beliefs and text interpretations, and lesson structure. All these aspects of classroom research constitute different topics of research focus, which gave rise to a diverse range of novel ethnographic approaches such as ethnography of communication, discourse analysis, micro-ethnography, and critical ethnography.

As can be seen, ethnography generates theories of cultures offering explanations of how people think and behave in a particular place and time. Since this article refers solely to research in F/SL education, classrooms are accordingly viewed as individual cultures or communities where learners' behaviour is holistically described as it occurs naturally within social and cultural contexts. In other words, ethnography, as a long-term intensive study, aims to enhance teachers' comprehension of the social organization and cultural perspectives that guide behaviour in the language classroom.

In theory building, classroom ethnographers, that is, TRs, begin with research questions and initial hypotheses related to the issue in question. Afterwards, these hypotheses are thoroughly examined in the course of in-depth interviews and continual and ongoing observations, and then elaborated and retested via regular collection of data utilizing various methods. In classroom ethnographies, TRs apply all types of data (formal and informal interviews, questionnaires, standardized tests and measurements, elicitation techniques, audio- and videotapes) that are likely to shed light on the answer to a previously posed research question. Furthermore, ethnographic studies, involving extensive participation in classrooms as well as lengthy analysis of complex data, are extremely valuable in language education since their research questions are subject to permanent revision and refinement in discovering new knowledge. For example, TRs can initially concentrate on reading strategies in their classrooms and later change their focus of research to text interpretation. Having collected all the necessary data, TRs carefully analyse and integrate them in order to provide a complete picture of the problem under scrutiny. The next step is interpretation based on attaching meaning and significance to the analysis, simultaneously clarifying descriptive patterns, and seeking correlations among descriptive dimensions. As soon as these processes have been accomplished, TRs narrate their interpretations and conclusions.

The construction of ethnographic accounts of classroom communities is clearly a job for highly trained and dedicated professionals, who are fully engaged in telling their stories (Davis, cited in Hammersly and Atkinson, 1995), simultaneously

chronicling particular events. To be more precise, ethnography is the act of constructing classroom culture via literary fiction, the writing of which, as Clifford (1986) notes, is determined by six factors:

- contextually (it draws from and creates meaningful social milieux);
- rhetorically (it uses and is used by expressive conventions);
- institutionally (one writes within, and against, specific traditions, disciplines, audiences);
- generically (an ethnography is usually distinguishable from a novel or a travel account);
- politically (the authority to present cultural realities is unequally shared and at times contested); and
- historically (all the above conventions and constraints are changing).

As a result, the writing of ethnography includes 'a description of the classroom setting, a statement of the principles underlying classroom social organization, and an account of the social norms guiding participants' behaviour, and shaping their interpretations of specific interactions' (Watson-Gegeo, 1997: 136). These descriptions, balanced by analysis and interpretation, are written in a narrative form to provide a holistic picture of what has happened in the classroom event reported.

An interesting ethnographic inquiry has been lately conducted in America by Chung and Choi (2008). Their research, extremely useful for TRs, focuses on a multiaged classroom and people working in this environment, speech events between students and teachers, classroom methods employed by teachers as well as students' cultural background and teacher perception of it. Furthermore, this study, partially presented in *Ethnographic Observation and Analysis: Research in American Classrooms*, presents various ethnographic tools such as sample protocols, interview transcripts and model research papers, the latter of which demonstrate how TRs should implement their own styles and characteristics in their writing.

Classroom ethnographies emphasize the sociocultural nature of learning and teaching processes, simultaneously creating new research challenges in the field of SL didactics. By conducting ethnographic research in classroom contexts, TRs strive not only to understand their students' way of life from the ethnic perspective but also to prepare an in-depth description that is comprehensible to individuals outside the society. This kind of fiction, in turn, provides TRs with useful conclusions, such as how to improve classroom performance, what teaching techniques to apply, and what classroom interactions to foster.

#### **Quantitative research**

Quantitative research is preferred by those researchers who advocate experimental methods and measures to test hypothetical generalizations (Tolmie, Muijs, and McAteer, 2011), and who concentrate on finding causal relationships between variables (Denzin and Lincoln, 1998), which leads them to discover a universal value. In education, quantitative research aims at discovering existing facts in a neutral way i.e. avoiding the researcher's subjective viewpoint as much as possible.

According to Smith (1983: 9), the research finding should be expressed in a 'neutral, scientific language,' a language of digits which is universally acceptable and functions in various research environments in the same way. Hara (1995, para. 4) stresses the fact that 'using neutral, scientific language [is] able and effective not only for providing the research facts but also for explaining the statistical truth. In addition, neutral scientific language [is] able to directly show the results of research without a

researcher's value judgements.' In such a type of research, a TR acts as an outsider, an objective observer.

Among quantitative designs of research, there are three that seem to be frequently used: correlative, experimental, and quasi-experimental. Correlative design focuses on testing relationships among variables that are collected, for example, from questionnaires and surveys. 'If variables are strongly related, we can often predict the likelihood of the presence of one from the presence of other(s)' (Mackey and Gass, 2005: 145). Consequently, what is crucial is the choice of questions included in a questionnaire or survey, along with the exact wording of items. If respondents are not sure of their answers or they get lost in the meaning of items, then answers may lack reliability. One way of overcoming these problems is conducting a pilot-test after which TRs may 'justify [their] choice of research materials by discussing the pilottest data' (Mackey and Gass, 2005: 141).

An experiment is the most demanding design within the quantitative method. It is defined as 'a situation in which one observes the relationship between two variables by deliberately producing a change in one and looking to see whether this alternation produces a change in the other' (Anderson, cited in Brown and Rodgers, 2002: 211). To conduct an experiment which leads to valid and reliable results, TRs should observe certain characteristics of a true experimental study (Brown and Rodgers, 2002) in which (1) students are randomly selected and assigned to two groups: control and experimental, (2) two experimental treatments are provided, (3) both groups undergo a pre-test and post-test. These three characteristics of true experiments are extremely difficult to obtain in school conditions. Learners cannot change groups nor can teachers select and divide them randomly. Furthermore, two treatments are often impossible as it is unacceptable to repeat the same material in exactly the same way during a semester or a school year. What researchers are left with is only one treatment.

These difficulties with the experimental design led researchers to adjust it so that it becomes feasible. In a quasi-experimental design, the intact groups of learners become participant, although they have not been randomly assigned or pre-tested. In educational research, this variation from true experiment constitutes its greatest value, because the results describe real classrooms, real learners, and real teachers. The results are not obtained in artificial, specifically created conditions but reflect authentic learning - teaching situations.

Quantitative research displays many positive characteristics, with the potential of discovering exact facts being listed as the first strength. Secondly, it is objective and value free. Thirdly, the theory (or mere conclusions) derived from research findings is not context-bound but universal. And finally, it is believed that mathematical statistical analysis reduces ambiguities and contradictions by presenting objective facts. This, in turn, allows for generalizations and replications of results.

What seems to be the advantage of quantitative research, however, constitutes its weakness at the same time. Objectivity of research results, being the prerequisite of quantitative study, relegates teachers' beliefs and viewpoints from the research, whereas it should be remembered that teacher-researchers work in different cultures and conditions. They deal with learners who are individual human beings, and suddenly these individual differences are considered not important for final results.

The experiment described below was designed to see whether extensive reading without any overt instruction can improve students' reading ability (Robb and Susser, 1989). As the procedure of experiment imposes certain standards, the researchers started with formulating the research questions: Can extensive reading

alone improve students' reading ability? Are skills better learnt when specifically taught?

Two groups of Japanese students took part in the experiment. One, called Extensive Readers, was supposed to read a minimum of 500 pages; the other, called Skills Group, was composed of students that were not supposed to read much and who approached their studies from a skills-building standpoint. The hypotheses that TRs wanted to pursue were that the Extensive Readers would remain equal or be superior to, the Skills Group in the following areas: getting the main idea, understanding the important facts, guessing vocabulary from context, and making inferences, as well as that the Extensive group would become faster readers.

Students who were freshman English majors were randomly assigned to two groups. They all were pre-tested using Form X of the Multiple Skills Midway Placement Test. The achieved results were statistically analysed. Then the two groups underwent an established treatment: one following the extensive reading programme, the other the skills-based one. At the end of the experimental period Form Y of the Multiple Series Midway Placement Test was given as a post-test. The results of this test were analysed and then the differential effects of the treatment were calculated using Analysis of Co-variance (ANCOVA). The students were also asked to express their opinions and attitudes in a questionnaire. In this way all the elements of a valid and reliable experiment were present in this study: research questions, hypotheses, experimental groups, pre-test, treatment, post-test, and analysis of data.

#### Mixed-methods research

With the recent development of qualitative and quantitative research in applied linguistics, there has been an expansion in mixed-methods research, grounded into two positivist views, namely that it is imperative to enhance qualitative findings and that the consolidation of different methods results in the truth being uncovered (Begley, 1996). The concept of employing a diversity of theories, methods, and empirical materials to construct a more precise and objective illustration of the phenomenon under study, known as triangulation, constitutes the fundamental part of mixed-methods research which is now emerging as a third methodological tradition with a rapidly expanding body of trans-disciplinary literature. This being so, it is now fitting to briefly outline its definition and characteristic features.

The entire concept of triangulation, originally associated with mathematics and navigation, appears to be receiving ever-increasing recognition on the research scene, with the number of definitions on the rise. For example, according to Herrlitz and Sturm (1991: 10), triangulation is:

a research strategy by which researchers attempt to accumulate as many perspectives on their cases under study as they can handle in all fairness, being not afraid of perspectives which 'make the familiar strange' in order to implement a process of meaning construction that allows for dealing with convergences, inconsistencies and contradictories.

Williams (2015) argues it is a strategy for increasing the validity and generalizability of research or evaluation findings. It may additionally be employed to provide a richer and more complex picture of the phenomenon under investigation (Flick, 2009).

Denzin (1989), one of the early proponents of triangulation, thoroughly discusses the four cardinal types, which, unquestionably, can be employed in classroom research. These are: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation. This latter is further composed of

'within method' triangulation (the same method used on different occasions) and 'between method' or 'across method' triangulation (different methods used in relation to the same object of study). It is the latter kind that will be the subject of the following discussion. 'Across method' triangulation, also known as concurrent triangulation strategy, is used in classroom research when teacher-researchers employ two different methods (Creswell, 2003). In this particular model, teacher-researchers apply separate quantitative and qualitative methods with a view to balancing the weak and strong points of the methods involved, simultaneously making the process of data collection (quantitative and qualitative) concurrent.

Thus, in classroom research the application of multiple methods enables TRs to explore different aspects of particular classroom events in order to produce a more holistic account of the phenomena in question. In other words, triangular techniques, ideal for complex classroom issues, can be employed to 'map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint and in so doing by making use of both quantitative and qualitative data' (Cohen and Manion, 1994: 254). In addition to this, concurrent data collection results in a shorter data collection period in comparison to all sequential approaches. Finally, mixed-methods research reduces the bias of single-method or single-theory studies, at the same time generating credible and divergent results which enrich explanation and, in consequence, reach a wider audience, since triangulated studies are written up in both words and numbers.

The discussion of mixed-methods studies would not be complete without providing an example, designed for the Polish EFL context (Cirocki, 2016). It sought to investigate the extent to which learner autonomy was developed in Polish secondary schools. The study was divided into two parts: Inquiry 1, which focused on secondary school teachers, and Inquiry 2, which was related to secondary school students. Quantitative data were gathered through questionnaires; qualitative data were collected through questionnaires and diaries. Data analysis yielded conclusions for both teacher education and materials writing.

To sum up, there is a lively interest in mixed-methods studies in classroom research. This relevance stems from the fact that the intricacy of all the phenomena under investigation in the classroom are rarely analysed and interpreted appropriately by single-method studies. Since classroom behaviour is a complex phenomenon it is only possible to explore it by means of complex methods of inquiry. Therefore, TRs should be receptive, first and foremost, to applying a concurrent triangulation approach.

### **Conclusion**

This article has examined some of the most frequently applied methodological approaches to classroom research, including traditional methods as well as current directions. The need for such a comprehensive overview is prompted by the fact that the domain of classroom research is relatively unexplored in the ELT context. Therefore, this article seeks to call on language practitioners to become aware of the theoretical basis for evaluating the reports of existing research and to enable them not only to investigate various types of inquiry in their own classrooms, but also to fully understand the emic processes of language instruction to inform curriculum and practice.

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