Classroom-Oriented Research

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Overview of the unit

This unit will help you become familiar with the concept of research, its paradigms and how to collect and analyse data. It includes an example of a research study to clarify all these points. The unit objectives are:

* To define research, describe its steps and its scope in the English classroom.
* To get familiar with the fundamental research paradigms.
* To get toknow the main data collection instruments and some basic procedures to analyse the collected data.
* To design a brief research plan, execute it and report the results and conclusions following the model provided in this unit.

In order to do so, you will read:

Madrid, D & Bueno, A. 2005. Classroom research. In *TEFL in Secondary Education*, N.McLaren, N., D. Madrid & A. Bueno, (eds.), 641-676. Granada: Editorial Universidad de Granada.

As resources, we will employ:

* Some **videoclips** where some relevant points will be emphasised.
* A debate on the **forum** about some controversial topics.
* Several activities that have been included in the main text whose completion will be addressed by e-mail to abueno@ujaen.es and dmadrid@ugr.es.

**1. Concept**

The first two units of this subject are based on Bueno González (2013) and completed with other personal contributions (a few of which appear in Madrid and Bueno 2005) and ideas and quotations from other sources which are adequately referenced.

1.1. Definition

All of us pose ourselves questions in ourdaily lives and try to look for answers to those questions. In a way it could be said that we are researchers in doing so. In this respect, Seliger & Shohamy (1989:7) characterise daily-life research in the following way:

1. There is a *phenomenon* that is not clearly understood.
2. To try to understand it, the phenomenon is *observed* and *analysed*.
3. In this process we *ask questions* about the phenomenon: Why, how, when, ... does it happen? What’s its connection with other events? Etc.
4. Several guesses, answers and possible explanations are anticipated intuitively.
5. One (or some) of the anticipated explanations is/are considered that most probably explain(s) the phenomenon *(hypothesis)*.
6. We check the hypothesis in other situations: *collect* more *data* and test to what extent the hypothesis can be maintained.

Although there is an evident connection between scientific research and the kind of research we carry out in everyday life, there are important differences**.**

The differences between knowledge arrived at through common sense and intuition on the one hand, and scientific research on the other, can be expressed by concepts such as “organised”, “structured”, “methodical”, “systematic”, “testable” and specifically by the notion of disciplinary inquiry.

(Seliger & Shohamy 1989: 10)

An initial distinction has to be made between basic or *theoretical* research (concerning the construction and discussion of abstract theoretical models); *applied* research (the application of basic research to different fields of study; and *practical* research (based on theoretical and applied research but developed in classroom situations).

“Action research” or “classroom research” (cf. Madrid 1998 and Madrid and Bueno 2005)is a practical first-hand approach in which the classroom is the primary source of information to obtain the data on the part of the teachers. These teachersbecome privileged researchers, since they are the ones who best know what happens in class. Nunan (1993: 41) defines it clearly:

Action research is justified on the grounds that it is a valuable professional development tool. It represents what I would call an “inside out” approach to professional development. It represents a departure from the “outside in” approach (that is, one in which an outside “expert” brings the “good news” to the practitioner in the form of a one-off workshop or seminar). In contrast, the inside out approach begins with the concerns and interests of practitioners, placing them at the center of the inquiry process.

In addition, the apparent gap between the researcher and the teacher can be solved by means of this type of research. More often than not, the researcher appears surrounded by an aureole of truth, intellectuality, and science, while the teacher, in Widdowson’s words (1990: 55), is seen as the “consumer” of the researcher’s scientific truth.

Likewise, a mention has to be made of the research not necessarily developed in the classroom but whose results are also intended for teachers, that is, “classroom-oriented research”. In this case, the researcher is outside the classroom and s/he does not coincide with the teacher. The research can be either theoretical on the basis of previous teaching experiences on the part of the researcher**,** which is the case of several University teachers and researchers who were Primary or Secondary teachers previously**,** or alternatively, the data can be obtained in the classroom by an external researcher in collaboration with the actual teacherwhile the rest of the research is developed outside the classroom. In both cases, collaboration between different educational contexts and levels is fostered and the results tend to be reciprocally useful.

In our field it is especially important for the research to be carried out with data collected in the classroom,the primary source of information (cf. McDonough 1990 and Nunan 1991). McDonough and Nunan advocate for teachers carrying out their own research and the classroom being the ideal setting. This is the reason why it is also known as "action research", which tries to solve the divorce between researcher and teacher.

1.2. Features

Some of the defining features of action research are the following:

* Its situational character (the classroom context, where the data are generated).
* It is designed, implemented, analysed and interpreted by teachers (on the basis of the data obtained in class).
* It often implies collaboration with other teachers, other researchers, educational authorities or materials writers.
* It attempts to change the state of affairs in the classroom.

Cohen & Manion (1985) emphasize its situational character (identification and solution of problems in a specific context) but question whether collaboration should be a defining characteristic or if it should necessarily be concerned with change. Nunan (1992: 17-20) himself provides the following characteristics for it to bequalified as research:

* To address questions of interest to other practitioners (although he recogni**s**es that more often than not teachers are more concerned with solving particular problems associated with their workplace than with generating generalisable knowledge).
* To generate data.
* To include analysis and interpretation.

1.3. Stages

Nunan (1992: 18) establishes the possible stages in a complete action research cycle:

In the first place, the research is initiated by the practitioner and is derived from a real problem in the classroom which needs to be confronted. Secondly, the research is collaborative …. Thirdly, the teacher collects objective data in the form of classroom interactions and learner language. Fourthly, the results are disseminated. Finally, the project takes the form of an ongoing cycle (Kemmis and McTaggart speak of the “action research spiral”) in which the teacher reflects on, returns to, and extends the initial inquiry.

1.4. Top-down vs bottom-up approaches

Regarding research, teachers are not always aware of the importance of their work in the classroom in order to obtain and analyse data. They often appear as receptors of a finished product in what has been called a “top-down approach”:

A consequence of these problems is that teachers do not always perceive the findings of such research as relevant to their classrooms and their own teaching practices. It is not even particularly unusual to find “theory” rejected outright, with a preference being stated for “practical hints”, “new ideas”, or “more techniques”, that can be used directly in the classroom.

(McDonough and McDonough 1990:103)

Teachers are seen as recipients, not as agents of research; research reaches them as a finished product, often showing unfamiliarity with the practice of language teaching.

As a matter of fact, in 1990 J. and S. McDonough carried out a research study based on a questionnaire to explore teachers' perceptions of research, which is quite interesting for us, among other reasons because 14 (out of 34) were teachers at a single institution in Spain. The results showed that there seemed to be a mismatch between the demands and opportunities of teachers and researchers. They also found that teachers relied more on the existing applied linguistics literature both for suggesting topics for future research and for taking them up than on their own teaching experience. They concluded by stating the need for the teacher to take up research, for which some training is needed.

Curiously enough, Nunan (1991), in an analysis of 50 empirical investigations of teaching and learning, concluded that at that time there were comparatively few documented studies in the literature that derived their data from genuine language classrooms and that, surprisingly, we knew little about what did or did not go on there. He critically reviewed the state of second language classroom-oriented research at that time by analysing the50 empirical investigations according to five dimensions: environment, rationale, design and method, type of data collected and type of analysis. He began by defining classroom-oriented research (a term often used to refer to research intended for classroom teachers, but not actually located in the classroom) using Seliger & Long's (1983:v) words ("research that has attempted to answer relevant and important questions concerned with language acquisition in the classroom environment"), and then proceeded to identify classroom research as "research that either derives its data from genuine language classrooms ... or that has been carried out in order to address issues of direct relevance to the language classroom" (Nunan 1991: 250).

Nunan (1991: 266) concludes by justifying the study of what happens in the classroom, since it is specifically constituted to facilitate language development and speaks of the "self-directed teacher" (implying teacher autonomy, as a parallel to learner autonomy or self-directed learner) as the one who carries out and applies classroom-oriented and classroom-based research.

It is true that a few decades ago there were not many studies whose data had been derived from the classrooms themselves, thus offering a sort of indirect reflection of what really happens in them. Fortunately, this situation has progressively changed and the number of studies carried out in the actual classroom has increased considerably:

... there is some evidence that the picture is beginning to change. The change has been prompted in part by a growing sensitivity on the part of many researchers to the complexities of the teacher’s task. Practitioners, on their part, seem to have grown tired of the swings and roundabouts of pedagogic fashion, and are looking for evidence before embracing the latest trend to appear in the educational market place.

(Nunan 1990: 39-40)

What Nunan wrote almost twenty years ago has been confirmed as a real change in the present time in Spain, as attested by many research studies in the field of Applied Linguistics, which have been developed in the classroom on the part of teachers and researchers. Institutions such as the *Asociación Española de Lingüística Aplicada (AESLA)* and, in our nearest context, the *Asociación de Profesores de Inglés GRETA*, and the *Asociación de Profesores de Inglés CETA*, to quote but a few, have greatly contributed in this respect.

A bottom-up approach became necessary, starting in the classroom and assigning the central role to the teacher (cf. McDonough and McDonough 1990) in issues such as data collection, needs analysis, curriculum development, classroom observation, learning strategies, classroom dynamics and management, or assessment. It becomes evident that teachers are the best knowers of the previous aspects. Research, in this sense, is first-hand:

The teacher is the researcher’s link with learners, and also the learners’ link with research. The teacher is contracted to help learners learn, but can do so better by knowing about previous research and by using the procedures of classroom research to understand better what is happening in his or her own classroom. In this way the exploratory teacher will not only improve achievement but will also contribute to our general research knowledge about how language classrooms work.

(Allwright and Bailey 1991: 197)

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| **Activity 1:****- What do you understand by “reflective, classroom-based research”?****- Provide examples of both top-down and bottom-up approaches to research.** |

1.5. The need for training

Therefore, the need for teachers to devote themselves to research is taken for granted. However, they cannot start from zero, but rather have to go through some training:

In particular, teachers need to be able to conceptualise their practice in theoretical terms, they need to be aware of issues amenable to action research, and they need to have skills in data collection and analysis. These skills can be developed through action research projects wherein professional development programs can feed into a constant cycle of intervention, monitoring, and modification to classroom practice.

(Nunan 1993: 62)

1.6. The scope of classroom research

This section is taken from Madrid and Bueno (2005:643-645).

When we aim to study what happens in our English class we must take into consideration a great variety of variables that may have a direct or indirect influence or mutual relationship.

In the following figure we present a model which includes the main groups of variables that must be controlled in some way: by qualitative, ethnographic and naturalistic procedures or experimental and quantitative ones (Madrid 1998:27, 2004:10, Madrid & Madrid Manrique 2014:97).

PRESAGE AND CONTEXT VARIABLES

1. THE LEARNER

- Social context

- Individual characteristics: cognitive styles, motivation, personality

2. THE TEACHER

* Individual characteristics
* Beliefs, preparation, personality

3. LEARNING PROCESS

ACQUISITION PROCESS

* Mental processes
* Learning strategies

4. THE CLASSROOM

* Educational treatment
* L2 curriculum
* Tasks
* Materials & resources

PROCESS VARIABLES

PRODUCT VARIABLES

5. RESULTS / ATTAINMENT / COMPETENCE / PROFICIENCY

* Principles, concepts, language knowledge:

grammar, functions, cultural aspects, ...

- Procedures, skills:

listening, speaking, reading and writing

- Attitudes and values

SLA

SLL

The model presented in this diagram distinguishes five sets of variables that interact. At the top, are the *learner*and the *teacher*, the two main protagonists in the teaching and learning processes.

If the learner acquires the L2 in a naturalistic setting, through communication in natural social situations, without the teacher's guide and outside the classroom setting, then he/she develops learning strategies and mental processes that lead to what is called *second language acquisition* (SLA) (Krashen 1981). This sequence only involves the factors included in boxes 1, 3 and 5: *the learner, his/her learning process and his/her results.*

An alternative sequence takes place when the learner becomes a *student* and is guided by a *teacher* in a formal classroom setting. In this case L2 learning takes place through conscious study, with the help of the L2 teacher and some teaching resources: books, recordings, etc. This educational treatment is likely to develop different strategies and learning processes, and consequently, different outcomes. This sequence, illustrated in boxes 1, 2, 3, 4 and 5 is said to produce *second (or foreign) language learning* (SLL) (Krashen 1981).

Though, in many situations, it is difficult (or impossible) to know if SLA or SLL takes place, this distinction is useful, especially when we want to differentiate the type of context or setting in which L2 learning takes place.

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| **Activity 2:*** **Define the following concepts:**

 **· presage variables** **· context variables** **· process variables** **· product variables*** **Provide a concrete example of each type of variable related to daily classroom practice.**
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1.7. Possible research lines

Action or classroom research is connected to a wider field, that of second language acquisition studies in general, with Rod Ellis as an invaluable reference. Specifically, in *The Study of Second Language Acquisition* (1994: 1-3), Ellis mentions four areas which have experienced a notable increase in second language acquisition studies. First, the delimitation and progressive widening of the field, which now comprises not only linguistic aspects (as initially) but also pragmatic, sociolinguistic and psycholinguistic ones, with a wider range than that in the seventies or eighties in the twentieth century. Second, the increasing attention to linguistic theories, in such a way that second language acquisition research “is no longer a consumer of linguistics, but also a contributor to it”, in his own words. Third, and partly as a consequence of the preceding one, the increase in research inspired by theories which are either confirmed or refuted by means of empirical studies (“theory-led research”). Last but not least, and particularly relevant in our case, Ellis refers to the rise of a subfield specifically related to the research into language acquisition in the classroom. In chapter 1 (pages 11-40), after defining the concepts, he offers an overview of second language acquisition studies and their subject topic and areas of interest, addressing both general questions (What exactly is acquired? How do we acquire a second language? Which individual differences arise among learners? Which effects does instruction have on acquisition?) and specific issues related to the type of language used by the learner (error treatment, acquisition order, variability, and pragmatic features), external factors (social factors, input, and interaction), internal factors (language transfer, cognitive aspects, interlanguage, and language universals), and factors inherent to learners themselves (individual differences and learning strategies). All these issues constitute a detailed catalogue of possible research lines.

In the same vein, a reference must be made to the book by Chaudron (1988), in which, apart from characterising the different research traditions in language teaching and learning, as we shall see below, he analyses and exemplifies key issues in this type of research, such as classroom discourse structure, teacher discourse, learner discourse, learner behaviour, teacher-student interaction, and learning results.

**2. Research paradigms**

Because the study of L2 classrooms has arisen through the influence of researchers from different disciplines (education, sociology, psychology, linguistics, applied linguistics), research developments in each of these areas have separately contributed to procedures for investigation. Although it should be recognized that few researchers adopt only the procedures and analyses of one tradition, at least four traditions are distinguishable: psychometric, interaction analysis, discourse analysis, and ethnographic. (Chaudron 1988:13)

It istrue that research in fields such as Linguistics or Psycholinguistics has greatly influenced the methods of didactic research. For a more detailed analysis and reflection, Alcaraz (1990) becomes indispensable, since it delves into the features of the three most important paradigms of Linguistics in general and of English Linguistics, in particular: structural, generative and pragmatic. The theories, paradigms and research design presented are relevant not only to Linguistics but also to research into language teaching in aspects such as the traditional method of Grammar-Translation, the audiolingual one, interlanguage theory, contrastive analysis, error analysis, as well as the functional aspects of language teaching, derived from the pragmatic paradigm.

As stated by Chaudron (1988), in language teaching research we can mention four traditional models which, in a way, derive from the above-mentioned linguistic paradigms, namely: the so-called “psychometric tradition”, which in the sixties was applied to evaluate L2 instruction processes through the comparison of results obtained in proficiency tests with experimental groups; “interaction analysis”, which appeared in the mid-sixties as a result of the relevance of sociological studies in order to investigate classroom processes, with particular attention to teacher-learner relationships and their respective roles; “discourse analysis” as applied to second language classrooms in the seventies and mainly centred on classroom discourse as a consequence of interaction; and the “ethnographic tradition” in the eighties, derived from sociological and anthropological studies, which centres itself on the perspective of the teaching-learning agents (that is, teachers and students) rather than on the observer’s or the analyst’s supposedly objective perspective. With some variations and additions from other models, this last tradition is currently a valid model for qualitative research. Let us revise, albeit briefly, these four traditions with a certain historical and chronological perspective (cf. Chaudron 1988: 28-49). “Classroom observation” will be added as a highly useful method in action research.

2.1. Psychometric research

This is the most traditional method, used from the Second World War until the sixties. It is based on the comparison of specific instructional programmes or methods according to the students’ results in standardized tests. Its purpose is to determine the linguistic assets of different methods and teaching materials through the use of the “experimental method” (cf. Nunan 1992: 24-51). It emphasizes, sometimes exclusively, the value of “experiments” and of inferential statistical instruments, such as ANOVA (analysis of variance), frequency, mean, standard deviation, statistical significance, and the like. Experimental and control groups are used in order to analyse dependent and independent variables. Three types of experiments can be distinguished: the so-called “previous” ones (tests may be applied before and after the intervention programme but the experiments lack a control group); “quasi-experiments” (they have pre- and post-tests, experimental and control groups but the subjects are not chosen randomly); and the “true experiments”, which are those which fulfil the three requirements, that is, pre- and post-tests, experimental and control groups, and random choice of subjects. It is, then, a quantitative research model based on the product, which has its assets (namely, those of validity and reliability) but which also presents some demands, such as being knowledgeable about statistical techniques. As Nunan (1992: 47-8) states:

The formal experiment and its variants, the pre-experiment and quasi-experiment, are important research tools in language study, and they have added significantly to our knowledge of language learning, teaching, and use. Experiments are designed to collect data in such a way that threats to the reliability and validity of the research are minimized. Experimental researchers are particularly concerned with the issue of external validity, and the formal experiment is specifically designed to enable the researcher to extrapolate the outcomes of the research from the sample to the broader population. In order to appreciate the reasoning which lies behind such extrapolation, it is necessary to understand the logic of inferential statistics and some of the more common statistical tools.

The main criticism towards this approach is the lack of attention to the processes which take place in the classroom:

This is to say that both a context-process and a process-product component are essential to the design of such research. Few comparative evaluation researchers have systematically described the classroom processes in the different control and experimental classes. Many, if not most, have recognized the need for this control over process, but they have usually only managed to ensure appropriate implementation of the program, method by occasional visits, specification of materials, pre-training of instructors, teachers’ self-reports, and so on.

(Chaudron 1988: 30)

This is the reason why, as Chaudron (1988) himself points out, in the late sixties and the early seventies researchers started to investigate the quantitative relationships between classroom processes and learning results. This has been called the “process-product” approach (Wittrock 1989, in Madrid 1998), which attempts to define the relationship between what teachers do in the classroom (processes) and its effect on the students’ learning (achievement or product). Among its strengths we can mention the following: the confirmation that the didactic process (or teaching procedures) and the product (or learning outcomes) are related, an idea which is coherent with behaviourism and technical rationalism theories prevailing in the seventies (decoding complex tasks to be studied later and to check their relationships); that the studies are carried out in the classrooms themselves; and that they are directly applied to teaching practices and educational policies. Nevertheless, it has also been criticized on the basis of its exclusively empirical character and for not reflecting classroom complexities (cf. Monroy 2000).

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| **Activity 3**: **What do we understand by “experimental group” and “control group”? Provide a clear example to differentiate them in a possible research project.** |

2.2. The ethnographic approach

In this case we are dealing with an ambitious qualitative approach, which attempts to provide an ethnographic study of the processes which take place in the classroom by means of observation techniques, sometimes highly sophisticated. This may be the reason why it has developed little or only partially in second and foreign language classrooms, thus only paying attention to specific aspects (interactive patterns, turn-takings, classroom dynamics and management) which can be analysed through classroom observation without specialized training (cf. Chaudron 1988: 45-9).

Ethnographic research has often been set against psychometric research (please, see above) on the basis of two features which define the former: the importance of context for human behaviour and the centrality of the perhaps inevitable subjectivity on the part of those who participate in the research. Nunan (1992: 56) provides the main features of ethnographic research as follows:

Contextual: The research is carried out in the context in which the subjects normally live and work.

Unobtrusive: The researcher avoids manipulating the phenomena under investigation.

Longitudinal: The research is relatively long-term.

Collaborative: The research involves the participation of stakeholders other than the researcher.

Interpretive: The researcher carries out interpretive analysis of the data.

Organic: There is interaction between questions, hypotheses and data collection, interpretation.

This approach benefits from research instruments such as classroom diaries, both on the part of the teacher and on that of students, in which hopefully they write down not only what happens in class from the academic point of view but, especially, from a human perspective. By definition, diaries need to have continuity and a certain rigour if they are expected to be both valid and reliable. In addition, as with other qualitative techniques, more often than not their value is related to intuitions which do not always have univocal interpretations and which are tinged with a certain degree of subjectivity. This can explain why in ethnographic research –as well as in qualitative research in general–, some quantitative elements are often needed in order to provide objective and reliable interpretations. As a matter of fact, the majority of research studies combine both techniques (for example, case studies, analyzed in detail by Nunan, 1992: 74-90).

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| **Discussion A:****Ethnography is usually associated with naturalistic research. In which ways does it differ from psychometric research?** |

* 1. Classroom observation

Observation is another useful ethnographic technique, which deserves some detailed analysis. On the one hand, the ethnographic method can be considered as a more embracing one (see above), in the sense that it allows a study, as comprehensive as possible, not only of what happens in the classroom but of all the human, behavioural, contextual and sociological factors. On the other hand, classroom observation (particularly in the case of foreign languages) has become particularly relevant both as an instrument for teacher training and as a research tool. Its main interest here lies in its role as a research instrument, but we cannot forget that it contributes to foreign language teacher training in at least three respects (cf. Bueno 2006: 368-9): active observation (the would-be teacher observes expert teachers and learns from them); receptive observation (the future teacher, or the pre-service teacher, is observed by expert practitioners who make constructive criticisms about his/her teaching performance, from which s/he also learns); and self-observation (for instance, by analy**s**ing his/her performance after having being recorded: reflection about one’s own teaching experience leads to professional development).[[1]](#footnote-1)

Nunan (1992: 91-114) makes a positive assessment of the contribution of this method to language research: “As language classrooms are specifically constituted to bring about learning, it is not unreasonable to collect data about what goes on there as a means of adding to our knowledge of language learning and use” (*op. cit*.: 91). He analyses various observation and research methods, such as formal experiments, classroom observation schemes, interaction procedures, and what is known as “stimulated recall”: “... a technique in which the researcher records and transcribes parts of a lesson and then gets the teacher (and, where possible, the students) to comment on what was happening at the time that the teaching and learning took place” (*op cit*.: 94). Formal experiments are sometimes difficult to be implemented in class, since it is a context initially conceived for teaching and learning and not for pure research; therefore, the results could be contaminated by the fortunately unpredictable development of the lesson. However, experiments or quasi-experiments with experimental and control groups can be carried out in the classroom.

The usefulness of this research method is, then, evident, since it can provide relevant information about classroom issues as real as the following: groupings, interactive patterns, task development, use of teaching aids, classroom dynamics, input quality, classroom talk, student and teacher turn-takings, communicativeness in the classroom, instructions and questions, and feedback, among others.

One of the most neglected areas of professional growth among teachers is the mutual exchange of classroom observations. […] Fortunately, in an era of action research […] teachers are coming to understand that seeing one’s actions through another’s eyes is an indispensable tool for classroom research as well as potentially enlightening for both observer and observee.

(Brown 1994: 431)

2.3.1. Interaction analysis

Interaction analysis involves the use of some form of schedule consisting of sets of categories for coding classroom behaviours. In a **category system** each event is coded each time it occurs. In a **sign system** each event is recorded only once within a fixed time-span irrespective of how many times it actually occurs. A **rating scale** is used after the period of observation to estimate how frequently a specific type of event occurred.

(Ellis 1990: 67, bold type in the original)

This research method studies to what extent the student’s behaviour depends on the degree of interaction that the teacher determines and encourages in class. So as to analyse the interactive processes that take place in the learning process, it makes use of classroom observation systems and code systems for interaction patterns (one of the classic ones is that by Flanders 1970). According to Ellis (1990: 67), these systems became more and more complex for two reasons: the first one is related to the fact that classroom observation arose as a practical device for teacher training: if what happens in class is observed, the inexperienced teacher will be able to incorporate such patterns to his/her own teaching practice as part of his/her professional preparation; in the second place, these systems also became more complex because of the incorporation of audio and video recordings. Classroom observation widened its scope in the so-called “anthropological observation”, which is even more ambitious, since it pays attention not only to interactive patterns but also to any other situation which takes place in the classroom and which may be relevant, thus contributing a more qualitative perspective.

What can be observed in the classroom? Among other aspects, the following ones can be mentioned: teacher discourse (teacher talk), the treatment of errors, input characteristics, the different interaction patterns and groupings, communicative and learning strategies, student discourse (student talk), turn-takings, the structure of pedagogical discourse and the type of discourse in the classroom.

In an interesting chapter about interaction analysis, Nunan (1992: 159-183) studies natural contexts of first language acquisition with a view to deriving conclusions which may be valid for the learning of second languages. Thus, he delves into aspects such as discourse analysis, interaction analysis, conversational analysis, interactive processes between a child and an adult, interaction and personal encounters between adults, transactional interaction between one and another adult, and the interaction in an intercultural context. He concludes (*op.cit*.: 177):

... we have seen that the interpretive analysis of naturally occurring interactions is an important element in research on first and second language acquisition and use. It is particularly significant for those researchers who believe that the context in which interactions occur is an important variable which needs to be taken into consideration. Such researchers are likely to eschew the use of formal experiments, elicitation devices, and other forms of intervention in favour of an approach which allows them to investigate language use in natural settings.

Be that as it may, the observation of interactive patterns in the classroom has been criticized for using instruments which are idiosyncratic to the observer him/herself and which, in many cases, have not been empirically validated (cf. Chaudron 1988: 40). This same caution seems to be a matter of concern for Nunan (1992: 177-8):

... in contrast with the experimental method, there are no highly formalized procedures for collecting and analysing data in this type of research. This flexibility can be both an advantage and a disadvantage –an advantage in that the researcher can see what is actually there without the intervening filter of a methodological procedure, a potential disadvantage in that the lack of explicit guidelines may cause the researcher to lose his or her way.

2.3.2. Classroom discourse analysis

This approachappeared as a consequence of the evolution of descriptive linguistics and of the procedures to analy**s**e suprasentential structures. As we know, in the seventies the interest in the sentence gave way to the interest in the text and discourse. Discourse analysis had its first reflection in the first language classrooms and later entered the second and foreign language ones. As a matter of fact, in the classroom a series of speech acts or discursive acts take place, both on the part of the teacher and on that of students. They are known as “classroom language” (cf. Salaberri (1995, 1998, 2001a, 2001b, and 2001c) and constitute an important part of the interactive processes that greatly determine learning success or failure:

The analysis of verbal discourse of classroom interaction must of course be viewed as embedded in the social and cognitive operations which take place in the instructional period or lesson. For this reason, various aspects of the interaction that were considered in the section on dimensions (e.g. participant organization, nonverbal and material aspects) would have to be included for the sake of a comprehensive analysis of the classroom interaction. Discourse analysis has contributed to a growth in awareness of the internal formal structure and functional purpose of the verbal classroom interaction. Yet research on specific types of discourse phenomena in the classroom has drawn much of its inspiration from the ethnographic tradition.

(Chaudron 1988: 44)

In this model for second and foreign language classroom research**,** special attention has been paid to “teacher talk”, perhaps because it occupies more time than it should, to the detriment of “learner talk” (cf. Bueno 1998: 9). In this respect, issues such as the following have been studied: the time span of teacher talk, types of teacher discourse and their functional distribution, prosodic modifications according to the different teaching moments, vocabulary and syntax modifications, the metalanguage used by the teacher, the clarity and quality of classroom instructions, the formulation of questions, the ways to respond to students’ interventions and to explain and present new elements, the kind of language used for classroom dynamics, and the tone used by the teacher, among other aspects. It constitutes a really interesting line of research due to the influence that teacher discourse exerts on the possibilities of intervention on the part of the students and on the eventual success in their learning (cf. Salaberri 1998, 2001a, and 2001c).

In the case of learner discourse (see Legenhausen 2001 and Salaberri 2001b), research has centred on the analysis of the quality of input (which more often than not constitutes the starting point for imitation both in the mother tongue and in a second language), the influence of contextual and sociological factors (which may cause the student tobe more or less inhibited to speak in class), individual characteristics (such as extroversion, introversion, shyness or the fear of losing face), the classroom atmosphere, the influence of cultural factors, and the type of interaction created in class (which can either promote or discourage the use of the second or foreign language), to name but a few.

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| **Discussion B:****Observe a lesson taught by a colleague and take notes concerning both interaction and discourse analysis. Discuss the results on the subject forum.** |

2.4. Research on students’ and teachers’ beliefs

The content of this section is summarized in Madrid and Bueno (2005: 656-657) as far as teachers’ beliefs are concerned.

It goes without saying that what our students think about the teaching and learning process and what we, teachers, believe do not always coincide. More often than not, teachers tend to think instead of students and express what they think students believe. This is openly inexact and unfair. If we want to know about students’ beliefs**,** we have to ask them in class and if those data are going to be used for research purposes, they have to be collected through ethnographic research tools, such as diaries, interviews, reviews or questionnaires. Taking the students’ opinion into account is essential for classroom research, among other reasons because mental schemata often differ between students and teachers.

Individual teachers exhibit certain behavioural traits in the classroom. We all know that each teacher is different, and will react differently in specific classroom situations, but what causes that difference? Individual teachers are able to make very fast, complex professional decisions on the job due to having a limited number of deep underlying "conceptual schemata" or “constructs” of what appropriate professional action might be. We could define “construct” as a broad term used to include a group of related concepts such as beliefs, ideas, attitudes, etc.**;** all of which shape our behaviour in avariety of typical or consistent ways.

Floden and Klinzing (1990) have found a very valuable relationship between the teacher’s beliefs and his/her initial education, which becomes an important source of ideas, beliefs and models that are applied later to different classroom situations (see Barrios 2002). De Vicente (1988) has also highlighted the importance of this paradigm in order to train teachers within the reflective-in-action-paradigm. De Vicente has differentiated three basic stages:

1. *Cognitive stage*: when these studies focus on the use of the cognitive skills that teachers make use ofwhen preparing their curricular activities, implementing them and making decisions in the classroom.
2. *Critical stage*: when teachers report about their beliefs, opinions, values and experiences critically.
3. *Interpretative stage:* when teachers interpret what happens in the classroom and narrate classroom events.

Wittrock (1986) has designed a model to explain the relationship between teachers’ thought (theories, beliefs, and preconceptions) and its effect on the student’s behaviour and achievement through classroom teaching behaviour and interaction.

We can say that the teacher’s thought/beliefs operate following three stages which cyclically make up each teacher’s mental system:

1. *Pre-action thought / beliefs*, which include the previous ideas, preconceptions and initial opinions we have at the moment we are preparing and planning the teaching units.
2. *Interactive thought / beliefs*, which operate while implementing what we have planned, when we teach what we have prepared in class and a variety of interactive processes taking place.
3. *Post-action thought / beliefs*, these include the ideas we have formed after we have finished our teaching, as a result of the unpredictable events that may have happened in class, after we have observed the students’ reaction and the outcomes obtained. In this third stage, our preconceptions and initial ideas may have changed when confronted with reality or may be confirmed and consolidated.

The sources of mental constructs are many, and come from both received and experiential knowledge, as well as from personality factors, social factors and cultural factors. Even novice teachers, with no direct classroom experience or formal training will have mental constructs about teaching, derived primarily from what Gutiérrez Almarza (1996:51) calls their "apprenticeship of observation". By this she means their experiences of being taught and of watching teachers teach.

Obviously, action research can provide a tool for teachers to discover and examine their own individual mental constructs.

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| **Discussion C:****In what way can teachers’ beliefs influence what happens in the classroom and how can this affect classroom research?** |

**3. Collecting and analysing data**

3.1. Data collection instruments

After we have decided what we want to investigate (hypothesis, objectives or research questions), and how to approach it (method), the next step is to decide what data to collect, and how to collect them depending on the focus of the study and the variables to be controlled. For example, if we want to study how motivating the English teacher’s classroom techniques are, we have several options at our disposal: we may observe what happens in the English class, we can apply a questionnaire and ask the students their opinion or we can interview several students about the topic. Depending on the aspect we want to study, certain types of procedures are more suitable than others. The degree of explicitness will also depend on the design of the study.

Painter (1999) proposes the following types of data collecting procedures (see Ortega and Villoria, 2014):

* Teacher observations with log reflections, checklists or worksheets.
* Assessment results (running records, comparisons of pre-test and post-test assessments, etc.)
* Comparisons of writing drafts.
* Observation notes from (an) outside observer(s) such as a teacher-research partner.
* Audiotape and/or videotape recordings of classroom activities.
* Opinion surveys and attitude questionnaires, etc.

Some of the most common techniques currently used to collect data are the following:

**3.1.1. Questionnaires**

Questionnaires are printed and used for data collection. They include questions or statements that are responded to in an anonymous way. They are similar to interviews in the type of data that are collected but in questionnaires the questions/statements are in a written form whereas in interviews they are oral. The use of questionnaires also has some advantages:

1. They can be administered to large groups of subjects.
2. The data provided tend to be quite uniform and standard.
3. If they are applied to groups of subjects at the same time, the data collected can be very accurate.

But there are also some disadvantages:

1. If they are sent home to be answered the response rate is usually very low and that may affect validity and reliability.
2. Sometimes, the data provided can be very subjective and need to be contrasted and checked in other situations

Questionnaires, like interviews, can also be *open*, *semi-open*, *semi-structured* and *structured*. Quite frequently, structured questionnaires use the *Likert scale* to grade the statements from 1 to 5 (e.g.: 1 = never, 2 = seldom, 3 = sometimes, 4 = often, 5 = always). The *semantic differential* is another technique which grades the items on a bipolar scale (e.g. bad/good; high/low, ...)

Questionnaires are often designed to provide an answer to the research questions or the objectives that have been formulated. In order to do so, it is important to determine the variables which are necessary to control so as to give an adequate answer to the research questions or objectives. A review of the literature about the topic we want to investigate or a previous classroom observation session can be important steps to know and establish the variables we want to control through the questionnaire. Let us consider an example. If we want to investigate how motivating the classroom techniques used in the English class are, we can review the literature about the most common techniques used by English teachers to motivate students or we can observe an English class and identify some of the most interesting and attractive activities for the students. Among these factors, we could include the following:

* praise and rewards
* scolding or punishment
* task difficulty
* challenging exercises
* obtaining good results and good grades in the English class vs. bad results and grades
* working cooperatively in pairs or groups
* negotiating with the teacher**’s** curricular decisions
* the students taking part in self-evaluation processes
* individual and autonomous work
* class participation
* using the FL/L2 in class
* satisfying the students’ needs and interests
* acting out dialogues in the presence of classmates
* language competitions and games
* providing information about the tasks**’** objectivesand contents
* learning through discovering techniques
* using audiovisual and technological aids, etc.

So, the next step would be to ask students of different ages and grades how motivated they feel while experiencing all these techniques. The resulting questionnaire can be seen in **Madrid & Pérez Cañado (2001: 345-346)** (also available in Spanish at <http://www.ugr.es/~dmadrid/Doctorado/motcuest.htm>).

**MOTIVATING EFFECT OF TEACHING-LEARNING SITUATIONS**

Indicate to what extent the following motivates you:

 *5 = always 4 = frequently 3 = sometimes*

*2 = little 1 = never*

(.....) 1. When the teacher encourages or **praises** me for my performance in class **or** when I obtain a prize or reward for it, my motivation increases.

(.....) 2. When I am **scolded** or punished, my motivation decreases.

(.....) 3. When the FL classroom **tasks** are **easy** or when the teacher adapts them to my level, such tasks motivate me; when they are difficult, they discourage and demotivate me.

(.....) 4. I am motivated byintellectually **challenging** **exercises**.

(.....) 5. When I obtain good results and grades and my expectations of **success** are fulfilled, my motivation increases; when I **fail** and my expectations are not fulfilled, it diminishes.

(.....) 6. When I work cooperatively in pairs or **groups**, my motivation increases.

 (.....) 7. When I participate in the negotiation of **curricular decisions**, that is, when the teacher and the students decide together what to study in class and what types of exercises to do, I feel more motivated.

 (.....) 8. When I participate in the process of **self-evaluation** of my own work and when I express my opinion on the grades I deserve, I feel more motivated than if I do not participate.

 (.....) 9. When I **work individually** or autonomously, I feel more motivated than when I work in groups or pairs.

 (.....) 10. When I take part in class and when I **participate**, I feel more motivated than if I do not participate and remain silent.

 (.....) 11. When the FL/L2 teacher speaks in the **FL/L2 in class** (e.g. French, English), I feel more motivated than when (s)he speaks in Spanish.

 (.....) 12. When the class satisfies my **needs and interests** or when the teacher evinces the relevance of what we are doing in class, I feel more motivated.

 (.....)13. My performance before an **audience**- be it my peers or the teacher – serves as stimulus and increases my motivation.

(.....) 14. I like to **compete** and surpass others and when I carry out competitive activities, I increase my degree of motivation.

 (.....) 15. My motivation increases when I am provided with **information** about the **objectives** and **contents** of each task.

(.....) 16. When I am not asked in class and I **do not participate**, but listen passively to what the teacher and my classmates say and do, I feel more at ease, relaxed and motivated.

 (.....) 17. When things are not done for me, but, on the contrary, I am in a situation where I can **discover** and draw my own conclusions, I feel more motivated.

 (.....) 18. When the teacher uses **audiovisual and technological aids** (illustrations, photographs, recordings, computers, Internet, etc.), I am more motivated than when (s)he only uses the textbook.

**3.1.2. Classroom observation worksheets**

Observation is very common in qualitative research, but as we will see in the following example, it can also be used in quantitative studies. In observation processes, it is important to clarify the *who* (the observer), the *why* (the purpose of the observation) and the *how* (the methodology to follow) (McDonough & McDonough 1997). Classroom observation can be carried out by a participant observer or by a non-participant observer who records all the behaviours which take place, and the observation process can be *systematic*, *structured*, *focused* and *open* (Hopkins 1993).

Sometimes, observation is performed with a research purpose. This is the case of the following example, where several classroom sessions are observed and analysed to investigate the frequency with which some competences, language skills, materials and grouping techniques are performed and developed in class.

**Activity 4:**

**Analysis of classroom teaching and learning activities**

Analyse an English unit of work or three English classes in relation to all the criteria given in the left column of the following table (based on Madrid & McLaren 2014: 176). Mark only the competences/elements that are **explicitly developed** in each activity by putting a tick in the appropriate squares. You can analyse the activities of a teaching unit or each five-minute fraction of the English class. In this case, it would be advisable to record the English class and analyse it later according to the following criteria. Notice that several criteria may take place in one activity (or a five-minute fraction), consequently, several ticks will have to be registered in each column. Use several sheets if necessary.

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| **TEACHING UNIT ANALYSIS** |
|  | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **KNOWLEDGE OF LANGUAGE** |
| **Linguistic aspects /competence:** |
| 1. Grammar |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Vocabulary |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Phonetics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Spelling |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Sociolinguistic / pragmatic aspects/competences** |
| 5. Functions/Speech acts  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Discourse Competence (working with texts) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **ORAL COMMUNICATION: LISTENING, SPEAKING AND SPOKEN INTERACTION** |
| 7. Listening |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. Speaking  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. Interaction: listening-speaking |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10. Listening and reading |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11. Speaking and reading |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **WRITTEN COMMUNICATION: READING AND WRITING** |
| 12. Reading (silent & aloud) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13. Writing  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14. Interaction: reading-writing  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15\*. EXISTENTIAL COMPETENCE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16\*. LEARNING TO LEARN  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17. (INTER)CULTURAL aspects |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18\*. BASIC/KEY COMPETENCES/ CLIL activities, cross-curricular |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19\*. ATTENTION TO DIVERSITY (for HA & LA) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20\*.VALUES  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **INTERACTION AND GROUPING TECHNIQUES** |
| 21. Teacher to whole class |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22. Teacher to student |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23. Pair work/ St 🡪St |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24. Independent work |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25. Group work |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **MATERIALS AND RESOURCES** |
| 26. Textbook |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27. Pictures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28. Recordings |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29. ICT/internet |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30. Notebook/Workbook |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31\*. Others: ............. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

15\*🡪 **Existential competence**: write the corresponding capital letter in the corresponding square: A = attitudes (ex.: openness, ..); M = motivations (ex.: intrinsic, instrumental, ..); V = values (see 20); B = beliefs (ex.: ideological, religious, ..); PF = personality factors (ex.: extroversion, ...)..

16\*🡪 **Learning to learn:** write the corresponding capital letters in the corresponding square: LA = language awareness; SK = study skills; HS = heuristic skills; RL = reflection on learning, metacognition

18\*🡪 **Key competences**: write the corresponding capital letters in the corresponding square: M = mathematical competence; NW = natural world; I = internet, new technologies; SK = social and civic skills; A&C = art and cultural, LL =see 16; AW = autonomous work (LC = linguistic competence; it is supposed to be developed in each activity); HE = health education, etc.

19\* 🡪 **Attention to diversity**: write the corresponding capital letters in the corresponding square: HA = for high achievers, LA = for low achievers

20\*🡪 **Values**: write the corresponding capital letters in the corresponding square: GE = gender equality, EP = education for peace, SI = social integration, S = solidarity, HE = (to value) health education, T = appreciating our traditions

31\*🡪 **Others**: F = flashcards; R = real objects, realia,…

Which competences and aspects receive most attention in each group of items? Which ones are neglected? Write a brief report about the attention paid to the main groups of items in the table:

* Attention paid to **language knowledge** and its fundamental constituents: linguistic, sociolinguistic and pragmatic aspects. (categories 1-6)
* Attention given to **oral communication activities** (categories 7-11)
* Development of **written communication skills** (categories 12-14)
* Balance between **oral and written communication** activities (categories 7-11 & 12-14).
* Attention given to **other competences**: the students’ existential competence, their capacity for learning to learn, cultural awareness, basic competences, attention to diversity (low achievers and high achievers) and educational values (categories 15-20).
* Interaction with the students and the **grouping techniques** employed in class (categories 21-25).
* Variety of **materials and resources** used for the teaching and learning activities (categories 26-31).

**3.1.3. Interviews**

Data can also be obtained by means of interviews. The objective of interviews is to obtain information by talking to the subjects under study. Sometimes it is also necessary to ask the students questions about classroom events either in an individual face-to-face situation or to the whole group of students. Perhaps the two main disadvantages are that individual interviews are time**-**consuming and often introduce subjective or biased information, given that interviewees often say what they think will please the interviewer.

Despite the pitfalls that we have mentioned, it must be considered that certain covert variables such as attitudes, prejudices, interests, needs analysis, learning strategies, motivation, etc. cannot be fully studied unless we interview the subjects involved in the research work and collect information about their beliefs, feelings and opinions. According to the degree of explicitness and structure, interviews can be *open,* *semi-open, semi-structured* or *structured* (Madrid & Bueno, 2005: 658):

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| 1. *Open interviews* provide the interviewee with very open questions which allow greater freedom of expression to give the answers. Very often, they are carried out through informal talks about the topics under study.
2. *Semi-open* interviews provide some predetermined core questions but the subjects interviewed still feel quite free to answer them.
3. *Semi-structured* interviews consist of specific and defined questions determined beforehand that allow some elaboration in the questions and answers.
4. *Structured*  interviews include very specific closed questions that require very specific answers.
 |

In general, semi-structured and structured interviews need some kind of interview schedule, checklist or questionnaire which presents the questions to be asked and the topics to be discussed with some space for the interviewer to write down the answers.

**3.1.4. Case studies**

This type of research focuses on one or a few individuals. In most cases, these studies are longitudinal, that is, they follow the individuals for a long period of time. Many case studies have centred on, for example, the development of one -or more- subject’s interlanguage for a few years in order to describe the process. For example, Ellis (1984) worked on the grammatical and semantic development of three subjects and obtained useful information about the importance of the learner’s initiative in interaction for second language acquisition. This type of research is very important in the drawing up of hypotheses that need to be tested later on with more representative samples.

**3.1.5. Diaries**

Even though diaries can be anecdotal and subjective, they can provide very important clues about what the learners or teachers feel and how they process information. There are many mental operations and strategies that play a crucial role in language learning and that cannot be observed and studied unless the informant reports them. This technique is very useful to explore the learning strategies that the students use in different situations, especially when they receive metacognitive instruction and we want to know what kind of effect it has on student learning.

Diaries may include a variety of reflections and personal view points on the English class that can be important as source material for action research based on the daily practice. Here is an **example of a diary** where a teaching practice trainee reflects on some relevant events which took place in the English class at the level of secondary education (click on the link):

**Monday 13th April:**

**16:00- 17:30:** Basic semi-contact English course. The students went over their oral exams they had carried out the week before and any remaining queries are resolved. Subsequently, the teacher begins teaching the class the prepositions of place in English: below, above, between, next to, in, inside, on, etc. The latter was introduced by using a tennis ball and a box, moving the tennis ball in and out of the box and asking the students where it was. I thought it was a good and useful way of teaching these kinds of words and the class responded well with it.

Towards the end of the class the teacher begins to introduce the house vocabulary by means of a photocopy she handed out to them. The teacher also recommended a web page for the students to further their learning of aforesaid new vocabulary: www.agendaweb.org.

**Assessment:** I personally thought the teacher website proposal was useful for the students but I did not see any class members write the page down on their notepads which surprised me. Given the level of the class we observed, I think the students communicate well in the class and get their ideas across although sometimes not properly.

**17:30-20:·30:** The teachergave us the basics on how to use the platform for the semi-online English courses organised by EOI and how to introduce the grades on the platform. We entered the speaking exam grades on the class we had just observed onto the platform. The platform was particularly tedious to use as its large content caused the page to take a long while to load, turning a simple and relatively quick task into something highly time-consuming given the number of students each teacher has per class.

I think the Junta should simplify the platform or provide tutorials for both students and teachers to learn how to use it. It is quite complex and I do not think that the Junta de Andalucía has taken into account the average age of a student in the EOI. New technologies can help in language learning, but they need to be easy to use. Otherwise they shall be more of a hinder than a help.

**Tuesday 14th April:**

**16:30-18:30**: The teacher provided us with all the legal documentation of the Official School of Languages.

**19:00-21:15:** Advanced English class (B2). The class corrected their Cambridge test they had prepared at home. Afterwards, the teacher did a listening task about a tourist company. Upon finishing the task, the teacher asked them to write the mark they obtained on the register that she passed around the class. Later, the class did a group speaking activity on the happiest and saddest countries in the world**.**

**Assessment:** Taking note of how students do in normal listening activities is a very good idea as both the teacher and the students can keep track of the progress made. I thoroughly enjoyed this advanced class. The topic was interesting and the students were motivated. I really think they liked talking about it and they all had something to say, especially when they compared England and Spain.

**Wednesday 15th April:**

**16:30-18:30:** we incorporated exam grades on another platform called Seneca. It is used throughout Andalusia and is also used by teachers to view their absences, sick leaves and wage slip. This page is quick and easy to use in comparison to the platform we had seen before.

**19:00-20:30:** Basic semi-online English course for the second group of first year students of the teacher. The same class was repeated for another basic English semi-online group. However, this class is a little bit slower in grasping concepts in class and it seems harder for the teacher to catch their attention and engage the class.

**Assessment:** This class is a little slower than the other basic semi-online course.

**Thursday 16th April:**

**16:30-18:30:** we completed the student form for the work placement report and worked on our class journals.

**19:00-21:15:** Advanced English class (B2). The teacher corrects a writing task in the class and provides us with a list of symbols she uses to do so. When students do a writing task, the teacher collects it, underlines the mistakes after reading it, writes the type of mistake made, returns it to the student for them to think about it and correct it accordingly and then the students gives it to the teacher once again who finally provides the student with the finalcorrected version. This way of correcting writing tasks obviously takes more time but I think it is more effective than just providing the students with a corrected version of their text and it also makes students think for themselves. Evidently, all the students are provided with a photocopy of the list of symbols so they can follow it accordingly.

A new topic is introduced in class by letting them guess it through clues such as: - It all depends on where your \_\_\_\_\_\_\_lies. - A lack of\_\_\_\_\_\_\_\_? - In poor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The class then read three texts on taste: “depends on time”, “price” or “accent”. Afterwards, collocations are introduced through gap reading and group work. New words were introduced via a PowerPoint presentation which I though was interesting as it engaged the class and involved the whole class.

**Assessment**: The use of technologies to introduce new words was really innovative and I think it caught the students’ attention a bit more than other traditional approaches. Moreover, the way Eulalia corrects writing tasks is superb. I had never thought about doing it with my students, but I plan on using it with my own students in the future**.**

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| **Discussion D:****What conclusions can you draw from the previous diary? What teaching and learning aspects seem to be more relevant to the observer who has written the diary?**  |

**3.1.6. Tests**

Tests are normally used to measure certain capacities, abilities, or skills; conceptual aspects or the learners’ attitudes and values. According to Carroll (1968:46), a *test* is “... a procedure designed to elicit certain behaviour from which one can make inferences about certain characteristics of an individual”. What differentiates tests from other instruments in collecting data is the fact that they are designed to gather specific samples of certain competences (Madrid & Pérez Cañado, 2014: 449).

Although tests can be useful to obtain specific data from the students, we should not create erroneous conceptions about their utility. As Bachman and Palmer (1996:7) remark: the same test cannot be expected to be suitable to all teaching-learning situations. Tests simply provide some information about the aspects that are included in the test. In second language research, tests are often used in areas such as vocabulary, grammar, reading, or skills development (listening, speaking, reading and writing). Some common **types of tests** and testing techniques include the following (Madrid & Pérez Cañado 2014) (click on link):

**Aptitude tests**

These tests measure the subjects’ aptitude for language learning. The two best-known aptitude tests are Carroll and Sapon’s (1967) *Elementary Modern Language Aptitude Test* (EMLAT) and Pimsleur’s (1967) *Language Aptitude Battery* (LAB).

**Achievement and progress tests**

They measure what the students have learned after a specific period of instruction. They often apply to a section of the syllabus, a unit, a group of units, or the whole syllabus and they determine how far the students have been successful in achieving certain objectives in a course of study, which gaps should be filled and what weaknesses need to be worked on through remedial work.

**Diagnostic and placement tests**

These tests are applied to establish the students’ level of competence and their degree of mastery of certain communicative and linguistic aspects.

**Standardised tests**

They measure the individuals’ linguistic and communicative competence according to pre-established criteria and demands. Some well known examples are:

‑ The Preliminary English Test (PET)

‑ The Cambridge First Certificate (CFC)

‑ Test of English as a Foreign Language (TOEFL)

‑ Test of Spanish as a Foreign Language Diploma (set by the Ministry of Education, Science, and Technology) (DELE)

Some common **techniques** used in test design include the following (Ortega & Villoria 2014):

* + *Multiple choice:* the test-taker has to select a correct answer from a number of alternatives.
	+ *True/false:* the test-taker has to determine whether a statement is true or not.
	+ *Cloze:* the subject is given a text (oral or written) from which a number of words, letters, clauses or sentences have been deleted and have to be filled in.
	+ *Recall:* the test-taker reads or listens to a text and is asked to write down or to report orally all that (s)he can recall from the text.

|  |
| --- |
| **Activity 5:** **Look for a standardised test (TOEFL, DELE or B2** of the CEFR, **EMLAT, LAB**, etc.**) and see what it measures, how it is structured and organised. Write a brief report on it.** |

**3.2. Collecting the data**

The procedures and instruments employed to collect data often create some effect on the type of data that are elicited. So the quality control of the data obtained with the instruments we have used is very important. The following procedures can be applied for this purpose.

**3.2.1. Triangulation**

When designing a tool to collect data, other perspectives are necessary if an accurate picture of a particular phenomenon is to be obtained. This method of validating the procedure used for collecting data is called t*riangulation* and can take several different forms (Denzin 1970: 472):

1. *Data triangulation.* This impliesusing a variety of sampling strategies. For example, data related to the time and social situations are collected on different occasions to ensure that the objectives proposed are studied in more than one way.
2. *Investigator triangulation*. A process in which more than one observer contributes to the findings to gain more reliability.
3. *Methodological triangulation.* This refers to using different methods to collect the data: observation, analysis of transcripts, self-report surveys, etc.
4. *Theoretical triangulation.* It takes place when the researchers approach the data analysis with more than one perspective on possible interpretations.

 The combination of multiple methods, data types, observers and theories in the same research study is called *multiple triangulation* (see also Madrid & Bueno 2005: 660).

**3.2.2. Reliability**

This refers to the fact that the research procedures must be consistent, both over time and across the variety of people who might use them. It provides information on the extent to which the data collection procedure elicits accurate data. Reliability applies to the data collection procedures and data analysis of classroom research. The main types of reliability may refer to the following (Madrid & Bueno 2005: 661):

* + *Test-retest reliability*: This refers to whether scores are stable over time. For example, if a group of students takes a test, and the results are reliable, then they will obtain similar results if they take the same test some time later.
	+ *Inter-rater reliability*: This is the degree of agreement among raters, that is, whether there is agreement among judges about the score assigned. It also involves assigning the same score after some time has elapsed.
	+ *Parallel form or alternate form reliability*: This describes whether two similar instruments supposed to measure the same thing actually do.
	+ *Internal reliability*: This demonstrates whether test items are related to one another.

The **reliability coefficients** of the instruments we use to collect data can be obtained with the SPSS programme very easily. Once the data have been recorded, we click on “analyse” in the upper menu, then we click on “scale” and “reliability analysis”, then the instrument’s variables are selected and the program gives us Cronbach’s alpha and a number of items. This is an example (Ortega & Villoria 2014: 536)

|  |
| --- |
| Reliability Coefficients |
|  | *Students’ questionnaire* | *Teachers’* *questionnaire* |
| Nº of items | 11 | 11 |
| Nº of cases | 393 | 58 |
| Crombach’s Alpha | 0,81 | 0,85 |

**Table 1. Examples of reliability coefficients.**

The reliability coefficient can be roughly interpreted as follows:

|  |  |
| --- | --- |
| *Reliability coefficient* | *Interpretation* |
| 0 – 0.50 0.51 - 0.70 0.71 - 0.84 0.85 - 0.99 1  | LowAcceptableHighVery highMaximum reliability |

**Table 2. Interpretation of reliability coefficients.**

**3.2.3. Validity**

The procedure used to collect data is valid whenit measures what it is supposed to measure. A study is said to have **internal validity** if the outcomes of the experiment can be attributed to the treatment applied to the experimental group, rather than to uncontrolled factors.

Seliger & Shohamy (1989: 190) define several types of validity:

|  |
| --- |
| *Content validity*: whether the procedure represents accurately the content it is supposed to measure*Concurrent validity*: whether it correlates well with a different type of instrument which is supposed to measure the same thing*Predictive validity*: whether the measure can predict accurately a certain future behaviour*Construct* *validity*: whether it represents accurately the theory of the variable which it measures |

**Item difficulty and discrimination index**

In addition, it is important to analyse the item difficulty and discrimination index in order to know whether the items and questions, which appear in the data collection instrument, are difficult or easy, and whether they discriminate among the subjects of the research.

The **item difficulty** can be obtained by calculating the percentage of correct answers for a particular item. It is interpreted as follows (see Lafourcade 1977 and Madrid & Pérez Cañado 2014: 476):

|  |  |
| --- | --- |
| *Solved by … % of students* | *Difficulty* |
| 0-15%15-50%50-85%86-100% | Very difficultDifficultEasyVery easy |

**Table 3. Interpretation of item difficulty**

**The item discrimination** indicates the extent to which the item separates the more able testees from the less able. It is assumed that good items are completed successfully by good learners and unsuccessfully by the less able. If that is not the case, the item does not “discriminate” students (see Heaton 1975: 174-176).

**3.2.4. The problem of generalisability**

The other form of validity in experimental research is **external validity** or **generalisability**. As the name implies, the issue involves the extent to which the findings of a study can be generalised or applied to other (external) situations. Generalisability is connected to the concepts of "population" and "sample".

It is important to note that **reliability** and **validity** are intertwined. If the results of an experiment are not reliable they cannot be applied to other contexts. Furthermore, in experimental research terms, there can be no *external validity* (generalisability) without *internal validity*. The reasoning behind these maxims is that the findings of an experiment (if there are problems in measurement, for example) allow the researcher to conclude that there is no point in trying to apply that treatment in other settings.

**3.2.5. Ethical considerations**

As we are using human subjects in our research studies, we have to make sure that we follow some basic ethical rules and procedures which are consequences of the legislation regulating privacy and people’s data protection (see Seliger & Shohamy 1989: 196; Ortega & Villoria 2014: 537):

* The researcher must protect the dignity and welfare of the participants.
* Confidentiality of research data must be maintained.
* The researcher must guard against violation or invasion of privacy.
* The responsibility for maintaining ethical standards remains with the individual researcher.
* Individuals should not be specifically identified with their data unless it is necessary, and then only after the individual has given consent.
* The researcher should take every precaution and make every effort to minimise potential risk to subjects.

**3.3. Analysing the data**

Data analysis is the final step of research. At this stage, the researcher organises the data collected in order to check if the hypotheses formulated can be confirmed, if the objectives that we predetermined have been achieved, to provide an answer to the research questions that have been formulated or simply to draw conclusions from an ethnographic study. This analysis leads to the final conclusions of the research.

**3.3.1. Qualitative research data**

In qualitative research, where the data have been collected through observations, interviews, diaries, or any other qualitative procedure, the information is gathered in recordings or written reports. Then the researcher has to identify the most relevant segments of the text according to an organised scheme. Quite often, some categories emerge from the data, without having to apply a fixed taxonomy. Sometimes, the researcher does the opposite: (s)he applies a predetermined classification as we have seen in the observation worksheet presented in section 3.1.2.

This is an **example of qualitative research data** obtained with the following questionnaire (see Madrid 2011: 79, also available at:

http://www.ugr.es/~portalin/articulos/PL\_numero15/DANIEL%20MADRID.pdf):

|  |
| --- |
| School: ................................................................................. Year: ..............Type of school (underline):  1= compensatory 2 = public and rural 3 = public and urban 4 = maintained 5 = private  Gender: M ...... F........ Date: ................ |
| **Qualitative data***Briefly state your opinion on the influence of the following aspects on the students’ learning process. Continue on the back side of the page if necessary*.1. Do you think that high social class students are better treated and more influential in class than working class students? Give reasons for your answer: …………………………………………………………………………………………..2. Do you think that the teachers’ ethnic origin has got any influence on their academic results? Do you think that the student’s identification with the teacher’s ethnic group has any influence on his/her academic results? Do teachers treat students differently according to their race? …………………… |

**Table 4. Example of questionnaire to obtain qualitative research data**

The questionnaire was administered to a sample of primary, secondary and university students in Granada, and to their corresponding teachers. The results show that the students surveyed think that there are no differences in the way they are treated in class and that there are no signs of racism at school. Nevertheless, in the schools with a gypsy population, which are following compensatory programmes, some students appreciate that there are signs of social and racial discrimination in the EFL class (**Madrid 2011: 81-85**) (click on link):

**Students’ opinions**

*Perceptions of students attending primary schools with gypsy children:*

* Teachers do not treat students differently in my school. The students’ ethnic origin does not count. There are gypsies in my school and they are treated the same as the rest of the students.
* I prefer non-gypsy teachers because non-gypsy people are calmer than gypsies!
* The rich and the poor are treated equally, because we are all persons.
* Poor people are treated better, because they are often sad!

*Perception of Secondary Schools with gypsy students:*

- Some teachers do discriminate, others don’t.

* Some non-gypsy teachers treat gypsy students worse. They might treat us better if they belonged to our ethnic group, because gypsy teachers can understand gypsy students much better.
* Teachers favour the students of their ethnic group

**Teachers’ opinions**

*Primary school teachers’ opinion about social and racial discrimination:*

* I think that sometimes there is some kind of social discrimination: poor students are treated differently because they often cause discipline problems.
* I think the students are sometimes racist.
* Sometimes working class students are treated differently. There are social prejudices against them because they often show bad social habits, cause discipline problems and show little interest in class. All that influences the way they are treated.

*Secondary education teachers’ opinion about social and racial discrimination:*

* Sometimes, high social class students may attract teachers, because they often are respectful, disciplined and motivated for learning.
* My students would be delighted if I were a gypsy.
* I think that high social class students are often more influential in class, they have a better preparation and are more demanding.
* Unfortunately, our society considers itself tolerant but it isn’t. People are more racist than they think and many students would not naturally accept teachers of different races.

*University lecturers’ opinion on social and racial discrimination*

* I don’t think there is racial discrimination at the university. It may be because racial diversity is minimum.
* At the university level, the social background of students is unknown. Consequently, there are no differences in the way they are treated.
* I don’t think there’s any kind of racial discrimination at the university. Students are awarded and graded according to their academic performance and excellence.

**3.3.2. Analysing descriptive research data**

Descriptive research is generally analysed by means of descriptive statistics. Some of the most common descriptive statistical procedures are: *frequencies*, *central tendencies* and *variabilities*.

1. *Frequencies* are used to indicate how often a phenomenon occurs.
2. *Central tendency* measures provide information about the average and the typical behaviour of subjects.
* The *mean* is the sum of all scores of all subjects in the group divided by the number of subjects.
* The *mode* is the score which has been obtained by the largest number of subjects, i.e. the most frequent score in the group.
* The *median* is the score which divides the group into two parts, so that half of the score are above it and half are below it.
1. *Variability* provides information on the differences or spread of behaviours. It indicates how homogeneous (or heterogeneous) the groups are. The most common variability measure is *standard deviation:*  the higher the standard deviation, the more heterogeneous a group is. Another measure of variability used in statistical analyses is *variance*, which is standard deviation squared.

In what follows, some example of quantitative descriptive research data are shown:

**Frequencies**

The following frequency table shows how often and to what degree the variables of the questionnaire mentioned in section 3.1.1. (also available at <http://www.ugr.es/~dmadrid/Doctorado/motcuest.htm>)

affect the students’ motivation. Motivational/demotivational strategies with the highest frequency of occurrence have been highlighted in bold type (Madrid 2002: 402):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Praise &** **rewards** | Scolding,Reproaching | Easytasks | IntellectualChallenge | **Success****Expectations** |
| *never* | 19 | 35 | 46 | 16 | 20 |
| *rarely* | 32 | 59 | 55 | 45 | 31 |
| *sometimes* | 63 | 100 | 96 | 113 | 68 |
| *often* | **113** | 74 | 83 | 81 | 87 |
| *always* | **92** | 51 | 39 | 64 | **113** |
|  | **Group****work** | Curricularnegotiation | Self-evaluation | Individualwork | **Participation****in class** |
| *never* | 6 | 8 | 16 | 60 | 22 |
| *rarely* | 35 | 23 | 49 | 95 | 27 |
| *sometimes* | 54 | 114 | 108 | 101 | 70 |
| *often* | 105 | 107 | 91 | 36 | 87 |
| *always* | **119** | 67 | 54 | 27 | **113** |
|  | Use ofEnglish | **Needs &****interests** | Acting out | Competing | Informing about objectives |
| *never* | 50 | 3 | 24 | 31 | 9 |
| *rarely* | 75 | 12 | 61 | 43 | 40 |
| *sometimes* | 112 | 79 | 93 | 71 | 98 |
| *often* | 54 | **139** | 84 | 90 | 100 |
| *always* | 28 | **86** | 57 | 84 | 72 |
|  | Noparticipation | Discoveringlearning | **Audiovisual****Means** | GLOBALMOTIVATION |  |
| *never* | 58 | 15 | 4 | 3 |  |
| *rarely* | 79 | 42 | 14 | 14 |  |
| *sometimes* | 108 | 102 | 49 | 127 |  |
| *often* | 42 | 109 | 67 | 126 |  |
| *always* | 31 | 51 | **185** | 48 |  |

**Table 5. Frequencies of occurrence corresponding to the items in the questionnaire included in Madrid & Pérez Cañado (2001: 345-346), also available at http://www.ugr.es/~dmadrid/Doctorado/motcuest.htm**

We can see that the highest frequency of occurrences, among the controlled variables, is concentrated on: audiovisual means and new technologies, group work, (satisfying the students’) needs and interests, encouraging student participation, good grades and fulfilment of the student’s expectations of success, praise and rewards.

**Mean and standard deviation**

In the following table, we can see the students’ average perception (mean) and the variability expressed by the standard deviation of the sample groups. It must be noted that 1st Stage ESO and 2nd Stage ESO refer to the first and second stage or phase of the Spanish Obligatory Secondary Education and Bachillerato includes the two years of the Upper-Secondary. Informants used a 1-5 point Likert scale (Madrid 2002: 403).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| M = MeanSD = Standard deviation | Primary Ed.(n=76) | 1st Stage ESO (n= 60) |  2nd Stage ESO (n=69) | Bachillerato(n=114) |
|  | M | S.D. | M | S.D. | M | S.D. | M | S.D. |
| 1. Prizes and rewards  | 3,62 | 1,38 | 3,82 | 1,11 | 3,58 | 1,07 | 3,80 | 1,06 |
| 2. Scolds or punishment | 2,66 | 1,43 | 3,30 | 1,13 | 3,29 | 1,12 | 3,31 | 1,06 |
| 3. Adequate difficulty of tasks  | 2,91 | 1,34 | 2,82 | 1,21 | 3,07 | 1,08 | 3,24 | 1,20 |
| 4. Intellectually challenging exercises. | 3,59 | 1,11 | 3,65 | 1,23 | 3,28 | 1,13 | 3,25 | ,99 |
| 5. Good results vs bad results  | 3,07 | 1,37 | 3,80 | 1,20 | 3,86 | 1,14 | 4,14 | ,93 |
| **6. Working in pairs or groups** | **4,30** | 1,04 | **4,52** | ,65 | **3,91** | ,96 | **3,38** | 1,06 |
| 7. Negotiating curricular decisions | 3,89 | 1,01 | 3,97 | ,86 | 3,59 | ,89 | 3,31 | ,95 |
| 8. Self-evaluation processes | 3,73 | 1,11 | 3,33 | 1,20 | 3,36 | ,93 | 3,16 | 1,04 |
| 9. Working individually or autonomously | 2,54 | 1,29 | 2,17 | 1,12 | 2,61 | 1,10 | 2,89 | 1,06 |
| **10. Class Participation**  | **3,75** | 1,35 | **4,00** | 1,15 | **3,83** | 1,18 | **3,60** | 1,15 |
| 11. Using the FL/L2 in class  | 2,99 | 1,23 | 2,95 | 1,18 | 2,80 | ,99 | 2,59 | 1,16 |
| **12. Satisfying needs and interests** | **4,21** | ,97 | **4,00** | ,75 | **3,70** | ,86 | **3,82** | ,79 |
| 13. Acting out with audience | 3,67 | 1,21 | 3,58 | ,99 | 3,43 | 1,20 | 2,76 | 1,06 |
| 14. Competing with others | 3,92 | 1,27 | 3,75 | 1,14 | 3,30 | 1,31 | 3,15 | 1,22 |
| 15. Information about objectives and contents | 3,99 | 1,07 | 3,70 | 1,07 | 3,54 | ,93 | 3,28 | 1,01 |
| 16. No participation  | 2,60 | 1,49 | 2,90 | ,99 | 2,55 | 1,15 | 2,79 | 1,08 |
| 17. Discovering learning | 3,72 | 1,21 | 3,60 | 1,01 | 3,41 | ,96 | 3,18 | ,96 |
| **18. Audiovisual and technological aids**  | **4,39** | ,89 | **4,45** | ,92 | **4,22** | 1,04 | **4,21** | ,98 |
| 19. GLOBAL MOTIVATION | 3,87 | 1,02 | 3,77 | ,64 | 3,61 | ,79 | 3,42 | ,72 |

**Table 6. Descriptive statistics of the results obtained with the questionnaire in Madrid & Pérez Cañado (2001: 345-346), also available at http://www.ugr.es/~dmadrid/Doctorado/motcuest.htm**

 As we have highlighted in bold type, we can see that the motivational strategies which obtained the highest mean scores are: using audiovisual aids and new technologies, encouraging maximum students’ participation, satisfying needs and interests and introducing systematic group work.

It may be surprising to notice that the use of English in class does not motivate these student samples much. The older the students are, the lower motivation they feel when the teachers use English in class. The same applies to the students’ general motivation (item 19): it is clear that it decreases with time. It seems to be high in Primary Education (3.8), but the students perceive that it gradually decreases over time: 3.7 and 3.6 and in the two stages of Obligatory Secondary Education and 3.5 in Bachillerato.

**Significant differences**

To see if the differences **among all the groups** are statistically significant, the ANOVA can be calculated. Thus, we can see if the variability between the different groups is greater than the variability within each of the groups. A significant F occurs when the variability among the groups is greater than the variability within each group. When the F value is significant the null hypothesis of no difference is rejected, but we still do not know between which groups the differences are. In order to know that, we have to compare the groups by using the T-Student (or t-test) procedure if the score distribution is parametric, and the U-Mann Whitney and H-Kruskal Wallis procedures for non-parametric distributions and in relation to the type of sample.

In the following table the ANOVA indicates how confident we can be that the differences observed among the groups are not due to chance. The analysis of variance in the first column shows if the differences among the groups are statistically significant at a p≤ 0.05 level. Once we know that there are significant differences, the next step is to locate them by comparing the groups in twos with the T-test procedure, as indicated in the following table (Madrid 2002: 409).

|  |  |  |
| --- | --- | --- |
|  | ANOVA | T-STUDENT |
| F | Sig. (bilateral) |
| Primary = 76 students1st Stage ESO =602nd Stage ESO =69Bachillerato.=114 | Primary &2nd Stage ESO | 1st Stage ESO &Bachillerato |
| 1. Prizes and rewards  | ,500 | ,85 | ,91 |
| 2. Scolds or punishment | ,001 | ,00 | ,96 |
| 3. Adequate difficulty of tasks  | ,144 | ,41 | ,03 |
| 4. Intellectually challenging exercises. | ,049 | ,09 | ,02 |
| 5. Good results vs bad results  | ,000 | ,00 | ,04 |
| 6. Working in pairs or groups | ,000 | ,02 | ,00 |
| 7. Negotiating curricular decisions | ,000 | ,06 | ,00 |
| 8. Self-evaluation processes | ,003 | ,03 | ,31 |
| 9. Working individually or autonomously | ,001 | ,72 | ,00 |
| 10. Class Participation  | ,195 | ,71 | ,03 |
| 11. Using the FL/L2 in class  | ,052 | ,30 | ,05 |
| 12. Satisfying needs and interests | ,000 | ,00 | ,13 |
| 13. Acting out with audience | ,000 | ,24 | ,00 |
| 14. Competing with others | ,000 | ,00 | ,00 |
| 15. Information on objectives and contents | ,000 | ,00 | ,01 |
| 16. No participation; listening passively  | ,227 | ,82 | ,49 |
| 17. Discovering learning | ,002 | ,08 | ,00 |
| 18. Audiovisual and technological aids  | ,335 | ,27 | ,11 |
| 19. GLOBAL MOTIVATION | ,002 | ,09 | ,00 |

**Table 7. Significant differences between the groups of participants (Madrid 2002: 409)**

In the second column, we can see that the differences appreciated between the Primary Education students and 2nd Phase of Secondary Education groups are statistically significant in items 2 and 5, in favour of the secondary education students whose mean is higher and consequently they value these factors more than primary school students (see table 6). On the contrary, motivational strategies 6, 8, 12, 14 and 15 are significant in favour of primary school students whose mean is higher (see table 6) because they consider them more motivating than secondary school students at p < = 0.05.

When comparing the first stage of ESO and the Bachillerato students, significant differences have been found in variables 3, 4, 5, 6, 7, 9, 10, 13, 14, 15, 17 and 19 (global motivation). Bachillerato students give a higher motivating effect to variable 3. “Adequate difficulty of tasks”, 5. “Good results vs bad results” and 9. “Working individually or autonomously” and they value these factors more than fist stage ESO students, given that their mean score is higher (see table 6). On the contrary, the latter feel more motivated as can be observed in variables 4. “Doing intellectually challenging exercises”, 6. “Working in pairs or groups”, 7. “Negotiating curricular decisions”, 10. “Class Participation”**,** 13. “Acting out with audience”, 14. “Competing with others”, 15. “Receiving information about objectives and contents” and 17. “Discovering learning techniques”. They also feel a higher degree of motivation (v.19), which seems to decrease with age.

**Chi square**

Another calculation in experimental research data is the *chi square* (X2). With this procedure, we can compare the frequencies observed in a sample with expected frequencies (See Seliger & Shohamy 1989: 236).

**3.3.3. Correlational research data**

Correlation techniques are used to explore existing relations between variables. For example, if we have data about the students’ degree of motivation in the EFL class and their achievement, we can correlate data and study the relationship between achievement in EFL and motivation. If a *positive correlation* is obtained it means that there is a close relationship between both variables. A *negative correlation* would indicate the opposite view.

Correlations are often indicated by means of the Pearson’s *correlation coefficient (r),* which ranges from –1.00, indicating perfect negative correlation to 1.00, which indicates perfect positive correlation. The level of significance obtained is very important since it relates directly to whether the null hypothesis is rejected or not. The conventional level of rejecting the null hypothesis is p < .05 (marked with one asterisk in the table) or p < .01 (marked with two asterisks). Here is an example of correlations between several personality factors with the students’ achievement and degree of motivation in the EFL class:

| **Correlations (personality factors, motivation and achievement, ESO 4 (age: 16)** |
| --- |
|  |  | anxiety | empathy | extrover | MOTIVATION | participation | persistence | shyness | ACHIEVE |
| anxiety | Pearson Cor. | 1 | -,53\*\* | -,55\*\* | -,10 | -,58\*\* | ,15 | ,61\*\* | -,30\* |
| Sig. (2-tailed) |  | ,00 | ,00 | ,47 | ,00 | ,26 | ,00 | ,02 |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| empathy | Pearson Cor. | -,53\*\* | 1 | ,79\*\* | ,35\*\* | ,74\*\* | -,04 | -,79\*\* | ,66\*\* |
| Sig. (2-tailed) | ,00 |  | ,00 | ,00 | ,00 | ,73 | ,00 | ,00 |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| extroversion | Pearson Cor. | -,55\*\* | ,79\*\* | 1 | ,32\* | ,79\*\* | ,02 | -,87\*\* | ,61\*\* |
| Sig. (2-tailed) | ,00 | ,00 |  | ,01 | ,00 | ,86 | ,00 | ,00 |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| MOTIVATION | Pearson Cor. | -,10 | ,35\*\* | ,32\* | 1 | ,44\*\* | ,44\*\* | -,37\*\* | ,68\*\* |
| Sig. (2-tailed) | ,47 | ,00 | ,01 |  | ,00 | ,00 | ,00 | ,00 |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| participation | Pearson Cor. | -,58\*\* | ,74\*\* | ,79\*\* | ,44\*\* | 1 | -,01 | -,93\*\* | ,72\*\* |
| Sig. (2-tailed) | ,00 | ,00 | ,00 | ,00 |  | ,91 | ,00 | ,00 |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| persistence | Pearson Cor. | ,15 | -,04 | ,02 | ,44\*\* | -,01 | 1 | ,04 | ,17 |
| Sig. (2-tailed) | ,26 | ,73 | ,86 | ,00 | ,91 |  | ,77 | ,20 |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| shyness | Pearson Cor. | ,61\*\* | -,79\*\* | -,87\*\* | -,37\*\* | -,93\*\* | ,04 | 1 | -,66\*\* |
| Sig. (2-tailed) | ,00 | ,00 | ,00 | ,00 | ,00 | ,77 |  | ,00 |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| ACHIEVE | Pearson Cor. | -,30\* | ,66\*\* | ,61\*\* | ,68\*\* | ,72\*\* | ,17 | -,66\*\* | 1 |
| Sig. (2-tailed) | ,02 | ,00 | ,00 | ,00 | ,00 | ,20 | ,00 |  |
| N | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |
| \*. Correlation is significant at the 0.05 level (2-tailed). |

**Table 8. Correlation between the students’ perception of their personality factors, motivation and achievement in the EFL class (Secondary Education, grade 4, age: 16).**

|  |
| --- |
| **Activity 6:****Look at table 8 and find out the significant positive and negative correlations between the variables. Choose only positive and negative correlations with a ”r” coefficient equal or higher than ,75 or -,75. At what level of significance do these variables correlate? What are the pedagogical implications?**  |

**3.3.4. Multivariate research data**

There are three well-known multivariate procedures (see Seliger & Shohamy 1989:222-231):

1. *Multiple regression* is used to examine the relationship and predictive power of independent variables. In the case of the relationship between L1 and L2, regression would indicate the prediction of L2 achievement under the influence of L1.
2. *Discriminant analysis* indicates which combinations of independent variables distinguish between two or more categories of the dependent variable. For example, a researcher may want to study which combination of variables, L1, motivation, aptitude, etc. can best distinguish between two types of second language learners (males/females; learning in formal/informal contexts).
3. *Factor analysis*. In this case the interrelationships between and among the variables of the data are examined in an attempt to find out how many independent dimensions can be identified in the data. Factor analysis is a procedure frequently used to validate language tests, like for example, to check if the items of cultural tests really measure cultural competence.

|  |
| --- |
| **Discussion E:****Watch the video clip on quantitative and qualitative research available at** [**https://www.youtube.com/watch?v=MBtXj4My5C4**](https://www.youtube.com/watch?v=MBtXj4My5C4)**. What examples of quantitative and qualitative research are given in the video clip? What calculations are mentioned? What’s the final conclusion?**  |

1. **Discussing practical proposals: an Example of a Research Study**

When writing a piece of research work, you can follow the steps given in the subject in this Master’s degree “Research Methodology and Academic Writing” (Topic 5: section 5.3, Writing an MA dissertation), or the following stages, which are very similar and more classroom-oriented (see: Madrid, D. and Bueno, A. 2005: 646-647):

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| ACKNOWLEDGMENTSCONTENTS / INDEX1. INTRODUCTION / PROBLEM FORMULATION: selecting a research problem; formulating the general question or the problem which will be solved; creating a rationale for the study and analysing the feasibility of the research work we aim to carry out to solve the problem; importance of the problem. General objective or research question. Sections, structure and organisation of the work.
2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW*:* definition of constructs and key aspects, theories, paradigms and models of the key concepts. This includes a revision of the existing literature on the topic: theoretical framework, models and research studies on the topic.
3. RESEARCH PLAN / DESIGN / METHODOLOGY
* **Formulation of hypotheses, objectives or research questions**: formulating the research plan and hypothesis to be tested; deciding on the specific objectives that will be achieved or the research questions that will be answered.
* **Identification and description of variables** implied in the objectives or research questions which have been formulated.
* **Population/participants/subjects** used for data collection: age or academic levels, gender, etc.
* **Classroom context/ educational treatment / intervention programme:** describing the educational treatment: curricular aspects, tasks implemented in class, materials and resources used for the “experiment” / innovation, etc.
* **Procedures for data collection:** description of the procedures used (e.g. questionnaires, tests, interviews, diaries, observation checklists, etc.) and presentation in appendixes.
* **Data analysis:** surveyed sample’s comments: perceptions, opinions, etc. Descriptive statistics: mean, standard deviation, ANOVA, T-Test, correlations, etc.
1. RESULTS AND DISCUSSION: presentation and interpretation of results in relation to the research objectives/questions. Connection between the results obtained, the theoretical framework y and other similar studies.
2. CONCLUSIONS in relation to the hypothesis, objectives or research questions.
3. PEDAGOGICAL IMPLICATIONS: desirable changes to be implemented in class in relation to the results and conclusions obtained.
4. LIMITS OF THE STUDY, LINES FOR FUTURE RESEARCH.
5. APPENDICES
6. BIBLIOGRAPHICAL REFERENCES
 |

Here is an example of a research study taken from Madrid & Hughes (2011) and Hughes & Madrid (2015):

1. *Title*

The written production of CLIL and EFL students, in English an L2, at the end of the obligatory Secondary Education stage

1. *Problem formulation* (rationale, relevance and importance of the problem)

The acquisition of the skill of writing in a foreign language (FL) is a complex process in Primary and Secondary Education which requires the mastery of several sub-skills. Among the abilities involved, we could mention creativeness, orthographic knowledge, grammatical and pragmatic competences, the correct use of punctuation, adequate word choice, the use of cohesive devices or the construction and organisation of different types of text. So it is necessary to explore the written competence that the students developed at the end of their primary and secondary education period in EFL and CLIL programmes and study if the differences are significant in order to favour the type of educational programme that gives better results. …

1. *Theoretical framework and state of the art* (definition of constructs and key aspects, theories, paradigms and models about the key concepts, research studies about the topic)

Writing requires awareness of graphic symbols, that is, letters which represent the sounds that we make when we speak. These letters are arranged according to certain conventions to form words and by combining words we create sentences, paragraphs and texts. When we speak we often make use of expressive features such as gestures, body movement, tone of voice, silent periods, etc. that are absent in written communication. So, when we write, we have to compensate for that lack of contextual elements and use others.

A high level of proficiency in the writing skill is very difficult and requires a lot of practice. It has to be learnt through a process of instruction and practice which implies:

- *Grammatical* and mechanical skills: the ability to write correct sentences with the right spelling and punctuation.

- *Sociolinguistic* competence: ability to write appropriately and effectively, that is, to use the language required for each situation.

- *Discourse* competence: the ability to combine sentences to produce texts with coherence and cohesiveness.

Thus, competence in writing involves a certain level of expertise in visual, grammatical, pragmatic, expressive, stylistic, rhetorical and organisational aspects (see White 1980; Pincas 1982; Raimes 1983; Hedge 1988; White and Arndt 1991; Tribble 1996; Cancelas and Howard 2004; Manchón et al. 2005).

1. *Formulation of hypothesis, objectives or research questions*

The starting hypothesis in this study has been that the students who follow a CLIL program develop a higher proficiency level in writing than those who follow EFL programs.

Based on this hypothesis, we have aimed to provide an answer to the following **research questions**:

* Who develops a higher written competence in English as an L2 at the end of the compulsory secondary education stage: EFL or CLIL students?
* What written competence do secondary school CLIL and EFL students reach in grade 4 (age 16)? How do they express themselves when they write in English?
* Are there significant differences between the level obtained by CLIL and EFL students in their writing skills?
1. *Identification (and description, if necessary) of variables* implied in the objectives or research questions which have been formulated

The following independent variables have been controlled for in each of the three writing items: a) grammatical, semantic, orthographic and pragmatic accuracy; b) aspects of cohesion and coherence; c) content and development of ideas; d) style and expression.

*6) Population* used for data collection: age or academic levels, gender, etc.

The participants in the study could not be assigned at random. Instead, a cohort of two voluntary CLIL groups and two EFL groups, which agreed to take part in the investigation, were used. The number of subjects who formed the sample is summarised in the following table:

|  |  |
| --- | --- |
|  | Secondary Education Students (Grade 4, age 16) |
|  | Students | Total hours of English |
| CLIL Group  | 62 | 1680 |
| EFL group  | 61 | 805 |

The 62 CLIL students received approximately 340 hours of bilingual instruction in Natural, Social and Environmental Knowledge as well as Art Education and approximately 420 hours of English as an FL. The total would be 760 hours of English throughout Secondary Education. If we add the English classes received in Primary Education, these students were exposed to approximately 1680 hours of English in class by the age of 16.

The EFL group in Secondary Education was made up of 61 students from Grade 4 who had not received bilingual education, although they had studied English as a foreign language for 420 hours throughout their Secondary Education. Considering the 385 hours of English classes received in Primary Education, these students were exposed to approximately 805 hours of English in total.

*7) School context*

The CLIL group started the Andalusian bilingual programme in 2006 in the 1st Grade of Secondary Education at the age of 13. The programme included one hour of curricular instruction in Music, Natural Sciences, Mathematics and Technology in English as an L2 and the other two weekly hours of each subject were taught in the L1 (Spanish). The teaching of English as a subject was totally conducted in the L2. So the students received four hours of CLIL in non-linguistic subjects in English in addition to the four hours of English as a curricular subject. Apart from this formal instruction, 40 students took part in the Comenius programme with students from Britain, Italy, Portugal, Poland and Estonia. The students also took part in the programme “Language and Youth” during the summer. The bilingual programme is also complemented with extracurricular activities, especially drama activities in English. The specialised subject teachers are not native speakers of English. They have a B2 level of English according to the CEF and use English as an L2 medium of instruction around 65% of the time. Nevertheless, English is used by students in classroom activities in a lower proportion, around 40% of the time.

The EFL group followed a monolingual programme for all the school subjects except for English which was taught in the L1 for three hours a week, with the help of a textbook. Most of the explanations, classroom instructions and clarifications were also given in the L1 (Spanish), although the students used English when doing the textbook activities.

*8) Procedures for data collection*: description of the procedures used

To provide an answer to the previous questions and to account for the variables involved in the objective of our study, a test was administered to control for the students written competence when a) Writing a short e-mail in answer to a friend’s message, b) Writing about an imaginary accident the student had and c) Giving opinions for a school magazine.

*9) Data analysis*

A quasi-experimental design has been adopted in this study. The participants were not assigned to the groups at random. Instead, a sample who agreed to participate in the study on a voluntary basis was used. The treatment of general statistics is descriptive in relation to quantitative and qualitative variables. A comparison of means was made by using the T-Test procedure for parametric results and the U-Mann Whitney for non-parametric distributions in relation to the sample size and the distribution of variables.

*10) Results and discussion*

The mean scores and standard deviation for the compositions in the secondary schools are shown below:

|  |  |
| --- | --- |
| *TASKS* | Secondary Education (grade 4) |
| CLIL students | EFL students |
| Mean(0-1) | SD | Mean(0-1) | SD |
| 1. Writing a short email
 | .62 | .16 | .47 | .20 |
| 1. Writing about an imaginary accident the student had
 | .65 | .16 | .38 | .25 |
| 1. Giving opinions for a school magazine
 | .61 | .16 | .30 | .23 |

As can be observed, the written competence of the EFL students who studied English as an FL is fairly low, below 5 points (0.5 in a 0-1 scale) in comparison to students who studied in a CLIL environment and scored above 6 points.

**Differences between groups**

Given the non-parametric distribution of the scores, the differences between the samples of EFL and CLIL groups were calculated using the Mann-Whitney U test. The results obtained were the following:

|  |  |  |
| --- | --- | --- |
| Tasks in Secondary Education | Z | Sig. |
| 1. Writing a short email  | -3.98 | .000 |
| 2. Writing about an imaginary accident the student had  | -5.80 | .000 |
| 3. Giving opinions for a school magazine | -6.65 | .000 |

We can observe that there are significant differences between CLIL and EFL groups, with higher scores obtained among the former. This would appear to indicate that the greater number of hours of class in English has had a positive impact on performance in writing.

The written competence achieved by CLIL and EFL students at the end of obligatory secondary education, grade 4, can be appreciated in the sample texts included below (Hughes & Madrid 2015: 107-108):

*Item 1: Writing a short e-mail in answer to a friend’s message*

|  |  |
| --- | --- |
| *Sample text from a Secondary EFL group, 4th grade (805 hours of English):* | *Sample text from a Secondary CLIL group, 4th grade (1680 hours of English):* |
| Hello Michael, well ... I started karate a long time ago ... 4 years ago, I thing. I am very good in this marcial art. I go every Mondays, Tuesday and Thursday. I’m sure that if I fight with you I’ll be very boring in the fiht ... Good bye my little friend. | Hi MichaelI loved karate too. Is one of my favourites sport. Now I play basketball. I love it! I go to the University to play on Monday and Wednesday with my friends. If you want you can go with me. The rest of the time I studied and I play videogames. Bye Michael. |

*Item 2: Writing about an imaginary accident the student had*

|  |  |
| --- | --- |
| *Sample text from a Secondary EFL group, 4th grade (805 hours of English):* | *Sample text from a Secondary CLIL group, 4th grade (1680 hours of English):* |
| The last Monday ... A poor kitte had a accident. He falled of a 1 hundrered of metres. The cat had a contracture and a lot of breaks bones. Also a men had a break finger due he was down and he tried taked the poor kitti. Actually thei are in a hospital. | The last year I went to Madrid with my family. It was 23:00 and the night was very dark. We can’t saw the others cars well and my father was driving too fast because it was Christmas. Everyone wanted to came quickly. My father was tired because the last day he worked much time. The car started to accelerate and my father fall sleep. The car impact with a wall and I didn’t remember anything. When I woke up I was in the hospital. |

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| *Item 3. Giving opinions for a school magazine* |
| *Sample text from a EFL group, 4th grade (805 hours of English):* | *Sample text from a Secondary CLIL group, 4th grade (1680 hours of English):* |
| My opinion is that ... it will be great … I love the uniforms. I’m a heavy metal and I like the T-shirts but I’m a super friki of Japan and there ... they use the uniform. I want a uniform in my school ... This cool. | In my opinion I think that all the school must had uniforms. Is the best election because you don’t have to think what you have to dress up. The only things that in my opinion is bad is the prize of the uniform. Many uniforms are very expensive. If the uniforms become less expensive this will had the best election. |

As indicated in Hughes & Madrid (2015: 107-108), in general terms, the texts produced in these tasks by CLIL students were more accurate and complex than the responses provided by EFL participants. There is a more frequent use of subordinate clauses (e.g. *When I tell her that she put a rare face, but I said to her that I was OK*; *when we climbed the mountain my bike was broke and I broke my leg*) and the vocabulary and expressions used are more complex (e.g. *I was so frightened*; *unhappy*). However, as previously mentioned, CLIL students still make some basic grammatical errors (e.g. *was broke*; *you can’t moved*; *the doctor say me*; *I was cutted*; *that came out the car*).

*11) Conclusions* in relation to the hypothesis, objectives or research questions

The results obtained in this study allow us to answer the research questions and draw several tentative conclusions which may be of interest to various stakeholders in bilingual education:

1. *Written competence developed by secondary school EFL students & CLIL participants in grade 4 (age 16)*

Overall, we have ascertained that performance of students in their responses in written tasks in English is generally poor among EFL students. It is also worth underlining the fact that texts produced by many students, both from EFL and CLIL groups, often appeared to suffer from interference from L1

1. *Level of writing competence reached by CLIL and EFL students in grade 4 (end of compulsory secondary education).*

As can be seen in the sample texts included previously, CLIL students are able to provide longer and more accurate texts with higher levels of grammatical complexity and a wider range of vocabulary.

1. *Differences between the levels obtained by CLIL and EFL students in their writing skills.*

We have also detected significant differences in results obtained by EFL and CLIL students. CLIL students consistently outperform EFL students and show greater mastery in their written competence.

*Hypothesis confirmation*

Consequently, the initial hypothesis has been confirmed, that is, the students enrolled in CLIL programs develop a higher competence in writing than those who follow conventional EFL programs.

*12) Pedagogical implications*: desirable changes to be implemented in class in relation to the results and conclusions obtained

From the evidence presented in this study, it would appear that bilingual education, which incorporates the teaching of a foreign language as a subject and CLIL in non-linguistic subjects with the associated increase in the number of hours of L2 instruction, enables students to deal with writing tasks with much higher levels of fluency and accuracy than by learning the language in traditional EFL contexts or simply as a school subject with the official time load. As pointed out in Hughes & Madrid (2015), CLIL students are better prepared to meet official targets for written expression and, hence, to communicate more effectively in the foreign language than EFL students. So, it would be beneficial for education systems to turn EFL programmes into CLIL programmes, since this would imply important methodological changes and more hours of English.

*13) Further investigations* into the topic

This study has focussed on the effect of CLIL programmes on the writing skill, but it would be necessary to investigate what happens with the other linguistic skills (listening comprehension, speaking and reading) and competences proposed by the Common European Framework (existential competence, ability to learn, pragmatic and intercultural competence, etc.).

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| **Final assignment:****Exploring the students’ and teachers’ perceptions about classroom activities**. What teaching and learning activities do teachers and students consider most useful and efficient in learning the L2? Give an answer to this question by collecting a group of primary school (age 11 or 12) and/or secondary school students’ opinions about the importance of the following activities (Madrid and Pérez Cañado 2001:347-348 and Madrid & Bueno, 2005: 677). You can also compare the students’ opinions with their teachers’ perceptions and study the differences. Then, describe your research study by following the steps given above for research studies. You can also insert spaces for the students to add some comments on each item. You may have to translate the **following questionnaire** and administer it in the students’ mother language. |

**QUESTIONNAIRE: IMPORTANCE OF CLASSROOM ACTIVITIES**

How important do you consider the following activities for the L2 learning? Grade these items by using the following scale:

*5 = very important;* *4 = important; 3 = somewhat important;*

*2 = of very little importance; 1 = of no importance*

Tick: Student’s opinion: ……… Teacher’s opinion: ……..

 Grade: ………. Date: …………

(.....) 1. **Pair-work** exercises.

(.....) 2. **Group work** activities; working in teams.

(.....) 3. Activities which involve data-gathering and interviewing foreigners **on the street**.

(.....) 4. Consulting brochure, cutting out pictures, using newspapers and books to make wallcharts, murals and other assignments **(projects, etc.)**

(.....) 5. Watching adapted **video** records and films.

(.....) 6. Listening to **tape recordings**: textbook dialogues or other texts.

(.....) 7. Listening to and singing **songs** in the FL.

(.....) 8. Playing **games** in class.

(.....) 9. Exercises with **visual aids**: posters, murals, pictures, photographs, etc.

(.....) 10. **Oral** exercises which involve interaction between teacher and students.

(.....) 11. Use of the I**nternet** **and new technologies** (chats, e-mail, web pages, etc.) as a learning resource.

(.....) 12. **Dramatising** dialogues and situations.

(.....) 13. **Oral comprehension** exercises: listening to recordings with the help of drawings but without reading texts.

(.....) 14. Reflecting on your own learning process: your **learning strategies**, cognitive styles, etc.

(.....) 15. **Reading** dialogues and other texts in the English book.

(.....) 16. **Written** activities in the *workbook* or notebook.

(.....) 17. **Pronunciation** exercises**.**

(.....) 18. **Vocabulary** activities (new and already studied words).

(.....) 19. **Grammatical** exercises.

(….) 20. **Spelling** activities.

(….) 21. Activities on the **sociolinguistic** aspects of the L2: functional value of the language studied, communicative functions, etc.

(.....) 22. Commentaries, questions, and reflections on the life and customs of speakers of the FL: **(inter)cultural aspects**.

(….) 23. .....

**FURTHER READING**

**Alwright, D. and Bailey, K.M. (1991).** *Focus on the Language Classroom: An Introduction to Classroom Research for Language Teachers.* Cambridge: Cambridge University Press.

In this book, research is placed in the context of the foreign language classroom, which makes it especially useful for teachers. It presents the basic principles for this type of research and suggestions to develop it. In addition, it offers reading materials for discussion and proposes possible research projects. Classroom research is focused on the exploration of one’s own teaching practice and as a means to the teacher’s professional development. In this respect, it constitutes an invaluable handbook for the classroom researcher.

**Brown, J. D. (1988).** *Understanding Research in Second Language Learning: A Teacher’s Guide to Statistics and Research Design.* Cambridge: Cambridge University Press.

This is extremely useful for teachers and researchers who are not familiar with statistical research, since it presents the necessary skills and procedures in order to understand the application of statistical research to language learning. This book explains basic statistical terms, shows how statistical reports are structured and how to decipher tables and graphs. Plenty of examples are included. In addition, general aspects about research are also covered, especially in the first two chapters.

**Mackey, A. & Gass, S. (2005).** *Second Language Research: Methodology and Design.* London: Lawrence Erlbaum Associates.

This is a very comprehensive study about second language research, its methodology and design, which covers all these areas in depth. It starts with an introduction to research. Then, it deals with issues related to data gathering and common data collection measures. Next, it gives very practical information about research variables, validity, designing quantitative and qualitative research and classroom research. Finally, it gives orientations on how to prepare data for coding, analyse quantitative data and how to report research studies.

**Seliger, H. W. and Shohamy, E. (1989).** *Second Language Research Methods.* Oxford: Oxford University Press.

A classic in language learning and teaching research, it presents the following aspects in a detailed and exhaustive way: the concept of research; the different research types, methods and paradigms; and the stages in any research project (preparatory stage, contextualisation and literature review, data collection and analysis procedures, and final presentation). It is particularly useful because of its comprehensiveness, clarity and methodological presentation.

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1. An excellent monograph about classroom observation is that by Allwright (1988), highly complete both from a historical and an educational perspective. Stemming from classic references, Allwright exhaustively revises research in the seventies and eighties and draws possible lines to follow. He connects theory and practice, by emphasizing the value of the information obtained from observation, not only for teacher training but also for decision making in educational policies. In the same vein, Ellis (1990: 91-114) is also recommendable. In order to have a brief and precise view of what has been said, written, done, and what can be done in relation to classroom interaction the book by Malamah-Thomas (1987) is a must. [↑](#footnote-ref-1)