Inductive and Deductive ways of Teaching Grammar in a EFL classroom

Abstract
This essay deals with inductive and deductive approaches when teaching grammar in a SFL (Second Foreign Language) classroom of Secondary Education. It shows what deduction and induction reasoning is -as well as some methods based on these ideas- providing advantages and disadvantages for both approaches. Moreover, it explains how to apply each strategy and the role teachers and students take in each case. PS. Examples of activities to be applied in class have been omitted, but they can easily be added again.
Keywords: Didactics of Language, Teaching Grammar, Grammár, Induction, Deduction, Strategies for teaching-learning processes

Resumen
Trata sobre los métodos inductivos y deductivos de enseñar gramática. Se centra en el proceso de enseñanza-aprendizaje de una segunda lengua en el aula, enfocado a la Educación Secundaria. Muestra en qué consiste la deducción y la inducción -además de mencionar metodologías con estas bases- dando a conocer sus ventajas y desventajas. También indica cómo llevar a cabo cada estrategia y el rol que tanto el profesor como el alumnado adopta en cada caso. PD. He omitido las actividades ejemplo, pero se pueden volver a añadir sin ningún problema.
Palabras clave: Didáctica de la Lengua, Enseñanza de la Gramática, Gramática, Inducción, Deducción, Estrategias del proceso enseñanza-aprendizaje.

In this project I will analyze the deductive and inductive ways of teaching and learning grammar when studying a second language. I will show what the inductive and deductive reasoning is and their function when learning a language. I will explain what the deductive approach is (comparing also with the PPP and Grammar Translation methods) and the rules and explanations the teacher should follow when teaching in a deductive way. Later on I will mention the advantages and disadvantages of this approach. Then I will do the same with the inductive approach; first of all I will explain what does it consists on (showing the similarities it shares with the Direct Method and the Natural Approach) and how to teach using this approach and what to take into account. It will also be followed by the advantages and disadvantages of the approach. To finish, I will show the different role both the student and the teacher take depending on the approach used in the classroom.

"All persons are mortal

Socrates is a person

Socrates is mortal"

All persons are mortal and Socrates is a person, therefore Socrates is mortal. This is reasoning from the general into the specific, which is considered deductive reasoning. That is, deduction is the conclusion reached from general terms into a specific one.

The inductive approach is the opposite of the deductive approach:

"I have examined ten thousand dogs.
Every dog I have examined has fleas.
Therefore, all dogs have fleas."

This reasoning from the particular into the general is considered inductive reasoning. It reaches a general rule from specific instances.

So let's say that deduction is the conclusion reached from the general into the particular, and induction the conclusion reached from the particular into the general.

When you arrive in a country you have never been before and you are told that people there as a general rule rub noses when greeting each other and you do the same that is deductive learning. However, if you go to that same country and after observing several time people rubbing noses when greeting each other you reach the conclusion that this is a custom, you are learning by an inductive process.

INDUCTION AND DEDUCTION IN LANGUAGE ACQUISITION

These processes are an essential part in the acquisition of a language. The inductive process is more used when learning our L1 while we mainly use the deductive one when learning our L2. However, deductive teaching should not be used so much in class. Traditional methods –such us Grammar Translation or PPP- have overemphasized the deductive process when teaching the language. While it could be suitable to articulate a rule and then move forwards to its examples, most of the proof in communicative L2 learning shows the high quality of an inductive approach to rules and generalizations. Nonetheless, both inductive and deductive approaches oriented to language teaching can be effective, all depending on the goals and context as on the teacher and the students. A combination of these two teaching ways would be a good option.

An important issue when planning a lesson is the way in which materials are sequenced. The syllabus provides the teacher with the knowledge of the ideas that should be taught. The teacher has to interpret syllabus statements by selecting the appropriate aspects and organising the material in a way that students can easily understand it taking into account their background and cognitive ability. The two main components of lesson content are the concepts and the examples. Most of the lessons teaching centre on the learning of particular key ideas, such as a specific grammatical rule in a language. The generalisations are supported by the use of examples or a study case.

PPP vs Deductive Approach

PPP (Presentation, Practice, Production) is a very used common method. This method is based first on the theory and then in the practice. First of all, the teacher explains the theory (presentation), sometimes giving notes to the students. Once the theory is already explained he/she gives some exercises to the students (practice) to see if they have understood what he/she had explained before. And finally, when the teacher has already proved that the students know the theory, they have to make their own production, some exercises to show that they are able to work with it. Taking into account that with this method the theory is given, the work of the student's brain is minimum. The student just has to listen to the teacher and understand the theory, put it into practice and be able to reproduce it; he/she follows some steps given by the teacher.

Grammar Translation

Grammar Translation was created to teach Greek and Latin since it is considered a method to teach dead languages. There is no communicative purpose because these languages are not spoken; instructions are given in L1 and L2 is not used. That is why just grammar and translation are taught (by learning nouns, verbs, adjectives etc and later on reproducing them in translation).

Sometimes this method is used to teach modern languages when the aim is to make people able to read the literature of that language. That is, it is used for literary purposes, but never for communcative's.

This method has several limitations: no pronunciation exercises at all, learners study the language itself but not how to use it, not practical for every-day use of the L2, not useful to teach modern languages… In one word, it has no communicative purposes at all; not useful for speaking and listening, juts for reading and writing. GT is not suitable for beginners at all; it just could be useful to teach some specific grammatical rules to intermediate-advances students.

These methods are similar to the deductive approach in which the rules are explained by the teacher, usually in students' native language, some examples are shown and later on students have to work with this theory. In these teaching ways lessons are mainly dominated by the teacher, and student's role is completely passive at the beginning, without communicative purposes. It is exactly the opposite of the inductive way.

DEDUCTIVE APPROACH

A deductive approach is rule-driven learning; it starts presenting a rule followed by examples in which that rule is applied. This teaching goes from an explicit presentation of metalinguistic information, the planning of a set of generalizations, isolated language rules at autonomous levels of description consequently accompanied by model sentences, to its application into the second language and by practicing it in tasks once the clarification has already been studied and assimilated. This technique already provides the learners the grammatical rule, describing how to form the new structure, its components and when to use it. Learners are supposed to understand and memorize it and to be able to put it into practice.

RULES AND EXPLANATIONS

L2 is mainly concerned with descriptive rules (rules that linguists would give to explain something about the language) but it is more common and advisable the use of pedagogic rules when a teacher is teaching the students. Pedagogic rules are the ones that make sense to the learners while at the same time provide them the tools to create language with certain possibilities of success in it. And in the end, teachers must fulfill learners' needs rather than grammarians. Michael Swan (author of teachers' and students' grammar) offers the following criteria to make a rule a good rule:

Rules must be true. While truthfulness may need to be comprised in the interests of clarity and simplicity, the rule must bear some resemblance to the reality it is describing.

They must show the limitations the use of the given form has.

Clarity is important since sometimes the lack of it is a consequence of ambiguity or obscure terminology.

If they are not simple, that they have several sub-categories to cover all possible instances and exceptions, learners would not remember them clearly because there is a limit of exceptions a student can remember.

An explanation should try use familiar concepts to the students. If they do not have specialized knowledge of grammar they will know the basis of the grammar of their own language (imperative, past, future).

A rule should answer just the questions that students need to be answered, the ones that could vary from their native language.

According to Michael Swan these are the characteristics a rule should have in order to be a good one. It is important for the teacher to create proper abstraction so learners can understand it perfectly; consequently, teachers should follow these steps when preparing lessons.

Learners are supposed to acquire the generalization which they can link to specific cases, but quite often they just understand it by looking at examples. As a result, the teacher should start with a clear statement of the generalization and not thinking that the students will remember it, he/she should write it down on the blackboard. It is advisable to focus on the similarities and differences or relationships inherent within the generalization. Later on the teacher will illustrate it with examples and make the students provide more examples.

Students' understanding of the metalanguage (a language used to describe, analyze or talk about language) has a lot to do with the success of a good explanation. If it is not sufficient, the terminology necessary should be previously explained.

Advantages of the deductive approach

It goes directly to the point so there can be time-saving. Several rules can be more simply and quickly explained like this than elicited from examples. This will give more time to put into practice the rules.

It respects the intelligence and maturity of quite a lot of learners and acknowledges the role of cognitive processes in language acquisition.

It allows the teacher to deal with language points spontaneously, when they appear in class, he/she will explain them in the moment as he/she has not to anticipate and prepare them before.

It confirms many students' expectations about classroom learning, especially for those ones who have an analytical learning style.

Disadvantages of the deductive approach

Beginning a lesson with a grammar presentation could be off-putting for some students since they may not have sufficient metalanguage and they may not be able to understand the concepts.

Grammar explanation is usually a teacher-dominated classroom. Moreover, explanations are not usually as easy to remember as other kind of presentations (as demonstrations, for example)

This approach may make you think that learning a language is just learning some rules.

AN INDUCTIVE APPROACH

An inductive approach is discovery learning; it starts with some examples from which a rule is reached. As it was before mentioned, in the deductive way the grammatical rule is showed and the student engages with it through the study and manipulation of examples. Nonetheless, in the inductive way the student studies the examples without knowing the rule and from those examples he/she makes and understands the rule.

The inductive route is similar to the way in which we acquire our first language: "simply through exposure to a massive amount of input the regularities and patterns of the language become evident, independent of conscious study and explicit rule formulation"[1]. Induction is seen as a natural route of learning and is firmly identified with some methods of second language teaching such as the Direct Method and the Natural Approach which are based on the acquisition way of the L1.

Direct Method

This method's aim was to imitate the acquisition of the mother tongue and that is why at the beginning, with the first attempts to create and develop it, it was called the Natural Method. The Direct method denies to use students native language and uses just the target language. Students are taught everyday vocabulary and sentences. They improve their oral communicative skills by a progression of questions and answers both with the teacher and their classmates; they are expected to be speaking the 80% of the time in class, so both listening and speaking are improved. New teaching points are introduced orally and grammar is taught inductively.

Natural Approach

The Natural Approach is related to the way in which a child learns his/her mother tongue. As Audiolingualism, this approach follows the criteria that in order to learn a language we first have to listen to it, then reproduce by ourselves (speak), then read and finally write. The main goal of this approach is to develop basic personal communication skills both in oral and written language.

As the learner goes developing skills and competences in L2, he/she starts to correct him/herself according to the speech and written 'rules' of the native speakers of the L2. Students with high motivation, self-confidence and self-good image tend to do it better and to be more successful. They have an active and creative role; they provide information about their particular goals and interests. They are the ones deciding when they are ready to produce speech by themselves.

The teacher is the primary source of comprehensible input and must provide an appropriate atmosphere in class to make possible language acquisition.

These teaching methods (the Direct method and the Natural approach) share the basic assumption that language data is best processed inductively and without recourse to translation. They are similar between them and are almost like the inductive approach, since all of them are based on the way in which we acquire our native language. After all, the most natural route to a L2 bypasses the classroom altogether, and the best example of experimental learning is that of immersion in the foreign language speaking community.

This inductive way of acquiring a L2 is uses quite often in the programs of bilingual schools for children, when they have to learn their L2 when they even do not know how to read and write, so it is similar to the acquisition of their native language. However, according to some critics, this learning way is not complete and it is not well organized. Induction to

do the best of it, it is supposed to require more than random exposure: it needs the intervention of the syllabus designer, the materials writer, or the teacher, or even the three of them.

The most important part of their discovery learning would be that what you learn, as you learn it by yourself, it remains better in your mind. That is what Pascal already said several years ago: "People are generally better persuaded by the reasons which they themselves have discovered than by those which have come into the minds of others". That is, that the rules that keep in your brain are those which have been made and constructed by yourself, as they are your own rules, not others'.

HOW TO TEACH AND WHAT TO TAKE INTO ACCOUNT

In this approach, the teacher presents students with data and they are asked to observe this data and basing on these observations to form the abstraction being taught, that is, to make the general rule.

When planning an inductive lesson the teacher must know what goals can be achieved and what concepts or generalizations wants to reach. Then the teacher will prepare the examples which will provide the data which learners will use to process, or form, the abstraction or generalization that is being taught. The examples must show the characteristics of the concept are readily observable to the learner. These examples must not illustrate just the concepts contained in the generalization, but also should show the relationships within the concept.

The teacher will start the lesson by presenting some selected examples or illustrations of the abstraction to be taught and will ask the students to make as many observations about them as possible. Several observations of the students will not be related with the generalisation to be taught, but all of them must be written down on the blackboard. Once the learners have made all the observations they can, the teacher will show the second group of examples and they will do the same again, and this time they will probably notice some similarities between the first examples and these second ones. When they have already made all the possible observations, the teacher will show the third group of examples and the same process will be done, and later on with the fourth group of examples and so forth until the students get the generalization to be taught. With this activity the learners will build an abstraction from observation.

The teacher will refrain from verifying the correctness of the statements made by the students. Place instead responsibility for verification on the learners. The teacher will start making questions and require students to validate conclusions with the data presented. When the students' inferences are validated by data, the lesson can be considered over after the teacher has verified the generalization; however, it is recommendable for the teacher to ask the learners to provide more examples by themselves in order to reinforce their learning.

Even if the teacher prepares an inductive lesson, the deductive approach could be necessary to explain some exceptions of the rule or if the students do not get the correct rule to tell them, or to give some additional information.

Advantages of the inductive approach

Rules discovered by the learners are more likely to fit and remain in their minds rather than rules that have been presented to them. This makes the rules more meaningful, memorable and useful.

The necessary mental effort that has to be done requires a greater degree of cognitive depth which, once more, makes easier to remember the rule.

Learners have a more active role rather than a passive one, so they are supposed to pay more attention and to be more motivated.

It is an approach that favours pattern-recognition and problem-solving abilities which makes it especially suitable for students who like these kind of challenges.

As students work out for themselves, they get themselves better prepared for self-reliance, so it develops students autonomy.

If the students solve the problem collaborating among each other, and in the target language, the students get the opportunity for extra language practice.

Disadvantages of the inductive approach

The time and energy spent on working to reach the rules may make think students that rules are the objective of language learning rather than a means to learn the language.

The time taken to work out a rule may be at the expense of time spent in putting the rule to some sort of productive practice.

Learners may reach a wrong rule, or even if it correct it could be too broad or too narrow in its application.

With this approach learners can sometimes get a wrong rule, and if later they realize about the correct one, there could be no problem, but if they have to be told the correct one, they may not remember it, but instead they will keep in their minds wrong one the reached at the beginning.

It is not totally useful when there are some exceptions to the general rule.

It can be really hard for the teachers to plan and prepare the lessons. They have to select and organize the data with care in order to lead the learners to an accurate formulation of the generalization, while also ensuring the data is intelligible.

This approach can frustrate some students because of their personal learning style or their past learning experiences, or sometimes both of them, and they would prefer just to be told the rule.

TEACHER'S ROLE

The teacher plays a different role depending on the approach or method used to teach and give the lesson. I will show the different roles he/she takes depending on the approach.

Deductive approach

This kind of lessons are dominated by the teacher. He/she gives the explanation of the lesson, starting with a clear statement of the generalization and later on provides the examples. Then, by some exercises, he/she checks students' understanding.

The teacher prepares the lesson, what it is going to be taught, but if other aspects of the language appear, he/she can deal spontaneously with those other points since this approach does not need such preparation as the inductive one.

Inductive approach

When planning the lesson the teacher must know what goals can be achieved and what concepts or rules wants to reach. Then he/she selects and organizes the data and prepares the examples to be shown in class.

This time the teacher presents to the students the data, that is the examples, so they can observe and the teacher writes down their observations onto the blackboard. Once the rule is reached, if it is not clear enough, he/she clarifies it, and goes into the deductive way if necessary if there are some exceptions to the rule that must be mentioned.

Time enough must be provided to the students to analyses the examples and get the generalization. Once it is done, he/she will ask the students to provide their own examples.

The teacher should refrains verifying the correctness of the inferences formed by pupils.

In these lessons the teacher acts as a facilitator, helping students (providing more data when necessary, clarifying, writing down their observations…). He/she is not the source of knowledge but a collaborator in the learning process.

STUDENT'S ROLE

The role of the students is also different depending on the approach used. I will show the different roles they acquire in the deduction and induction learning process.

Deductive approach

Students have a quite passive role in these lessons, above all at the beginning, when the teacher is giving the explanation and they just listen to it (or at least they are supposed to pay attention).

After the explanation learners are supposed to understand the rule, memorize it and be able to put it on practice by providing more examples and applying the rule to new sentences. They can personalize the rule so they can understand or memorize it better.

Learners go through an analytical learning process.

Inductive approach

Learners take a more active role with this approach. They study the examples without knowing the rule (while in the deductive way they saw the examples once they knew the rule). They are asked to observe the data presented by the teacher and basing on those observations they must make the generalization; they use the examples to form the rule. Later on they are asked to provide more examples.

Students take the role of researchers since they have to discover a rule, to solve a problem that has been presented to them. This approach requires mental effort for the learners.

CONCLUSION

In conclusion, once we know the teaching and learning techniques of these two approaches, the role the teacher and the students take, and their advantages and disadvantages, it is obvious that teaching a language often involves both inductive and deductive learning. These two approaches are, sometimes, complementizing each other. When you reach the general rule (by an inductive reasoning), it may be correct and it can happen that the exception exists; in that case, the teacher will use the deductive approach to explain it. Therefore, sometimes the inductive approach makes you use the deductive one in order to explain the exceptions since it is for reaching the general rules or abstractions, but not so useful to find out the exceptions.

If possible, it is better to use the inductive approach, since it makes the students think and make their own rule; this way they memorize, learn and remember it better. However, the deductive approach will also be welcome when necessary, and using different teaching ways is not so boring for the students.

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