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# LESSON PLANNING IN PRIMARY AND SECONDARY EDUCATION

*Margarita R. Rodríguez Gallego*

**SUMMARY:** Introduction. 1. Approach to the concept of lesson planning. 2. Components of lesson planning in Primary and Secondary Education. 3. The didactic unit in Primary and Secondary Education. 3.1. Unit title. 3.2. Didactic goals. 3.3. Basic skills. 3.4. Contents. 3.4.1. Choosing the contents. 3.4.2. Organizing the contents. 3.4.3. Sequencing the contents. 3.5. Teaching/learning activities. 3.6. Resources and school materials. 3.7. Assessment of the teaching/learning process. 3.8. Paying attention to the diversity in the classroom. 4. Activities. 5. Autoevaluation. 6. References.

## INTRODUCTION

Throughout the previous chapter, Lesson Planning in Preschool Education in terms of design and preparation has been approached, taking into account all its different subjects and courses. It has been argued that such Planning incorporates some decisions regarding the sequencing of each didactic unit. This chapter will analyze Lesson Planning in Primary and Secondary Education. At these stages, the teacher must face the analysis of the context as well as the goal setting, additional and reinforcement contents, methodological strategies and evaluation.

The goals to be achieved in this chapter are:

1. To establish the sense of Lesson Planning inside the curricular frame.
2. To understand the range of teachers' tasks in the lesson planning.
3. To know and understand the preparation process of the components in Lesson Planning.
4. To analyze the components of a didactic unit.
5. To assess the importance of Lesson Planning at the Primary and Secondary Education stages as an element of reflection about the educational practice.
6. To promote the reflection and the debate aiming at developing a higher professional autonomy and the improvement in the decision making capacity in terms of lesson planning.
7. To favor positive attitudes towards Lesson Planning in order to approach it as a key factor in the improvement of teaching quality.

### **1. Approaching to the concept of Lesson Planning.**

This term is relevant among the educational sphere because it is one of the main tasks assigned to the teacher. It can be stated, without fear of being mistaken, that the task of planning is inherent to the teacher's profession. Besides, an appropriate planning must be the key factor in order to put an end to the teaching based on improvisation, uncontrolled activism and routine.

Once this aspect has been clarified, the focus will be based on the definition of this concept. On the one hand, PLANNING is known as the representation of the organization of the teaching and learning process. On the other hand, LESSON or DIDACTIC is referred as the basic unit of organizing the pedagogic action. Therefore, planning implies the design and organization of the learning sphere and it can be defined as the sum of organized and sequenced didactics units. These units are represented according to the subjects and courses of each educational level where goals, contents, methodological strategies, resources, assessment activities and measures to address diversity are set. This last curricular component must be present in order to address situations where students with learning difficulties and highly gifted students can be found.

Throughout the Lesson Planning the following components must be taken into account:

- The regulatory framework
- The school educational and curricular Project
- The context and the conditions under which the Lesson Planning is to be developed
- The expertise, skills and peculiarities of both teachers and students
- The nature of the contents

The Lesson Planning depends on the educational goals. These goals are set by the school, which is the one in charge of setting a certain teaching modality with a set of appropriate methodological strategies. The Lesson Planning is a part of the Annual General Planning and it is responsible for organizing the teachings of each subject or course throughout the corresponding educational period. During this stage, Primary and Secondary Education teachers adapt, organize and sequence the goals, contents and assessment criteria for each year and subject. They also adapt the methodological principles, guidelines and resources that will be applied during the teacher's performance. Thus, the main attribute that all Lesson Planning must have is its joint approach. By joint approach it is meant that it must be useful for unifying and incorporating coherence into the teachings of the same subject between the different grades.

The responsibility of creating the Lesson Planning belongs to teachers of each educational cycle or to the didactic department's staff. The responsibility of creating the Lesson Planning of each classroom belongs to each teacher. However, it is advisable that this Planning should be created among all teachers of the same department that teach at the same school year. Thus, a more coherent Planning could be obtained thanks to this team-work.

Generally, it can be stated that planning and organizing Lesson Planning brings advantages to teachers because it enables them to structure the teaching/learning process. It also helps to avoid uncontrolled improvisation and it favors the training and professionalization of the teachers' teaching community. Since it has to do with a decision making process that verifies itself with its usage and practice, it is also helpful to ease the permanent reflection of the different issues that have taken place inside the classroom. More advantages can be observed: for instance, Lesson Planning can help to arouse a sense of control, security and confidence between teachers and students. Last but not least, Lesson Planning can also contribute to favorably regarding the use of time, the creativity and it can reinforce the links between the teachers' team.

Although there are a wide range of positive aspects in using Lesson Planning, there are teachers who delegate this task to editorials. By doing this, they give up their capacity of creating activities that do not totally adjust to the necessities of the class environment, where they use designed school materials leaving the context aside.

Once this first conceptual approach has been made, components that Lesson Planning in Primary and Secondary Education must include shall be analyzed.

## **2. Components of Lesson Planning in Primary and Secondary Education.**

As discussed in the previous section, Lesson Planning is elaborated by the educational team aimed at the students of a certain cycle or department. Later, it will be focused on each individual proposal for each classroom.

Every single Lesson Planning must include the following elements:

### **1. Context analysis.** This analysis must include:

- **School educational project.** This project shall deal with the values, objectives and goals, and action priorities. Logically, the **Curricular Project** must be considered as a pedagogic answer from a group of teachers in order to develop the didactic goals established in the Educational Project.

- **Starting point.** Analyzing the most relevant organizational features related to the people involved (students, teachers and parents), as well as the materials, the social and cultural infrastructure available is very important. For instance, it is very interesting when faced with the possibilities that the classroom can offer (space distribution, teachers/students proportions, school materials, etc.), the environment (social and cultural extraction of their occupants, labor and social issues, social and cultural infrastructure, school transportation...). One of the measures used to carry out curricular adjustments can be desk distribution in order to enable collaborative work. The creation of space in order to conduct specific activities which favor the autonomy in the learning process is also another option to take into account. Architectonic hindrances shall be removed and school materials shall be adapted. For instance, changing a keyboard for a switchboard operator or incorporating hearing devices for students with hearing difficulties are other measures that can be adopted.
- **Students' characteristics.** Students' psychoevolutive characteristics must be known and therefore, adequate adjustment to the teaching/learning process in each proposed didactic unit is needed. This issue is not something new. During the late 80's an English report written by Warnock informed readers about the necessity of knowing and adapting the learning conditions for those students with more difficulties in terms of learning or using the standard school materials with which most students are provided. In this respect, the Organic Law of Education 2/2006, May 3<sup>rd</sup>, establishes that Education Authorities will be provided with the necessary resources in order to foster the personal and academic development of those students who require special educational attention and ultimately, to achieve the general goals and objectives imposed on all the students. Apart from the specific and special educational necessities the interests and expectations of students must be considered. One of the most serious issues, mostly in Secondary Education, is the lack of connection between what is taught in schools and the teenage world. Teachers shall include in their Lesson Planning some motivation strategies in order to establish a link between the official curriculum and teenagers' necessities.
- **Subject/area analysis.** Apart from conducting an epistemological analysis of the subject where all the key ideas shall be included, it is necessary to focus on how to organize the contents inside the Lesson Planning. There are several theories and proposals that present a specific terminology and that are classified in different ways by several authors. Taking into account the theories of Piaget (1979), Scurati (1974) and Zabala (1999) our proposal is the following:

- ✓ **Multidisciplinarity** is the prior step to integration. It is based on the most traditional way of organizing contents. School contents are presented by independent subjects. For instance: Music, Mathematics or History. Nowadays, this is the way in which Bachillerato (two-year high school degree), is organized.
- ✓ **Interdisciplinarity** is the interaction between two or more disciplines. This cooperation stage between two or more disciplines leads to real interactions, that is, mutual advantages and knowledge enrichment. For instance: on the one hand, it is likely to align with other areas such as Spanish Language, Foreign Language or Physical Education in the area of Natural and Social Science in Primary Education. On the other hand, in Secondary Education, it is more likely to align with subjects such as Mathematics and Physics, or French, Latin and Greek. The most appropriate age to begin using this method is from 8-9 years old.
- ✓ **Globalization or transdisciplinarity** is the upper step of integration. At this stage the relation between disciplines is at its peak. Therefore, it means a global integration inside a unified system. Such is the case of Preschool Education and Primary Education where the relation of the contents has an integral pretension. Preschool knowledge is not acquired by means of analysis, but by a global method, this means, by an indifferent perception of the totality.
- ✓ **Metadisciplinarity** means to approach the subjects of the study from a global view. In this approach, disciplines are the mean used in order to get to know the reality. For instance, the new implemented subject of Citizenship Education or the already known axis or transversal topics related to this subject.

2. **Goals** are the didactic objectives that provide a guideline in the teaching/learning processes. These objectives must accomplish two main functions in the Lesson Planning. Firstly, they must lead the contents and learning activities. Secondly, they must provide criteria aimed at the feedback of the conducted process. Lesson Planning must address different kinds of objectives.

- General stage objectives: These objectives contribute to the development of the Primary and Secondary Education students' capacities.

- General objectives of the school Educational Project: They are referred to as the goals, values and performance priorities that have been established by the School Community.
  - General area/subject objectives. These objectives are established in order to set up the capacities and competences that students must develop throughout the school year. These objectives are based on the educational experiences that are previously set in the Lesson Planning.
3. **Contents** are the subjects of teaching/learning that are considered useful and necessary in order to promote the comprehensive and coherent development of students. These contents must be selected (to choose the most relevant and necessary ones), organized (to set up the presentation of the contents and the order of appearance) and sequenced (to establish conceptual maps). Furthermore, Lesson Planning must include key concepts, basic procedures and aptitudes which are indispensable for achieving the development of the contents. At the same time it must incorporate the list of didactic units' titles that are going to be dealt with throughout each quarter (Granado, 2006).
  4. **Methodology:** Methodology is a range of proposed options according to the chosen didactic pattern. Versatility (flexibility) must be a key component in this basic element of didactic Planning. It is worth mentioning **globalization** (an integral view of the reality), **personalization** (the fact of learning according to the personal processes of students), **socialization** (student social integration), **learning between equals** (cooperative work) and **transmission** (lecture or exposition). The methodological dynamic must foster the personal work of the student, to encourage the skills for the cooperative work, to promote the techniques aimed at research and discovering, and finally, to transfer the learned contents to real life. Educational Authorities establishes a set of methodological orientations throughout its decrees of minimal teachings. However, the teaching methods are the responsibility of teachers. The decision making process about methodological strategies must include two aspects. On the one hand, the design and the organization of activities. On the other hand, the design and the organization of the school environment (time and space distribution, material didactic resources assignments and students gathering).
  5. **Assessment:** it is the evaluation and decision making process about the students, teachers and the teaching/learning processes. It is important to differentiate four stages throughout this assessment. **Initial evaluation** (it is carried out at the beginning of each step of the learning process). **Ongoing**

**evaluation** (it is conducted during the whole teaching/learning process). **Final evaluation** (it is performed at the end of the teaching/learning process). **Metaevaluation** (it is done to show the usefulness of the evaluation). The assessment criteria must be referred applied to students' learning and must have a general and global nature. Nonetheless, afterwards, the classroom planning must incorporate specific criteria for each didactic unit. At the same time, it must be specified the assessment components and the corrective measures for the learning improvement (supportive activities, tutorial action plan, etc.).

6. **Paying attention to the diversity:** This means the decisions related to the organization of the curricular components such as contents, resources, time organization, space distribution, etc., of those students with specific and special educational necessities. At the same time, not forgetting highly gifted students and those who have been recently integrated into the Spanish Education System. If the diversity is originated by the presence of foreign students or students of different races, it is possible to incorporate intercultural activities for the classroom. (Granado, 2006).

### 3. The didactic unit in Primary and Secondary Education.

The didactic unit is a work unit that engages the goals, contents, methodology and assessment with a central organizational topic throughout an activities sequenced program. The proposal in the didactic Planning must be focused on the classroom planning, which is the amount of the didactic units presented.

In order to plan a didactic unit it is important to clearly define the goals and objectives, to determine which contents are basic and which ones are complementary or supportive, to plan different activities for the development of the same content, to use different types of grouping, to have a variety of resources, to adapt the components of evaluation, etc. Consequently, a certain number of measures must be established that enable students to receive the most appropriate educational answer according to their characteristics, skill, capacities, interests and motivations.

Two strategies can be adopted to develop the planning of didactic units. These strategies are inductive and deductive strategies (Carvajal and others, 1996). On the one hand, using a deductive strategy means that the components that are used in the teaching/learning process must be ordered from top to bottom according to the generic rate: setting the didactic goals, extraction of the contents, planned activities, space, time and resource distribution and

the assessment. On the other hand, an inductive strategy means that the planning is carried out according to the typology, structure and task sequence. Taking into account the designed tasks and by applying a cleaning out process, a brainstorming board can be completed. This board will include and distribute the didactic goals, contents, methodological aspects, etc. for each classroom task. Considering that both strategies must allow holistic and systemic planning scenarios, activities and assessments that interact in order to achieve an integrated curriculum which leads students' educational training will be presented. Thus, the first strategy will be used throughout this chapter.

The components of the didactic unit are the same that have already been described in the didactic Planning, although it must be completed with the topic or thematic axis and the activities.

### **3.1 Unit title.**

The didactic unit must have an interesting and catching title in order to engage students with the topic. This title can be made in the form of a statement, a problem or a question.

### **3.2 Didactic goals.**

These goals are at the top of the didactic units and must be focused on specific criteria that students must develop in order to follow the path towards realizing the potential of their own skills and competences in specific knowledge fields. These goals can be classified according to:

- ✓ Formulation level (general stage goals, general department goals or didactic goals)
- ✓ Content extension (department, subject, etc.)
- ✓ Domain (concepts, procedures or aptitudes)
- ✓ Taxonomic category (memory, comprehension, assessment, etc.)
- ✓ Relative importance
- ✓ Assessment moment (long and short term goals)

In order to continue the sequence that is being followed in our didactic unit, special attention must be paid to the Organic Law of Education 2/2006, May 3<sup>rd</sup> in its provision for the Primary and Secondary Education stages and the goals for each department/subject that are granted in the decrees of minimal teachings proposed by Educational Authorities (Royal Decree 1513/2006 December 7<sup>th</sup> and Royal Decree 1631/2006 December 29<sup>th</sup>). These decrees establish that the teacher must contemplate the educational or

didactic goals that are required to be accomplished by students at the end of the didactic units. In order to set the didactic objectives two different patterns can be chosen:

- ✓ The student (description of the outcome of the required learning), by the way...(specific content)
- ✓ Infinitive + direct object (specific content) + finality (optional).

A good example for the area of Natural and Social Science in Primary Education could be the following:

PRIMARY EDUCATION GENERAL GOAL	NATURAL AND SOCIAL SCIENCE DEPARTMENT GOAL	DIDACTIC GOALS
<ul style="list-style-type: none"> <li>• To appreciate hygienic conditions and to accept our own bodies as well as others'. To respect differences and to use sport as a mean to foster personal and social development.</li> </ul>	<ul style="list-style-type: none"> <li>• To behave according to health habits and personal care that comes from knowledge of the human body, showing a respectful attitude towards individual differences such as age, sex, physical features and personality.</li> </ul>	<ul style="list-style-type: none"> <li>• To know and learn about the main organs of the human body as well as their function and location.</li> <li>• To recognize the factors that are harmful and helpful for the human body.</li> <li>• To solve problems upon observation.</li> <li>• To adopt positive attitudes that favor hygiene and health.</li> </ul>

*Table VIII. 1. Example of goals correction*

Once the general stage goals, department goals and educational or didactic goals have been chosen, they must be sequenced regarding the context and personal characteristics of a certain group of students.

### **3.3 Basic skills.**

The Organic Law of Education 2/2006 May 3<sup>rd</sup>, in its preliminary title, grants special importance to the incorporation of basic skills as a curricular component. Basic skills are incorporated into the minimal teachings for the first time. These skills enable students to identify the learning that is considered indispensable in order to use the acquired knowledge. When teenagers complete the mandatory learning period, they must have developed these

skills and competences in order to achieve their personal fulfillment, to carry out active citizenship, satisfactorily adapt to adult life, and to be able to develop ongoing learning throughout their lives.

The incorporation of such skills and competences in the curriculum is a matter of discussion for mandatory Primary and Secondary Education and it does not present a univocal relationship between certain departments and subjects and the development of certain skills and competences. Each department must contribute to the development of different competences and, at the same time, each of the basic competences can be achieved by working on different departments or subjects.

The key point to implement the basic skills and competences as a curricular component is to allow teachers and students to become part of the formal, informal, and non formal learning; to complete the acquired learning with the different types of contents and to know how to use them in different situations and contexts, as well as to inspire the relative decisions of the teaching/learning process.

The Organic Law of Education identifies eight basic competences according to the proposal carried out by the European Union, that are gathered in the Royal Decree 1513/2006, December 7th and the Royal Decree 1631/2006, December 29th:

- a) **Language communication skill.** It refers to the use of language as a tool of oral and written communication, representation, interpretation and comprehension of reality; of knowledge communication and organization of thoughts, emotions and behavior. This skill is present in the capacity of coexisting, peaceful conflict resolution among the school community. The development of a language communication skill is associated to the knowledge of a foreign language.
- b) **Mathematical skill.** It refers to the knowledge and use of numbers, basic operations, symbols and mathematical reasoning; problem solving arising from daily situations and decision making. The student can incorporate the mathematical knowledge with other types of knowledge in order to improve the answer to daily situations issues.
- c) **Knowledge and interaction with the real world skills.** It represents the development and use of the personal scientific and technical thinking in order to assess the information received and to be able to make the decision by oneself. It also represents the use of values and ethic criteria that are associated to science and the technological development (natural resources, environment, rational and responsible consumption, etc.).
- d) **Information Access and digital skills.** It means that a person must be efficient, responsible, critical and thoughtful when choosing, and using information

sources, as well as, dealing with technological tools. It also means that a person must develop a critical attitude and be able to assess the quality of the available information.

- e) **Social and citizenship skills.** These skills enable students to understand the social reality in which they are involved and to face the coexistence and conflicts. Students also must use their ethical judgment in order to contribute to the well being of the society. Thus, a road to peace and democracy would become much easier to build. This implies a constructive, supportive and responsible attitude towards civil and social rights.
- f) **Artistic and cultural skills.** Students must achieve a basic knowledge of the main techniques, resources and conventions of the different artistic languages as well as the most remarkable works, plays and expressions of the cultural heritage. Reference is made to the fact of appreciating and enjoying art and cultural expressions. It also means that students must use their converging thinking skills, desire and willingness in order to contribute to the conservation of the cultural and artistic heritage of their own and other communities.
- g) **Learn to learn skills.** Reference is made to the fact of creating a consciousness and control management of the own capacities and knowledge in order to achieve strategic thinking. Not to be forgotten is the need for the capacity for cooperation and self-assessment and the management of certain resources and intellectual work techniques.
- h) **Independence and personal initiative.** This means the fact of being able to imagine, begin, develop and assess individual actions and projects with a degree of confidence, creativity, responsibility and critical thinking.

As an example for the department of Natural and Social Science for Primary Education, the goals, objectives, competences and skills are presented:

<b>NATURAL AND SOCIAL SCIENCE DEPARTMENT GOALS</b>	<b>BASIC SKILLS</b>
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<ul style="list-style-type: none"> <li>• To identify the main components of the natural, social and cultural environment. To analyze its organization, its characteristics and interactions as well as to progress in the mastering of more and more complex fields.</li> <li>• To behave according to health habits and personal care that come from the knowledge of the human body, showing a respectful attitude towards individual differences such as age, sex, physical features and personality.</li> <li>• To participate in group activities adopting responsible, constructive and supportive behavior. Thus, it is necessary to respect the basic rules of the democratic principle.</li> <li>• To recognize and appreciate the belongingness to social groups with shared characteristics, as well as appreciating existing differences with other social groups and the necessity of fostering and respecting Human Rights.</li> <li>• To analyze and appreciate some human intervention in the society, judging it critically and at the same time, adopting a reconstructive and defensive behavior towards the ecological balance and conservation of the artistic and cultural heritage.</li> <li>• To recognize the natural, social and cultural dimension, its changes and transformations related to the passage of time. To investigate some simultaneous relations and developments in order to use this knowledge in the comprehension of other historic events.</li> <li>• To identify, express and represent facts, concepts and procedures of the natural, social and cultural dimension through numerical, graphic and cartographic codes.</li> <li>• To identify, think and resolve questions and issues related to significant components of the environment, using information searching strategies, hypothesis formulations, and alternative solution explorations and assessing the learning process.</li> <li>• To plan and conduct projects, devices and simple objects with a previously set finality, using the acquired knowledge of some basic materials, substances and objects.</li> <li>• To use information and communication technologies in order to obtain information as a tool of learning and searching for knowledge. To appreciate its contribution to the improvement of people's living conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Social and citizenship skills</b> (emotions and feelings in relation with others; dialogue, conflict resolution and use of social conventions).</li> <li>• <b>Knowledge and interaction with the real world skills</b> (to define problems, to propose solutions, to elaborate strategies, to design investigations and to analyze results and communicate them).</li> <li>• <b>Information Access and digital skills</b> (to read a map, to interpret a graphic, to observe an event, to use a historic source, to acquire specific vocabulary).</li> <li>• <b>Learn to learn skills</b> (organizational techniques, memorizing and restoring the information, thinking about what has been learnt).</li> <li>• <b>Artistic and cultural skills</b> (knowledge of the cultural expressions and appreciation of its diversity).</li> <li>• <b>Independence and personal initiative</b> (to learn how to make personal decisions based upon one's knowledge of both, personal and school atmospheres).</li> <li>• <b>Mathematical skills</b> (to use different measures, scales, tables and charts or graphic representations).</li> </ul>
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*Table VIII.2. Natural and Social Science Department Goals and associated skills and competences.*

### 3.4. Contents.

The contents refer to the amount of knowledge that students must obtain in a significant way in order to foster and promote their personal and social development. There is a close connection between the contents and the educational goals. This relationship is based on the sense of reality and culture that are required to be reached by students (goals), and the reality that is generated inside the school atmosphere (contents).

Traditionally, the term content has been associated to the fields of concepts, data and information. However, this conception of contents must be broadened to include the amount of procedures, as well as the virtues, attitudes and rules. Therefore, currently, the conception of content encompasses the procedures, virtues and attitudes that are considered a unified reality. Both conceptions will be now analyzed.

The term **concept** is in reference to theories, principles and information based mainly on memory. These are considered **facts (facts or data** are a date, a play title, authors' names, etc.). An example would be to memorize the formula for the area of a triangle. However, apart from the **data**, it is necessary to learn and understand the **concept**, which can be related between several concepts (theories) or more general concepts (principles). For instance, everyone knows that when rubbing two bodies against each other, they receive an electric charge. The concept of electric current allows us to understand why this happens. Nonetheless, the comprehension of a concept is not acquired immediately, but gradually, by bringing to the table more than one concept at the same time. Thus, **concepts** are not to be memorized, but understood. They also must be learnt in a reasonable way and not mechanically.

	<b>Learning of facts</b>	<b>Learning of concepts</b>
It consists of.....	Literal copy	Relation with prior knowledge
It is reached by.....	Repetition	Comprehension
It is acquired	At once	Gradually

It is forgotten.....	Quickly	Slowly and gradually
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Table VIII. 3. Facts and concepts as contents of learning (Poza, 1992:29)

While the learning of facts only admits quantitative differences (whether you know the capital of Spain or not), the learning of concepts is characterized by qualitative aspects (a Primary Education student may understand the moon phases but an astronomer would understand it at a different level).

The term **procedure** is defined as the techniques, skills, competences and strategies that encompass the **know how to do**. It is the amount of structured actions that are aimed at the achievement of a goal. Some examples of procedures can be the relation between text commentaries, interpreting statistics charts or analyzing a sentence, etc.

Procedures may be part of a certain **area** (to carry out the morphosyntactic analysis of a sentence), or **interdisciplinary** when they are the same for different areas that include learning strategies and cognitive and metacognitive skills (to look something up in a dictionary). At the same time, it can be established the distinction between **algorithmic procedures**, where the steps sequence is marked by the resolution of a task (mathematical operations), and **heuristic procedures**, which offer a general orientation to be followed without determining the specific steps or the order in which tasks must be achieved (solving problems).

Learning modality	Learning strategy	Finality or goal	Technique or hability
By association	Review	Simple Review	Repeat
		Supporting the review (to be chosen)	Underline Highlight Copy Etc.
		Simple (extense meaning)	Key words Images Abbreviations and rhymes

<b>By restructuration</b>	Elaboration		To create analogies
		Complex (inner meaning)	To read texts
	Organization	Clasify	To create categories
		Prioritize	To create conceptual networks  To identify structures  To create conceptual maps

*Table VIII. 4. Learning strategies classification (Pozo, 1990: 209).*

Finally, the term **attitude** is referred to the habits, values and rules that are considered vital for the individual's integral development. Its teaching is more complex than those of the prior contents because there are affective variables that are difficult to control by the teacher. Each attitude has three key related components: the cognitive component, composed of all the knowledge and beliefs that a person has at a certain moment; the affective component; composed of all the feelings and preferences; and the attemptive component, composed by intentions and actions.

The second components of the attitude contents are the **values**. These values can be defined as "ethic principles upon which people feel an emotional engagement and that are used to judge behaviors" (García Vidal y González Manjón, 1993:125).

Apart from the attitudes and values, rules must be promoted. These rules are "patterns upon which a judgment or the explanation of how a system works can be offered" (García Vidal y González Manjón, 1993:126).

Once the curriculum of the different educational stages has been analyzed, it can be stated that the difference between Primary Education and other educational periods is the distribution of the learning contents. Preschool Education is dealt with different languages and discovering, but in Primary Education this learning is distributed in areas of knowledge, while in Secondary Education this learning is distributed in subjects.

According to the provision of Article 18, Chapter II of the Organic Law of Education 2/2006, May 3<sup>rd</sup>, the areas in which the contents will be distributed in Primary Education will be: Natural and Social Science, Artistic Education, Physical Education, Spanish Language, Official Language of the Region, Foreign Language, Mathematics, Citizenship and Human Rights Education (from the 5<sup>th</sup> and 6<sup>th</sup> grade). A second foreign language will be taught from the 7<sup>th</sup> and 8<sup>th</sup> grades. The contents for Primary Education have an instrumental, linguistic, scientific, technological and esthetic dimension. It also counts on the values that are used for the integral training of the students. The contents are distributed by areas, by each cycle and by separated group of contents (Royal Decree 1513/2006, December 7<sup>th</sup>, Appendix I).

“Reading comprehension, oral and written expression, audiovisual communication, information, communication and education technologies, will be dealt among all the areas, without any prejudice about its specific dealing in certain areas of the period” (Title I, Chapter II, Article 19).

For mandatory Secondary Education, the subjects that students must attend are gathered in the Article 24, Chapter III of the Organic Law of Education 2/2006, May 3<sup>rd</sup>: Natural Science, Physical Education, Social, Geographic and Historic Science, Spanish Language and Literature, Mathematics, Arts and Crafts Education, Music, Technologies, Citizenship and Human Rights Education (only in one of the three school years). At the same time, during three of the four years of Secondary Education, students can choose some elective subjects such as a second foreign language or Classic Culture. The subject civic-ethic Education and three elective subjects must be taken by every student in the fourth year of Secondary Education. During this period, contents are distributed according to subject, grade and group of contents.

In *Bachillerato* (a two-year high school degree) there are three modalities: Arts, Sciences and Technology, Humanities and Social Science. *Bachillerato* is divided in common subjects, modality subjects and elective subjects. The contents are organized by grade and subject.

Once this term has been clarified and the different types of contents have been established as well as its distribution by Educational Authorities, it will be detailed in the criteria presented in their selection, organization and sequencing.

### **3.4.1 Choosing the contents**

It is necessary that contents taught must be selected and be related according to certain criteria, due to the fact that scientific knowledge is too broad and it continues to increase. There are two types of criteria:

- a) **Psychological importance.** Students undergo significant learning that allows them to start processing the knowledge, proceedings and aptitudes in a coherent way. Students must connect the previous with current knowledge in order to be able to understand it and to come up with new inclusive ideas in its cognitive structure. If such is not the case, for the short term the student will learn information by heart in order to pass a memory exam, and then, the student will forget what has been memorized. At the same time, it must be borne in mind, which is called contents functionality. That means that what is going to be learnt by students must be connected with their interests and necessities and must be useful in order to understand real situations and solve problems that are to be faced on a daily basis.
- b) **Logic importance.** Refers to the logic structure of the subject. It intends to differentiate between the essential contents and the less important ones. The content that is going to be presented to the student must be organized in order to enable a process of knowledge building. At the same time, it must have an organized inner structure that enables students to create a process of meaning building. The contents shown by the teacher must present a logical and organized sequence. Therefore, not only are the contents important, but also their presentation. It is also important to incorporate those fields of knowledge that overcome the traditional ones that are built upon different disciplines such as science. This is what is called transversal contents, which are currently granted by the Organic Law of Education in the form of the subject Citizenship and Human Rights Education.

Gallego and Salvador (2002) add, social importance to the prior criteria, although it can be considered that these criteria could be included in the category of psychological importance.

- ✓ Regarding the scientific dimension: according to the validity, coherence and importance of the learning contents
- ✓ Regarding the psychological dimension: according to the potential importance and its adaptation towards the learning contents.
- ✓ Regarding the social dimension: according to its functionality and its possibility of being framed into a context.

### **3.4.2 Contents organization.**

Once the contents that are going to be taught have been selected, it is necessary to organize them in order to promote the sequencing of goals.

Regarding the organization of contents, a global, disciplinary or interdisciplinary approach can be chosen. This task must be carried out by the educational team

and they must consider the coherence and continuity of the teaching/learning process, the observation of the psychological characteristics of students and its functionality.

A global organization must be chosen for the first period of Primary Education while an interdisciplinary organization must be approached from the second and third period of Primary Education.

At the stage of Secondary Education, the curriculum cannot be understood as a group of disconnected areas and fields. It must be conceived as a reality in which there is an involvement of linked ideas. Thus, it is convenient to address it with an interdisciplinary approach.

At the stage of *Bachillerato*, the organizational proposal is based on academic disciplines. It is assumed that at this stage, students are familiar with a wide range of school and social reality aspects, and that they have a divided study of these subjects. Therefore, the organization of contents based upon disciplines is the most appropriate one.

### 3.4.3 Sequencing of contents.

The sequencing of contents depends on the role that the conceptualization and the interpretation of the experience and the psychodidactic theories play when involving different sequencing patterns. Del Carmen (1996) presents different criteria for the sequencing of contents:

1. **Sequencing criteria derived from the evolutive theories.** Thanks to these theories, it is possible to describe and interpret the steps and rules of human development which provides useful criteria in order to adapt the capacities of students to whom these theories are addressed. According to Piaget's stage theories, four levels must be differentiated: **sensorimotor stage** (0-18 months), **preoperational stage** (18 months- 7 years), **concrete operations** (7-12 years) and **formal operations** (12 years to advanced). These levels or stages can help to determine, upon a wide approach, the moment from which students have the intellectual capacity of beginning their learning process. These levels or stages are also useful in order to choose and establish the sequence of contents that are going to be taught. However, current research has shown that in the resolution of school tasks, it not only determines the logic sequence, but also the previous knowledge which students count on.
2. **Sequencing criteria derived from the analysis of tasks.** These theories are built upon the analysis of the skills and the components of action and/or the components of the cognitive processes involved that students must master at the end of their learning period. At an early stage, these theories had a remarkable behaviorism dimension: the initial task

is divided into more and simpler achievement goals giving way to learning prioritizations. According to Gagné and Briggs, the student must start with the inferior required skills in order to progress to the different prioritization levels. However, the cognitive paradigm has an influence in this process and the information procedural approach has allowed us to consider other task analysis pattern.

“The task analysis that has been proposed requires two fundamental processes: identification of the necessary information structures in order to carry out a task and the identification of cognitive structures and proceedings that must be put into practice in the information dimension in order to generate the desired outcomes” (Del Carmen, 1996:55).

3. **Sequencing criteria derived from the content analysis.** These proceedings are used to establish teaching sequences that start from the content that is going to be taught, from its logical and/or psychological organization (Coll y Rochera, 1990). This proceeding is built upon Ausubel’s significant learning theory and other theories such as Bruner’s. It deals with the usage of axis-ideas among the establishment contents sequencing or the previous ideas that students have regarding the contents taught. Martínez y Martínez (1995) use a criterion named **sequencing of logocentric units**.
4. Another proceeding used in the sequencing of contents is the **Elaboration Theory**. This is a theory that incorporates different approaches: de Gagné adopts the notion of learning requirements (a set of knowledge that must be acquired before others); de Bruner presents the notion of spiral curriculum (axis-ideas). Another approach is based on cognitive psychology and its concepts of knowledge diagram and metacognitive component (learning strategies). However, this theory is most influenced by Ausubel’s theories.

Another simpler distribution and sequencing of contents is the one presented by Aranega and Domènech (2001). For them, the sequencing criteria must be the following:

- Student’s maturity development
- Logic importance: the comprehension of the educational content can be favored if its sequencing respects the inner logic.
- Gradual development of contents: throughout one or several stages, it must be addressed upon a progressive and repetitive approach of contents (spiral curriculum)
- Continuity and coherence among contents
- Adaptation of contents to students’ capacities.

- Balanced treatment of different kind of contents
- Connection of disciplinary and educational contents. Disciplinary contents must represent clearly the different learning fields. On the other hand, educational contents do not have a place in any text book but they are indispensable in order to acquire any learning skill, ability or personal independence.

The intention was to present a reference of the different types of content criteria distribution, taking into account that there is a proposal that Education Authorities have done. This proposal includes the amount of distributed contents that must be taught in the different fields of Primary and Secondary Education, as well as the Spanish editorials' proposals concerning the sequencing of contents. However, suggestions gathered in text books must only be used in order to orientate and ease the decision making process by teachers of each school and community. These instructions are not of a prescriptive nature, taking into account that each school has the power in order to distribute the core of contents that are to be taught.

### **3.4 Teaching/learning activities**

Teachers make use of teaching/learning activities in order to develop the planned contents as well as to fulfill the capacities gathered at the general department and didactic goals. The didactic sequence upon the didactic unit activities conducted is extremely important. According to its order and planning, these activities can have an excellent shape and can allow active student participation. On the other hand, the planning of activities must show different levels of difficulty in order to pay attention to the diversity in an effective way and also to create an appropriate rhythm of learning. By doing this, the social dimension of the process shall not be forgotten. According to López and Sentís (1997), another aspect that must be taken into account in the activities proposal is that the student must know the activity goal from the very beginning. Thus, the student can place himself/herself in the appropriate sequence of learning. It is also necessary to promote expositive didactic strategies together with research didactic strategies. Escamilla (1993) remarks on the following expositive strategies:

- ✓ Introductory planning of the didactic unit
- ✓ Periodical synthesis of the didactic unit
- ✓ Final synthesis of the didactic unit

Consequently, it can be said that the usage of expositive didactic strategies is appropriate in order to approach introductory concepts. General guidelines for the didactic unit can also be established, highlighting its most remarkable factors in order to reinforce and provide a more useful comprehension (periodical summaries and synthesis). Escamilla (1993) also proposes research didactic strategies:

- ✓ Problem identification
- ✓ To establish problem causes
- ✓ Data gathering
- ✓ Data classification
- ✓ Data analysis and comparison
- ✓ To establish conclusions and then frame them

Furthering the previous proposal, Aránega and Domènech (2001) establish teaching/learning strategies approaching two teaching styles. Thus, a direct type of teaching (lecture model) and an indirect type of teaching (learning by discovery) can be found.

<b>TEACHER</b>	<b>STUDENT</b>
Shows information in a unique way	Receives this information and interprets it according to the previous knowledge acquired, prior structures and real life situations
Establishes a set of goals to be achieved	Does not know which goals are to be achieved
Plans	Finds it already planned and does not learn how to do it
Develops a single strategy	Develops oral comprehension and only one learning skill: repetitive memorization
Must motivate students constantly in order to raise an interest in acquiring academic contents	Not all students have the same interests. There is a disconnection between learning and reality
Assesses in relation to the proposed goals	Is assessed and does not realized what has been learned and how has it been learned

*Table VII. 5. Direct style. Lecture Model (Aránaga and Domènech. 2001:149)*

<b>TEACHER</b>	<b>STUDENT</b>
Enables learning situations, purposes, objects and models, etc.	Researches, investigates, discovers and adopts a scientific set of research skills
Analyzes previous knowledge and strategies of approach	Starts from a solid background and from a set of personal experiences
Enables group situations in which personal	Learns upon interactions conducted between

skills can be compared	classmates
Plans, questions and verbalizes processes	Looks for information, analyzes it, and is conscious of what is being learned and the way it is being learned
Proposes and shares goals	Knows what is to be accomplished and is the responsible for achieving it
Fosters self-assessment	Is conscious about learning and making mistakes and consequently learns how to correct them
Favors planning	Anticipates, plans and learns how to organize himself/herself

*Table VIII. 6. Indirect style. Learning by discovery (Aránega y Doménech, 2001)*

There are different typologies in order to identify school tasks. Doyle (1983) presents a task classification, which is currently very popular, regarding the cognitive operations involved.

- ✓ **Memorization tasks:** students reproduce the previously presented information.
- ✓ **Routine and proceeding tasks:** students make use of a standardized formula or algorithm in order to create an answer.
- ✓ **Comprehension tasks:** students can deploy three types of behavior. They can acknowledge a previous presented version of information, make use of proceedings in order to solve new problems or decide between several proceedings and create new inferences of the presented information.

Rosenshine and Meister (1992) propose a simple classification based on activities, distinguishing between well and badly structured tasks. Among well structured tasks, the final outcome is invariable and very easy to assess. Among badly structured tasks, students must interpret, transform and modify orientations given by the teacher in order to carry out the task. Zahorit (1994) manifests that well structured tasks have the goal of acquiring knowledge and are based on a learning behaviorism conception, while badly structured tasks have the goal of organizing the inner knowledge of students and are supported with a learning constructive conception.

In our national sphere, Azcárate (1999) proposes a set of activities of different nature and with different teacher intervention levels:

- ✓ **Closed activity program with a certain degree of organization:** usage of activities and problems. It is referred to the proposals in which the theory verifies itself with the practice, work, or even activities that represent a constructive sequence but are organized by the teacher.

- ✓ **Open activity program and with a flexible degree of organization:** set of spontaneous activities that are prepared regarding students' interests.

Among all the classifications about the teaching/learning activities proposed, the one that best suits our conception is the following:

- 1. Motivation/introduction activities:** explain to students the relation between the aspect or concept to be learned and the reality. An interesting approach must be created in order to raise the curiosity of students; a catching title, a “thrilling” development or an end with some degree of usefulness. This strategy means the use of movies. The topic to be studied must be related as much as possible with the social, cultural, economic and physical environment in which school life is carried out. The presentation of the unit shall not make the students think that it is a totally closed topic. It must incite students in order to make them able to help their own development. Activities can have a different nature: for instance, DVD and video or article analysis, laboratory practices, etc. In such cases the presentation of the information must be conducted in a direct way. Regarding the subject of Citizenship and Human Rights Education, role play is a suggestion, where students have to act in an antagonist situation in which a cognitive conflict is presented in order to promote the best solution of the dilemma.
- 2. Previous knowledge activities:** are conducted in order to get to know the students' ideas, opinions and conceptual right and wrong answers about contents to be developed. Detection strategies of students' ideas can be put into groups regarding pencil and paper tests and oral tests (interviews, Phillips 66, brainstorming, debates, role-playing, forum, etc.). Dramatizations of real and fictional situations are very useful in order to assess behaviors and attitudes aiming at overcoming the negatives ones and improving the positive ones.
- 3. Development activities:** allow the acknowledgment of concepts, proceedings and new activities as well as communicate the conducted work. This type of activity seeks the qualitative analysis, hypothesis emission and experimental design.
- 4. Consolidation activities:** new ideas are compared with previous students' ideas and new learning strategies are used. Therefore, they are focused on the synthesis capacity, conclusion gathering and diagram creation as well as patterns that offer a solution to the problem posed. Undoubtedly, these sets of activities are the most difficult ones to be successfully accomplished since students must carry out a restoration of their cognitive outlines.
- 5. Special education necessity activities:** are planned for students who have not acquired the established knowledge, for high-gifted students and for students who have been lately integrated in the education system. A bored student is equally as disruptive as a student that cannot catch up with the rest of the group and for them appropriate activities should be created.

A principle of flexibility must be applied to all types of activities in order to achieve the enrichment of student/student and student/teacher interactions. The distribution will be different regarding the goals that are to be accomplished and contents that are to be developed. Talking about flexibility means not only the number of students that compose a group but also the space in which they are distributed (classrooms, field trips, routes, school courtyard, library, gym, etc.), and the timing of each work session (15 min sessions, etc.). If the teaching/learning process is proposed with a global approach, it is very unlikely that the rigidity of schedules according to disciplines can be understood.

Each grouping form or learning situation presents its own strategies in order to develop specific skills. For instance, the **big group** formula is used for verbal, graphic or documentary expositions and it may have a propositive approach (initial synthesis) or conclusive approach (final synthesis). The **team work** formula is linked to research strategies and is useful in order to deal with procedural and attitudinal contents. Finally, **individual work** allows personal reflection, individual work, habits acquisition, problems resolution, information searching, and personal information consultation. Diversity among groups allows a balanced treatment of the individual and social dimension.

The type of approach adopted when organizing contents establishes didactic strategies and activities. Thus, if a global approach by an organizational axis has been adopted, strategies such as interest points, project methods, project investigation, topics, etc. can be used.

To end this section, a reference is shown of teachers/students activities in order to ease the didactic unit planning.

TEACHERS' ACTIVITIES	STUDENTS' ACTIVITIES
<ul style="list-style-type: none"> <li>• To plan</li> <li>• To present information (conceptual, procedural and attitudinal)</li> <li>• To ask</li> <li>• To answer questions</li> <li>• To debate</li> <li>• To moderate</li> <li>• To propose</li> <li>• To decide</li> <li>• To tell</li> <li>• To dictate</li> <li>• To manage information (to summarize, to classify, to order, etc.)</li> <li>• To manage actions (to order, to ban, to</li> </ul>	<ul style="list-style-type: none"> <li>• To plan</li> <li>• To decide (to choose, to select, etc.)</li> <li>• To express (orally, written, body and, artistic expression)</li> <li>• To answer questions</li> <li>• To debate</li> <li>• To study in order to memorize</li> <li>• To receive elaborate information</li> <li>• To seek information (to observe, to experiment, to read, to interview, etc.)</li> <li>• To manage information (to summarize, to classify, to order, etc.)</li> <li>• To register information (to write, to draw, audiovisual registration, etc.)</li> </ul>

<p>sanction, etc.)</p> <ul style="list-style-type: none"> <li>• To motivate (to encourage, to positively stimulate, to build up hopes, etc.)</li> <li>• To observe</li> <li>• To correct homework</li> <li>• To use techniques and to manage devices</li> </ul>	<ul style="list-style-type: none"> <li>• To invent (explanations, hypothesis, concepts, proceedings, etc.)</li> <li>• To significantly explain</li> <li>• To use techniques and to manage devices (to clean, to tidy up, to order, to feed, to plant, to dig, to cut, to paste, etc.)</li> </ul>
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*Table VIII. 7. Activities reference for teachers and students of Primary Education*

### 3.6. Didactic resources and materials

Refers to the different tools used to develop contents and to accomplish the planned didactic goals in the most appropriate way. It also eases the work of all the participants in the teaching/learning process. Choosing and using several educational resources have a certain set of values and attitudes that must be analyzed, questioned and a consensus reached when creating the school educational Project in order to avoid contradictions.

The resources must be adapted regarding the current students' necessities and characteristics. Consideration must be given that the variety of activities and materials enlarge the student learning field and repetition of the same reinforces the learning. Thus, the possibilities of matching diversity issues are greater and more likely to be successful making use of a broader diversification of materials.

There are different classifications regarding resources and teaching materials. Blázquez (1994:508) proposes the following one:

- **Direct experience resources:** plants, animals, urban installations, agricultural installations, service installations, etc.
- **Structural school resources:** library, laboratory, gym, language classroom, etc.
- **Symbolic resources:** texts, books, maps, computer science, mass media, audiovisual means, etc.

Zabala (1995:174) classifies curricular materials according to the **intervention degree, functionality or intentionality, contents** to be developed and the **medium** used.

- The different **degrees of intervention** refer to the general aspects related to the whole education system. Others have an effect on the school frame (educational and curricular projects) and some others are restricted to the classroom atmosphere.

- **Functionality and intentionality** permit to distinguish among materials with different intentions: to orientate, to guide, to explain, etc. Some examples are books or articles, didactic guides, audiovisual resources, etc.
- According to the **contents**, a range of materials can be found that allow the global perspective to take place and also, on the contrary, materials with a clearly disciplinary approach. There are also specific materials linked to conceptual contents (text books, audiovisual programs, didactic games), procedural contents (computer programs, work notebooks, aquariums, terrariums, self-corrective chips, strategy games...) and attitudinal contents (multimedia programs for driving education, simulation games...).
- Regarding the **medium**: paper or textbooks, boards, static projections (slides and transparencies), and moving projections (video, multimedia) are used for the transmission of information.

Rodríguez Gallego (2001) also presents a different classification about audiovisual devices, computer programs and new information and communication technologies:

- **Audiovisual devices**: slides projector, retro projector, audio stereo, photographic equipment, audiovisual projection equipment, cinema projector, video reproduction devices, video and television recording devices.
- **Computer resources**: basic computer devices, external computer devices, hypertexts, multimedia, and computer assisted design.
- **New information and communication technologies**: interactive video, CD's and DVD's, and Internet network.

When planning the activities, it is important to take into account the materials needed by teachers and students since, in order to develop the activity at a certain point, it will help to make a previous reflection and will also provide a reminder of what is needed so as to improve the learning process. On the other hand, it must be taken into consideration that standardized materials will be difficult to adapt to the classroom atmosphere. Thus, teachers will need to elaborate and create their own material or adapt the existing one to the students' context and characteristics.

González Ramos and others (1998) believe that the evaluation of materials must be based on two fundamental pillars: physical characteristics and methodological contributions. The first one shall take into account its typographic and editorial structure (its value); and the second one the possibilities that its use can develop.

<b>Material</b>	The human body. Human body multimedia guide and its functioning. CD-Rom. Zeta Multimedia	
<b>Characteristics</b>	<b>Positive aspects</b>	<b>Negative aspects</b>
<b>Physics</b>	Audiovisual and interactive guide. The user must click any element file (words, arrows, icons...). Some drawings are also interactive.	A certain degree of computer literacy is also required, although instructions are very easy to follow.
<b>Methodology</b>	It is divided into three sections: the body, organs and systems. The two first ones introduce the user directly into the topic, and the system section is accessed through the topic menu.	The menu referred to systems is a little bit complicated.
<b>Global material evaluation</b>	It is a very affordable and catching resource for the classroom. However, although it is a very high quality material, it must be combined with the textbook and its complementary materials.	

*Table VIII. 8. Curricular materials evaluation form. (González Ramos y otros 1998:31)*

### 3.7. Teaching/learning evaluation process.

Evaluation must be understood not only as the assessment of the acquired knowledge of students at the time the teaching/learning process ends (psychometric approach), but also at the time of process improvement, plan modification designed by the teacher, adoption of appropriate correction mechanisms, specific reinforcement planning, tutorial action orientation and design of collaboration strategies with parents (training/communicative approach). The Organic Law of Education 2/2006, May 3<sup>rd</sup>, Chapter II, Articles 20 and 21, establishes that the evaluation of students' learning must be an ongoing and global process and it will take into account its progress in the different areas. Students will start a new educational period or stage once they have accomplished the basic competences and skills, and have acquired an appropriate degree of maturity. The student who has not accomplished any kind of goal from different areas could start a new educational period or stage as long as this circumstance does not allow the student to take advantage of this new educational period or stage. A student will be able to stay another year in the same cycle given the situation that he/she has not accomplished the basic competences and skills. This measure can only be adopted once throughout the whole Primary Education period and it must incorporate a specific reinforcement plan of basic competences and skills. At the stage of Secondary Education, the decision about whether a student should be promoted or not, shall be taken by the group of the student's teachers. Students will pass once they have accomplished the goals of the coursed subjects and not failed more than

two subjects. Students will not pass if they have failed three or more subjects. The student will be able to repeat the same year only once and two different years throughout the Secondary Education stage. At the end of the stage, each student will have a report about the learning and accomplished goals at their disposal, according to Education Authorities. When finishing the second cycle of Primary Education, each school must conduct a diagnosis assessment about the basic competences and accomplished skills by their students. This evaluation has a formative and orientative approach for the schools, while it has an informative approach for families and the whole educational community. This evaluation shall be based upon four moments or perspectives:

#### **a) Initial, predictive or diagnostic evaluation**

The information obtained from this modality might be referred to a group (classroom). In this case, it is named prognosis or diagnosis (a student). This kind of evaluation aims at knowing the students' situation at the starting point of the teaching/learning process in order to compare it with the knowledge acquired at the end of the completed work. The information gathered must allow the exploration and knowledge for each student of the classroom of:

- ✓ The degree of acquisition regarding the previous learning requirements.
- ✓ The alternative patterns or spontaneous ideas of reasoning and the spontaneous performance strategies.
- ✓ The attitudes and acquired habits in relation to the learning process.
- ✓ The representations that are carried out of the proposed areas.

This is what Halwachs (1975) called adoption strategies.

The set of activities for the initial evaluation must be related to the motivation and previous knowledge activation (open surveys and semantic networks, multiple choice quizzes, observation patterns and interviews ...). They must not be identified with exams or excluding tests.

#### **b) Formative or procedural evaluation**

It always comes together with the teaching/learning process. It has a regulatory, orientative and self-assessment approach of the educational process. It provides constant information about whether the process is suitable for the students' necessities or not. The

formative evaluation must broaden some of its pillars with a communicative approach. For Cardinet (1992), such an approach opens new perspectives to the learning process, which overcomes some limits of the formative evaluation since it proposes the auto-regulation by means of **reciprocal evaluation, co-evaluation and auto-evaluation activities**. Upon these activities students can build a personal system in order to learn. This evaluation system increases the possibility of being used by the teacher at a lower cost and it has more benefits in terms of student learning. Thus, the evaluation will consist of a teachers' regulation in order to adapt the teaching process to the needs and progress of students. The students' auto-regulation will proportionate self-autonomy and the creation basis for a personal learning.

**c) Summative or final evaluation**

It aims at assessing the degree of accomplishment obtained by each student regarding the proposed goals for a specific teaching/learning process. The summative evaluation report must gather what has been observed throughout the unit development. It must provide some advice and establish a reinforcement process given the case that the obtained outcomes do not match the proposed goals.

*“Summative or integral evaluation is understood as a global report upon which initial knowledge (initial evaluation) manifests the path that has been followed by the student, strategic measures that have been learned and final outcome of the whole process. Specially upon this knowledge, previsions about what must be done in the future or what must be done in a different way can be foreseen”*(Zabala, 1995:209).

The mistake of assessing all students according to the same contents and goals (whether these have been taught or not) must be avoided.

**d) Metaevaluation**

It tries to figure out until what extent the evaluation used has enlarged the objectives and goals, and until which point it has been useful to accomplish the mission entrusted. Throughout the work unit, the most important aspect, which has not worked according to stipulations, should be changed and students' questions can be written down in a diary to take it into account for next units.

<b>TEACHER'S AND OBSERVER'S NOTES</b>
<p><i>According to what has been planned:</i></p> <ul style="list-style-type: none"> <li>• Starting the Didactic Unit; changes regarding the planning; time expected and time invested in each activity; structural</li> </ul>

difficulties referred to the school, classrooms, resources; unexpected situations; possible alternatives.
<p><i>According to the teacher</i></p> <ul style="list-style-type: none"> <li>• Communication skills: clear goals and contents exposition; matching the non verbal and paraverbal language.</li> <li>• Group dynamic: process guideline; to promote the debate; to respect ideas and students' suggestions; to foster both critical and creative thinking.</li> <li>• Teaching style: to work through previous ideas with students to connect contents with previous experiences; to use a methodological approach; planned activities; assessment criteria, etc.</li> </ul>
<p><i>According to students:</i></p> <ul style="list-style-type: none"> <li>• Previous aspects; to know the psychoevolutive students' characteristics; social extraction of students and people; social and labor problems; cultural and social infrastructure; how the students previous' ideas are changed and attitudes towards subjects or areas, etc.</li> <li>• Groups dynamics: leaders and marginalized students; team work distribution; attitudes towards teachers and students; behavior outside the classroom; etc.</li> </ul>

*Table VIII. 9. Aspects to be considered in the elaboration of a teacher's diary in the triangulation process*

Students must participate in the evaluation of their learning by means of autoevaluation and hetero-evaluation and the teacher will gather information in order to carry out an evaluation of his/her planning. González Ramos and others (1998:46) propose these criteria for the didactic units' evaluations.

- ✓ Coherence among the curricular goals at the different levels of the curricular correction.
- ✓ Appropriateness for the groups that addressed.
- ✓ Epistemological and methodological adaptation of the subject for which it has been created.
- ✓ Didactic unit review throughout the whole process. Reflection about the unit design once it has been planned, observation during its implementation (motivation degree, difficulties, successfulness...), and teaching/learning process conclusion (objectives and expectations accomplishment, successfulness, failures...).

Regarding the evaluation, consideration must be given to the criteria, ensuring they match what is to be assessed. They are reliable indicators that allow teachers to observe and assess the degree of development that is being achieved by the planned capacities and set goals, and it also offers information about the kind of contents and the minimal degree of acquisition. At the same time, they must orientate the task elaboration with different degrees of complexity that can be assessed and provide the teaching/learning process with some guidance.

The setting of the evaluation criteria is a complex task that requires a broad level of consensus by teachers' teams since the common patterns of assessment are established.

Assessment tools are required in order to make the criteria match with the information level about the capacities and skills accomplishment. The following are the most remarkable ones:

- ✓ Oral skills
- ✓ Written skills
- ✓ Conceptual maps
- ✓ Control lists
- ✓ Follow up cards
- ✓ Teacher's class diary
- ✓ Students' notebooks
- ✓ Direct observation
- ✓ Reports and monographic works of information
- ✓ Experiences report
- ✓ Consideration tables

All these evaluations tools will be explained in chapter 12.

To end with this section, a reflection about how to understand the evaluation process is included, aimed at helping students to consider evaluation from a holistic and global approach and moving towards a more humanistic conception. At the same time, it is also considered the ecologic model in order to explain possible learning influences. Teachers must be aware of the evaluation's **social function**. This means that the learning certification and the students' selection must give room to the **pedagogic function** of the process analysis, as well as the detection of obstacles, or learning problems.

### **3.8. Paying attention to diversity**

Diversity in the classrooms is an unquestionable fact that requires developing measures to address diversity. There are three levels of curriculum adaptation:

- **Access level.** Modifications about materials, resources and spaces will be implemented.
- **Non important level.** Non prescriptive curricular aspects could be modified such as methodological aspects or assessment tools.
- **Important level.** Prescriptive curricular elements are to be modified such as goals setting, contents or assessment criteria.

Therefore, the didactic unit must be designed adopting components (time, materials, work situation, activities, goals, contents...) to the students' characteristics and necessities. The changes implemented must be gradual and progressive, starting by the less important adaptations (assessment techniques, time, materials, etc.) and continuing with modifications at the goal setting level (changing, prioritizing or furthering goals).

<i>Unit title:</i>
<i>Student:</i>
<i>1. METHODOLOGICAL ADAPTATIONS</i>
1.1 Common activities for the group or classroom (specific grouping, special methods, professionals' help, specific materials and resources, etc.)
1.2 Specific activities (setting specific activities)
<i>2. CONTENTS AND GOALS SETTING ADAPTATION (prioritizing, sequencing, etc.)</i>
<i>3. ASSESSMENT CRITERIA ADAPTATION</i>

*Table VIII. 10. Measures to address diversity.*

#### **4. ACTIVITIES**

In order to work on the contents of this topic, the following activities are proposed:

1. To make a list with the advantages and disadvantages of creating a didactic Planning. To analyze and discuss possible solutions for those disadvantages.
2. To make a conceptual map referred to the contents of this topic.

3. To create a didactic unit for a Primary or Secondary Education class following the steps presented throughout this chapter.

## 5. AUTOEVALUATION

In order to check the acquisition of the content presented in this chapter, please follow the instructions and answer the questions listed below:

1. List the advantages that bring the organization of Didactic Planning.
2. List the components of Didactic Planning.
3. What components must be included in the analysis of the context in a Didactic Planning?
4. What is the difference between interdisciplinary and transdisciplinary?
5. Where does the proposed Didactic Planning emerge?
6. What is a didactic unit?
7. Explain briefly the two strategies to plan a didactic unit.
8. Name the components of a didactic unit.
9. Goals classification.
10. How are the didactic goals addressed?
11. Once the goals are set, what should be done?
12. Name and explain briefly the basic competences and skills that the Organic Law of Education includes.
13. Name the different areas of Primary Education and the distribution of its contents.
14. Name the different areas of Secondary Education and the distribution of its contents.
15. Explain the different types of contents in a didactic unit.
16. What is the logical and psychological importance of contents?
17. List the different approaches for contents organization.
18. Briefly explain contents sequencing criteria.
19. Teaching/learning activities characteristics.
20. Name some expositive didactic strategies.
21. Name some research didactic strategies.
22. Explain Doyle's (1983) activities classification.
23. Types of grouping during activities.
24. Which are the strategies for the identification of previous students' ideas?
25. What are the special educational necessities activities for?
26. Characteristics of the didactic resources and materials.
27. Zabala's (1995) curricular materials classification.
28. Explain how the teaching/learning evaluation process is understood.
29. What are the moments or perspectives during the teaching/learning evaluation process?

30. Which are the different levels of curricular adaptation in order to address diversity?

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