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ENHANCING LEARNING MOTIVATION: THEORY AND STRATEGIES.

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**I HAVE A PROBLEM:
WHAT CAN I DO TO ENHANCE MY PUPILS' MOTIVATION TO LEARN?**

One of the most often-heard complaints from teachers of all school levels, especially from those teaching above third or fourth grades, is that many of their pupils fail to show any interest in school subjects, nor make sufficient effort to achieve the knowledge and capacities that constitute the goal of their teaching. These complaints increase in the course of secondary school.

1. Two ways of interpreting the problem and coping with it.

Pupils' lack of interest and learning motivation are interpreted and coped with by teachers in different ways.

Some teachers consider that, in many cases, family and social conditions prejudice students' learning motivation. These teachers argue that families value good grades, which in many cases is not the same as the acquisition of abilities and competencies. One can often hear: "My pupils are only interested in passing their examinations with the least possible effort".

This explanation implies attributing the responsibility for pupils' lack of interest and motivation to the attitudes they already have when they come to school, and to factors external to the institution. This attribution has a twofold consequence. First, many teachers consider that they can do very little to enhance their pupils' motivation to learn if the pupils' social context in no way favours this motivation. Second, the professional self-esteem of these teachers and their valuation of the teaching profession itself become more and more negative as they feel unable to attain the educational goals that should constitute the stimulus for their daily work.

Many other teachers, however, cope with the problem by asking themselves: What can I do to improve my students' interest in learning and to help them to make the necessary effort?

Asking oneself this question does not imply denying that the social and cultural context of our students has a remarkable effect on their motivation and interest in learning. What it does imply is the recognition that, in spite of all the factors external to the teacher's own activity that affect this motivation, the classroom context, defined and controlled to a great extent by his or her work, exerts a great influence on the way pupils confront their academic activity. Thus, it is worth trying to determine what characteristics our teaching activity should have if we are to be able to increase our pupils' interest and effort to acquire the knowledge, skills and abilities that constitute the intended objectives of school curricula.

2. Learning motivation is enhanced or hindered by contextual factors.

Pupils are not motivated or demotivated out of context. If we observe teachers' action patterns during a class, we can detect remarkable variations among them in several features that will be discussed below. These variations define learning environments whose meaning for students is also different. For example, a teacher can begin a class about lenses and microscopes in different ways. She may pose a problem that activates pupils' curiosity, such as "Suppose you are thirsty and there is nothing no drink except two glasses of water. However, you suspect that one of them may be contaminated. How could you find out whether this is the case?". She may also begin the class by asking her pupils to open their books and start reading, or saying "Today, we are going to study the characteristics and uses of lenses", before starting to explain the lesson. Or she may remark that they must pay attention because most questions in the forthcoming exam will deal with lenses.

Nevertheless, the learning environments created by teachers are neither motivating nor demotivating by themselves. If, for example, a teacher says to her pupils: "You are to solve the five problems on page X. *Let's see who finishes them first*", the effect of this remark on pupils' motivation may differ depending on their characteristics. Thus, this message may act as a positive incentive for competent pupils who like to beat their peers; however, it may be demotivating for pupils who consider themselves low in ability, who have low expectations of success, and whose main goal in competition is to avoid public failure.

In summary, the learning environments created by teachers interact with pupils' characteristics that affect their motivation to achieve learning goals. In other words, though there are teaching patterns that contribute to enhancing learning motivation of most pupils, and patterns that hinder such motivation, many of these patterns have different motivational effects depending on the kinds of pupil in the classroom. Given this fact, in order to assess accurately the effects that different teaching patterns have on students' learning motivation, it is necessary to know in advance which pupil characteristics affect such motivation, and how.

3. The pupil-context interaction changes over time.

The relationship between learning contexts created by teachers and the way pupils approach school work is not static: it changes over time. A student can begin a task posed by her teacher with great interest and a little later put it aside and start chatting with her classmates. What has caused this change? Is she simply a "wayward pupil" or, on the contrary, has something gone wrong with the learning context created by her teacher, with the way the activity is proposed or with the help that should have been given while it is being carried out? Can these changes be controlled by teachers, or are fluctuations in interest and motivation during the course of the activity beyond their control?

Throughout this book we will show that some ways of contextualising academic work on the part of teachers and some forms of classroom interaction positively contribute to the acquisition and development of ways of confronting and coping with academic tasks that help to sustain learning interest, and to prevent pupils giving up effort.

Thus, teachers should reflect from a dynamic perspective on factors that hinder or enhance pupils' motivation to learn. In doing so, they should consider the interactions among various factors: 1) teaching patterns, 2) pupils' initial ways of responding to them, 3) the step-by-step effects of the ways pupils approach academic tasks, 4) the kinds of support teachers offer during and after academic work, and so on. Failing to properly consider these factors and their interactions may lead to mistaken inferences about the motivational value of our approach to teaching.

4. Classroom motivational climate: effect on students.

When we examine pupils' motivation and how it depends on the contexts created by teachers, we should also consider that our pupils do not work in isolation and that the different tasks and learning episodes are not independent, unrelated events. The advice or warning a teacher gives to a pupil is observed by the pupil's neighbour; the explanation heard at a given moment is mentally compared with that heard a few minutes before; what is heard is compared with what is seen. As a result, though each one of these may have a transitory independent effect -capturing pupils' attention, clarifying the procedures to follow for carrying out the task or stressing the final goal and its meaning-, each new intervention by the teacher takes its meaning from the context created by his or her previous actions, which as a whole define what has been called the *classroom motivational climate*.

The classroom motivational climate provides the main basis upon which pupils build their mental representations about what is at stake in the classroom, what teachers want and expect from them and what the consequences may be -in this context- of acting in one way or another. These representations can be modified through teachers changing their teaching patterns in such a way as to give the pupil a new framework from which to attribute a different meaning to his or her daily work, a framework that contributes to enhancing learning motivation.

If the classroom motivational climate affects pupils' motivation to learn, when reflecting on patterns of teaching strategies teachers should also consider how they tend to create that climate, besides analysing separately the effects on motivation of each of the strategies. The analysis of classroom climate is important because it is very difficult to modify pupils' motivation without adequate and coherent shaping of that climate. In fact, if only certain specific teaching strategies are modified but the motivational climate does not change in a coherent way, one might wrongly conclude that it is not worth introducing such changes because positive effects were not found, when what in fact occurs is that changes in teaching strategies may be useless if introduced in isolation.

5. Producing motivational changes needs time.

Finally, we should remember a well-known fact: pupils' actions when approaching their academic work at a given time and the outcomes of these actions have a meaning for them that arises from the context defined by their personal histories. The way they have confronted their academic tasks and problems in the past, the pattern of outcomes obtained and the consequences derived from these outcomes have progressively shaped their ideas, first, of how capable they are in relation to each content area and to the different kinds of school tasks; second, of how valuable these are for them, and third, of the reasons why they have to do them. If these ideas are inadequate because they obstruct pupils' effort to learn and improve their personal

competence, teachers must take note of this situation and work long and hard to try and change them.

In order to help a pupil that habitually fails and has a very bad self-concept, it is not enough for the teacher to say, on a particular occasion when the pupil has successfully solved a problem: "You see? You *can* do it. You only have to try a little and think about it". Given that this success is isolated, the pupil may think that it was due to the help the teacher provided, to the task being easy, or that this success is the exception that proves the rule.

Pupils' attribution processes such as the above make it necessary for teachers to bear in mind, when reflecting on the teaching patterns that, in dynamic interaction with pupils' characteristics, can contribute to creating a motivational climate capable of enhancing interest and learning motivation, that time -often a long time- is necessary for such patterns to have the desired effects. If a teacher loses sight of this fact, he or she may think when reading the following pages "I've already used that strategy and nothing's changed". Thus, it is necessary to analyse whether these teaching patterns are sufficient for improving pupils' motivation, not forgetting that a factor determining their appropriate-ness is repeated use.

6. Coordinates to guide motivational interventions.

In summary, as can be seen in Figure 1, pupils' motivational profiles, teaching patterns, the dynamic interaction between them, the classroom motivational climate and the reiteration of positive teaching patterns -the time/frequency factor- are the coordinates that should guide teachers' reflection in order to make possible an accurate diagnosis of motivational problems and their causes, a diagnosis on which to base the adoption of teaching patterns that produce interest and motivation to learn in a more effective way.

The following pages aim to help in guiding the teacher's reflection. With this aim in mind, we shall first set out the principles that should guide the organisation of teaching activities in order to stimulate pupils' interest and motivation to learn, principles supported by a great deal of educational research. Subsequently, to facilitate the transition from theory to practice, many classroom situations will be described and analysed. It will thus be possible to understand why these are motivating or not, and to take them as a reference for one's own teaching activity.

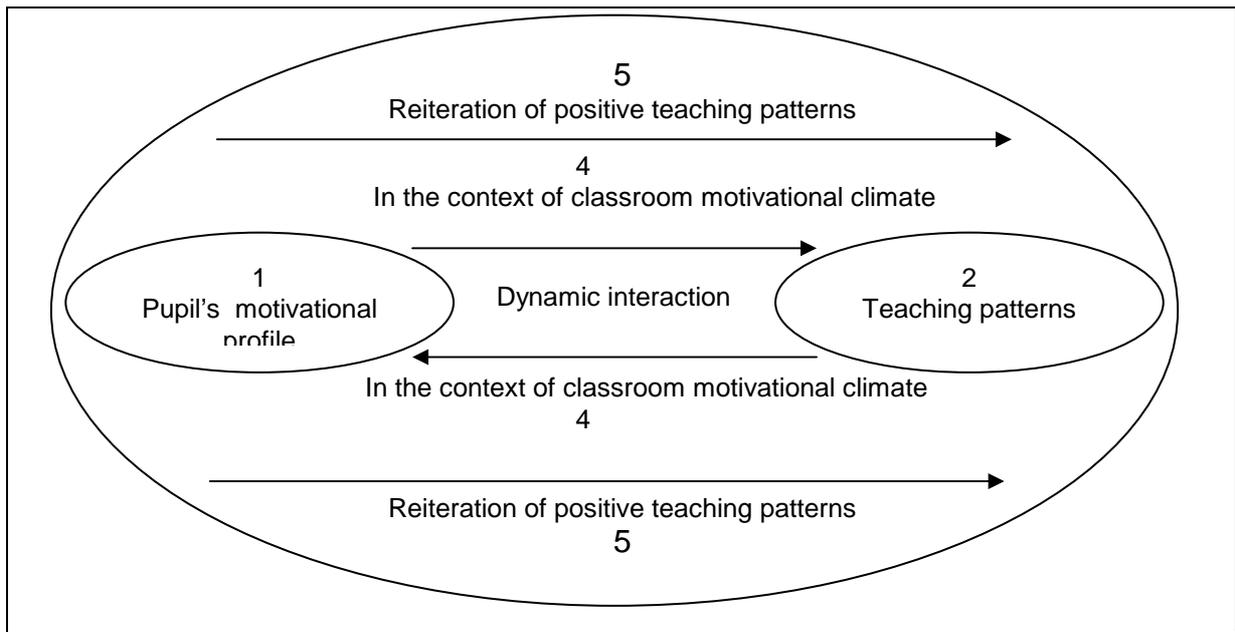


Figure 1: *Coordinates that condition pupils' motivational change.*

REASONS FOR PUPILS TO WORK IN CLASS

1. What influences whether my pupils work or not?

1.1 Observing what they do and say gives us a clue.

We have already pointed out that in order to know how to motivate our pupils we must first discover what affects their degree of motivation to learn. To this end, the best strategy is to observe what they do and say in specific learning situations.

Let us consider, for example, what occurs at a given moment in a 9th-grade Secondary School History class, as shown in Box 1. As it can be seen, pupils' comments, questions and contributions demonstrate that they approach classroom activity with very different motivation levels. The case of Pupil 1, whose main concern is to pass exams, is quite distinct from that of those pupils who try to avoid being asked a question by the teacher, and who, like Pamela, become nervous when they are asked. Nor is there a common interest between the pupil that asks what use it is to know what people thought at the time of the Reformation, the boy who compares what he hears with the modern situation and asks his question at the risk of being mocked by his peers, and the girl who indicates with a nod of the head that she has done her homework.

Similar differences are observed continually at all educational levels. What concerns Linda, for example, a 6-year-old who, after working in class on the subject of the family, spontaneously devotes time at home to trying to draw pictures of her family and her friend Desirée, is not the same as that which concerns 10-year-old Esther, who only works when by doing so she attracts the attention of the teacher.

In a 1st-year Primary class, in which boys and girls were doing some work related to Father's Day, the following behaviours –which clearly reflect different concerns– were observed:

– Larry is absorbed in cutting out and pasting the wheels of a car on a picture that the teacher has given out. He then colours in the car and shows it to the teacher, saying: “Miss, look. I did this all on my own”.

– Charlie is trying to colour in his picture, but can't avoid colouring outside the lines of the figure. He takes a look at his work, then looks at his neighbour's, which is quite good, and when the teacher comes over to look at his work he stares down at the floor.

– Isobel insists that the teacher go and help her, saying that it just won't come out right. However, when the teacher comes over, she seems to be cutting out and pasting without a problem. On finishing she asks: “Is it all right?”

At the end of the previous day's class, the teacher had asked her pupils to study the subject of the Reformation and write a summary. They were to underline the principal ideas and note down the vocabulary they did not understand. This request was in line with the system she used for other subjects.

T: Open your books at page 226 and put your summaries in front of you on your desk. Let's remind ourselves of the factors that bring about this religious movement. The first thing we're going to do, as we would with any subject, is to define the concept and situate it in a time and a place. Let's see – how would we define this movement, and when and where does it occur...?

P1: *(Interrupting)* Is this for the next test or the one after?

T: It's for this one. Come on now – how would we define this movement?

(Several pupils lower their gaze as the teacher looks around the class expectantly. One pupil responds).

P2: It's a movement that involves political, religious, economic and cultural issues. It takes place in the XV and XVI centuries.

T: I see – could you repeat that a bit louder?

P2: *(Repeats the answer)*

T: The XV and XVI centuries. Does everyone have that in their summary? Anybody like to enlarge on that definition?

(One pupil says to his neighbour, in a low voice: "And why should we bother about what they thought in them days?").

P3: I think it's cultural, too.

T: Yes, it is a movement that implies cultural changes, but why do you say that?

P3: Well, er... Because a lot of people were fed up with obeying the Pope, and started to think in a different way.

T: That's right. As we shall see, the Reformation has a number of consequences. It leads to a war, it has economic consequences and implications, and properties of the Church become secularized. It does indeed happen in the XVI century, and the most precise way of describing "where" would be to say in the Holy Roman Empire, because we can't talk about Germany as such yet. Germany won't come into being until the XIX century.

T: Pamela, remind us of the three causes of the Reformation.

P4: *(The girl, one of those that had earlier lowered her gaze to avoid being asked a question, becomes tense on hearing her name, and lists the causes in a nervous voice).*

T: Good. Yesterday I told you to look up two words related to this subject. Let's see – who's found the meaning of "nepotism"? What does "nepote" mean?

(She writes "nepote" on the blackboard. As no-one answers, she goes on)

"Nepote" means "nephew". Nepotism meant to give important jobs to nephews, or relatives in general. So it was a form of corruption, you see, within the Church. It was quite customary for Popes, Cardinals, bishops, and the ecclesiastical hierarchy in general to have one or more of their relatives ordained.

(A pupil says to his neighbour: "Like now – if you've got friends in high places, you're made; if not, you're on the dole". Then he asks:)

P3: Is "pulling strings" the same as "nepotism"?

(A murmur goes around the room.)

T: No, it's not exactly the same thing, but it's similar, because it means people getting special treatment because others have power and influence... through having contacts.

T: OK, let's go on. The other word was "simony". Can anyone tell me what it means?

P2: It's the buying and selling of spiritual things, like paying for salvation.

T: Well... can you give us an example?

P2: Indulgences. The buying and selling of preferment or privilege, more than things. "Things" can't be spiritual. Do you all have that definition?

(One girl looks at her, nodding with satisfaction)

T: Good, simony is what Luther will fight against. So we'll see that the poor state the Church has got into over several centuries, especially between the XI and the XVI, will lead to three reformations, but that these will be considered heretical. Luther will be excommunicated.

T: Let's go on to the second factor...

– Eva says to the teacher: “Miss, I can’t do it. Can you do it for me?”. The teacher responds: “Then *I’d* have to give the present to your father, wouldn’t I?” Eva returns to her seat, notices her neighbour has finished and asks her to cut out for her.

Observing the behaviour of pupils when they are doing work at home and listening to what they say when thinking aloud is also an important source of information about their preoccupations with regard to school.

For example, the first thing that occurs to many pupils when they open their books is “What a bore! Why do we have to learn so many books and authors [in Literature]. Let’s see how quickly I can get this over with”. Others study *like teacher wants*, which may mean simply making a summary of what they have been told to underline in class and trying to memorize it, because “it’s the best way to get a pass and make sure your mark doesn’t drop in the [external] exams”. On the other hand, there are those who become absorbed in trying to understand why a problem is solved in a certain way, or who look for additional information to provide answers to the questions that occur to them while they are studying. Sometimes, pupils keep their eyes glued to their books because, as they say, “Tomorrow I’m bound to get asked a question, and I don’t want to look stupid”. Finally, there are those that reject certain subjects, reasoning as follows: “Why do they have to make me learn something that I don’t like and that’s got nothing to do with what I want to study?”

1.2 *We find that not all pupils have the same goals.*

On examining and comparing the behaviours described in the above examples, it is patently clear that not all pupils pursue the same *goals*. These goals can be classified in different categories. In some cases, the priority is to learn something that makes sense to him/her and to feel a sense of competence. Attention is focused on *mastery of the task* and on the pleasure involved in acquiring knowledge. This is the case of the pupil who compares nepotism with “pulling strings”, that of Larry as he does his cutting out, or that of those who look for complementary information to satisfy their curiosity about a topic.

For other pupils, the most important thing is not to look bad in front of their peers. This concern may lead, as in the case of those who said “Tomorrow I’m bound to get asked a question, and I don’t want to look stupid”, to pupils increasing their efforts to learn. On the other hand, however, it may produce maladjusted behaviours: this is the situation of those that lower their heads to avoid being asked a question and being laughed at, of those that only participate spontaneously in class when they know for sure that they are going to make a good impression, or of the boy who made a mess of his cutting out and colouring and who looks at the floor when the teacher comes around. In all of these instances, what counts is to *preserve one’s image* –in the eyes of others and in one’s own–, and failing to do so usually has emotional consequences that negatively affect motivation.

There are also pupils whose first thought is of the type: “There’s a test tomorrow, I hope I pass”. For such pupils the priority would appear to be that the tasks and topics they are going to study have some practical utility, such as enabling them to pass the course or obtain a given grade. In this way they may avoid problems with their parents or, in the case of older pupils, increase their possibilities of getting into university. In this situation the content to be learned

has no value in itself. It is necessary for *achieving an external goal*: it is merely a means to an end. The same occurs in the case of the little girl who asks the teacher to do the task for her. Her concern is not with learning, the goal intrinsically linked to the task, but with getting the job done.

However, it is important here to distinguish two different situations. On the one hand, preoccupation with the *mark or grade*, and especially with passing, implies the prioritisation of something totally extrinsic to learning and acquiring skills. On the other hand is the concern with the *intrinsic usefulness* of what is being studied, that is, with the types of problem or task whose solution or realization may be closely linked to the knowledge pupils are asked to acquire. The first situation corresponds to the pupil who asks himself about the use of learning a list of names of authors and their works; the second is exemplified by the pupil who wonders which optional subjects will be of most use if he intends to study medicine.

The pupil who asks: “Why do I have to study...?” makes manifest a concern that is always latent to a greater or lesser extent, but which becomes especially important in adolescence: the desire to *act independently*, doing things because one wants to do them, and not because one is obliged.

There are pupils who only feel motivated to learn when by doing so they obtain some *reward*, whose form may range from praise to various types of incentive or prize.

Finally, there are pupils who, like Isobel, are especially motivated by the need *to attract the attention and gain the acceptance of others* (teacher, parents, etc.). In this example, although the girl asks whether her work is good on finishing her task, the fact that she only works when the teacher devotes all her attention to her reflects more a need for affection and approval in general, a basic need to feel loved and accepted unconditionally.

The set of goals we have just described, shown diagrammatically in Figure 2, is in some way present *in all pupils* when they come to class or carry out their school activities. Nevertheless, the *intensity* with which each of these goals influences the way each pupil approaches his or her work *varies*. For some pupils the priority is to feel *accepted* through their work. Others are particularly sensitive to the fact of being *obliged* to perform tasks which for them seem to have no point. For others their main concern is to *pass*, and *to avoid the problems* failing may bring with it. Many seek above all *not to look bad* in front of their classmates and, if possible, *to look good, or impress*. For the majority it is fundamental, even if not always a first priority, to understand the *intrinsic relevance* of what they have to learn. Finally, the cases in which pupils approach tasks with the *intention of learning* (Bereiter and Scardamalia, 1989) are those in which the main concern is to understand what is being studied, acquire new skills or knowledge and take pleasure in the exercise of those they already possess.

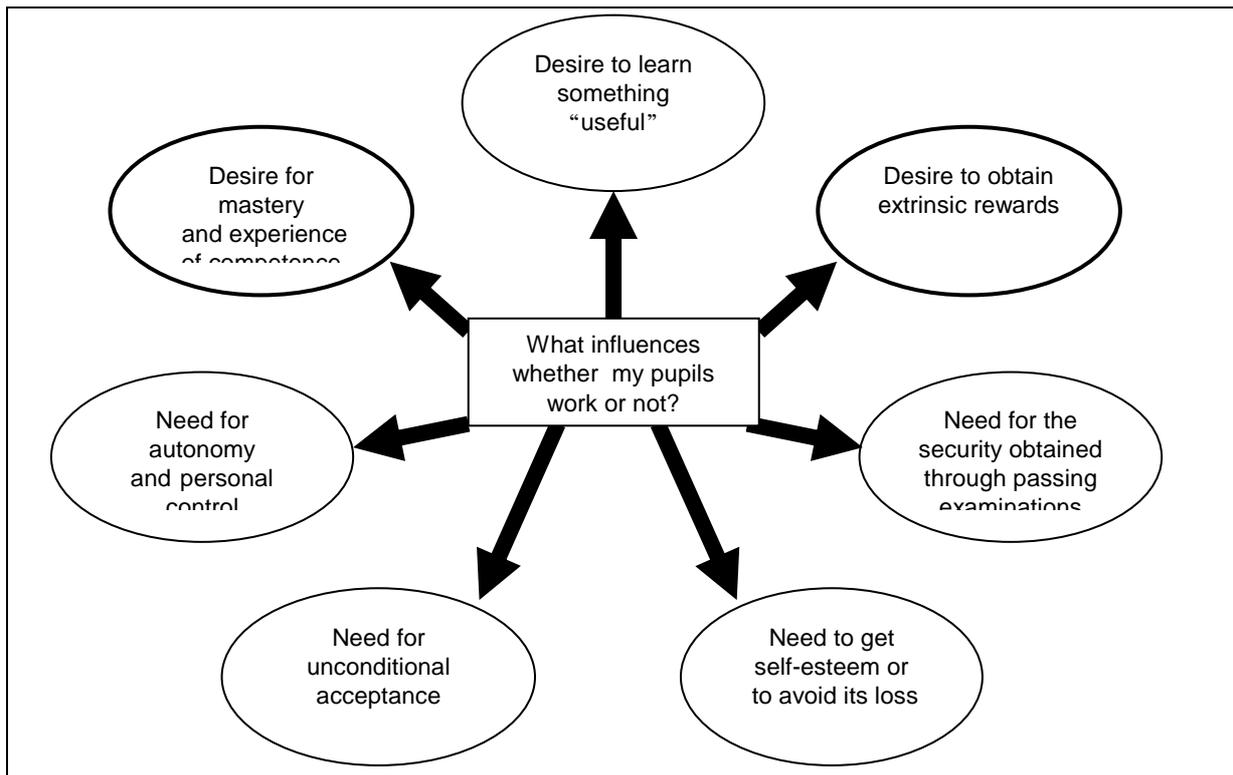


Figure 2: Personal goals that affect interest and dedication with regard to school work.

Having reached this point readers may ask themselves: “Fine – I know my pupils are motivated by different goals. I realise that among my pupils the most frequent situation is... and it seems there are no pupils concerned with... But I don’t see how knowing this can help me solve my problem. What can I do to motivate my pupils?”

In order to go on it is necessary to know in what way learning is affected by approaching school activities motivated primarily by one type of goal or another: only by knowing this can we determine the most appropriate way of acting according to the different priorities of pupils.

2. Consequences of pursuing one type of goal or another

2.1 *Desire for mastery and experience of competence: consequences.*

Let us consider, firstly, the case of pupils whose priority concern is *to learn*, to acquire new skills, or to experience the pleasure of feeling competent. How do they approach school tasks? Larry, in the example from the 1st-grade Primary class, appeared absorbed, his attention fixed on the figure he was cutting out. In the extract from the History class included in Box 1, the pupil who wondered about the similarity between "nepotism" and "pulling strings", asked the teacher for explanation, thus making it possible to clear up his doubts. A similar attitude is that of the pupil who consults reference books or asks people when he has a doubt about something, or that of the girl who, on hearing an idea, immediately tries to relate it to other knowledge.

Faced with pupils who act in this way, it would be easy to think that we were dealing with intelligent people. More than intelligence, however, what is observed is that the pupil’s mental

activity is focused, consciously or unconsciously, on the aim of understanding, learning or experiencing that he/she is capable of doing something. This disposition facilitates learning and strengthens the pupils' capabilities. That is, the form of motivation with the most positive effects on learning occurs when the pupil approaches school work with a desire to increase his or her competence, and is interested in the discovery, understanding and mastery of the material or skills in question, since this implies that the pupil is attracted by the nature of the task and the effects intrinsically bound up with its execution. This has been demonstrated by numerous studies (Csikzentmihalyi, 1975; Deci and Ryan, 1985; Alonso Tapia and Sánchez Ferrer, 1992; Jagacinski, 1992; Montero and Alonso Tapia, 1992-a and b).

It follows from the above that, if teachers want pupils to approach learning with this type of motivation, they should ask themselves which characteristics of their teaching activity contribute to pupils perceiving that what is involved is the acquisition of skills or knowledge, rather than other more extrinsic goals.

2.2 *Desire for what is learned to be useful: consequences.*

Frequently, when studying the reasons why pupils may lack interest in school work, we fail to take into account people's need to know the usefulness of what they are doing. Let us consider, for example, the way the classes shown in Box 2 -taken from recordings of real classes- begin.

- Mathematics class. Lesson on polynomials. 10th grade. Secondary School.
 “The next thing we have to look at are polynomials. I’ll explain them a bit, then we’ll do some exercises and then we’ll talk about the exam. Look at the following expression....”
- Literature class. Eighteenth-century theatre. 9th grade. Secondary School.
 “We’re going to look at the theatre in the eighteenth century. When the theatre boom in the eighteenth century arrives, it’s not as though it’s come out of nothing – there were forerunners of it, things that were happening that laid down the foundations for a national theatre movement...”
- Knowledge of the environment class. The neighbourhood. 2nd grade. Primary School.
 T: Take out your books... Come on, wake up... Look at p. 40, we’re going to look at the map. Read what it says... Remember the neighbourhood isn’t just your street... Let’s see the first thing you see on the map...
 Let’s see who can tell me what "the neighbourhood" is... You, Philip.
 P: It’s the street where you live.
 T: Only the street where you live...?
- Natural Science class. The cell. 9th grade. Secondary School.
 “Today we’re going to start with the nucleus of the cell, which is the only part left to cover. We’ve seen all the functions now. The function of the membrane was that of protection, of support; it gives form to the cell and, as it’s absorbent, it absorbs the water...”

Box 2. *Examples of different ways of beginning classes observed in classrooms.*

It is patently obvious that in situations such as these it is difficult for pupils to get a clear idea of the possible relevance of what they are being asked to learn. What is the use of knowing how to deal with polynomials, of knowing how the national theatre movement started, of reading about the neighbourhood or of learning about the cell nucleus? Why are these subjects dealt with?

However, pupils are in a context in which they know that they have to go to class, learn what comes up and study what they are told to, and that they will eventually be assessed. This means that many of them do not look farther than that. Nevertheless, there are pupils who from very early on ask themselves about the usefulness of what they are taught –a tendency that increases as they start having to choose between options. Not having a clear idea about the usefulness of what is to be learned may be demotivating even for pupils who start out trying to learn or acquire skills, as they will consider it preferable to be competent in something useful than in something whose use they do not know.

2.3 *Desire to obtain rewards: consequences.*

It is sometimes thought that what motivates pupils is not the learning itself, but rather what they can obtain through it. Thus, it is affirmed that for a pupil to learn it is necessary to show him or her the reward that can be expected for carrying out tasks. It is certainly true that offering and giving rewards is effective in making pupils work, as is demonstrated by the so-called "token economy programmes" (O'Leary and Drabman, 1971), and that it even contributes to pupils *becoming interested* in the task itself (intrinsic motivation), and not just in the reward, when the pupil's initial level of interest in the task is *very low*, when the *attractiveness* of the activity *only* becomes evident *after a certain amount of time spent on it*, or when it is necessary to achieve *a certain degree of skill* in order to enjoy the activity (Leeper, Greene and Nisbet, 1973).

For example, if a pupil is totally lacking in motivation to read, it may be effective to offer him or her some type of external incentive for each book he/she can demonstrate to have read with a minimum level of comprehension, a criterion which should gradually increase (i.e., more pages or books should be required to be read for further rewards). Given that enjoying reading requires a certain level of skill before attention can be transferred from decodification to the content of what is being read (the attractiveness of the story, descriptions, etc.), and given that acquiring this skill sometimes requires an effort of application –hard work–, the use of external incentives will help create one of the conditions for pupils to become interested in reading as such. Furthermore, learning that reading is pleasurable and useful requires a degree of experience with different texts; external rewards can also be an advantage in this respect.

Also, the fact of telling a pupil that he/she is doing the work properly or indicating the progress that has been made, *pointing out what this praise is based on* (objective evidence to justify it), constitutes a social reward for the pupil's efforts, and has a positive effect on intrinsic motivation, since pupils will spontaneously devote more time to the activity in question if they can. This is probably due to the fact that this kind of reinforcement has an *informative value*, that is, it tells the pupil that he/she is progressing in the acquisition of a skill.

However, in other conditions, rewards have opposite effects to the desired ones. Thus, the use of *praise alone* is usually perceived as a *form of control*, which leads to a decline in interest in the task. Meanwhile, if the reward is not verbal but *tangible*, if offered in advance (therefore expected), and if given when the task is completed, its motivating effect will be negative in the long run, since pupils *will work only when they expect a reward*. Finally, if an *external* reward is received when an activity is being carried out for pleasure, there is a danger of *destroying the intrinsic interest* it may have (Kohn, 1993; Leeper et al., 1996).

2.4 Need for the security of passing: consequences.

It may be thought, depending on the educational level of one's pupils, that the types of concerns or goals mentioned up to now are not those that actually motivate them. A study carried out with over 300 Spanish teachers, later replicated with a similar number of Venezuelan teachers (Alonso Tapia, 1992-a; Alonso Tapia and Irureta, 1995), showed that many teachers think that what really motivates pupils *is the need to pass subjects*, and this is a goal that is *external* to learning itself.

In connection with this idea it should be recognised that pupils cannot forget the fact that they will be assessed, and that often, in situations in which important external rewards (such as qualifying for university or for a chosen profession) depend on the passing of an exam, many pupils make considerable efforts to pass, as long as they have expectations of being able to do so.

The above does not imply that it is a good thing to insist to pupils that they should study because they will later be assessed. Although the imminence and the importance of exams appear to have a positive effect on motivation –pupils study more and more thoroughly–, the reality is that their motivation to pass is increased, but not their motivation *to learn*. As Elton (1996) has pointed out, the need to attain a goal extrinsic to learning stimulates effort that tends to affect the visible results (tasks completed, content memorised, exams passed, etc.) more than it affects learning, bearing in mind that learning involves not so much memorising as understanding and knowing how to apply knowledge to new situations.

It has been demonstrated that the proximity of an exam produces a fall in performance level in those cases in which the task, though attractive for the subject, requires not the mere application of known rules, but the actual discovery of the rules for solving the problem. For example, making reference to the fact that completing a certain task will count towards the pupils' marks or offering them some kind of reward leads to their becoming less involved in the solution of difficult problems, less focused on the learning of necessary skills, less logical and coherent in the use of the strategies they will employ and more concerned with the end result (McGraw, 1978; Condry and Chambers, 1978).

The fact that preoccupation with the results of assessments does not foment pupils' interest in learning and developing the capacities and skills that are the goal of school activity does not mean, however, that such preoccupation should be ignored when deciding how to motivate for learning. As Maslow (1954) points out, our motives and needs are not equivalent. There is a certain hierarchy among them, so that basic necessities (security) are to be satisfied before superior necessities, among which would figure the desire to increase one's competence. Thus, whenever pupils see their security as threatened by the possibility of failure, they tend to adapt their approach to study to the requirements of the assessment, rather than to what is desirable in terms of learning.

Having reached this point, the following question may arise: given that the threat represented by the possibility of bad marks has a negative effect on the type of motivation and strategies with which pupils approach learning, and given that assessment is inevitable, how can we succeed in fomenting pupils' interest and effort with regard to learning in the deeper sense of

the word?

We shall see, as Elton (1996) has demonstrated, and as we ourselves have shown in other studies, that the negative effects of assessment are produced largely because there is a discrepancy between *the objectives whose achievement involves significant learning* and *the objectives that are usually assessed*. In general, the objectives that tend to be assessed demand of pupils, principally but not exclusively, the memorising of rules for solving problems and the ability to apply them in a more or less mechanical way (Alonso Tapia, 1995; Villa and Alonso Tapia, 1996). Thus, it is necessary to reflect on the implications of forms of assessment in order to determine *how to modify them* with the aim of facilitating motivation for learning.

2.5 *The need to preserve self-esteem: consequences.*

Every teacher knows how important it is for pupils to feel, at least, equal to their colleagues in terms of ability, competence and performance. Indeed, when teachers are asked what factors influence motivation, they often mention pupils' self-confidence and the need to help them maintain it. And it is true, as has repeatedly been demonstrated, that high self-esteem has a positive influence on academic learning and performance. However, pupils' *preoccupation* with *preserving their self-esteem*, so as not to seem incompetent or ignorant, and to appear at least as able as their peers, has above all negative effects on learning, since it tends to generate inappropriate ways of approaching academic activity. We have already briefly referred to some of these.

2.5.1 Preoccupation with self-esteem: negative effects

Let us consider, firstly, pupils' participation in class. One form of participation is to ask when one is in doubt –an action which normally, if teachers respond in an appropriate way, favours learning. However, not infrequently, pupils ask a colleague to ask the teacher something on their behalf because, as the first pupil says, “I daren't”; or, what amounts to the same, because they think that what they are about to say may sound stupid and cause the rest of the class to laugh at them. A similar case is that in which we find pupils that have failed to understand something, and who, when we ask them why they haven't asked for an explanation, say that it is because their colleagues will think them silly for not having understood the first time. The fear of ridicule, of losing personal self-esteem in front of their peers, produces an inhibition of the spontaneous tendency to ask for explanation when something is not clear, with the consequent negative effects on learning.

A similar type of inhibition is found with respect to *other forms of participation*. Teachers often ask for a volunteer to come up to the blackboard and solve a problem, but there are pupils that never volunteer for fear of the ridicule that may result from making a mistake or not solving the problem correctly. However, if a pupil comes up to the board and fails to solve the problem in the correct way, it is normal for the teacher to point out the error and show him or her how it should be done. This allows the pupil to correct mistaken notions, clearly favours learning and gives the pupil, whose knowledge is increased, objective reasons to have higher self-esteem. It is obvious, therefore, that an exaggerated concern with preserving self-esteem may give rise, as in the cases mentioned, to behaviours that have negative effects on learning, and that present an obstacle to the acquisition of the abilities necessary to sustain positive self-value.

No better is the situation whereby the teacher *questions a pupil directly* or *asks a particular pupil* to come out to the board. The pupil, concerned with what the teacher or his/her colleagues will think, tend to be tense, more preoccupied with the evaluation to which he/she may be subjected than the carrying out of the task itself. This makes learning difficult.

Another negative consequence of excessive preoccupation with self-esteem is the *adoption of inadequate forms of study* –if what we are interested in is in-depth learning. Given that such pupils, in order to avoid losing face, place emphasis on the mark, they generally study with the type of exam in mind; as we pointed out in the previous section, this usually has detrimental effects.

2.5.2 Preoccupation with self-esteem: positive effects

Nevertheless, there are some situations in which priority concern with one's own image has positive effects. In one of the studies already cited (Montero and Alonso Tapia, 1992b), we assessed the predominant motives of a sample of 9th and 11th grade pupils (Secondary School). These pupils subsequently carried out an objective test in one of the non-optional subjects. After receiving their marks, the pupils who considered themselves to have failed were told that they would be given a second opportunity two weeks later. Between the two exams, we studied the *causes* to which their failure was attributed and the *emotions* the mark had produced in them, and, in the case of those who wished to repeat, their *expectations* of succeeding the second time around. The results of this research demonstrate that, the greater the concern with learning, the more likely the pupils were to pass the first time. Of the remainder, the greater the concern with not losing face, the more likely they were to pass in the second exam. It appears, then, that the concern with looking good and avoiding ridicule has positive effects, at least in circumstances such as the above.

Although the effects of preoccupation with self-esteem, once presented, appear obvious, it is not frequent for teachers to be aware of how different aspects of the way they teach can have a positive or negative influence on their pupils. Teachers should, therefore, examine their approach from this perspective. Later on we shall attempt to assist them in doing so.

2.6 Need for autonomy and control of one's own behaviour: consequences.

One of the experiences that leads to most rejection is that of feeling obliged to do something we do not want to do, either because of the effort involved or, especially, because we cannot see why it is worthwhile –we do not see the sense in it. People need to feel that they do things “because they want to” in order to feel comfortable, even in the case of tasks that require considerable effort. In the school context, this need determines whether pupils feel satisfied or unsatisfied in a learning situation, depending whether they gladly accept that situation or whether they find themselves obliged to do something they would prefer to reject (deCharms, 1976, 1984). This latter situation is frequent, since at school practically everything is imposed: teachers, the curriculum, programmes, activities, colleagues, assessments, etc. The sense of obligation implied by having to do something is accentuated when, as we pointed out earlier, pupils fail to perceive the usefulness of the tasks to be carried out, or when they have to perform actions whose predictable consequences may be negative, for example, when they are obliged to do some task in front of the rest of the class.

However, the preoccupation with acting in an autonomous way, doing what we choose to do, may also have positive consequences for the way in which school work is approached. It is a fact that not knowing a language, not knowing how to work a computer, having difficulty with maths, etc., are problems that prevent pupils from carrying out certain tasks, selecting optional subjects or even choosing certain careers. Even activities such as voting, without adequate knowledge of the way society functions and the potential consequences of the policies proposed by each party, may turn into more of a game of a chance than the exercise of free and responsible choice.

For this reason, when pupils realise that learning allows them to opt for alternatives previously unavailable to them, the desire for autonomy contributes positively to their motivation. In some cases it may even occur that pupils, even when faced with teachers whose approach to classes or teacher-pupil relations does not favour learning, treat work as basically their own responsibility, and look for alternative ways to learn and make progress. Clearly, this type of behaviour reflects a maturity rarely attained as early as secondary level, but which is nevertheless possible.

As we shall see, in order for pupils to experience a feeling of autonomy and personal control, and for this to have a positive influence on motivation and learning, two things are necessary. On the one hand, it must be perceived that possessing the abilities that can be acquired through school work opens up the possibilities for choice; on the other, pupils must realise that school work in fact leads to the acquisition, exercise and experience of these abilities. If only the first of these is perceived, pupils will not understand school work as something worth taking responsibility for, and will reject it. The task for teachers, therefore, is to know which factors contribute to pupils perceiving school work as a liberating activity that reinforces their personal autonomy, instead of seeing it as an imposed activity that only benefits others. This knowledge is particularly important when the pupils in question are adolescents, for it is during adolescence that the concern with personal autonomy takes on more importance.

2.7 Need for unconditional personal acceptance: consequences.

The need for personal acceptance is not just one more goal that may or may not be reached through school work. It is a basic requirement whose satisfaction is necessary before other factors can come into play in a suitable way. If a pupil feels that the teacher is ignoring him or her, or even that the teacher “has it in for him/her”, the discomfort and tension with which that pupil comes to class will, though not totally preventing it, constitute an obstacle to interest in school activities.

One of the factors that contributes to such an attitude is the perception that the teacher is interested only in the most able pupils, ignoring or even rejecting the rest, especially those with special needs. This is not an infrequent situation –as we found in a study on the relationship between teachers’ attitudes with respect to their pupils and the way teachers are perceived (Alonso Tapia, 1992-a)– and has a negative influence on performance.

A second factor contributing to the same attitude is the fact that school work is carried out in a context in which teachers must exercise authority. The way in which it is exercised sometimes

leads to pupils feeling personally rejected.

In either of the above cases, although teachers may try their best to help pupils who feel rejected, it is a difficult task, since pupils attribute the actions of the teacher to intentions that have nothing to do with help. Moreover, the perception of non-acceptance means that, on coming to school, pupils' feelings of obligation and lack of autonomy are accentuated, and this, as indicated above, has a negative effect on interest in learning.

Meanwhile, the need for acceptance often gives rise to pupils behaving in ways that are positively valued by those whose approval they seek. This situation may have positive or negative consequences depending on what it is that the people in question ("significant others") value in them. If teachers, parents or colleagues often mention marks, university entrance or the usefulness of knowledge for earning a living, it is likely that pupils who need to feel accepted will orient themselves towards these external goals in order to achieve acceptance. If, on the other hand, the climate promoted is one of continual comparison between pupils, brothers and sisters or peers, it is probable that the pupil concerned with acceptance will attempt to be better than the rest, as far as his or her ability allows. Meanwhile, if a pupil sees that what is valued is his/her continued personal progress, and not marks or the position he/she occupies with respect to others, that pupil will tend to pay attention to all that which aids such progress.

Thus, bearing in mind the way in which the perception of personal acceptance affects motivation and, moreover, that there are numerous specific behaviours through which the acceptance of a person can be transmitted (we shall examine these later), if we wish pupils to perceive such acceptance we teachers must review not only our specific approaches to teaching, but also the general verbal and non-verbal behaviour through which we communicate to pupils our unconditional acceptance and interest in their personal progress.

3. Final considerations.

Up to now we have analysed the different factors that influence whether or not pupils work in class, and the consequences of their pursuing certain goals as opposed to others. These consequences are summarised in Box 3. We have seen that, in the approach to school work, pupils do not pursue only one of these goals, to the exclusion of the others, but that in one way or another all of them are present: being accepted, getting good marks or passing, not losing face, learning, doing things without feeling obliged, and so on. However, what varies is the extent to and frequency with which each one of them is influential in a given pupil.

<i>Goals</i>	<i>Effects</i>
Desire for mastery and experience of competence	<ul style="list-style-type: none"> • Leads to immersion in the task (absorbed) • Promotes the search for the help that is really necessary • Stimulates processing of knowledge • Promotes the search for information

Desire for what is learned to be useful	<p>The absence of perceived usefulness:</p> <ul style="list-style-type: none"> • Eliminates interest and motivation to learn • Increases the feeling of obligation
Desire to obtain rewards	<p>Favours motivation:</p> <ul style="list-style-type: none"> • If initial interest is very low • If enjoyment requires having experienced the task • If enjoyment requires a degree of skill <p>Is detrimental to intrinsic motivation in other cases</p>
Need for the security of passing	<p>The threat of poor marks/grades:</p> <ul style="list-style-type: none"> • Leads to completing more tasks • Favours rote learning • Depending on the kind of assessment, improves marks/grades • Is detrimental to comprehension and meaningful learning
Need to preserve self-esteem	<ul style="list-style-type: none"> • Inhibits the tendency to ask questions or participate • Tends to induce unsuitable study strategies • If a second chance is offered, leads to increased effort to pass
Need for autonomy and personal control	<p>The feeling of obligation:</p> <ul style="list-style-type: none"> • Destroys interest • Eliminates effort • Favours behaviours oriented to escape from the situation <p>The feeling of autonomy:</p> <ul style="list-style-type: none"> • May even lead to looking for alternative ways of overcoming learning difficulties
Need for unconditional personal acceptance	<p>The sensation of personal rejection:</p> <ul style="list-style-type: none"> • Provokes rejection of school activities • Increases feelings of obligation <p>The desire for personal acceptance</p> <ul style="list-style-type: none"> • Leads to the acceptance of the values of significant others

Box 3. *Consequences of pursuing different types of goals.*

To this last fact it should be added that, in a particular pupil, the type of goals he/she tends to pursue may vary in relation to age and context (Stipek, 1984). *The youngest* tend to be concerned with *the task* and *acceptance by others*, whilst from the age of 9 or 10 the vast majority of pupils tend to be preoccupied with *preserving their own image*, so that they try to look good in front of their peers and not lose face, goals whose attainment is facilitated by avoiding failure and obtaining a pass or a given mark.

Finally, preoccupation with the *relevance* of what is being studied for one's career, and with *personal autonomy*, becomes accentuated from *adolescence*, a time when many pupils begin to value school negatively, as pointed out by Guichard (1993). This leads to their feeling under obligation, and to negative effects on their motivation to learn.

We have also seen that the need to motivate our pupils demands teachers to ask ourselves whether our approach to teaching is suitable for stimulating the desire to learn, for facilitating the perception of the intrinsic relevance of the learning in question, for allowing pupils to see the possibility of obtaining good marks (or that bad marks do not represent such a failure), for avoiding the negative effects of an exaggerated concern with preserving self-esteem, for fomenting the perception that school work facilitates personal autonomy, and for communicating to pupils our unconditional acceptance.

To respond to these questions means analysing our classroom activity, looking into its possible consequences with regard to each of the aspects mentioned. Although this may seem a complex task, we shall see that it is not so. Nevertheless, before examining our teaching methods, it is necessary to be aware of the dynamic, ever-changing nature of our pupils' motivational state. This is the aspect whose implications we shall now discuss.

WHY DO INTEREST AND MOTIVATION VARY DURING THE ACTIVITY?

1. Motivational changes over the course of school activity

1.1 Explaining changes in intentions and goals during school activity

Stating that pupils' primary goals condition the interest and effort they invest in learning constitutes a static perspective on the problem, and therefore a partial and inadequate one. When a teacher asks his or her pupils to listen to an explanation, study a topic or carry out a given task, a process is begun in which desires, thoughts and emotions mix together as the activity develops, modifying the preoccupations that control the learning process and therefore conditioning interest, effort and learning outcomes. Thus, when proposing activities, it is not sufficient for teachers to take into account the role that may be played by goals in order to effectively influence motivation. It is necessary to know how to orchestrate teaching strategies throughout the process of working with pupils so that they work with high levels of interest and motivation to learn. With this aim in mind, however, it is essential to be acquainted with typical students' patterns of approach to academic activity that are linked to motivation –shown by, among others, Dweck and Elliot (1983), Kuhl (1987, 1994), Boekaerts (1992, in press) and Lehtinen et al (1995)–, their effects on learning and what influences their adoption by pupils. To what patterns are we referring?

Let us consider, firstly, a pupil studying the topic of the Reformation, as a preparatory activity for the class described in Box 1.

The pupil may begin by having a general look over the topic, with some degree of interest in discovering what it is about. However, he or she may soon come up against problems for various reasons. On the one hand, he/she may not find the subject interesting. Nevertheless, he/she may continue to study, bearing in mind that the teacher may ask questions and make some sort of assessment. In this case, the more time the pupil spends attempting to carry out an activity that produces aversion, the more the aversion will increase, and the easier it will be for him/her to become distracted or even to abandon the activity.

On the other hand, while the material may be interesting, the pupil may have difficulty understanding the concepts or ideas he/she is reading, or may feel unsure as to whether the summary he/she is making is in accordance with the teacher's indications.

In either case, there are two ways in which the pupil may react: by asking the teacher for help or, focusing on the fact that he/she is not progressing, by becoming tense and trying to escape from the situation by whatever means. In the first case, depending on the teacher's response to the request for help (ignoring it, asking the pupil to work alone, making suggestions, etc.), there are different possible reactions that will affect the final outcome of the study process.

Thus, during the course of study, the subject's "intentions" change: he/she starts out

pursuing a goal and, in the face of the problems encountered, the pursuit of a different goal becomes a priority, and the way of approaching the task changes.

Let us now consider the example of how the pupils in the class described in Box 1 approach the task proposed, and how the way they do so changes over the course of the class.

First, many pupils may begin by paying attention to the explanation, though this might depend on how well they have prepared the activity. However, if at any moment they fail to understand or lose the thread, they may react in different ways. They may ask for explanations – if the teacher allows them to interrupt–, as in the case of the boy who asked whether “pulling strings” was the same as nepotism. Receiving a clarificatory answer, as in this case, means that the pupil is more likely to continue paying attention. However, pupils may become tense and nervous on perceiving that they are incapable of following the explanation and feeling that they may have difficulties with this topic.

A second possibility is that, even if they understand the explanation, pupils may fail to see the relevance or usefulness of what is explained –why they need to learn what they are being taught. Such is the case of the boy who asks his neighbour “And why should we bother about what they thought in them days?”. When this occurs, it is likely that the pupil feels uncomfortable with the task and with the class situation.

These different types of reaction may indeed be found in a single pupil: initial attention; formulation of questions on perception of difficulties; tension, if doubts accumulate and the pupil is reluctant to ask again; and eventual lack of interest if, after hearing part of the explanation, the pupil does not see the usefulness of the activity or topic. Thus, as in this description, changes occur in the intentions with which tasks are approached, and different forms of behaviour are produced.

Let us consider thirdly, the case of a pupil who is trying to solve maths problems in class. Although here we are dealing not with studying but with problem-solving, the situation is similar. Depending on the pupil’s previous experience of mathematics, of his/her knowledge of the topic in question, of the problem’s content, and of the aim of the task (practical or assessment), the work carried out may produce different emotions and forms of action. The very fact of having to perform a task in which difficulties have been experienced in the past may well produce a certain anxiety, a fear that the same difficulties may appear. Moreover, although such anxiety may not occur, the situation of looking at problems and not knowing how to solve them or finding difficulties after having worked on them for a while (which greatly depends on the pupil possessing different types of general and specific knowledge) sometimes leads him or her to try alternative strategies or ask for help. Depending on the teacher’s response, various reactions are possible, but what is often generated is a feeling of impotence that leads the pupil to abandon the task.

Furthermore, if the pupil finds the content of the problem to be abstract and alien to him/her, to the extent that he or she fails to see the relevance of acquiring the knowledge it involves, he or she may become bored on feeling obliged to solve it. That is, although the pupil may begin with a degree of interest, the fact of encountering difficulties in the course of tasks may modify the goals on which attention is focused, changing the pupil’s intentions and the way he/she carries out her work.

In the three above situations, pupils' emotional experiences and forms of reaction in the face of difficulties differ.

These difficulties sometimes generate tension, anxiety and feelings of incompetence and, as a result, demotivation and abandonment of interest in the task and of all efforts to take advantage of it.

In other cases, such a reaction is not produced –or at least not initially. Pupils may ask for help. When this occurs, the teacher's reaction generates different emotions and forms of behaviour. It is also possible that pupils make repeated attempts to study and solve problems, which increases the possibility of comprehension, learning and the correct solution of problems. This, in turn, contributes to maintaining interest and motivation throughout the activity.

Finally, perceiving a situation as irrelevant, and consequently absurd, produces the risk of generating boredom and a desire to escape from the situation in whatever way possible.

Various questions arise with regard to the forms of reaction described. For example:

–Are the motivational changes described more or less systematic (i.e., do they reflect patterns that allow us to differentiate between types of pupil?

–If this is the case, just how do these patterns differ, and how do they affect learning?

–What affects whether pupils preferentially adopt one type of pattern or another, and whether they do so in a systematic way?

Responding to these questions is fundamental if we are to be able to help pupils. We shall deal with them one by one.

1.2 Are motivational changes systematic over the course of an activity?

The answer to this question is affirmative. It has been demonstrated in numerous studies (Dweck and Elliot, 1983; Alonso Tapia, 1992-b; Kuhl, 1994; Boekaerts, in press) that differences in patterns of emotional reaction and approach to academic activity tend to be systematic. Each pupil tends to react, more or less, in a similar way to these type of stimuli and the difficulties they present. It has been shown, moreover, that such differences are mainly related to the goals with which pupils tend to approach school tasks. Some of these differences, and the types of goals associated with them, are shown in the example in Box 4.

The example is a simplification of the processes that actually take place, designed to show the evolution of the thoughts, reactions and emotions associated with different goals over the course of the activity. However, it illustrates some of the fundamental differences between the

Let us imagine that three pupils have to write an essay for a language class. Their task is to describe what they have seen in a recent visit to a village where there is a castle. Observing them, we find that their behaviour differs, basically, in the aspects indicated.			
Pupil whose goal is to learn -A-	Pupil whose goal is to maintain self-esteem -B-	Pupil whose goal is to avoid the task due to lack of interest -C-	Differences
<i>Reaction to uncertainty about results of the task</i>			
This is interesting. I'll try and hand in a good piece of work.	What shall I put? What a drag! And it's for marks as well!	What a drag! What's the point of this?	For pupil A the task is a challenge; for B, a threat; for C an imposition.
<i>Initial questions and focus of attention whilst carrying out the task</i>			
Let's see... How can I describe what I saw? I'm going to imagine I'm telling X about it. What would I say? How can I make it interesting?	Let's see... On Monday we went to Richmond to see the castle... What else? I've only got an hour...	Let's see if I can get this over with as soon as possible. <i>(To a friend)</i> Show me how you're doing it.	Pupil A concentrates on the procedure he/she will follow; pupil B on the result; pupil C on getting the task out of the way however he/she can.
<i>Reaction when mistakes are pointed out</i>			
T: You've spelt "moat" wrong. P: Have I? Don't you spell it m-o-t-e? How do you spell it, then? T: M-o-a-t. The way you've spelt it, it means "a minute particle". P: Thanks. I won't get it wrong from now on.	T: You've spelt "moat" wrong. P: I didn't realise... <i>(Thinking to him/herself: "Here we go - he doesn't let you get away with anything. I wonder if I've passed...")</i>	T: You've spelt "moat" wrong. P: I didn't realise... <i>(Going back to his/her place: "At least he passed me. That's one less thing to do.")</i>	Pupil A tries to understand the problem and considers the teacher as a resource for learning; pupil B, in contrast, is defensive, concentrating on the result and considering the teacher as a hostile judge; The reaction of pupil C here is similar to that of pupil B.
<i>Follow-up reaction: kind of information typically looked for.</i>			
P: Why do you spell it like that, but you spell "mote" the other way? T: You just have to learn the spelling with the word – there are no rules.	<i>(Going back to his/her place and turning to a colleague)</i> P: What did he say to you? You got four mistakes? I only got one.	Turns to a colleague to talk about something else.	Pupil A looks for the information that will permit him/her to learn, whilst pupil B looks for information that will allow him/her to maintain/salvage self-esteem. Pupil C just forgets about the task.

Box 4. Processes of dealing with academic tasks (Modified from Alonso Tapia, 1995)

three forms of approach that teachers should take into account. The reason for this is twofold: first, because the initial proposal of activities and the types of teacher-pupil interaction that take place during them may cause pupils to adopt more or less suitable forms of behaviour; second, because, as we shall see, teachers contribute, through the way they act in class, to pupils acquiring appropriate adaptive behaviours.

1.3 Motivational patterns: differences

The differences previously referred to are related to the following aspects of the process of carrying out the activity.

On the one hand, when a pupil approaches a task *motivated mainly by a desire to learn* (motivational pattern A in Box 4), activities tend to be perceived as an invitation to achieve something, as an attractive challenge, as a situation that may lead to the acquisition of a skill or to the sensation that one possesses a certain ability.

In such cases, the initial question or intention with which the activity is approached (How can I do it? What should I say? How should I say it? Would it be right to say it like this?, etc.) means that attention is focused, not so much on the difficulty each new step involves, as on the search for strategies for solving the problem. Thus, if a pupil fails to understand the topic he/she is studying, or an explanation given by a teacher, he/she tends to ask; if a problem does not work out, the pupil looks for other ways of solving it, dividing the task into more manageable steps. It is at this moment that it is particularly important for pupils to have access to relevant thematic and procedural knowledge, so that their expectations do not decrease –a situation which may lead to the adoption of the kind of approach employed by subjects preoccupied with self-esteem (Pardo and Alonso Tapia, 1990, chap. 10.)

Moreover, if after starting out by working in the way indicated, a pupil continues to have problems or obtains poor marks because he/she has failed to understand, he/she tends to ask questions in order to discover the origin of errors and how to correct them. This is the case, for example, of those pupils (though few) who ask for a review of their examination, not for their mark to be raised, but in order to find out what they have done wrong and why.

On the other hand, pupils concerned above all with *preserving self-esteem* (motivational pattern B) approach tasks in a different way.

Above all, these pupils are preoccupied with the question of performing the activity correctly or incorrectly: Am I able to understand without any problems? Do I learn and remember things easily? Do I know how to do this type of problem?, etc. If the answer is affirmative, because their experience tells them that the activities concerned do not present too many difficulties, they relax and work quite naturally. If, however, as often occurs (see Box 4), there is great uncertainty due to the novelty of the task, then focusing attention on whether or not one will be capable of carrying it out tends to hinder the search for and implementation of the appropriate strategies and to generate tension and irritability when obstacles appear. This is due to the fact of pupils anticipating that, in the case of failure, their lack of personal ability will

become apparent, with the consequent adverse effects on their self-esteem. Thus, if the task is an obligatory one, as soon as the pupil begins to encounter difficulties he or she will begin to feel that this task is not for him/her, that it is “a drag”, etc., whilst insecurity and tension increase. This occurs especially when pupils are assessed after completing a task. Then, if their results are poor, pupils will begin to feel that they are not very good at that subject and that it is very difficult, so that self-esteem declines; or to make excuses –shifting the blame onto the teacher, saying that they have not had time to study, etc. Pupils in such situations tend to attribute their results to personal or contextual factors, over which they believe they have no control. This, as Weiner (1986) has pointed out, leads to a reduction in their expectations of success and, consequently, to demotivation.

Finally, there are those pupils for whom the task seems *irrelevant* (motivational pattern C). The fact that tasks may often appear irrelevant to them depends not on their failing to perceive the utility it may have, but rather on their not knowing how to do them or on the belief that they are not capable of doing them. Such a perception is often derived from having met with repeated failure, especially in the early school years (Licht, 1992). A task may also appear irrelevant because pupils fail to see how it can be useful for them given their personal interests. In any case, the dominant concern for a pupil facing an activity with the idea that it is irrelevant is to avoid it, get it over with in any way possible. It does not matter whether it is done well or badly, or whether, instead of doing it oneself, he/she copies or gets someone else to do the task. Thus, such pupils look for procedures that allow them to escape from the situation in the quickest and easiest way possible. If they are given homework, they often fail to do it or copy it from brothers/sisters or classmates. They are concerned about their mark, but only because if they fail they will be obliged to repeat the work. If they pass, the task is immediately forgotten.

1.4 What determines whether pupils adopt one motivational pattern or another?

The patterns described are typical when an activity is begun with one of the mentioned goals in mind. However, although pupils sometimes approach work with one goal and other times with another, the normal situation is that the three types of goal are present to a greater or lesser extent, so that the adoption of one pattern or another depends on the interaction between them.

If a pupil does not perceive the task as relevant, he/she will adopt pattern C as long as the need to “look good” does not act as an additional motive for seeking something more than an escape from the situation. That is, it is not sufficient that the activity be perceived as non-relevant for pattern C to be adopted.

If, on the other hand, the work is considered relevant, pupils will begin to act in accordance with pattern A or B, depending on the relative degree of concern with, on the one hand, increasing their competence and feeling that they are capable of completing the task or, on the other hand, with preserving self-esteem.

However, if a pupil working according to pattern A encounters excessive difficulties, he or she will probably change to pattern B, using strategies that might help save self-esteem –even if he/she does not increase mastery of the task- such as learning things by memory.

The processes we have just described, though, may be repeated at different moments and in relation to different subjects or topics, which contributes to a consolidation of different ways of thinking and feeling, ways which may be linked to a particular subject or type of activity.

For example, there are those that consider that maths, or languages, or sports, are no problem for them; that they are competent and that the activity in question is interesting and useful. These pupils tend to adopt the profile exemplified by subject A. On the other hand, there are those that consider themselves to be no good at maths; some others think that they are useless at sports, or handcrafts, or languages, etc.; finally, there are those who feel themselves to be generally not very intelligent or skilled, which makes it difficult for them to be able to begin any work with the necessary motivation. When this occurs, many pupils stop making an effort. These subjects, depending on the context, may adopt the patterns represented by subjects B and C, patterns that do not facilitate learning, since they fail to concentrate pupils' attention on the processes to be followed and the strategies to be employed for carrying out tasks. This leads them to understand less and less of what they have to study, to a generalised loss of interest and to search of justifications for their poor performance that allow them to salvage self-esteem: "Studying's a waste of time. I'm not interested in it. So I don't bother trying." Their situation reaches a point where they often appear lazy, when in reality they are not, as shown by the interest and effort they often put into other, non-school activities.

2. Determinants of the different motivational processes

On reading the description of the different patterns of approach to tasks, and of the way these may vary in the course of an activity, certain questions may have arisen: Why do not all pupils pursue with the same intensity the different goals mentioned? Why do they deal with learning problems by adopting coping strategies that are not always suitable? Why do not all pupils value the relevance of academic tasks in the same way? Why do some pupils worry more about looking good (or bad) in front of their peers? Why do not all pupils have the same desire to increase their competence, this constituting the objective basis for positive self-esteem? Why, given the same conditions, do some pupils adopt more adaptive ways of thinking and acting, whilst others opt for courses of action that are negative –in the long if not in the short term– for their interests? Can educators have an influence on pupils assuming more positive goals and approaches?

2.1. First explanation: motivation depends on stable characteristics, such as intelligence and disposition to effort

A variety of explanations may occur to us as we attempt to answer the questions listed above. One of them is the following. There are more and less capable subjects. The more capable subjects become aware of the situation, quickly seeing the relevance of what teachers are trying to teach them, and these are the ones that really learn. Others may be less capable, but are hard workers and know that with effort they can achieve things. Both types of pupil belong to the category of those who wish to learn, and adopt pattern A (Box 4). In contrast, there are those that do not easily understand or are lazy, which often makes it difficult for them to act in a similar way to the first group of subjects. However, as no-one likes to feel or appear inferior, these individuals adopt approach pattern B, in an attempt to preserve their self-esteem. Finally, there are those for whom the accumulation of failures, due either to inability or laziness, leads

them try and avoid school work.

This view quite clearly presents a somewhat negative scenario with respect to the possibility of arousing interest in pupils and motivating them to learn, since it implies attributing pupils' interest and motivation to relatively stable factors, to their intelligence level and to the extent of their general disposition to make an effort. It is an explanation, however, that is fairly widespread among teachers, as one of our studies shows (Alonso Tapia, 1992-a), probably because it constitutes a comforting excuse when one's pupils fail to achieve the learning objectives set.

2.2. Second explanation: motivation depends on the belief in the possibilities of modifying one's own abilities, skills and capacities.

Fortunately, the previous explanation is not the only one available. A second explanation, supported by the work of Dweck and Elliot (1983), focuses on the differences between those pupils whose main objective is to preserve self-esteem and those that aim to increase their competence, that is, to learn. These authors have found that, from the age of ten, there are differences in the extent to which the pupils studied consider that intelligence, skills and abilities can be modified. Those pupils that think such capacities are relatively stable and, moreover (as Skinner, 1990, and others have shown), are not sure of possessing them in sufficient quantities –thus believing themselves incapable of achieving certain objectives– will approach school work in a way similar to pupil B in Box 4; those, on the other hand, who consider these aspects to be modifiable through effort will employ the approach of pupil A.

Elsewhere (Alonso Tapia, 1996), we have shown how the differences mentioned clearly derive from deep-rooted conceptions in our culture, which are echoed even in popular proverbs.

Thus, we hear “You can't make a silk purse out of a sow's ear”, an expression that reflects the widespread conviction that he (or she) “has a gift” for maths, or languages, or music, or sport; that a child has a good memory; that he (or she) is good with his/her hands; and so on.

The notion that one is born with certain more or less stable predispositions tends to go hand in hand with the idea that, if one is capable, learning should be achieved straight away and almost without effort. Regardless of whether this idea is true or not (and, as we can see, it is not –or, at least, these predispositions are not as important as they appear), the fact that understanding, learning and problem-solving requires effort and is not easy, especially if repeated attempts have been made, may lead to the conclusion that “you've either got it” or “you haven't”. Thinking in this way, according to the previously-described explanation held by many teachers, means that pupils' first concern becomes one's own worth, so that the search for self-esteem becomes a basic goal. When this occurs, any situation that may lead to failure is seen as a threat, especially if that failure has been preceded by considerable effort: the only conclusion in that case is that “you haven't got it”.

On the other hand are the ideas reflected in the expression: “If at first you don't succeed, try, try and try again”. Obviously, this proverb encapsulates the diametrically opposed position with respect to the previous one –that anything can be achieved as long as one makes the necessary effort and employs the correct strategy. This idea is much more favourable to motivation, learning and achievement, success being seen as a question of strategy and dedication; attention

is focused on the steps to be taken, especially when difficulties are encountered. It does not matter, at least not as much as in the previous case, that mistakes are made or that things don't turn out right, because "to err is human", and indeed, we can learn from our mistakes.

Generally, the ideas summarised above are received or learned from others. One of the courses of action for improving pupils' motivation to learn (in the case that the conviction "if you haven't got it..." is held) would be to try to modify the idea they might have about the possibility of improving their abilities or skills. To this end teachers should analyse contextual factors: messages, forms of reaction to pupils' success or failure, etc., which are probably contributing to generating and consolidating the different beliefs mentioned.

2.3 Third explanation: motivation depends on knowledge of effective ways of thinking and approaching work

There is, however, a third explanation of the fact that pupils give priority to one or other type of goal. This version does not rule out that the beliefs mentioned above may to some extent have the effects attributed to them, but considers that the critical factors are others. It is possible –and there is evidence (Pardo and Alonso Tapia, 1990) to demonstrate– that the problem lies not in that pupils approach tasks in unsuitable ways because of the goals to which they give importance, but in the fact that, as they have not learned to confront problems and tasks with the proper strategies, they seek not so much to learn as to pass or to look good in front of colleagues and/or teachers, parents, etc. Put another way, it is not that pupils fail to learn because they are not adequately motivated, but that *they are not adequately motivated because, not knowing how to approach school tasks, they do not learn.*

This third explanation has its origins in the work of Kuhl (1987; 1994). This author has confirmed that when difficulties are encountered that impede the proper execution of a task, the first reaction is not to abandon it, but to invest more effort in its solution. That is, failure alone does not take away motivation. The repeated experience of failure, however, does indeed lead to abandonment, but, importantly, not everyone abandons at the same time. The difference in speed with which abandonment takes place, or, what amounts to the same, the drop in effort that reflects low motivation, will depend on the conjunction of various factors.

Perhaps the most important of these is *where subjects focus their attention*: on the search for specific actions and strategies that can help them to solve the problem or, on the contrary, on the frustration caused by the difficulties encountered. For the attention to be focused on the former, the subject will need to have learned to react automatically to look for such strategies; or, faced with the problem, he/she will need to be aware that it is better to try and solve it than to feel sorry for him/herself. This, however, is not sufficient, since, if the subject tries to find a solution by other means and lacks the necessary knowledge about how to act –does not know where to find information, which strategies to use, etc.– he/she will end up abandoning the task.

The explanation just presented is especially plausible in the light of various facts that have been repeatedly confirmed (Licht, 1992). The first is that many of the pupils that encounter difficulties in the early school years do not differ in intelligence level from their colleagues, though they do differ in terms of presenting specific cognitive difficulties such as vocabulary deficits that impede comprehension, or insufficiencies in the control of attention that limit their ability to take proper advantage of school activity. Such shortcomings require special attention

from teachers so that these pupils can feel able to overcome them. Thus, for example, if a girl has problems for understanding what she is reading due to a severe lack of vocabulary, what the teacher must do, when reading with her, is teach her above all to ask when she is unsure, or to look for meanings in the pictures accompanying the text or in the immediately previous or subsequent context; in sum, to value comprehension more than the fact of reading quickly, reading a lot or reading and pronouncing clearly. We have observed that a spontaneous and frequent tendency in beginner readers is to interrupt their reading at every step to ask about something that they do not understand and to establish associations between the meaning of what they find in the text and what they already know. However, this behaviour is often interpreted as a lack of attention, which restricts the teacher's taking advantage of it as a way of helping the pupil to overcome his/her limitations.

Linked to this fact is another that has been well demonstrated, that teachers tend to treat pupils who present problems in a different way from the others: they ask them fewer questions, they give them less time to answer, they give them the correct answer if they are wrong, rather than making them think, and they tend not to praise them (Cooper et al., 1980). This tendency limits the possibilities for pupils with difficulties to learn to think and approach school activity in the correct way, since they lack the necessary support and help. Moreover, as Weinstein and Middlestadt (1979) have shown, pupils perceive these differences in treatment, with the result that they use less the resource of asking for help, often essential for acquiring the knowledge and strategies necessary for school work.

2.4 The quantity and type of help the subject receives also has a notable influence on motivation

Knowing or not knowing how to approach tasks –which strategies and procedures to use– appears, then, to depend to a large extent, though not exclusively, *on the types of help* received throughout the learning experience. The examples presented in Box 5 show the way in which different types of assistance offered by teachers, parents and educators in general may give rise to different approaches.

As it can be seen, approaches A and C are focused on the result. The important thing is that the work is done well. Approaches B and D, on the other hand, help the pupil to become aware of the reason for his/her problems, of what he/she must do to overcome them and, when the pupil is old enough, of the learning process itself. In so far as these latter approaches are generalised, depending, of course, on the type and difficulty of the task in question, they will facilitate the acquisition of the learning patterns characteristic of subjects whose main goal is to learn.

Example 1:

A 10-year-old, learning multiplication, shows her work, a multiplication of four-digit numbers, to her teacher. She has not performed the calculation correctly.

A) The teacher tells her to repeat it more carefully. The girl does the calculation again. When she has finished, the teacher says: “Good. Go back to your seat.”

B) The teacher tells her that the error is due to the fact that the numbers are not properly lined up. She shows her how to line the numbers up properly and asks her to repeat the operation. When the girl has finished, the teacher asks: “What have you learnt today?” The girl replies: “To do multiplication.” “Nothing else?”, asks the teacher. “Ah, well, I’ve learnt that if I line the numbers up properly I’ll make less mistakes.”

Example 2:

A boy in first-grade Primary has to cut out a figure and paste it on some card –he is making a present for Father’s Day. He is having trouble using the scissors, and asks the teacher for help.

C) The teacher, in a motherly tone, says: “Come on, then, let me help you.” She cuts out practically the whole figure before asking the boy to finish it off.

D) The teacher says to him: “Let’s see how you’re cutting it out.” After observing him, she says: “Look, you’re having trouble because you have to hold the scissors like this...” (*She puts his hand in the right position on the scissors*) “Now try and cut it out... little by little... don’t rush it... You see? Now you’ve learnt something new. The main thing is to learn.”

Box 5. Example of different forms of educational mediation.

If pupils do not receive the types of help to which we have referred, and do not learn to think, the repeated experience of failure leads them to consolidate the idea that they have little capacity for achieving learning objectives, and that this lack of capacity is relatively stable, as Dweck and Elliot pointed out. And this idea makes pupils more likely to establish the behaviour patterns geared to maintaining self-esteem or, worse still, those aimed at escaping from a situation which seems to make no sense to them.

As Stipek (1948) has shown, as they go through school, the amount of individual attention pupils receive decreases, and that which they receive tends to be focused more on the result of tasks than on the correction of the procedures involved. The lack of orientation about how to proceed makes many pupils begin to feel that things are difficult for them, that they are “no good” at a certain subject, and this experience leads them to adopt the patterns of Subjects B and C in Box 4.

On the other hand, the fact that not all pupils evolve in the same way is due to the result of the *continuous interaction* between their *capacities*, the *learning context* and the different *forms of mediation* to which we have referred. When this mediation varies, that is, when teachers help their pupils to learn, to think rather than to store information, the patterns of approach change in a positive way. This is demonstrated in various works (Pardo and Alonso Tapia, 1990; Ames, 1992-a; Pressley et al., 1992).

It would appear, then, that if we wish to motivate pupils to learn in the fullest sense of the word, it is necessary for teachers to analyse, among other things, whether the types of action we take *focus pupils' attention on the procedures and strategies* through which they learn and solve problems, or whether, on the other hand, they tend to orient them towards obtaining results, without making them think about the way these results have been achieved. In other words: we should ask ourselves whether we are teaching our pupils *ways of thinking* that allow them to overcome difficulties, learn from mistakes and construct conceptual and procedural representations that facilitate the perception of progress and contribute to maintaining high levels of motivation.

Obviously, a new question arises: How do we know when our patterns of action are the appropriate ones, according to the above perspective?

HOW TO MOTIVATE: CONTEXTUAL FACTORS AFFECTING MOTIVATION

At the beginning of this book we emphasised the fact that pupils' motivation does not occur in an abstract way; rather, the way teachers conduct their activity in the course of classes and throughout the school year defines learning contexts which have different significance for different pupils. That is, personal goals and ways of approaching school work do not depend solely on the characteristics of the task and events that occur during its execution, but also on the teacher's activity. Therefore, it is necessary to look at the ways of working that contribute most positively to learning. With this aim, as the objectives to be achieved at different points of the learning process are different, and thus require different approaches, the following presentation and analysis has been organised on the basis of the different stages of the process.

1. Beginning of the learning activity: How to capture pupils' attention and where to focus it.

The objective of learning activities is the restructuring of knowledge and the development of skills and capacities, and these processes require effort in terms of the collection, analysis and elaboration of information. It is therefore necessary for pupils *to want to learn*. Nevertheless, for them to approach school tasks with this *intention*, various conditions must exist –conditions that can be achieved by teachers through the use of various strategies, such as those presented in Figure 3.

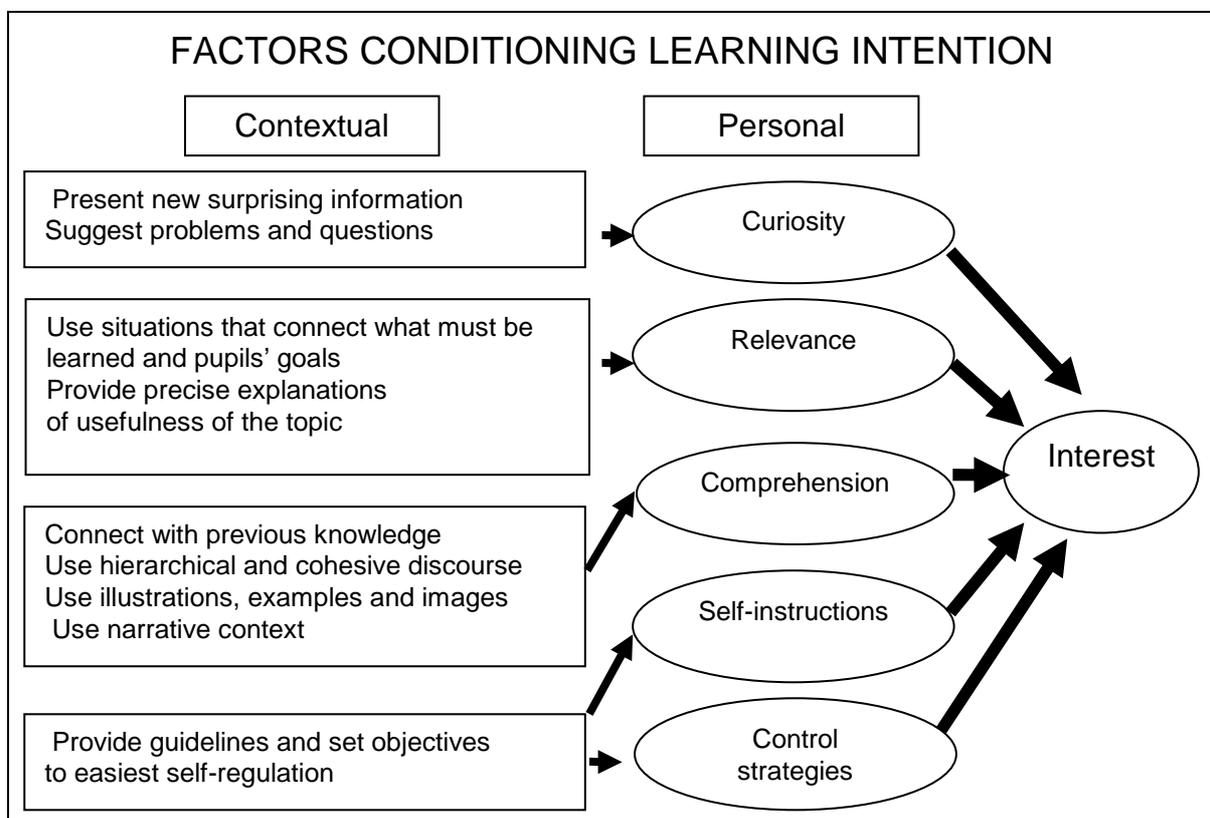


Figure 3. Contextual factors affecting motivation to learn

Teachers must set out, at the beginning of any class, and as a condition for activating the motivation of their pupils, to capture their attention by awakening their *curiosity*, showing the *relevance* of what they are to learn and creating the conditions for maintaining their *interest* - which should be distinguished from curiosity, as Hidi And Anderson (1992) have pointed out.

1.1 Activating curiosity

Curiosity is a process, manifest in exploratory behaviour, that is activated by characteristics of the information such as its novelty, its complexity, its unexpectedness, its ambiguity and its variability, all of which the teacher can use in order to capture pupils' attention.

For example, a teacher may begin a class on the pollination of flowers by reading a text in which he/she lists the types of pollination that exist and describes each one of them. However, the effect on pupils' curiosity of commencing a class in this way is much less than the effect that would be produced if the teacher were to begin by showing various different types of flower differentiated by their petals (without petals, with brightly-coloured petals or with almost colourless petals), by their reproductive organs (with bisexual organs or with only male or female organs) or by their odour (strong or faint); curiosity would also be increased by asking pupils to indicate points of comparison and contrast between the different types of flower, and then to ask questions such as: "Why do you think these flowers differ in these characteristics?". In this second case the question leads to a challenge: pupils must suggest hypotheses capable of explaining the phenomenon, which the teacher will help them to confirm or reject.

Let us look at another example, this time from the Social Sciences. A teacher might begin a class on the Industrial Revolution by describing the changes that occurred in Britain in the corresponding period, attempting to make causes and consequences explicit. However, he or she might instead divide the class into small groups and ask them to spend some time coming up with responses to the questions shown in Box 6, with all the conclusions being brought together at the end.

Context: Working in small groups before beginning the topic

- Today there are very underdeveloped countries and regions that live almost exclusively on the little they make from agriculture. Why do they not develop industries that would give them a higher standard of living?
- Why do the forms of organising work and production change, and sometimes very quickly?
- What conditions are necessary for rapid industrialisation? And what conditions, without being necessary, facilitate industrialisation?
- How do the different factors that can affect industrialisation interact?
- In the light of history, what can make it possible for underdeveloped countries to begin a process of rapid industrialisation?
- What historical conditions are lacking today that make rapid processes of industrialisation in underdeveloped countries improbable?
- What can be done to facilitate industrialisation in underdeveloped countries?

Box 6. *Example of questions for activating curiosity. Social Sciences. 8^{th-grade}. Secondary School. Topic: The Industrial Revolution (Alonso Tapia et al., 1997).*

By way of a final example, let us consider the case of a teacher of Modern Languages. In a class on the grammatical changes that occur in English on moving from direct to indirect speech, he or she may begin by introducing the subject and then going through the various changes that have to be made in pronouns, verb tenses, etc. Alternatively, the teacher may begin in the way described in Box 7, which shows the example of one of our pupils, an English teacher of seniors at a secondary school in Madrid. Clearly, the fact of showing them a picture of a fortune-teller, and explaining that she herself once consulted one, activates their curiosity to know what she was told, so that the teacher can recount it in English.

At this point, readers may question the usefulness of procedures such as those described, alleging that, in general, the majority of pupils are accustomed to accepting the normal way of beginning classes. However, even if this were true, it is no less true that the acceptance of the inevitable does not signify a desire to learn and understand. In fact, beginning directly with explanations may contribute to pupils' thinking that the goal is to memorize and pass exams. This, in turn, may lead to the dysfunctional coping patterns previously described. In contrast, devoting a few minutes at the beginning of the class to the presentation of situations and questions which, like those we have described, activate curiosity may be a particularly useful – though not sufficient – tool in cases where pupils are not making progress, given that it orients learning towards the understanding of phenomena rather than the memorising of facts. Thus, we as teachers should take a look at the extent to which we use strategies such as presenting *new*, *mysterious* or *surprising information*, or *information that is incongruous with the pupils' previous knowledge*, or varying the elements of the task in order to awaken curiosity.

(The teacher puts a picture of a fortune-teller on the board so that everyone can see it. Pupils have their books closed.)

- What do you see in the photo?
What does a fortune-teller do?
What means do fortune-tellers use for telling us the future?
- Before I was a teacher, I once went to a fortune-teller.

(She recounts in English what the fortune-teller told her, both about her character and about her past and future.)

- She told me I would have a very interesting job, that I'd earn a lot of money, that I'd meet a lot of people in my work, that I liked helping people and that I'd been a naughty girl when I was little.
- Imagine the situation as it happened all those years ago. What were the exact words of the fortune-teller?
Remember she said I'd have a very interesting job.
- (Pupil responds: "You will have a very interesting job.")
- Let's go through everything the fortune-teller said to me, phrase by phrase. I'll leave enough time for you to tell me the exact words, in direct speech (...)

Box 7. Example of a situation for provoking curiosity.

Modern Languages (English). 9th-grade. Secondary School. Topic: Direct to indirect speech.

1.2 Making the relevance of the task explicit

The second of the factors conditioning pupils' intention on approaching school work is the perception of the *relevance* of the content to be learned or the task to be carried out. All pupils face school activities with the following question, explicit or implicit: "What do I need to know this for?" The question implies the search for the meaning -linked to the instrumental or goal value-, of what is to be learned, and its answer will condition to a large extent the pupil's incentives to listen to an explanation, study a topic or carry out a task, and, consequently, the effort he or she will invest.

The meaning pupils attribute to an activity depends on at least two factors. First, on the extent to which *they are able to situate the task within the context of what they know*, a capacity which, as we have seen, on the one hand has an important influence on their interest in the task and, on the other, is strongly conditioned by the actions of the teacher. Second, it depends on pupils *being able to determine the future implications* of performing the task.

Whether or not pupils are able to meet the conditions referred to above depends to a large extent on how teachers act, given that we can relate (or not) in an explicit way the content of a class to pupils' experience, previous knowledge and values, insofar as we are acquainted with them from previous sessions.

For example, proposing a task such as that shown in Box 8 (from a Language class) may be particularly useful for demonstrating to adolescents the relevance of learning how to organise a text involving a request, in which it is important to be as persuasive as possible. On reading this example, however, one may think that it is all very fine, but that it fails to show us how we can design similar activities to demonstrate the relevance of other tasks and content that pupils must learn. In fact, the important thing is that below the example presented there are a series of questions that the teacher had to ask herself and respond to in order to decide how to show her pupils the relevance of learning what she was trying to teach them, questions that make up the procedure to be followed for designing similar tasks for activating pupils' interest and motivating them, i.e.:

- *What do I want my pupils to learn?*

(Answer in relation to the example: How to write an argumentative text).

- *Why might it be useful to know what I'm trying to teach?*

(Answer in relation to the example: Convincing someone of our point of view and of the need to listen to our requests).

- *What situations or problems that might interest my pupils have to do with what I'm trying to teach?*

(Answer in relation to the example: A problem selected by the pupils themselves: how to convince the teachers to modify their form of teaching and of treating them so that pupils feel more satisfied in class).

- *What task might show the relationship between these situations and the usefulness of what I'm trying to teach?*

(Answer in relation to the example: Contrasting the effect produced by two letters written in accordance with different principles).

A teacher asked her pupils: What would you like your teachers to change in our way of teaching so that you felt more satisfied with your classes and learned better? After listening to some answers, she challenged them as follows: “Why don't you write a letter setting out your arguments to try and convince us?” The pupils responded by saying that it was very difficult, and that the teachers wouldn't take any notice of them. However, the teacher insisted that it was possible if the letter had the right characteristics, and said that if they first wrote their version, she would then show them how it could be done. The pupils wrote their letters, one of which is the first of the two shown below. Subsequently, the teacher wrote hers (see below) and asked the pupils to put themselves in the teacher's place and say how they would feel, what they would think and how they would act on receiving each of the letters. Finally, since the pupils recognized that the second letter was much more convincing, they analyzed the letters and identified features that could be applied when presenting arguments on other matters of personal interest.

Letter written by a pupil

Dear Teachers:

There are certain aspects of your way of teaching that I would like you to change. I would like you to allow us to ask questions whenever we want, because if not, I for one often don't understand what you're trying to explain. And I don't like it either that if you ask me a question, you give me less time to answer than others who are well in. That makes me feel discriminated against, and I don't think it's right. We often start classes without knowing why we're learning what you're teaching us, and we lose interest. And on top of all that, you never listen to us when we try to complain, so that the things don't get sorted out. So I want you to change so that we can learn better.

Sincerely: Pupil X. Tenth grade, Secondary, Group A.

Model suggested by the teacher

Dear Teachers:

I would like to request something for myself and for all my classmates, but first I'd like you to consider something.

Imagine that you attend a course to bring your knowledge up to date, and that in one of the classes the following occurs. Your teacher starts talking directly about some recent studies in his field, and you don't see the usefulness of this for your work...

If the teacher continues on this theme, wouldn't you feel a little uncomfortable, and want to ask him what it all has to do with everyday teaching?

Imagine you try to ask a question and the teacher says: “If you don't mind please, questions at the end”. Wouldn't you feel annoyed with the attitude of the teacher, obliging you to put up with something without you knowing where it's leading?

(Contd.)

Imagine that later on, in spite of the previous answer, you try to ask for clarification of something you don't understand, and you receive the same response. Wouldn't you feel even more uncomfortable on seeing that your problems aren't being solved?

However, imagine that if a certain person asks a question, the teacher accepts it and answers with a broad smile. How would you feel? Wouldn't you feel discriminated against...?

And how would you feel if you tried to speak to the teacher as you left the class and he said that he was sorry, but that he couldn't attend to you? You probably think that if a way of teaching or acting in front of a class like the one described doesn't contribute to pupils getting interested and learning, the logical thing is to change, right?

Well, this discomfort and annoyance are just what we feel when we find ourselves in situations like those I've just described. Like you, we also feel reluctant to come to class and to work. And like you, we also believe that the teacher should sometimes act in a different way.

It's possible, though, that teachers are right to some extent when they say we should listen more before asking questions, as it breaks up the thread of their arguments. Maybe we should. And if that's the case, we'll try. But even so, what's more important: for you to tell us what you know or for us to learn? And if for us to learn means that we need to ask questions –as you do in the situation I described– would it not be better if it were the teacher who made the effort of answering questions and then picking up the thread again? Wouldn't it be better for him or her to “listen to our stupid questions” patiently and amiably to help us overcome our ignorance? We know teaching is tough. We are rough stones and it's difficult to cut us to shape. But you surely want to be good teachers. So we ask you to make an effort. To listen to us at least this once. We trust you. After all, you're our teachers.

Sincerely: Pupil X. Fourth grade, Secondary, Group A.

Box 8. *Example from a Language class to show the utility of learning how to write an argumentative text.*
(Alonso Tapia, Corral and Martínez, 1999).

In addition to designing situations such as the one described, teachers can make the *goal* (for which the content of a learning activity may be relevant) more or less *explicit*, or simply tell pupils its function directly. Depending on the reasons for learning that we give to our pupils, their involvement in the learning and their affective response to the work will vary, as Nicholls et al. (1985) have shown.

For example, given that one of the objectives of Language classes is that pupils learn to write different types of text, in a class designed to work on the writing of texts containing instructions or procedures a teacher may indicate the following objectives, each of which is related to a different goal:

a) *We're going to learn to give instructions in a precise way, so that whoever reads them does what we say without making mistakes.*

This message underlines the direct, internal relevance of the task.

b) *Study this lesson and write the text you are asked to. I'll be giving you a test, and anyone who fails will fail the assessment for this subject.*

This message stresses the fact that learning helps to avoid an aversive situation.

c) *Remember that if you're not capable of giving instructions properly, you'll find it difficult to have a job where you're in charge of people, because you will be responsible for their mistakes.*

This message underlines the instrumental relevance of the task in relation to a desirable external goal.

d) *You'll see how, if you learn to give instructions in a precise way, you also learn something about how people function, why they make mistakes, and so on. As you'll see, this is exciting, and it can help us to direct and control more efficiently our own behaviour.*

This message situates the task in the context of a wider objective, giving the activity additional value.

e) *Let's see who can write the best instructions for making the model plane in the drawing. When you've finished we'll compare the different instructions to see who's done it best.*

This message situates the task in a competitive context in which the important thing is not to learn, but to do better than the others on this specific occasion.

f) *Let's see if we're able to be more precise when we explain to people how to carry out a task.*

This message situates the activity in the context of a challenge to oneself and focuses attention on the acquisition and experience of abilities.

As can be deduced from the examples presented, if teachers do not use activities that demonstrate the value of class content for obtaining intrinsically useful abilities (or if we do not, at least, make that value explicit), pupils will most likely fail to perceive the relevance of the activities, and will not approach school work with the proper motivation. Moreover, if we use messages that focus attention not on the acquisition of abilities but on obtaining a certain mark or competing with one's colleagues, we will activate the concern with "looking good" (or avoiding looking bad), and provoke anxiety and coping strategies centred more on the achievement or avoidance of a result external to the task (the teacher's success or failure judgement) than on learning itself. Hence, the importance of teachers assessing the messages through which we transmit ideas about the goals of an activity and, if necessary, modifying them.

1.3. Activating and maintaining interest

The term "interest" refers to the fact of *keeping the attention focused* on something –in our case, the development of an explanation or the execution of a task. It is not the same thing, therefore, as curiosity, which signifies directing attention toward a novel, ambiguous, surprising or incongruous phenomenon. Interest depends on both *personal* and *contextual* factors, as we saw in Figure 3.

1.3.1. Maintaining pupils' interest during the class

The figure shows that holding interest and attention depends on *curiosity*, which, in turn, depends on the novelty of the task and whether or not it poses problems and questions. We have seen in previous pages that feeling curiosity implies orienting attention in a selective way toward a phenomenon. Obviously, for us to maintain our attention focused on a phenomenon, it is necessary for it to have captured our attention previously. Nevertheless, in time, habituation occurs, so that it becomes necessary to *vary and diversify the tasks* in order to maintain

curiosity.

Once something has captured the attention of pupils, other personal factors contribute to its being held, and therefore to continued interest in the task. One of these is the realisation that the task allows them to attain personal *goals*, once having determined what is relevant and what is not, as Anderson and Armbruster (1984) have shown. If a pupil is interested in learning, but does not see how the teacher's explanations or the tasks set can help him/her to do so, he/she will lose interest.

What can help them to discover that the task allows them to attain their personal goals? First, certain characteristics of the task. On the one hand, that its function is clear, that is, that they can clearly see how it can be of use to them. The teacher can facilitate this realisation by making clear the task's *relevance* through the strategies already described. On the other hand, if the activity involves following the teacher's explanation, it is fundamental for this explanation to be understood; if this is not the case, it is perceived as something meaningless, and pupils normally "disconnect". *Comprehension*, in turn, is conditioned by the link between what the pupil knows and what the teacher is saying. If, after listening to the teacher for a while, the pupil does not follow, he/she may ask for clarification. If, however, even after this explanation the pupil fails to understand, then the most likely result is to turn his/her attention elsewhere.

Thus, it is necessary to make the connection or link referred to. In order to do so, teachers may use the strategies presented in Figure 3, some of which should be employed at the beginning of the class, whilst others would be introduced as the class develops:

a) Activation of previous knowledge. Interest is facilitated, in the first place, if the teacher begins the class by activating pupils' previous knowledge on the subject. Thus, asking pupils to compare different flowers in order to ask them subsequently to think of reasons for possible differences is not simply a strategy for raising questions. The observation of the flowers makes possible the activation of knowledge pupils have about them –knowledge that will constitute a fundamental reference point for making connections between things the teacher says during the lesson.

Similarly, the group work for preparing answers to the questions shown in Box 6, referring to industrialisation and changes in production methods, not only makes it possible for them to ask themselves questions, which influences curiosity, but also stimulates recall of previous knowledge, and even the search for new information on the subject.

In the same way, when the development of a topic covers more than one class, as often happens, reminding pupils at the beginning of each session of the objectives set on first introducing the topic, the reasons for trying to achieve these objectives and the main points already dealt with, activates previous knowledge and helps to maintain interest.

b) Use of hierarchical and logically progressive explanation at a pace that is easy to follow. Teachers' explanations, whether moving from the general to the particular or vice-versa, is better understood (in the same way as with written explanations) if it is thematically coherent and grammatically cohesive.

Not infrequently, however, we find that the teacher's discourse jumps from one place to

another, that it is replete with unfinished phrases, vague allusions that pupils are unable to grasp, and so on. Let us consider, for example, what may occur in Mathematics classes where expressions are developed and transformed: more often than not there are pupils that fail to understand why a particular step is taken, as the teacher has simply assumed that the reason was known.

On other occasions, even when the teacher's approach avoids these pitfalls, the speed at which explanations are delivered means that pupils are unable to assimilate the information and to make the connections necessary for comprehension, as the failure to keep up with the pace leads to gaps in the coherence and cohesion of the discourse as perceived by them. Indeed, teachers going too quickly is one of the factors that contributes to a class climate that is detrimental to motivation and learning, and it often leads to complaints by pupils, as we have seen in some other works (Alonso Tapia, 1992-a).

Thus, it is important for teachers to pay close attention to the characteristics mentioned, ensuring that our pupils, not only the most able ones, but also those with problems, understand the content we are presenting, so that they do not lose interest.

c) Use of illustrations and examples. One of the reasons why pupils encounter problems with school tasks is that they often come up against concepts for which they have no clear point or frame of reference. For them, concepts are often too abstract, and this affects comprehension, interest, motivation and learning itself. Thus, the frequent use of illustrations and examples becomes one of the principal resources available to teachers for maintaining interest in their explanations, given that these provide concrete referents from which to make comparisons and draw analogies. This strategy is particularly useful at the beginning of a class, as it represents one way of connecting that which is to be presented with pupils' previous knowledge.

For example, in a class on electrical resistance, it would be particularly apt to use an ammeter connected to a circuit to show the pupils how, regardless of the battery used, the intensity of the electricity varies as the material, length and thickness of the conductor changes: the observation of this example not only serves to demonstrate the principle being explained, but also contributes to maintaining interest more than would a simple explanation.

d) Use of a narrative context. In a review of research on contextual factors influencing interest, Hidi and Anderson (1992) showed that there is a series of thematic characteristics of information that awaken interest in the majority of people. Among the characteristics to which they refer, that which has the most direct application in class is the fact of information being presented in a narrative context, especially if the narration allows the listener to identify with its central character.

In order to make this concept clearer, let us imagine that, as a way of introducing the subject of pollination of flowers to which we referred above, the teacher proposes that his/her pupils begin by reading a text. This text may take one of the following forms:

Text 1:

Flowers' shape and colour, the place and time of their emission of perfume and their time of opening are all related to the insects that visit them. Flowers visited by diurnal insects have strong colours –reds, yellows, indigo blue–, as these are colours that stand out clearly in

daylight. These flowers often close their corollas by night and open them by day. The opposite is the case of those pollinated by nocturnal insects –they open at nightfall, and they are white or pastel shades, which stand out more in the dark. The emission of odours is also, in many flowers, related to pollination, so that some smell by day to attract the diurnal pollinators, while others emit their perfume during the night, to attract nocturnal visitors.

Text 2:

It was daybreak. I walked slowly through the forest, observing the flowers beside the path, bathed in the warmth of the sun and opening their doors to the first insects looking for some breakfast. Red flowers, blue flowers. Suddenly, something made me stop and think. I noticed some white flowers which, instead of opening appeared to be closing. I bent down to look at them more closely. And indeed, it wasn't long before they had closed up completely. Mrs. Bee wasn't going to get any of their pollen. "Why does that happen?", I thought. "Why are there flowers that open at dawn and others that close at the same time?" I continued walking, only to stop once more to observe a bee sucking the red flower of a bush. I approached carefully. It was a beautiful moment, the silence broken only by the birdsong that greeted the day. The insect was so absorbed in its task that it appeared oblivious to my presence. Then I noticed something curious. Its legs seemed to be covered in some kind of dust... it was pollen. I had heard that bees carried pollen on their legs, but I'd never seen it. Presently, the bee flew off and settled on another nearby flower. In doing so, some of the pollen fell off its legs. "How careless!", I thought, and walked on, thinking of flowers that closed by day and of bees that dropped their pollen as they flew from flower to flower like furtive criminals, leaving a trail that gave them away. It was then that I began to understand. I remembered having heard at school that the shapes and colours of flowers and the perfume they gave out attracted different insects, whose job it was to take pollen from one flower to the next, helping them to fertilise one another. So... they weren't burglars at all –they were life's messengers, guided by the forms, colours and smells of the blooms that opened their petals to them.

As it can be seen, the second text transmits the same information as the first, but its narrative format facilitates the holding of attention –and probably recall– more than the mere exposition of the facts, in accordance with the evidence examined by Hidi and Anderson. But using the narrative format does not mean using only texts of the second type shown above. Teaching Philosophy as the author of *Sophie's World* (Gaarder, 1994) does, through a narrative in which a mysterious teacher poses to a fifteen-year-old girl the problems dealt with by philosophers throughout history and, as she begins to grapple with the same problems herself, challenges her to consider the answers, constitutes an excellent example of the use of the narrative context for facilitating interest and comprehension.

Up to now we have described some of the strategies teachers may use to awaken and maintain interest when the activity pupils must carry out is to listen to and assimilate the content of an exposition. When such strategies are not used, it becomes difficult to keep attention focused on the information imparted, and this may lead to gaps in comprehension which, as indicated above, often result in disadaptive processes: tension, attribution of the problem to lack of ability, and so on.

Thus, it would seem clear that teachers must take care, on the one hand, to examine the extent to which the form and pace of presentation of information contribute to maintaining the interest, not only of the most able pupils, but also of those with problems; and, on the other,

about whether the format of our exposition is suitable and whether the questions, tasks and problems we pose are sufficiently illustrated with examples.

1.3.2 Maintaining pupils' interest when they work alone.

When pupils have to solve problems, write essays, comment on texts, do artistic or technical drawings or carry out craft tasks (situations in which they are usually alone with their work), the factors that control the maintenance of attention that reflects their interest in the work are basically of a personal nature.

On the one hand, there is the fact that the pupil's goal is to learn and improve, which means that *the task must not be trivial* –that it must involve some degree of challenge. On the other hand is the capacity for self-regulation of the activity through *self-instructions* and *self-messages* (Meichembaum, 1977).

The example shown in Box 9 illustrates this capacity. It may appear to be no more than a case of correct reasoning for the solution of a problem. This is partly true, but not wholly so.

How long would it take 30 pumps to fill 120 eighty-litre barrels, if 20 pumps took 10 hours to fill 40 barrels of the same capacity?

A pupil reasons in the following way: (Italics denote what we consider to be regulatory self-questions)

Let's go one step at a time...

What are they asking me to find?

Filling time...

What do I need to know to be able to answer? What does filling time depend on?

On the relationship between the total capacity of the barrels and the petrol that comes out of 30 pumps, but they haven't told me that.

What information do I need to work it out?

I need to know how much petrol comes out of each pump, but they haven't told me that, either...

Have I got the information I need to work it out?

It says that 20 pumps fill 40 barrels... eighty-litre barrels, so that's 3,200 barrels in 10 hours. If I divide 3,200 by 20 I'll find it out. That's it: each pump delivers 16 litres an hour.

What do I have to do now? Let's see... What are they asking me for?

The time...

How can I find it out?

By dividing the total petrol that's got to be pumped by what 30 pumps do in an hour. So, I've got to multiply 30 by 16... in 1 hour. It works out at... 480 litres per hour. But they have to pump $120 \times 80 = 9,600$ litres. So divide 9,600 by 480 and you get... 20 hours.

Box 9. Example of self-instructions and self-messages that regulate the maintenance of attention that reflects interest in the task.

The sequence of questions the pupil asks him/herself can be learned, as can the types of basic relationships involved in the problem: that which allows us to find the filling time and that

which allows us to find how much petrol comes out of each pump. When pupils do not know what to ask themselves or are not aware of the relationships involved, they tend to focus their attention on the difficulties they come up against, to get stuck and to lose interest in the learning associated with their task.

However, we might ask the question: does the maintenance of interest during the task have anything to do with the way teachers *introduce* it? The answer is, most certainly, yes. Teachers, when we set an activity, can do various things that contribute to orienting pupils' intention as they carry it out and to maintaining their interest.

On the one hand, we can *remind* them of the steps involved in the mental process to be followed. On the other, we can point out that the important thing is *to learn how to work out the problem*, more than the actual solution itself, so that they should concentrate on the points at which they find difficulties, think what they do to try and resolve them and, if they do not manage to do so, ask. We might also point out that they should *not* be obsessed with completing the task *perfectly*, but should try *to make progress little by little*, taking on successively more complex tasks, so that there is always a certain challenge. For example, the English teacher referred to earlier, on asking her pupils to listen to a recording, says: "You don't have to understand everything they say. Try and concentrate on the order they say things in..."

If teachers conduct their activity in the way indicated, either by proposing intermediate objectives or providing guidelines and instructions that focus pupils' attention on the process rather than the result, they can avoid their pupils getting stuck and losing interest and motivation. Obviously, the opposite occurs if the instructions given lack these characteristics or, worse, if pupils' attention is focused on the importance of the result or on a subsequent assessment.

The holding of interest depends also on the *absence of environmental factors* that may contribute to pupils' becoming distracted, such as noise –factors which, as far as possible, should be eliminated. Since the origin of such factors can be quite varied, general guidelines on how to deal with them cannot be given. Nevertheless, it has been found that pupils tend to associate the presence of noise and general uproar or disturbance to "dead time", when it is not clear what to do, and to the absence of clear objectives (Alonso Tapia, 1992-a). In consequence, it would appear necessary for the planning of activities and the instructions given at the beginning of them to be sufficiently precise to avoid loss of interest due to the appearance of the distractions referred to.

Finally, given that the total absence of distractions due to external stimuli is practically unattainable, the maintenance of concentration in the face of such problems for subjects working individually is subject to their possessing adequate *strategies of control* for avoiding them, such as self-instructions of the type: "If I close the window, the noise won't bother me", etc., whose acquisition depends on factors that will be dealt with later.

2. Developing learning activities: What approach should be adopted?

In order to make pupils' priority goal that of learning, it is fundamental to awaken curiosity, provoke interest and demonstrate the relevance of the tasks for achieving learning objectives, and of these objectives for developing their capacities and abilities, attempting to ensure that their main concern is not simply to pass, to save face or to gain higher marks than their colleagues.

However, we have seen that interest, effort and the way tasks are approached are not static but dynamic –that they change according to the conditions and experiences encountered by pupils during the development of the activity.

For this reason, as we have said, it is important to look at what teachers can do during the activity to ensure that pupils' motivation does not change, that is, that it stays oriented towards the acquisition of abilities and not towards other goals. To this end, what better than to examine the requirements for achieving the goals pupils pursue with their work, and, at the same time, to analyse and improve our teaching methods in accordance with such requirements?

2.1 Teaching approaches that contribute to showing unconditional acceptance of the pupil.

One situation that relates positively with school performance is the perception by pupils that the teacher is listening to them, that he/she is concerned for each one to learn, without comparing them with the others, that he/she notes their improvements and not only their failures, and that he/she shows no favouritism (Alonso Tapia, 1992-a). In other words, insofar as pupils feel acknowledged, as *they perceive that the teacher is trying to help them*, and that it does not matter whether they are more or less able because he/she does not compare them, they will tend to perform better. However, a situation whereby teachers have to deal with large classes, and different pupils every year, does not facilitate the perception of such acceptance on the part of pupils –even though this does not imply that they perceive rejection. In any case, as many experts in communication have demonstrated, in situations in which one person tries to help another there are numerous specific behaviours through which acceptance can be transmitted.

Various authors (Feuerstein and cols., 1980; Cormier and Cormier, 1991) have pointed to different behaviours which, in human interaction, contribute to a person feeling accepted by another. Among these behaviours are the following:

- Allowing the subject to intervene, asking questions or asking for help if he/she feels it necessary.
- Listening in an active way, that is, looking attentively at the pupil, showing a keenness to understand him/her and asking for clarification where required.
- Acknowledging his/her interventions and responses, thus showing that we are listening to them and feel them to be positive.
- Nodding the head as we listen.
- Amplifying his/her answers, if they appear incomplete, but attempting to acknowledge the positive aspects of what he/she has said.
- If the intervention or response is incorrect, asking why he/she has said it: this normally allows us to show that the incorrect response has some justification, thus saving the pupil's

self-esteem.

Box 10 shows a fragment taken from a 9th-grade class (Secondary) on the structure of communication processes and illustrates the use of some of the techniques mentioned.

- T: Let us begin by remembering what elements condition communication –any act of speech or writing that we carry out. Which elements are involved in an act of communication?
- P: The emitter.
- T: The emitter (R¹). In this case, who is the emitter?
- P: (*Hubbub of pupils all trying to reply at the same time. We can hear: "The person who's communicating, who speaks."*)
- T: "The person who speaks" (R). What other elements are involved in communication?
- P: The receiver.
- T: The receiver (R). Who would the receiver be?
- P: The people who read it.
- T: And in your magazine, who are the readers?
- P: The people at this school.
- T: The other people at this school (R). What elements condition the way we communicate?
- P: The message.
- T: The message we want to transmit (R, E). And what's the message?
- P: The visit to Bernardos.
- T: The visit to Bernardos... It's actually more than that, but we'll leave it at that as a general description (R, AIR).
- T: What other elements come into the communication, John?
- P: ...
- T: (AIR) Does anyone remember any other element?
- P: (*Silence.*)
- T: Does the message appear just like that, out of nothing?
- P: It's conditioned.
- T: Conditioned. By what?
- P: The intention.
- T: The intention of the emitter. Very good (R, E). (*Writes*). And what else?
- P: The channel for transmitting the message.
- T: The channel for transmitting the message. (Nods in confirmation). (R). What's the channel we're going to use to transmit this message?
- P: The magazine?
- T: We're going to publish a magazine (R, E). So we're going to use the channel of the written word...

1 Techniques used: (R) The teacher repeats what pupils say. (E) When pupils respond but express themselves poorly, the teacher amplifies and enriches the response, giving them the opportunity to acquire new expressive resources. (AIR) The teacher accepts an inaccurate or insufficient response, which is positive, since it makes the error appear as something natural within the learning process.

Box 10. *Example of teaching approach that facilitates the perception of acceptance.*

Apart from the factors mentioned, in the light of pupils' assessment of their teacher's approach and the relationship between this evaluation and their performance (Alonso Tapia, 1992-a), it is essential that they perceive the teacher *to be as available to them* as to others, which depends on the time devoted to them; that they are not *compared to others*, but rather

that, on the contrary, the type of support they receive fits in with their rhythm and helps them to make progress; and that what counts is their progress, even if they lag behind others. These pupils' perceptions depend basically on the teacher's approaches to assessment, as we shall see later.

2.2. Approaches that facilitate the perception of autonomy.

We have shown that one of the objectives to be attained if pupils are to work properly, motivated to learn, is that, rather than feeling a sense of obligation, they consider the set of school activities as their own, as something that they accept and identify with. We would add, moreover, that for the *sensation of autonomy* to be experienced when the task has been set by someone else, it is necessary to perceive that the abilities it can provide will increase our real autonomy, opening up options that were previously closed, and that these abilities will increase as activities are carried out throughout one's school or educational life. Having reached this point, the question is: what approaches by teachers contribute to the provision of these conditions? Let us move on, then, to a description of these approaches, which are presented in Figure 4.

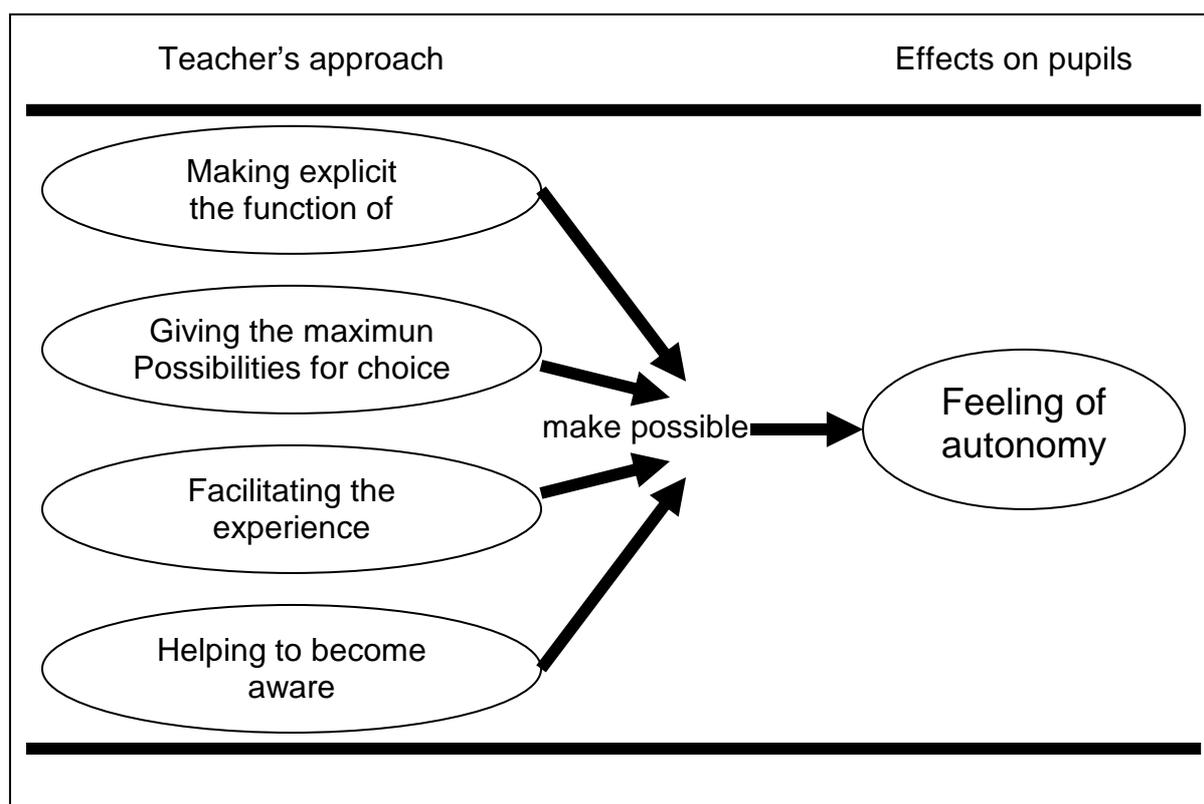


Figure 4. Approaches that facilitate the perception of autonomy.

2.2.1 Making explicit the function of activities

The first requirement is that teachers *make explicit* the specific function of the activities to be carried out and of the learning that should be achieved. Thus, showing their relevance using the techniques above described satisfies a necessary –though not sufficient– condition for pupils to

approach work without feeling obliged, which is what would occur if they were not made aware of the sense and value of the activities set.

2.2.2. Giving the maximum possibilities for choice

The second requirement is that teachers give the *maximum possibilities* for choice and decision. This contributes to the class activity becoming oriented towards independent work and personal responsibility.

The contexts in which these possibilities of choice can be found are numerous. If the activity to be carried out is to follow the teacher's explanation, it is fundamental that pupils feel free to *intervene and ask questions* whenever they consider it necessary. The possibility of asking questions favours the perception that it is a case, not of "listening to what someone wants to tell me", but rather of "me understanding what is being said"; in other words, to give personal meaning to the exercise, which means creating the sensation of "I decide whether I understand or not, and when I should ask questions". Obviously, a pupil can be asked to wait a moment in order to conclude some aspect of the explanation (a request that pupils normally understand, and which does not create problems), but to discourage participation, or worse, to inhibit it by asking not to be interrupted creates the feeling of "we just have to put up with what we're being told; it doesn't matter what we think or feel". Clearly, such an experience is demotivating, as it creates the perception of obligation.

In relation to the above point, it is likely that a teacher will think that he or she is actually allowing pupils the chance to ask questions, but that they do not do so because they do not want to. However, Newman and Schwager (1992) have shown that the fact of pupils asking questions or not is mediated by various factors.

Sometimes, the desire to ask questions is related to *how pupils perceive themselves*, and therefore to their expectations about the usefulness of asking. It has been demonstrated that those who consider themselves less able, and feel incapable of overcoming their difficulties, tend not to ask for help.

On other occasions, asking for help has to do with the way in which pupils *perceive the teacher*. If they feel that the teacher does not like them, or that he/she will make fun of them if they ask a question (because that is what they do with other pupils), they will probably not ask for help.

Both factors contribute to creating the feeling of being in class as an obligation, which hinders motivation to learn. It is therefore important for teachers to pay attention both to factors that communicate our *acceptance* of pupils –since these affect their confidence to feel free to ask or not– and to *the way we respond to their questions* or react to their errors. If our reactions and responses are really helpful, we will favour their keenness to accept school work.

Another aspect related to pupils' feelings of independence is the extent to which *they participate in the planning* of their learning process: setting the objectives, choosing between possible tasks and materials, selecting their colleagues for group work, etc. Teachers may think

that to offer some of the options mentioned, such as the possibility of setting learning objectives, is utopian. Nevertheless, in the United States, many schools are currently organising school work around “Personal development projects”, related to what is known as “Portfolio-Based Assessment” (Tierney, Carter and Desai, 1991; Seldin, 1993).

The idea behind such programmes is as follows. Traditionally, pupils find themselves faced with a ready-made curriculum, translated into content, objectives and activities whose meaning and implications for personal development they frequently do not understand, with the result that in many cases they study simply to pass.

On the other hand, organising work around the programmes referred to means that, at the beginning of each term, each teacher sets out the meaning of what is to be studied, trying to get his/her pupils to decide how this content can be useful for their personal development. For example, the teacher may present a series of communication problems related to reading comprehension and written expression, so that pupils realise the relevance of acquiring certain skills involved in these processes. Since the acquisition of these skills involves reading and writing compositions, teachers and pupils negotiate the types of specific objectives that must be achieved and the work they will carry out (type and amount of reading matter and compositions, type and number of problems, etc.). Moreover, the teacher makes it clear that he/she will be setting explicit criteria through which pupils can assess their progress as and when the explanations and the dynamic of the class require it, at the same time as stressing the importance of the fact that the pupils themselves should be the first assessors, since they should be the ones with the most interest in their own personal development.

The negotiation phase gives the teacher the opportunity to *reason with each pupil or group of pupils* about the viability of their options, as well as to help them organise the stages of their programme, etc. Subsequently, the classes are planned and develop as a process that is not so much informative as one of helping to formulate questions on how to proceed, of consultation about the way to carry out each step, etc. This does not mean there are no lecture-type classes. What occurs is that these are programmed at particular moments at which it is foreseen that the majority of pupils will need a specific kind of information. *Assessment*, oriented to providing pupils with the assistance that permits them to improve, is carried out *as part of the daily activity*. Finally, when it is necessary to give grades at the same time as assessing, pupils select from all that they have done what they consider to be their best work, indicating their criteria, and present this work for assessment. This selection is made in an individual meeting with the teacher, during which the teacher indicates *in which areas the pupil has made progress and in which areas no progress has been made*, and *why*. A new programme is then negotiated with the pupils, taking into account the results achieved in the previous one.

Clearly, embarking on a project after having had the possibility, not only of accepting or rejecting it, but also of designing it, contributes to pupils' perception that, far from being a puppet working to satisfy another person, they are doing something they have *chosen independently*, and which is beneficial to them. Nevertheless, insofar as the current situation does not give the majority of pupils the opportunity to plan their work in the context of personal development projects, it is difficult for them to overcome the feeling that they are doing things without much sense for them, which triggers disadaptive processes in terms of motivation.

2.2.3. Creating conditions for experiencing progress in the acquisition of abilities

The feeling that they are making progress is fundamental for pupils to approach school work willingly, since being competent (and knowing that one is competent) widens one's options, and this in turn increases autonomy. Such feelings depend, as far as the teacher's approach is concerned, on the design and organisation of activities, on the interaction between pupils and teachers and the type of help the latter offer, and, above all, on the nature, timing and context of assessment. In later sections we shall see the methods to be followed.

2.2.4. Encouraging awareness of one's own motivations, and of what learning implies

It frequently occurs, especially with adolescents, that pupils are not comfortable with school work, of whatever type, because they do not really know what they want, or because they have not properly experienced what it means to learn –in the sense of acquiring abilities–, and nor have they stopped to think of the satisfaction it can provide. On the other hand, it is often the case that they resign themselves to a passive state of affairs, without realising that this is a situation that does not help them to make progress. When this occurs, the reason a pupil feels an obligation to do school work is to be found not so much in the context as in themselves. Nevertheless, as deCharms (1976) has shown, it is possible to contribute to changing their perspective, *helping them to become aware of what they want*; to see that we are trying to help them obtain something that, deep down, they themselves want; to understand that learning promotes the development of independence and leads them to discover that respect and cooperation facilitate the attainment of personal goals.

DeCharms developed a teacher training programme designed to help teachers develop their own programme aimed at achieving these objectives. Elsewhere (Alonso Tapia, 1991, 1992-b, chap. 1), we have described these programmes, their characteristics and their results. The teachers' programme, applied to 11 to 14-year-olds, involved devoting a series of sessions to motivational training. Apart from the possibility of applying the programme as a whole, the analysis of the tasks used suggests approaches that are applicable in normal classes, and which make possible the achievement of the objectives mentioned.

One of deCharms' techniques had as its objective *to modify the way pupils think* about success and failure, and about how success is achieved, so that their way of thinking resembled that of the subjects most motivated to learn –in the most complete sense of the term. The use of this technique was based on the assumption that for pupils to feel comfortable with school work and to accept it willingly, as something meaningful to them personally, it is necessary for them to feel that they are progressing; it was also based on the assumption that such a notion is impossible if tasks are not approached in the way the most motivated subjects approach them. The technique consisted in asking pupils to write a series of stories with titles that stated what the main characters were going to say, such as, "What I'm going to do to achieve success", "What difficulties I expect to encounter", and so on. Subsequently, the stories were discussed, with the aim of creating a *climate or way of thinking* with regard to work, focused around ideas such as:

- The person who wants to improve does not wait to be told what to do, but *sets his own goals* (OG) and works towards them.
- The person who wants to improve, when coming across difficulties, *divides tasks into small steps* (SS) that are easier to overcome.
- The person who wants to improve rejects thoughts such as “I don’t know”. Instead, he thinks: “How can I do it?” (HD), and looks for other means, without rejecting any in principle.
- The person who wants to improve *is not afraid to ask for help* (AH) if he really needs it.
- The person who wants to improve *asks to be shown how to do things for himself* (TD), not for people to do them for him.
- The person who wants to improve never thinks “What a failure!” when he makes mistakes or fails, but rather: “What can I learn from this error and how can I avoid it in future?” (LM).
- The person who wants to improve *learns to make up for his limitations* (ML), looking for the means to do so.
- The person who wants to improve *enjoys making progress* (EP), even if he does not beat his colleagues, because he sees himself as able.

The above ideas and other similar ones can be transmitted to *pupils in the context of their daily activities*, as shown by the examples included in Box 11. It is unlikely that the types of approaches shown, used in isolation, will be especially effective. Nevertheless, their *regular use* contributes to the creation of a climate that facilitates the perception of progress, especially if the teacher’s approach in other aspects of classes is coherent with the approach they suggest – which is one of the requirements if pupils are to enjoy their work and to show an attitude of willingness.

OG¹ A pupil writes fairly well. However, she only does so when made to do so, as an obligatory task –never spontaneously. The teacher asks her: “Do you like writing?” “Yes”, she replies. “Why do you only do what you’re made to do? Wouldn’t you like to really do it well? Why don’t you make that your target? *You’ll only make real progress if you set yourself goals and work to try and achieve them.*”

SS If a pupil asks for help with a maths problem, the teacher might say: “Have you thought about what you’re being asked? Read the question and then go through it step by step, as we’ve seen in other problems. *Remember what you have to do if you really want to improve.*”

HD A teacher walks around the class, observing her pupils as they attempt to write an essay. She notices a girl who has barely started writing. She asks her: “Why aren’t you writing anything?”. The pupil responds: “I can’t think what to write. I don’t know what to do”. The teacher says: “Don’t say you don’t know. Think more like – how can I do it? And write down any ideas that come to you even if you think they’ve got nothing to do with the topic (Any other appropriate strategy can be substituted for this one). *Remember what you have to do if you really want to improve.*”

AH A pupil hands in some problems without having done them. The teacher asks him: “Why haven’t you done them?” The pupil responds: “I don’t know. I don’t understand

them.” “And why didn’t you ask me? Haven’t you heard the one that ‘It’s better to look a fool once than all your life’?” And besides, *asking questions shows you’re intelligent.*”

TD An eight-year-old is trying to do an Art and Craft activity that requires him to fold paper figures. He goes up to the teacher and asks: “Can you fold it for me? I can’t do it.” The teacher answers: “Try and do it yourself so that I can see how you manage, and if need be, I’ll give you some tips. But you have to do it yourself. If I do it for you, you won’t learn.” She starts to help him, saying: “Remember what I’ve told you before: *If they give you a fish, you’ll eat for a day, but if they teach you to fish, you’ll eat all your life.*”

LM A pupil is given his mark for a Philosophy exam, and it is well below what he was expecting. The teacher notices his dismay, and asks: “What’s the matter?”, to which the pupil responds: “I thought I’d get a better mark. I’m no good at writing about texts.” “And is that why you’re upset? Why don’t you ask me how you could have done it better? Remember that *everybody makes mistakes, and the important thing is to learn from them.*”

ML A pupil hands in a Technical Drawing exercise unfinished. The teacher asks her: “Why haven’t you finished the drawing? She answers: “I spent all yesterday afternoon doing it and didn’t have time to finish it. I’m not very good at it; it takes me ages.” “Well, if you know how long it takes you, why did you leave it until the last minute? *If you want to improve and you know your limitations you have to learn how to make up for them.*”

EP On the basis of simple instructions from the teacher, a pupil, who often gets worked up about classwork because she is insecure, and too concerned with her marks, has designed an experiment to test which bodies conduct heat well and which ones do not. After performing the experiment, she hands in the report to her teacher, who says: “You’ve done a very good job. You’ve defined the variables correctly and you’ve taken the measures properly. How do you feel when you see you’re capable of doing work like this?” “Erm,... I don’t know, ... I’ve not thought about it.” “Well, think about it. The mark’s not the most important thing. *The important thing is that you’ve learned to design a complex experiment properly –and that’s difficult. You’ve acquired an important skill. You should be proud.*”

1 OG Set own goals; SS Divide task in small steps; HD Ask how to do task; AH Ask for help; SH Ask: “Show me how to do it”; LM Learn from mistakes; ML Make up for limitations; EP Enjoy making progress

Box 11. *Example of approaches which, according to deCharms (1976), help subjects to think in the same way as the most motivated subjects normally think¹.*

Another type of technique used by teachers trained by deCharms had as its objective that of helping pupils to *know their personal goals* and to *make an effective effort* to achieve them, relating their school work to these goals. Obviously, if pupils do not know what they want, it is difficult for them to get interested in a given ability, however much teachers demonstrate its relevance. Therefore, getting pupils to become aware of what they want is a factor that conditions the desire to acquire abilities. In order to achieve this, a series of exercises was proposed, their objective being to teach pupils to observe their behaviour with regard to two aspects: on the one hand, the *types of goal* they set for a day, a week or a weekend and the extent to which they achieved their goal; on the other, *the degree to which their behaviour* in these same periods was that of someone trying to achieve the goals set and who treats others as people who are also trying to achieve personal goals –or if, on the contrary, their conduct was that of a person who does something only because other people want them to.

Undoubtedly, the activities mentioned fit more closely the “project-based teaching” approach referred to than more traditional methods, in which it is teachers that set the objectives, the pace of work, etc., and in which pupils often feel themselves to be mere puppets, having to do things, from their point of view, just to gain his/her approval and avoid problems. Moreover, in the case of the techniques aimed at modifying the way pupils think, it is unlikely that Secondary school teachers will take the step of introducing tasks similar to those mentioned, unless they did so as the class teacher.

Nevertheless, given that among the objectives of Secondary Education in most countries is that of getting pupils to make decisions, particularly in relation to their academic and professional future; given that decision-making requires adequate knowledge of one’s own interests and motivations and how to work to achieve them; and given that teachers should include in their curricular and tutorial planning the activities necessary to achieve these objectives, it would be advantageous to introduce tasks such as those described, as we suggested elsewhere (Alonso Tapia, 1995, chap. 6).

For example, within the area of Language, where pupils should learn to express themselves in writing with various purposes, it would be possible to introduce questions such as those suggested by deCharms’ trainees in the context of an autobiographical diary exercise. This would be a way of combining one of the objectives of Language classes –written expression–, with objectives related to subjects’ motivation and orientation.

Furthermore, there is always the possibility of introducing “project-based work”, for which the suggestions derived from the second type of techniques mentioned would be applicable.

2.3. Approaches that facilitate the experience of learning

If pupils are not motivated to learn because when they try to do so they fail, then they need more than for us simply to awaken their interest, show them the relevance of the tasks or give them opportunities for choice and self-responsibility in order to become motivated. What is necessary is that, when they try, they *actually learn* and they *perceive that they are making progress*; that is, they feel that, as a result of their efforts, they become more competent. However, for pupils to have this experience, certain conditions are necessary. These conditions

are related to the design of learning activities, to teacher-pupil interaction in the course of these activities and to the types of peer relationship established in the classroom situation. Let us examine these factors.

2.3.1 Design of learning activities.

In a relatively recent work, Ames (1992-b) referred to five objectives for the design of learning tasks if real motivation to learn is to take place:

- Focusing pupils' attention on the most significant and relevant aspects of the content
- Awakening their curiosity and interest through novel and entertaining activities
- Setting tasks that involve a reasonable degree of challenge
- Helping them to set realistic short-term goals
- Supporting the development of effective learning strategies

The first two objectives have already been referred to: as we stressed, if teachers do not capture and hold pupils' attention, and if they do not get them to see the relevance of the activities, or if, having shown this relevance, they focus their attention on the least significant and functional aspects of what is to be learned, pupils are unlikely to be motivated.

The third and fourth objectives are explained by the fact of being conditions which, given that they provide expectations and the experience of progress, contribute to pupils approaching tasks willingly, without feeling obliged.

As for the fifth and last objective, *supporting the development of effective learning strategies*, we consider this to constitute one of the central elements of teaching, with the most repercussions for motivation. However, in terms of teaching approaches, facilitating the acquisition of strategies for independent learning is not sufficient: pupils must also *learn how to think*, applying the knowledge acquired to the solution of different types of problem. This, as Pressley et al. (1992) have underlined, is highly motivating.

How to achieve both objectives, teaching how to learn and teaching how to think, is a subject amply dealt with in two of our previous works (Alonso Tapia, 1991, 1995, chap. 3). Nevertheless, below we shall attempt to summarize and illustrate the approach to be followed, demonstrating explicitly the motivational implications of the methods proposed.

Numerous studies dealing with the acquisition of basic cognitive abilities (observing, collecting information, comparing, etc.) and with the improvement of diverse capacities (reasoning, problem-solving, reading comprehension, written expression, learning and remembering information, see Feuerstein et al., 1980; Glaser, 1984; Segal, Chipman and Glaser, 1985; Alonso Tapia, 1991) have shown that the effectiveness with which we learn to think and, in consequence, the experience of competence and progress, and the motivation to learn deriving from that experience, depend on *two main factors*.

On the one hand, it is important that procedures and strategies are learned in the context of the types of problem to which pupils will most frequently apply them, since their transfer to different contexts is difficult, and is only achieved after considerable practice (Glaser, 1984).

On the other hand, in order to facilitate students' learning of strategies, the most effective design of educational tasks would *include five components*, although not all of them are equally necessary. Whether they are necessary or not will depend on the problems posed by the specific characteristics of the content areas involved. Figure 5 shows the five components, whose characteristics we shall describe and illustrate.

a) *Creating awareness of the problem.* From the motivational perspective, creating awareness of the problem contributes to pupils perceiving the relevance of learning the strategies to be used, which is absolutely necessary if they are to approach tasks with the aim of learning, and not with other goals. This objective is essential in all circumstances, as it is the same as making sure that pupils perceive the specific utility of the task.

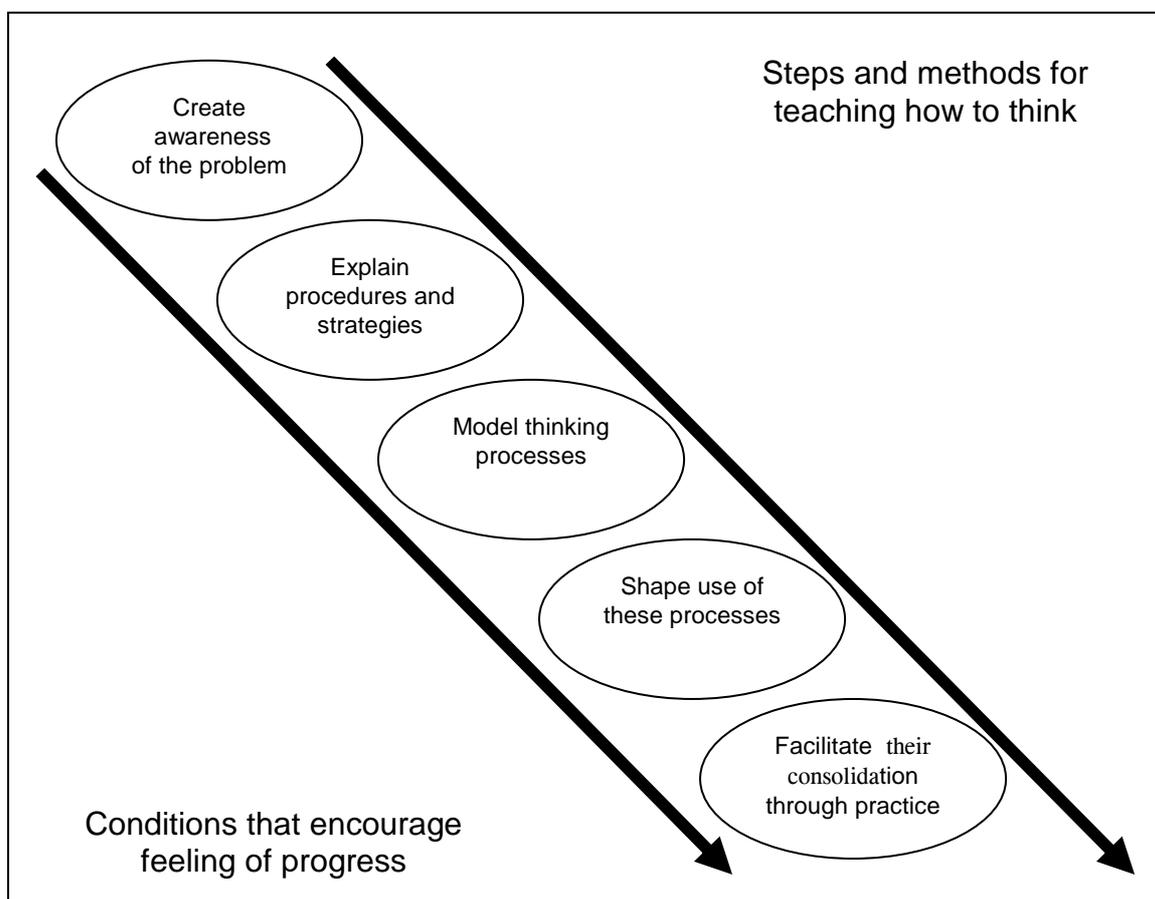


Figure 5. *Teaching methods that facilitate learning to think, the experience of competence and progress and motivation to learn.*

The indispensable condition for pupils to become aware of the problem is that they realise the insufficiency of their knowledge. This can be achieved by placing them in situations in which this inadequacy is made manifest. Let us consider, for example, the case of a teacher whose aim is for his or her pupils to learn to use language precisely in explaining procedures or instructions.

When giving instructions, we frequently do so in an imprecise way, and therefore it is important to show the need to learn a strategy for correcting imprecisions. In order to make pupils aware of this need, and to create the corresponding motivation, a useful procedure is the following: pupils are asked to write instructions for drawing a figure they have in front of them. These instructions are then given to a classmate who has not seen the figure, and who is asked to draw it using only the instructions given. The subsequent comparison of the two figures, insofar as they differ, contributes to demonstrating the above-mentioned need. The example included in Box 12 shows this procedure.

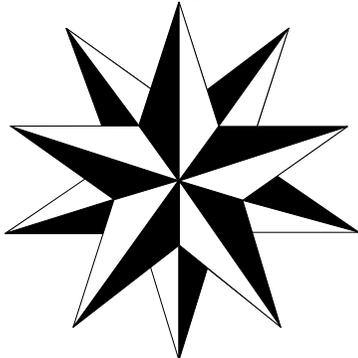
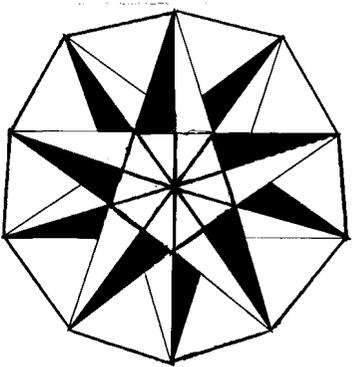
b) *Explaining the procedures and strategies to be learned.* Assuming that a pupil is aware of the relevance of the concepts, procedures and strategies to be learned and the need to obtain them, the explanation, as the articulated exposition of these (if it has the characteristics to hold pupils' attention, as we described in earlier sections) provides the experience of "learning something new", of "gaining knowledge", which is motivating. However, to have understood the initial explanation does not mean either that the concepts are understood in depth –that all their implications have been grasped– or that the subject knows how to carry out the activity in question. For example, knowing the Highway Code and how a car works does not mean we know how to drive, since this requires a dynamic representation ("in action", according to Bruner and cols., 1966), which is not acquired through explanation. Nevertheless, explanation can fulfil the function of a framework or organiser for the rest of the learning experiences, which facilitates the experience of progress and has a motivating effect, though it is not necessary for it to always precede other components of the learning experience, since classes can be organised so that learning occurs through discovery.

c) *Modelling the use of the thinking processes to be followed, making them explicit.* One of the main difficulties for pupils on approaching tasks derives from the fact that the thinking processes used by experts for solving problems remain hidden. This means that, frequently, pupils observe the teacher's approach, the operations he/she carries out externally or the conclusions he/she reaches without managing to understand why he/she goes about things in that particular way. This has a negative effect on motivation, as it makes pupils feel incapable of carrying out similar tasks or solving similar problems.

However, when we make explicit not only the procedures and mental strategies through which problems are resolved (*how* it is done), but also the reasons why things are done in a certain way at a given moment (*why* one thinks in that way), we facilitate understanding of the approaches that we wish pupils to use. This understanding generates an experience of competence that is in itself motivating.

The effectiveness of modelling has been demonstrated in numerous studies, especially in the area of reading comprehension, as we have shown elsewhere (Carriedo and Alonso Tapia, 1996). Box 13 shows an example of this instructional strategy, used here to teach reasoning processes for identifying text structure and, through it, the most important ideas in a text.

Box 12. Example of a task for creating awareness of the problem.

<p>Task: A pupil is asked to write instructions so that a classmate can draw a star exactly like the model without being able to see it. The classmate must then follow these instructions precisely to draw the figure. Finally, the pupil who wrote the instructions compares the two figures and, insofar as they differ, corrects the instructions. At the end of the process, the teacher talks about the need to learn strategies that allow the systematic avoidance or minimisation of the errors made. Below is an example of this activity carried out by pupils from 10th-grade, Secondary (15 years old).</p>	
<p>(1) Original drawing</p> 	<p>(2) Instructions originally written by Pupil A</p> <ul style="list-style-type: none"> • Draw a regular decagon. • Connect the interior of all the vertices with a straight line, leaving three vertices of separation between each union, until you end up where you started. • Starting from the highest vertex, mark on the lines drawn a regular five-pointed star. • Do the same starting from the lowest vertex, so that it looks as though this second star is underneath the first one. • Then, starting from the centre of the star, draw lines that divide its arms in two parts. • Colour in black the left half of each arm.
<p>(3) Dibujo del alumno B.</p> 	<p>(4) Modified instructions after seeing Pupil B's drawing.</p> <ul style="list-style-type: none"> • <i>Divide a circumference in ten equal arcs of 36° each, so that two of the divisions coincide with the highest and lowest points of the circumference.</i> • Draw a regular decagon, <i>connecting each one of the divisions.</i> • <i>Starting from the highest vertex, connect the interior of all the vertices with a straight line, leaving three vertices of separation between each union, until you end up where you started: this should leave you with a five-pointed star.</i> • <i>Draw a second star, starting from the lowest vertex, and following the same process, but omit the parts that would mean drawing over the previous star: it should look as if this second star is underneath the first one.</i> • <i>Erase the decagon, the circumference and the interior lines of the second star.</i> • <i>Then, starting from the centre of the star, draw lines that go out to the vertices of each point of the two stars: each arm should be separated from the adjacent one and divided in two parts.</i> • Colour in black the left half of each arm.

¹ The teacher introduces the activity by establishing its purpose (e.g.: “Today we’re going to identify the most important thing an author is trying to communicate, looking at the way the ideas are organised, at the structure of the text.”), its relevance for learning (e.g.: It’s useful to get acquainted with this type of structure, because it’s frequently used in textbooks and the press for organising information.”) and the characteristics of the main idea of the type of texts to which the session is devoted (e.g.: The most important information the author provides in texts organised according to a problem-solution-type structure is that which refers to the problem and the proposed solution.”).

Next, the pupils are told that, in order to help them see how they can identify the organisation of the text and the important information, they will be given an example, “thinking aloud”, of how to reason.

(In the following example, the phrases of the text used are shown in italics and the thoughts expressed by the teacher in normal type.

(1) LAND USE IN CITIES.

Land use?...This title... Is it going to be about how land is used in cities? Mmm... it’s not the same to use it for a park as it is for a factory... Let’s see what it’s about.

(2) *All over the world, the urbanisation of human life is leading to profound changes in mankind’s attitude to the land on which we live.* A change of attitude towards land because of urbanisation? What would that be about?

(3) *Until quite recently, it was considered that available land was scarce, taking into account population growth, so that special importance was given to its ownership.* Hmm... It’s obvious that if there isn’t enough land for everybody, those who have it will be rich... and will survive...

(4) *Today, the urban system allows mankind to use as much space as it needs for work, sleep, leisure and a whole range of other activities.* Mmm... It’s clear that many people don’t need to possess land to be able to live: in the city you’ve got everything. Now I understand the change of attitude: now people are less concerned with owning land... And what’s this got to do with land use? Let’s see if he clarifies the point...

(5) *Therefore, given that life tends to be organised in cities, the problem is not lack of land, but rather how to organise its use and take advantage of it in an effective way.* Hmm... It’s a different problem... It’s not so important who owns the land as how it’s organised... But, what’s this about? In what ways can it be organised? Because surely everybody wants parks, schools, markets... No pollution... Good communications... If everybody wants that,... what’s the problem?

(6) *The lack of proper planning, waste of space and deterioration of urban outskirts, which often have great potential, by people arriving from outside, generate defective development.* Of course, it’s one thing what we want, and another what actually happens... But... Why is there no planning?... And what does he mean by "defective development"?... Perhaps that the previous potential is no longer there?... Let’s see if it’s explained further on.

(7) *In order to solve the problems derived from the factors mentioned, various forms of exercising control over land have been used by the public authorities: the creation of regulations to be observed by constructors, the charging of taxes on land, and the purchase of land for various uses.* Hmm... He doesn’t answer my question, but he does tell me what’s done to try and solve the problem... What do these measures mean? I’ll carry on reading –he’ll probably explain.

(8) *There are well-established rules about where to build and how. Nevertheless, in underdeveloped countries these have failed roundly due to lack of resources for enforcing them, so that urban chaos continues.* Of course... As always, everybody does their own thing... It’s no good having laws if they can’t be enforced...

¹ Based on a text from Ch. Abrams: *La ciudad* [The city]. Madrid: Alianza.

(9) *The creation of taxes, both on construction and on non-construction in certain areas, has been a much more effective measure, but still an insufficient one.* That's obvious... If they make you pay, you think twice about things.

(10) *Therefore, many public authorities are acquiring land, not only for the construction of roads, parks or official buildings, but also for other uses, such as industry, commerce, housing or parking lots.* I see, so this author thinks this is the best way of deciding how to organise the city: public ownership of land... But then, don't we come back to the importance of owning land?

(11) *This intervention by public authorities raises once more the problem of private ownership of land.* Of course... This confirms what I was thinking... The problem of how to organise cities doesn't get solved in the same way if the land is private as it does if it's public.

(12) *Everywhere, the desire to possess a plot of land continues to be a basic human aspiration. Nevertheless, there are countries where systems of private property predominate (USA), whilst in others (China), collective ownership is more usual. There are places where people tend to buy houses, whilst in others it is more normal to rent. As yet there is no generally accepted way of dealing with the situation.* I see... So the solution that seemed best comes into conflict with the desire to own land... And the problem doesn't seem to have any clear solution...

(13) So, let's see then... What's the author try to tell me?... That the problem today is how to organise urban land use... That to organise it properly you can't just let everyone do what they want... That different methods have been used... That it seems necessary for public authorities to be allowed to buy the land they need... But that this solution isn't perfect because it often enters into conflict with the desire to own land. It could all be summed up by saying: The development of cities poses problems of land organization and use that it has been attempted to solve in different ways, one of which, it seems, has been the purchase of land by public authorities. However, the problem hasn't been solved, because this solution sometimes conflicts with the desire to own land privately.

After this modelling process a dialogue takes place, structured around a series of previously-prepared questions. The idea is to help pupils to become aware of the key aspects of the reasoning process to be followed:

- What have I been doing as I read the text? What strategy have I used?
- What kinds of questions have I asked myself?
- What problems have I had for understanding the main idea of the text?
- What strategy have I used?
- Why have I used this strategy and not another one?
- When can this type of strategy be most useful?

During the dialogue the teacher should highlight the answers shown below, if pupils come up with any of them; if not, these answers should be proposed, with the aim of focusing pupils' attention on the most important points. The number after each statement denotes the part of the modelling process it illustrates.

- You read the title and thought about it, trying to remember whether you knew anything about the subject (activation of previous knowledge) (1).
- You identified the topic of the text and the reason for reading it (1).
- You related the text content to what you already knew (3, 8, 9, 11, 12).
- You asked yourself various questions about the meaning of the text and made some inferences about it, some of which were later confirmed (1, 5, 6, 7, 10).
- You looked for the most general idea of the text, that is, the idea that sums up the rest of the ideas (13). You were helped in this by the fact that the author used words like "problem", "solve", etc.
- After examining the relationships between the ideas in the text, you formulated a hypothesis about what the text's most important information or main idea might be (13).

Box 13. *Example of how to model strategies for identifying text structure and important ideas.*

In relation to the example presented and, in general, to the use of this strategy, it is important to point out that the mere observation of what the teacher does is no guarantee that pupils take

note of the key aspects of the process followed for understanding the text, nor that they understand it. It is necessary to make them reflect on what has been observed in the way shown in the example. Only in this way can it be ensured that they have taken note of the elements of the process they must learn.

d) *Shaping through precise instructions the use of thinking processes to be followed.* Shaping, whether applied to reading comprehension, the solution of mathematics problems or any other kind of task, facilitates comprehension of the thinking process to be followed, but not the acquisition of the strategies and procedural abilities that constitute the nucleus of many curricular objectives.

These abilities depend to a large extent on practice, as long as this is accompanied by a progressive correction of errors, for which teachers' explanations about why something does not work out, and how to correct it, are fundamental. Nevertheless, not all types of help are equally suitable, since the origin of the difficulties encountered by pupils may differ.

Thus, in order to provide help that really aids learning, it is necessary to identify the origin of these difficulties. With this approach, it is possible to offer pupils indications that contribute to shaping their ability progressively and making them aware of the reason for their difficulties. This awareness constitutes one of the central supporting elements of motivation to learn.

Box 14 shows an example of how to shape pupils, taking into account the difficulties identified when solving problems, and for which we have used the categories of analysis contained in the following questions (Alonso Tapia, 1995, pp. 141-142).

After explaining compound proportionality, a teacher asks his pupils to solve a series of problems. As they do so, he walks around the class. A pupil is trying to solve the following problem.

Juan wants to walk the Pilgrims' Road to Santiago de Compostela. From his city, via the route he has chosen, he must walk 504 km. As he intends to walk for 8 hours a day, he has calculated that it will take him 21 days. However, Pedro, who is going with him, says they shouldn't walk more than 6 hours a day, and that, by making a slight detour, increasing the total distance to 528 km, they would be able to visit a very interesting place. How many days will they take to complete their journey if they accept Pedro's idea?

The pupil appears to be having difficulties, so that the teacher asks him to solve the problem thinking aloud. This is their dialogue:

P: If they can do 504 km walking 8 hours a day, they'd do 528 km walking x hours a day..., but it says they walk 6 hours a day... No, that's not right... If they do 504 km in 21 days, they'd do 528 km in x days... more days.

- The teacher begins by pointing out what the pupil has done correctly (1, 3). This helps the pupil to feel competent, and at the same time allows consolidation of the correct actions.

T: (1) Good... You've worked out yourself that the problem's not asking you to calculate the hours it takes. (2) *The first thing should always be to ask ourselves what the problem is asking us for.*

(3) You've also realised that to do more kilometres you need more days. So we're talking about a proportional relationship... what kind of proportional relationship...?

P: Direct.

T: (4) That's right. (5) But is the number of kilometres to be walked the only thing that influences the number of days it takes...?

P: ...

T: Think about this example: If you have to walk 10 km, will you take the same number of days walking 1 km a day as you would walking 5 km a day?

P: No. If you walk more kilometres per day, it'll take you less days.

T: (6) Good, you've got that. The kilometres you walk per day also influences the number of days it takes. The relationship between kilometres walked per day and the number of days it takes is...

P: Inversely proportional.

T: (7) Very good. (8) Now think about the information they give you in the problem. It's enough to work out that if 504 km can be done in 21 days, 528 km can be done in x days... More days?

P: No... You have to take into account the kilometres they walk every day...

T: (9) Very good, *you always have to take into account all the information that can influence the result.* (10) And here that would be...

P: Total kilometres and kilometres they walk every day...

T: (11) That's right. (12) If you knew both bits of information, how could you work out what the problem asks you for?

P: Erm... (*Long pause, (13) while the teacher waits without interrupting.*) By dividing the total number of kilometres by the number of kilometres walked each day.

T: (14) Excellent. As you see, (15) *after deciding what the problem's asking us for, we need to decide which information and which operation will lead us to the solution.*

(16) Do want to try and go on by yourself?

P: The thing is, I don't know how many kilometres they walk per day...

T: (17) Right. (18) But you can probably work it out.

P: (*Working alone*)

$504/21 = 24$ km... If they walk 24 km in 8 hours, in 6 hours they'd walk x kilometres. The less the hours, the less the kilometres. $(24 \times 6)/8 = 18$ km/day.

T: (19) Very good: you've realised that the number of kilometres they walk each day depends on the hours they spend walking.

- He continues to give a message so that the pupil, rather than simply thinking of the action as specific to this context, sees its general applicability (2). This can be seen in 9, 15 and 22 to 25. These interventions, as a whole, are central to shaping the strategy. Moreover, realising the function of what is known or what is learned increases motivation.

- The teacher informs the pupil of the correctness of his answers (4, 7, 9, 11, 14, 17, 20 and 22-25). This contributes to consolidating the correct actions and to reinforcing intrinsic motivation, since it helps the pupil to feel he is competent and making progress.

- Next, rather than telling the pupil his approach is incorrect, the teacher poses a question and provides an example (5) to make the pupil think of the elements he hasn't considered, and to allow him to discover for himself how to go on. The idea is for attention to be focused, not on the error, but on how to proceed; in this way, pupils are less likely to get stuck, and more likely to feel they are making progress.

- The teacher also tries to keep the pupil active and involved in the problem, asking him questions when he feels he can respond well (3, 6, 10, 16, 18).

- In point 12 he puts a crucial question, that of how to go on once it has been established what the problem asks for and what data is missing. Especially positive for motivation is the fact that the teacher waits for the pupil to respond without hurrying him (13). Waiting, rather than telling the pupil what he has to do, transmits a sense of confidence in the pupil's ability.

<p>P: Now I can work out what the problem's asking me for. Total days = $528/18 = 29$ days, but with 6 km left over. If they took 6 hours to walk 18 km, 6 km would take them x hours. $36/18 = 2$ hours. They'll take a total of 29 days 2 hours.</p>	<ul style="list-style-type: none"> Confidence in the pupil's capacity is also conveyed by the suggestion for him to continue alone (16).
<p>T: (20) Very good. (21) Did you notice the steps you've had to take to solve the problem? P: Well,... they asked me how long it would take to complete the journey. T: (22) Exactly: <i>the first thing was to see what the problem was asking you for.</i> P: Then I saw that the number of days depended on the total number of kilometres and the number of kilometres they walked each day.</p>	<ul style="list-style-type: none"> The shaping does not end with the solution of the problem. The teacher focuses the pupil's attention on how it has been possible to reach the solution – by following the steps making up the thinking strategy being shaped (21-25).
<p>T: (23) Correct: <i>the second step was to see what information you needed and how to use that information to solve the problem.</i> P: But I didn't know how many kilometres they walked each day... T: (24) Right: <i>the third thing you had to do was identify the objective you were aiming for.</i> And then what did you do? P: As they told me how far they'd walk in total following Juan's plan, and the days it would take them, I could work it out. T: (25) Exactly: <i>the fourth step was to use the data they gave you to get the information you needed, and finally, the fifth step, after getting it, was to find what you were asked for.</i> (26) You've done it very well, but you mustn't forget to follow the four steps. They'll help you to solve the rest of the problems.</p>	<ul style="list-style-type: none"> Finally, even though the teacher reinforces the pupil's efforts, he stresses that the important thing is not so much to have solved the problem, as to have learned a strategy that can be applied in future (26). Underlining this directs attention more towards the ability acquired than to the result achieved.

Box 14. Example of shaping strategies for problem-solving.

- Does the pupil identify the origin of the difficulties experienced or say that he/she does not know how to proceed?
- Does the pupil read through the problem quickly without trying to understand its formulation and instructions step-by-step?
- Does he/she try to relate the information provided to the objective to be achieved?
- Does he/she try to define and clarify the objective when it is unclear?
- Does he/she translate the information given in one language into another (e.g., from verbal to graphical or numerical, or vice-versa)?
- Does he/she tend to divide problems (maths, literary expression, etc.) into steps to solve the difficulties one by one?
- What general problem-solving strategies that are available are not used?
- Does he/she supervise his/her own activity and attempt to correct deficiencies if detected?
- Is the solution process affected by problems of a motivational nature?
- To what extent can we attribute the subject's errors to a lack of specific knowledge related to the material involved in the problems?

e) *Consolidation of what has been learned through practice.* This final phase of the teaching process hardly needs to be commented on, as it is already well-known that what is not practised eventually becomes forgotten. Nevertheless, we should like to underline that whether pupils practice or not depends to a large extent on teachers stimulating and reinforcing the practice and application of the knowledge or abilities acquired. It is not the same, for example, to simply tell pupils that they have to practice as it is to ask them to do an assignment or some exercises that

they have to hand in (making sure to explain the significance of practice, so that they do not become demotivated, and think “What a bore. We already know this!”).

We would not like to conclude this section without stressing an important point. What makes possible pupils’ motivation to learn and to keep working is the experience of *competence in relation to their own learning*, that is, *knowing that they know how to cope with the difficulties they come up against*. However, the normal situation is for teachers to provide frequent indications to pupils aimed at correcting what has gone wrong. Since these indications initially emphasise a lack of ability, they may have an effect contrary to the desired one. Therefore, if this effect is to be avoided, it is necessary (as Feuerstein and cols., 1980, explain, and as shown in the example) to *underline the positive aspects* of pupils’ approaches, and, after correction, to make sure that they *carry out similar activities* with a *reasonable possibility of success*. Without these conditions, pupils may focus more on the fact of being helped than on their own progress, which may contribute to their feeling incapable of completing tasks properly on their own, which in turn has a demotivating effect.

2.3.2. Teacher-pupil interaction

One of the most useful factors in defining pupils’ motivation, and which most facilitates or hinders learning, is constituted by the *teacher-pupil interaction* context. Interaction has three principal components: the *messages* transmitted by the teacher in class, the *rewards* given to pupils and the *models* teachers represent in terms of their behaviour in the face of their own successes and failures.

a) *Messages*. The teacher’s messages in classroom situations, especially if they are consistent, if they are always in the same direction, and if they are regular, contribute in an important way to defining the motivation with which pupils approach school work (Pardo and Alonso Tapia, 1990). However, for this motivation to be of the proper kind, it is desirable that these messages have the characteristics summarised in Figure 6, and which we shall describe below.

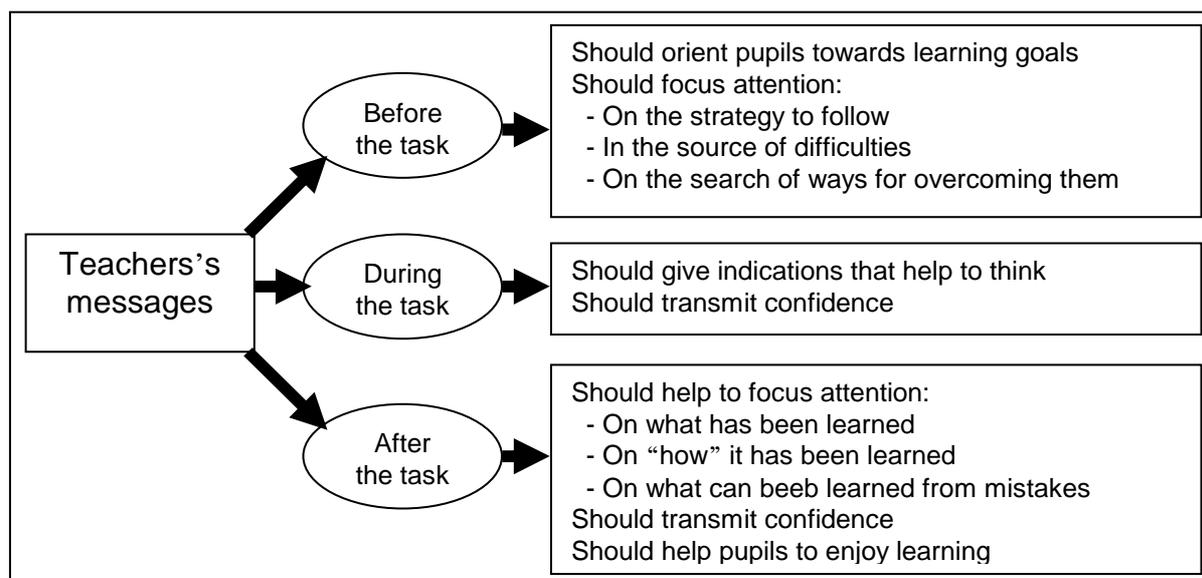


Figure 6. *Teachers’ messages: conditions for their effectiveness.*

Teachers' *messages* to his/her pupils, *before carrying out an activity*, orient their attention in different directions. These messages may suggest the relevance of the task for different types of goals, if teachers relate it to specific objectives, as we pointed out earlier. For example: "The important thing is not whether you do these problems well or badly, but that you learn to solve problems of this type"; "Revise this well, because it's sure to come up in the next exam"; etc.

Messages also serve to focus pupils' attention during the execution of a task on particular parts of it. Certain types of message will focus attention on the *process* through which a task is carried out, rather than on the result –for example: "Don't worry if the result's not right; concentrate on the steps you follow and identify the points where you get into difficulties –we'll be coming back to those". Messages of the type: "Don't worry about getting it perfect for now – just try to concentrate on..." will help to set realistic objectives.

Similarly, teachers will indicate with other messages the strategies necessary for carrying out an activity, helping the subject to think and avoid getting stuck. For example, in relation to a written discussion of a text, a teacher might say: "When you're writing about the text, remember you have to answer questions like: 'What's the essential content of the text?' 'In what literary, historical and cultural context can it be situated?' 'How should I assess its content?' 'And its form?' "; "Remember that it helps you to not get stuck if you ask the right questions", and so on.

If the work is carried out in class, the *messages* given by teachers *as it is being carried out*, to pupils who ask questions or to others, as they notice that they are progressing or having problems, also normally have motivational repercussions. When a pupil asks for help, it is not the same to give him/her the solution to the problem directly, as it is to simply ask him/her to make more effort, or as it is to *give him/her clues* that help to resolve the situation, such as: "Do you remember the steps we said you had to follow? Go through them one by one – that might help you." In the case of pupils working in groups, it is not the same to tell them not to argue about a problem as it is to say: "It's not the people who impose their ideas on others that learn most –it's those who are capable of changing them if their colleague's are better."

Thus, the messages teachers give while their pupils are working not only allow them to *emphasise the function* of the task for achieving one type of goal or another, but also help pupils to learn how to do the task, teaching them how to plan it and set realistic targets, how to divide it in steps and to look for and test possible ways of overcoming difficulties. Messages that underline the above points orient the subject towards learning goals and, through the progressive shaping of their knowledge and skills, teach them to think, which is one of the conditions for them to be able to strive for these goals.

Nevertheless, teachers can also behave in ways that have a negative effect on motivation to learn. Telling a pupil to 'try harder', when he/she has got stuck is to leave him or her stranded; asking the whole class if they know the answer to a question asked by a pupil in private is to show up that pupil, who is likely to think twice before asking again.

The exact nature of the comments made or opinions voiced by a teacher in class varies greatly depending on the nature of the activity or work to be carried out. However, it is possible to categorise them according to the goals they emphasise, to the expectations they generate, to the help they provide and to the extent to which they imply for a pupil a positive or negative evaluation of his/her behaviour, or of him/her as a person. Obviously, messages that orient

subjects towards learning goals, that generate expectations of progress, that offer assistance so that pupils themselves can solve problems, and that involve a positive evaluation of subjects and of their behaviour are preferable to messages in the opposite direction.

As regards the *messages* that teachers give out *after completion of a task*, these can also have different types of motivational repercussions. It may be that the teacher simply says whether the task has been completed correctly or not. However, regardless of the result, he/she may say: "Let's go over the difficulties you've come across, so that we can see why, and look at the best way of dealing with them", or: "Bear in mind that the important thing is that you've learned the procedure for solving this type of problem, not whether you've done these particular ones right or not". Expressions of this type help pupils to focus on *the process they have followed*, to *be aware of what they have learned and why they have been able to learn it*; they also help them to realise that *it does not matter if one goes slowly and makes mistakes, as long as one makes progress*.

Meanwhile, messages such as "How does it feel when you see that you're capable of doing it?", to which we referred in our comments on deCharms' project, if combined with the type from the above paragraph, mean that, more than being reinforced from outside, pupils "enjoy" having managed to master a task involving a challenge, which is fundamental in terms of their feeling motivated to learn (as McClelland et al., 1992, have underlined), and of their developing the "need to experience such mastery".

If teachers fail to transmit messages of the type indicated, or worse, we give out messages that imply a negative evaluation: "If you keep producing work like that, you'll get nowhere" – or comparison with peers: "You keep coming bottom of the class. Make more effort", both of which imply a threat to self-esteem, we will contribute to pupils seeing academic situations not as opportunities for learning, but as occasions in which their image is at stake. And, as we have seen, this can lead to inappropriate patterns of approaching school work.

b) *Rewards*. Another form of interaction is constituted by the praise and the tangible rewards that teachers may give their pupils. If these are provided in accordance with the guidelines shown in Box 15, point B, they are effective, as experts in learning have shown. Moreover, the use of them seems to be necessary when the goal of achieving these kinds of reward or avoiding effort dominates the student's motivational profile and is far stronger than the other learning-related goals, as our most recent studies have shown (Alonso Tapia, 1999-a, 1999-b, Alonso Tapia and López Luengo, 1998).

It should be remembered, however, that both praise and tangible rewards are useful for facilitating the development of intrinsic motivation for a task when the pupil's initial level of interest in it is low, when its attractiveness only becomes apparent after pupils become involved in it, and when a certain level of skill is necessary for it to be satisfying. In other cases, rewards are only effective, as a means of controlling behaviour, while they are being used, and they may even have negative consequences, in which case, as already explained, it is not appropriate to use them (Leeper and al., 1996).

REINFORCEMENT

A) *Types:*

- a.1 *Positive reinforcement.* This consists in giving a pupils a pleasant reward immediately after a desired action, e.g., praising a pupil's work.
- a.2 *Negative reinforcement.* This consists in withdrawing an unpleasant stimulus when the desired behaviour occurs, e.g., allowing a pupil to go out to play after correct completion of a task.
- a.3 *Vicarious positive reinforcement.* Positively reinforcing a pupil's behaviour so that others can see the association between the observed behaviour and the reinforcement, e.g., praising a pupil for having stopped to plan an activity contributes to a situation where those who observe this will see planning as something positive, desirable and praiseworthy.
- a.4 *Vicarious negative reinforcement.* This works in the same way as vicarious positive reinforcement.

B) *Possibilities and conditions for effective application.*

b.1 *With respect to the behaviour to be reinforced.*

- Gradual shaping of the behaviour to be consolidated. Not all behaviour can be successfully reinforced in a direct way. It is necessary to carry out the reinforcement little by little. For example, a reduction in the number of spelling mistakes can be reinforced, even though the pupil continues to make mistakes.
- Reinforcement of behaviour after its passive formation (e.g. after "leading the pupil's hand" as he/she tries to write, draw, etc.). This is applicable in the cases of children who do not imitate, and who show no type of behaviour that can be reinforced.

b.2 *With respect to type of reinforcement, teachers can use:*

- Material reinforcement (e.g. sweets)
- Social reinforcement (e.g., praise).
- Symbolic reinforcement (e.g., tokens that can be exchanged for rewards such as toys, books, etc.).

b.3 *With respect to conditions:*

- The rules for obtaining reinforcement must be clear.
- Application must be systematic.
- Greater effectiveness is obtained at the beginning through immediate reinforcement of the desired behaviour.

Box 15. *Methods of reinforcement.*

c) *Models*. Finally, teacher-pupil interaction is not limited to what teachers say, nor to the use of tangible rewards. Let us recall a frequently-heard phrase: “Actions speak louder than words”. When teachers express aloud what they think *in relation to their successes and errors*, their *preferences* with respect to work, their *expectations* and other aspects of their behaviour, they set themselves up as models from which pupils learn to value different goals and to think in ways that may or may not facilitate learning and motivation. For example, depending on teachers' behaviour patterns, pupils can learn, on the one hand, to become interested in learning or how to cope with learning difficulties or, on the other hand, to avoid situations that can produce a negative appraisal of one's own competence on the part of others, even if these situations -e.g. solving a problem on the blackboard in front of classmates- are necessary to improve learning.

This is reflected, for example, in the following comments that can be heard when a teacher attempts to solve a problem: “Let’s see... this is easy.” “Why doesn’t it work out? What am I doing wrong?... Let me think...”. All these messages show pupils how to cope efficiently with difficulties. However, if when a pupil points out a mistake made by the teacher, he/she replies with a bad-tempered: “Right... yes... I’ve made a mistake... Everybody makes mistakes, don’t they?”, this way of acting shows that it is not a good thing to be wrong in front of others. In this same situation, if the teacher had answered in an amiable tone of voice: “Yes, thanks for noticing that. If it hadn’t been for you, I’d have misled you all,” the pupils would have learned that errors are a natural thing, and not worth worrying about.

Teachers differ considerably in the extent to which they are aware of the motivating or demotivating effect of such comments (Alonso Tapia, 1992-a). Nevertheless, it can be argued, quite reasonably, that an isolated comment is of little importance. However, if a teacher demonstrates to pupils systematically, through his/her example, that what counts is to preserve one’s image more than to learn and that, therefore, one should avoid any intervention that implies ignorance, it is unlikely that pupils will act differently themselves. Thus, *the example given by teachers* with respect to which goals are most important is another of the *determining factors* of motivation, which should be subject to reflection and modification if we wish to motivate our pupils.

2.3.3. Interaction between pupils

Whether pupils approach school work with a concern to learn or are more preoccupied with how they will appear to their classmates depends also, to a considerable degree, on how teachers organise class activities: in a way that promotes *cooperative type interactions* between them (teachers may organise their pupils in groups for certain activities), or *competitive interactions* (pupils are sometimes organised so that they compete individually or in groups) or *no interaction at all* (which is what occurs when pupils always work individually). Pupils' approach also depends on the conditions of group work being suitable. The different forms of interaction promoted by the teacher have different effects on motivation, as we showed in a recent review of studies in this area (Alonso Tapia, 1992-b, chap. 10).

In accordance with the studies reviewed, both in terms of experimental results and data from the analysis of pupils' perceptions, the following conclusions can be drawn.

a) *Competitive interaction*. The organisation of school activities in a competitive context is

the type which has the most negative motivational effects for the majority of pupils. The main reason for this is that there are always losers. Moreover, since effort in these cases is especially mediated by expectations of “beating” one’s classmates –expectations which are only high in certain pupils–, most become demotivated.

b) *Individual work*. When pupils have to work individually, the effect on motivation may be more or less positive depending on the *type of task*, the *type of goals* and the *messages* given by the teacher. If the objective of the activity is to develop skills that are to be used individually (reading, writing, calculating, etc.), it is, in principle, preferable for them to carry it out on their own, given that it is practice that basically determines progress. However, if the object of the task is for them to realise the implications of a concept or principle or to carry out the correct steps of a procedure, especially when they have to collect and analyse information from source materials or from surveys or experiments, working individually does not help pupils to see things from different points of view, so that it is not particularly suitable.

c) *Cooperative work*. The organisation of school activity in cooperative groups may take different forms, whose effects are not necessarily equivalent: peer tutoring, cooperative coordination and collaborative coordination.

– *Forms of cooperative work*. Sometimes, teachers ask a more advanced pupil to help a classmate, creating a system of tutorship. In such cases, the factors that may affect the motivation of tutor and tutoree are different. Tutorship offers the tutor the possibility of demonstrating his/her knowledge, and this may favour self-esteem. Similarly, the need to express this knowledge in a way that the tutoree understands obliges the tutor to give precise explanations –a requirement that favours his/her own learning and leads to a satisfying, and therefore motivating, experience. However, if the tutor does not accept his/her role willingly, but instead feels a sense of obligation, seeing the task as a chore, then the effect of the activity on motivation will be negative.

The tutoree, on the other hand, starts out from a situation of inferiority that may have a negative influence on self-esteem. Moreover, depending on the way tutors carry out their function (they sometimes “take the role of teacher too seriously”, which can cause problems), the tutoree may reject the exercise. Nevertheless, if the tutor fulfils his/her role well, the tutoree can learn, and the sensation of learning increases motivation.

In other cases, groups of pupils are formed, and activities proposed that require some type of product based on the collection and processing of data –for example, looking for information in various books (encyclopaedias, monographs, archives, etc.) in order to write an article, an essay or a wallchart on the causes and consequences of underdevelopment. These kinds of activity fall into the category of *cooperative coordination*. In them, each pupil is usually responsible for a part of the activity, although the type of interaction within the group varies greatly, from the mere juxtaposition of each member’s contribution to the discussion of every phrase. Such discussion brings the organisation of the activity closer to the following category.

The last category, *cooperative collaboration*, would include those activities, normally carried out in small groups of only two or three members, in which the objective is for the interaction itself to facilitate the comprehension of a phenomenon or the acquisition of a skill: it is of less importance whether or not there is a final result. For example, pupils might be asked,

in pairs, to design an experiment demonstrating the factors that influence the rate of oscillation of a pendulum; or they may be asked to write an essay, each writing a paragraph, and then giving it to their partner to correct, so that in the end the two of them can be considered as joint authors, etc.

– *Conditions for the effectiveness of cooperative work.* Among the categories discussed in this section ("competition" between "collaborative groups" can also be employed, but is less advisable), organising work in a cooperative way appears to be, *under certain conditions*, particularly useful for stimulating interest and efforts to learn, as well as for improving performance (Alonso Tapia, 1992-b, chap. 10; Coll and Colomina, 1989; Johnson and Johnson, 1985; Salomon and Globerson, 1989).

Nevertheless, as we say, "certain conditions" are necessary, without which this way of working may have negative effects on motivation and learning. These conditions, summarised in Figure 7, are the following:

- *Type of task.* As we have already pointed out, if the object of the task is for pupils to realise the implications of a concept or principle or to carry out the correct steps of a procedure, organising work individually is not the most suitable approach. In such cases, given that interaction makes possible the comparison and contrast of potentially divergent points of view, creating a conflict that helps pupils to think, group work is particularly appropriate.

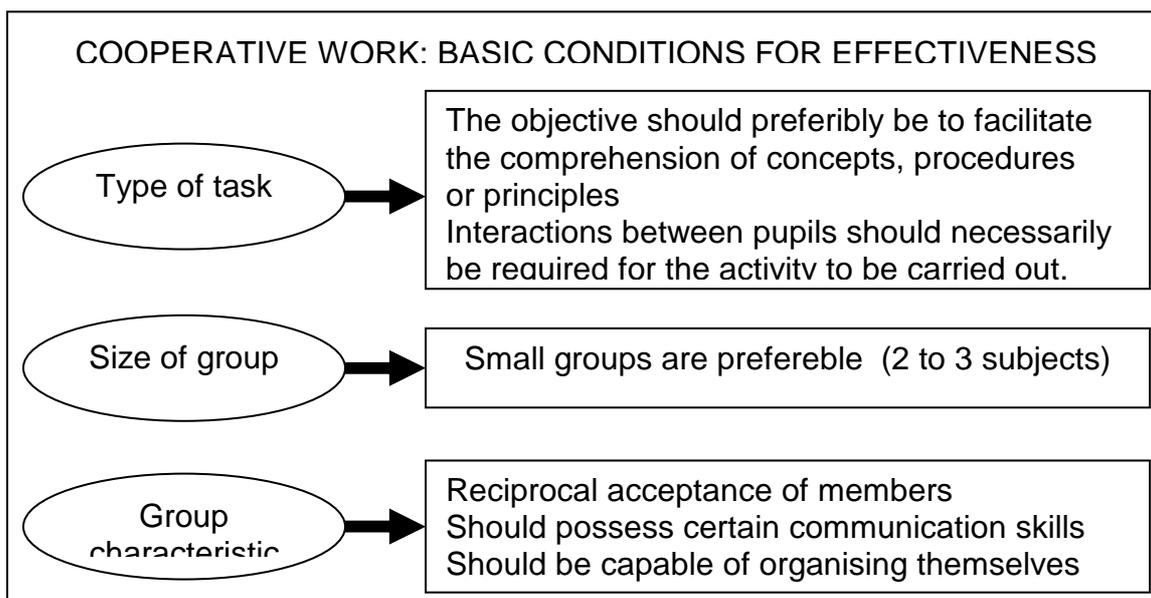


Figure 7. Conditions for effectiveness of cooperative work.

On the other hand, if the nature of the task allows it to be carried out by a single pupil, practically without interaction with others, as often occurs with activities in which each pupil can make a contribution that is simply added to the others' work, group work is inadvisable, since it tends to have negative consequences.

Due to their positive effects on both motivation and learning, the most appropriate types of tasks for group work appear to be open ones, that admit various solutions, and in which participants can choose between different approaches and ways of working, decide which information to use, etc. (Coll and Colomina, 1989).

- *Size of group.* In large groups, responsibility tends to become diluted, with its members waiting for “somebody to do the work”.

Also, especially if the nature of the task is such that it can be carried out without the necessary participation of all group members, a negative effect may be produced, which we might call “Not pulling your weight” –one or more pupils who “sign” the work have in fact contributed very little or nothing.

Another negative effect, normally as a consequence of the previous one, might be referred to as the “bloodsucker effect”. This occurs when those pupils who tend to do all the work decide not to do anything, so that no-one can take advantage of them, or “suck their blood”. From all of the above it can be deduced that it is small groups that most favour motivation and learning. Nevertheless, if, through the combination of the guidelines offered for carrying out the task and the form of assessment, the teacher manages to distribute equally the responsibility and involvement of all the members in each part of the activity, groups of up to five or six members can function effectively.

- *Pupils’ characteristics and group composition.* Apart from the conditions referred to above, the characteristics of pupils may make group work inadvisable, especially if groups are necessarily large. Thus, if pupils are forced into groups where there is mutual non-acceptance (the teacher may be ignorant of this fact), these groups will function poorly. Nevertheless, the problem is easily solved by allowing pupils to form groups according to their own preferences.

Similarly, group work is sometimes proposed without considering whether the participants have the necessary capacity for benefiting from the activity in this form, and this often has negative consequences. The capacities required may be of a *social* (ability to communicate), or *cognitive* (knowing how to organise themselves for carrying out the task) type.

In the case of young children, incapable of respecting turn-taking when giving opinions, or of being constructive about others’ contributions, etc., group work is useful if the teacher sets as one of its objectives the acquisition of these capacities.

If the problem is that pupils are unable to organise their work in groups, the teacher will need to consider the type of “script” or “structure” to propose to them before they begin and the type of help to be given to them during the activity, in order to avoid their becoming lost or stuck because they lack the ability to organise themselves. However, in the case of older pupils, depending on their personal characteristics, there are those who prefer to have detailed guidelines to refer to, and there are those who prefer to organise themselves more freely. In any case, offering a detailed plan and giving them the option of using it or not may be the solution.

In general, as Salomon and Globerson (1989) argue, when pupils have clear guidelines on how to act they are less likely to become demotivated, and the negative effects referred to (tendency to let others do the work, etc.) are less likely to occur. Sometimes, however, if assignments have to be carried out that involve a degree of exploratory activity over a long period, a high level of structuring is neither possible nor desirable. In these cases we can speculate –as there is no evidence available– that the teacher’s job should be that of

promoting the acquisition of positive forms of interaction: teaching pupils to value the contributions of classmates, however unimportant they seem, showing them the negative effects of wrong attitudes on individual learning and collective achievement, etc.

We shall not discuss here the type of help group members can give one another -help which if sufficiently constructive, appears to have an important and positive influence on learning and cognitive development as far as group work is concerned. What is important, though, is that the teacher models and shapes ways of offering information, of reacting to the contributions of others and of dealing with tasks, with a view to avoiding negative consequences for motivation.

When teachers fail to act in this way, tension is created by the lack of acceptance by the others, with pupils being afraid that “they’ll judge me within the group”; the goal activated by such a situation is that of preserving self-esteem, rather than that of learning.

Finally, it is important to point out that cooperative activities are not carried out in a vacuum, but in the context defined by the general class climate –which depends to a large extent on the teacher. In some of our studies (e.g., Alonso Tapia, 1992-b, chap. 10), we have observed that when this climate is defined by the perception that the teacher is interested in each pupil’s learning, that there is order and clear objectives, that the pace is right and there is no favouritism (all of which implies the motivational importance of the content of the messages and instructions given by teachers before, during and after activities), the use of cooperative activities, given proper control of the conditions that produce negative effects, tends to be an approach that is not only accepted but actually preferred by pupils, with clear positive effects on their motivation, cognitive development and performance.

3. Assessment of learning: increasing motivation to learn

The way pupils are assessed is most certainly one of the contextual factors that most affects motivation with regard to school learning. When we speak of the form of assessment we are referring not only to the marks they receive, but to *the entire process* that goes from what the teacher says (or does not say) before the assessment in order to help and motivate them to prepare it, to the way the activity is set and the information collected (at given points or continuously), to the way the information is subsequently used.

Throughout this process, teachers may act in different ways, according to four dimensions that characterise assessment and condition its repercussions on motivation, as shown in Figure 8.

3.1 Motivation varies according to the degree of success or failure indicated by the assessment.

All types of assessment basically involve a judgement on the quality of performance in a task. Thus, whether we are talking about a teacher’s judgement of what pupils write on the blackboard, when he/she corrects work in their exercise books or when he/she marks a test or exam, these judgements show up the success or failure of a pupil in the assessed activity. In the

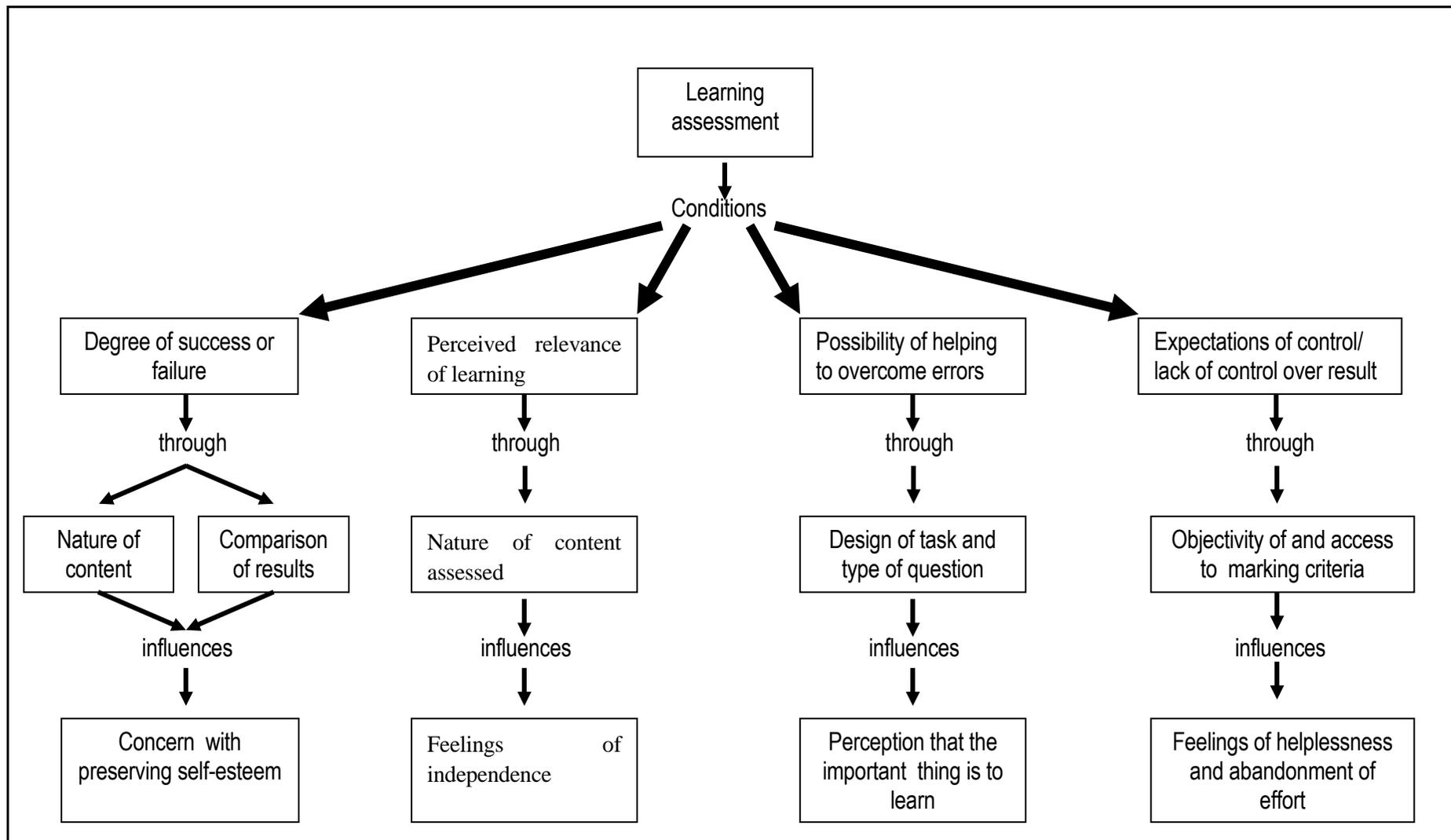


Figure 8. *Dimensions of assessment that affect motivation*

case of failure, particularly when it has important negative consequences (repeating a school year, lowering the average mark for external key-stage evaluations, etc.), the repercussions for self-esteem are serious. Furthermore, as Weiner (1986) has indicated, such results trigger processes of attribution of responsibility that may lead to their thinking themselves incapable: “I’m not up to it”, “I’m no good at this”, “This is not for me”, etc., which affects self-esteem and motivation. If, moreover, the results of the assessment are public or are made public, pupils tend to become concerned about what others will think of him/her (“I’ll be the laughing stock”), and negative effects on self-esteem are accentuated, especially in pupils for whom its preservation is a priority goal.

Since failure normally has a negative impact on motivation, if assessments are set with no attempt to minimise this experience (teachers sometimes, unnecessarily, propose very difficult tasks, given the complexity of the subject and the time devoted to it in class), a level of failure is produced that contributes to a decrease in expectations of progress and, consequently, in readiness to invest effort. If, on top of this, the results of assessment are announced publicly, questions of self-esteem clearly come into play over and above those of learning. For all of these reasons, teachers should consider carefully both the level of difficulty of the set of activities through which we assess our pupils and the extent to which we can avoid results being made public and open to comparison.

3.2 Motivation varies according to the relevance of the content in assessments.

All assessment requires the demonstration of knowledge and skills related to different content. Sometimes, however, teachers pose questions and propose tasks that provoke pupils to ask: “What use is this to me?”. Thus, if teachers ask pupils for unimportant knowledge or, even if the knowledge is important, they fail to show before the assessment task why it is useful to have certain knowledge or skills, pupils' motivation is adversely affected. Feeling that they are being assessed, perhaps negatively, for not knowing something whose relevance they do not perceive, has a detrimental effect on pupils' sense of independence and, in consequence, on motivation.

In relation to this point it should be stressed that the use of apparently difficult tasks in assessment may serve to motivate pupils to learn, as long as pupils discover that being able to do what they are asked demonstrates a useful skill, especially if the same type of tasks used in the assessment have been done in class, and their usefulness has been shown there. For example, if a Social Science teacher has explained to his/her pupils: a) that the object of an activity to be carried out is to develop abilities such as learning to read and interpret information from different sources and documents, learn to reason critically about information or learn to make predictions and inferences from the information given, and b) that the content of a given topic, such as the Industrial Revolution, permits them to answer questions such as those in Box 16, questions that have contributed to emphasising the relevance of studying the specific content of the topic, then assessing pupils through tasks similar to those included in Box 16 may be especially motivating, since pupils will see that it makes sense to know what they are being asked for.

3.3 *Motivation varies according to the extent to which assessment allows pupils to learn to overcome errors.*

In the case that a pupil does not know well enough the topic on which he/she is being asked questions, the assessment may serve for teachers to provide him/her with information that allows the correction of errors. Whether or not this information is given affects whether pupils perceive the assessment as an opportunity to learn, or, on the contrary, merely as an event that serves to judge them, and not to help them. However, for pupils to *perceive assessment as an opportunity to learn* –and as we have shown elsewhere (Alonso Tapia, 1995, 1997)– some conditions are necessary:

- The assessment should be designed so that the pupil can be told not only whether he/she knows something or not, but also, in the case of tasks designed to show up his/her knowledge of a procedure, the *reason for failure* and *how to correct it*. Box 16 offers some examples.
- The design of the assessment, whether it consists of a set of tasks used in a continuous and cumulative way for observing step by step pupils' learning, or whether it consists of exams set at given points, corresponds to a model that allows us to see to what extent pupils *are making significant progress* with regard to the acquisition of a conceptual scheme or particular procedures, rather than providing information on isolated knowledge. In a recent work (Alonso Tapia et al., 1997) we include numerous examples of coordinated assessment tasks designed from such models, together with the criteria for designing new sets of assessment tasks.
- Information on *what* is wrong or incorrect, *why* it is wrong and *how to overcome* the problem, obtained through the above procedures, should be given to pupils so that they can *overcome their difficulties*; at the same time, comparisons between pupils should be avoided, since, in the opposite case, value judgements will be produced that are detrimental to self-esteem, with negative results for motivation.

In a recent study carried out with Secondary School teachers (Villa and Alonso Tapia, 1996), we found that in many cases the assessment tasks used *did not permit teachers to determine the origin of mistakes* -the tasks show that students do not know something or that they are unable to solve some problem, but not why-, with the result that the majority of pupils experienced assessment as a judgement, and not as a chance to learn. It would therefore appear necessary for teachers to review their approach to assessment and decide whether it should be modified according to some of the above criteria.

3.4 *Motivation varies according to the extent to which the pupil is aware of marking criteria.*

Finally, assessment involves deciding on the *value* of what a pupil does *on the basis of certain criteria*. If these are ambiguous for pupils, a situation of helplessness may be created that is detrimental to learning. Unfortunately, it is not always made clear before an exam *just what pupils are expected to study, learn and demonstrate*. This gives rise to many of them, when asked “What mark do you think you’ll get?”, answering: “I don’t know –it depends how the teacher marks it”.

<i>A: Example of a task for assessing the ability to make inferences on the basis of conceptual models.</i>					
The following table shows certain conditions in five countries at a given historical moment. Study them and indicate in which country rapid industrialisation is most likely to take place. Give the reasons both for accepting a country and for rejecting the others. (Do not take into account other characteristics not mentioned in the table.)					
Country	A	B	C	D	E
CHARACTERISTICS					
Unemployed farm workers	Many	Many	Many	Few	Many
Money saved	A lot	A little	A lot	A lot	A lot
Energy (coal, etc)	Abundant	Abundant	Scarce	Abundant	Abundant
Preferred investment	Culture (Theatre)	Agricultural machinery	Agricultural machinery	Textile machinery	Textile machinery
<i>B: Example of tasks for assessing deductive reasoning ability.</i>					
Suppose that the following table shows the increase in agricultural production in four regions of England, immediately before the Industrial Revolution, five years after the introduction of the changes indicated for each one. Look carefully at the table and answer the following questions in the light of its data:					
<ul style="list-style-type: none"> • Can we state that enclosure, used in isolation, influences production, even if only slightly? Why yes, or why no? • Can we state that crop rotation alone is not sufficient to give a notable increase in production? Why yes or why no? • Can we state that crop rotation is a necessary condition for enclosure to influence production? Why yes or why no? 					
<i>Changes</i>	<i>Region 1</i>	<i>Region 2</i>	<i>Region 3</i>	<i>Region 4</i>	
Introduction of crop rotation	Yes	NO	Yes	NO	
Enclosure	Yes	Yes	NO	NO	
Increase in production after five years	90%	10%	70%	10%	
<i>C: Example of tasks to assess ability for critical thinking and falsation of hypotheses.</i>					
It is said that “the steam engine was an important factor in industrial development.” To discover whether this is true, we should analyse production in different countries. Look at the data in the following table describing the characteristics of four of them and answer the following questions: Can we decide that the above statement is false...					
<ul style="list-style-type: none"> • by comparing the industrial production of Countries 1 and 2? Why yes or why no? • by comparing the industrial production of Countries 1 and 3? Why yes or why no? • by comparing the industrial production of Countries 1 and 4? Why yes or why no? • by comparing the industrial production of Countries 3 and 4? Why yes or why no? • by comparing the industrial production of Countries 2 and 4? Why yes or why no? 					
<i>Country 1</i>	<i>Country 2</i>	<i>Country 3</i>	<i>Country 4</i>		
Abundant coal	Scarce coal	Abundant coal	Scarce coal		
With steam engine	Without steam engine	Without steam engine	With steam engine		

Box 16. Examples of tasks relevant for assessing different abilities

This problem is most clearly manifested in essay-based exams, where the pupil has to discuss a question, due to the subjectivity of markers' criteria. This subjectivity was demonstrated in a study carried out in the United States by the Educational Testing Service (Diederich and cols., 1961), in which 300 essays were marked on a scale of 1 to 9 by 53 experts in the fields concerned. Of these essays, 34% received all the possible scores; 37% received 8 of them and 23% received 7. No essay received fewer than 5 of the 9 possible scores. It was found, moreover, that the markers differed among themselves in their level of benevolence and how they distributed the scores along the scale.

It would appear necessary, then, for teachers to try and *objectify as far as possible* the marking criteria before the assessment, and to *make pupils aware* of them so that *they can be sure* that, if they study the given material and do the exam in the way indicated, their result will not depend on the subjective view of the teacher. In the opposite case, their expectations of gaining good marks through their efforts will decrease, producing negative effects on motivation.

**FROM THEORY TO PRACTICE:
ANALYSIS OF THE MOTIVATIONAL CONTEXT**

In the previous pages we have described the personal and contextual factors on which pupils' motivation to learn depends. In order to explain and illustrate the effect of each of these it has been necessary to describe them one by one. However, as we pointed out on first considering the problem of motivation to learn, what generates in the long run positive or negative attitudes towards learning is *the way in which they are combined* in the classroom situation, creating a given *motivational climate*.

Thus, it is important for teachers to be capable of detecting when the final form taken by our classes, in the light of the principles outlined in the previous pages, is or is not *motivationally positive*.

In order to facilitate this awareness, we have felt it appropriate to present some transcriptions of classes, partial or complete, that might be considered representative of those imparted by the majority of teachers. We have analysed them on the basis of the principles described, so that they clearly demonstrate the positive and negative aspects that contribute to shaping the motivational climate of the classroom.

Although these transcriptions can be read straight through as they appear, we would suggest an alternative approach, that would probably allow the reader to take more advantage of them: try to analyse yourself the motivational aspects of the classes transcribed, and then compare your conclusions with those of our analysis.

To aid this approach, we include in Box 17 an inventory of the aspects that should be considered. While it is not necessary for all of them to be present in all classes, their general presence is a sign of appropriate performance on the part of the teacher. In an earlier work (Alonso Tapia, 1995, cap. 7) one may consult other instruments for the analysis of teaching patterns, more detailed, but based on the same principles.

1. Beginning of learning activities	
1.1. <i>Activation of curiosity</i>	
Presentation of new or surprising information	Yes No N/a
Setting of problems and questions	Yes No N/a
1.2 <i>Explicitation of task relevance</i>	
Use of situations showing relevance.....	Yes No N/a
Direct indication of task functionality.....	Yes No N/a

<i>1.3. Activation and maintenance of interest.</i>			
Variation and diversification of tasks	Yes	No	N/a
Activation of previous knowledge	Yes	No	N/a
Use of hierarchical and coherent discourse	Yes	No	N/a
Use of illustrations and examples	Yes	No	N/a
Use of a narrative context.....	Yes	No	N/a
Suggestion of partial goals	Yes	No	N/a
Guiding attention to the process.....	Yes	No	N/a
Precise planning of activities to be carried out	Yes	No	N/a
2. Development of learning activities			
<i>2.1. Manifestation of unconditional acceptance. The teacher:</i>			
Allows pupils to intervene spontaneously	Yes	No	N/a
Listens attentively and requests more explanation	Yes	No	N/a
Repeats responses.....	Yes	No	N/a
Nods while pupil is speaking	Yes	No	N/a
Highlights the positive elements of responses, even if they are incomplete.....	Yes	No	N/a
Asks for reasons behind incorrect answers.....	Yes	No	N/a
Does not compare pupils	Yes	No	N/a
Devote time to any pupil who asks for help	Yes	No	N/a
<i>2.2. Independent involvement of pupils in learning. The teacher:</i>			
Makes explicit the functionality of activities.....	Yes	No	N/a
Gives opportunity for options	Yes	No	N/a
Highlights progress and pupils' active role	Yes	No	N/a
Suggests the establishment of personal goals	Yes	No	N/a
Suggests dividing tasks into small steps	Yes	No	N/a
Teaches pupils to ask themselves "How can I do it?" and to look for the necessary means and strategies	Yes	No	N/a
Underscores the importance of asking for help	Yes	No	N/a
Points out the importance of asking to be taught how to do things for oneself	Yes	No	N/a
Encourages pupils to ask themselves what they can learn from their mistakes.....	Yes	No	N/a
Allows pupils to stop to realise and enjoy their achievements.....	Yes	No	N/a
<i>2.3 Facilitation of the learning experience: task design. The teacher:</i>			
Creates awareness of the problem.....	Yes	No	N/a
Explains the procedures or strategies that must be learned	Yes	No	N/a
Models the use of thinking processes, making them explicit.....	Yes	No	N/a
Shapes the correct use of procedures and strategies	Yes	No	N/a
Makes possible and encourages independent practice	Yes	No	N/a

<i>2.4 Facilitation of the learning experience: teacher-pupil interaction</i>	
<i>Messages. The teacher:</i>	
Orients pupils towards the process more than the result	Yes No N/a
Orients pupils towards the search for means of overcoming difficulties	Yes No N/a
Points to specific progress of a pupil (reinforcement)	Yes No N/a
Suggests reflection on the process followed in order to increase awareness	Yes No N/a
Encourages pupils to stop and think about what has been learned	Yes No N/a
Insists that no-one is stupid – that everything can be learned	Yes No N/a
<i>Rewards. The teacher:</i>	
Uses rewards if the initial interest is very low	Yes No N/a
Uses rewards if deriving enjoyment from the task requires practice	Yes No N/a
Offers rewards when a certain degree of skill is needed for enjoyment of the task.	Yes No N/a
<i>Modelling of values. The teacher's behaviour:</i>	
Shows that he/she approaches tasks with the primary aim of learning	Yes No N/a
Shows that he/she considers errors as something from which to learn	Yes No N/a
Demonstrates that listening even to the least capable pupil is worthwhile: something is always learned.....	Yes No N/a
<i>2.5 Facilitation of the learning experience: interaction between pupils. The teacher:</i>	
	Yes No N/a
Proposes tasks that involve cooperation	Yes No N/a
Proposes cooperative tasks only if task is open, making possible the comparison and contrast of viewpoints	Yes No N/a
Proposes cooperative tasks depending on size of group or class	Yes No N/a
Proposes cooperative tasks depending on characteristics of pupils	Yes No N/a
Provides guidelines –or even a “script”– that include objectives and basic organisational schemes.....	Yes No N/a
3. Assessment of learning	
	Yes No N/a
Relevance of knowledge and skills learned is made explicit	Yes No N/a
Task design and type of questions provide help for overcoming errors	Yes No N/a
Pupils are asked what they think they have learned	Yes No N/a
Marking criteria are objective, and made clear beforehand	Yes No N/a
Tasks of different levels of difficulty are included, in order to give all the chance of some success	Yes No N/a
As far as possible, comparison between pupils is avoided.....	Yes No N/a
Pupils are given information on how to avoid errors	Yes No N/a

Box 17. Inventory of teaching patterns with motivational repercussions²

² N/a indicates that this type of action is not applicable to the class being assessed

1. Analysis of examples

1.1 Knowledge of the environment: Second grade. Primary School Class. (Age 7-8).

Presentation.

The class described below is the second of the two sessions into which the didactic unit “Road education: traffic signs” was divided. In the first of these, based on the exploration of images, and asking her pupils to remember what they knew, the teacher had introduced the subject and described the function and characteristics of different types of sign. In the second class, using a global methodology, the goal was not only the consolidation of the knowledge acquired in the first session, but also the acquisition and consolidation of other knowledge and skills such as vocabulary, spelling, oral expression, plastic expression, pro-social conduct, etc. Assessment was carried out through observation and monitoring of pupils’ work, and not via independent tests.

Transcript.

Analysis.

A. *Introduction.*

1. T. We’re going to do Knowledge of the Environment.
Books on your desks everyone, open at p.10.
Today we’re going to talk about road signs.

- Although this is the second class on the subject, the teacher should have reminded the pupils of its purpose. Even though this may seem unnecessary, given that children of this age do not ask why things have to be done, it is advisable, since it contributes to creating awareness that what they learn at school is useful and relevant.

B. *Activity 1.*

2. T. What does it mean when the signs are blue?
Pp. You must do it (*All answer at once*).
T. And red?
Pp. You mustn’t do it.
3. T. What signs have we seen in the street... John?
P1. Stop.
T. Good, we’ve seen a stop sign. And what colour is it, John?
P1. It’s red.
T. Good. And do you know what it means?
P1. You have to stop.
T. Very good.

- No questions are asked to awaken the curiosity of the pupils, though these are not essential, given the novelty of the tasks to be carried out.
- Via Activity 1, the teacher, at the same time as assessing what is remembered from the previous class, activates pupils’ previous knowledge, which facilitates interest.

4. T. Tell us, Linda, what signs have you seen in the street?
 P2. "No entry". It's red.
 T. And what shape is it?
 P2. It's a red circle with a white stripe across the middle.
5. T. Right, then, Frank. What signs have you seen in the street?
 P3. "Give way".
 T. Very good. And what does it mean?
 P3. It means one car has to give way to the other.

C. Activity 2.

6. T. We're going to do the exercise on p.10. Read the instructions, Vanessa.
 P4. (*Reading*) "Above are some road signs for colouring. Colour each sign properly and write what it means underneath".
 T. Do you all know what you've got to do? Let's see, Vanessa, what's the first sign?
 P4. "No entry".
 T. What colour should it be?
 P4. Red?
 T. And what should we write underneath it?
 P4. "No entry"
 T. Let's do it, then.
 (*The teacher gives them time to colour and write*).
7. T. (*Speaking to all*) How do you spell "prohibited"?
 Pp. P-R-O-H-I-B-I-T-E-D.
8. T. What's the second sign... Frank?
 P3. Cycling prohibited.
 T. Very good, Frank. That's exactly right. What colour should it be?
 P3. It's red.
 (*The teacher gives them time to colour and write*).
9. T. (*To a girl who is looking at her intently*) Right, Eva, what's the next sign?
 P5. (*Looking satisfied*) It means you have to go that way, and it's blue.
 T. It's "compulsory direction". How do you spell "direction"?
 • A curious fact is observed during the class. The teacher

reinforces with comments such as "Good", "Very good", etc, the boys' responses, but not those of the girls. It may be that she does so un-consciously, but, given that it is systematic, it serves to motivate the pupils differentially. Only at the end of the class does she tell one girl she has improved.

- Throughout the course of the class the teacher changes the task various times, always through the texts. This variation helps to avoid monotony and maintain pupils' interest.
- The fact of making a large number of pupils participate keeps them active and helps to maintain interest.
- The task is guided step-by-step by the teacher who, after giving the instructions, models the questions to be asked, reinforces correct responses and fills out answers when they are not exact. All of this corresponds to the requirements of the task design in order to focus attention on the learning process more than on the result.
- From her expression, it appears that Eva (9) is seeking attention. The teacher asks her a question but does not reinforce her correct answers, which shows, as mentioned above, differential treatment of the pupils. This
 P5. D-I-R-E-C-T-I-O-N.
 T. And "compulsory"?
 P5. C-O-M-P-U-L-S-O-R-Y.

(The teacher gives them time to colour and write).

10. T. *(Moving towards another pupil)* Ellen, what's the next sign?

P6. Stop.

T. And what does it mean?

P6. It means you have to stop.

T. And how do we say that properly? Comp...

P6. Compulsory stop.

(The teacher gives them time to colour and write).

11. T. *(After seeing what a pupil has written)* You can't put capitals wherever you want, Harry. Only at the beginning.

12. T. Lennie, if I have to tell you to sit down again, you're going out.

(All sit properly).

13. T. We're up to the fourth sign. (To all) What is it?

Pp. It's where you can cross *(Many answering at the same time).*

T. And what's it called?

Pp. ...Where you can cross to come to school.

T. It's called a "pedestrian crossing". Pedestrians are people who are walking. What colour should it be?

Pp. Blue.

T. Very good, blue.

14. T. When do we use capitals... Harry?

P7. Only at the beginning, not whenever you want.

T. Very good.

15. T. Now we're going to look at the last sign. What's this sign... Maria?

P8. "Cycle lane".

- In Point 11 the teacher corrects a boy's spelling. Later, in Point 14, she checks that the boy has remembered the rule and reinforces him. This shows she is concerned about him and helps him to maintain interest.

- In Point 12 she threatens to throw a boy out if he doesn't sit down, but the tone of voice is not threatening. This tone is probably used in order to avoid her appearing too strict. Nevertheless, the anticipation of a punishment influences the behaviour of the class as a whole.

behaviour, if regular and systematic (even though unintentional), may demotivate pupils, who see that not all are treated equally.

- T. Compulsory cycle lane. And what does that mean, Maria?
- P8. That when you're on a bike you have to go in it. It's a lane specially for bicycles.
- 16.P9. (*Intervening without being asked*). That's where I have to go when I'm on my bike, but I go on the pavement with my mum.
- T. But you know, Chris, that the pavement is only for pedestrians. And who are the pedestrians?
- P9. They're the ones that are walking in the street.
- T. Very good. Now tell us, how do you spell "lane"?
- P9. L-A-N-E.
- T. Very good. And what other type of lane can you think of?
- P9. Bus lane.
- T. Very good. And how do you spell "bicycle"?
- P9. B-I-C-Y-C-L-E.
- T. Very good.
(*She continues for a while moving from desk to desk and correcting mistakes*).
- In Point 16 a pupil intervenes spontaneously, without having been asked a question. This shows that he is involved in the task. The teacher accepts his intervention, helping to foster the perception that what counts is responding to the interest of the pupils, and encouraging independence in them.

D. Activity 3.

17. T. We're going to do another exercise to do with the last one. (Pause) You have to get from one place to another following the road signs. (Pause) We're going to colour the route Q, from the little girl to where her friends are playing. Let's see now. We are where the bike is. She's on her bike, she goes a little bit further forward and, what happens?
- Pp. She can't go any further, because there's a "cycling prohibited" sign.
- T. Good. She can't go by the shortest route because there's a sign prohibiting cycling. And by the road in front of her, can she go that way?
- Pp. Noooo!
- T. Why not?
- Pp. Because there's another "cycling prohibited" sign.
- T. Good. Where must she go, then?
- P10. The other way.
- T. The other way?
- P10. To the right.
- Activity 3 requires the application of the knowledge acquired to real-life situations. This was a good opportunity for the teacher to make explicit the relevance of what she is teaching. She does not do so, and although this does not affect the pupils' interest in the task, which is held by other factors, the idea of its relevance is not consolidated.
 - This activity allows the pupils to become involved in a story, that of the little girl who has to get to her friends by bicycle. The teacher takes advantage of this and guides the children, step by step, modelling the systematic approach to the task and reinforcing the correct responses.
T. Very good. Right, we've

gone to the right, OK. Now, what happens? Does she go rushing straight off down that street?

Pp. Nooooo!

P10. Look to see if there's anybody coming.

T. Wait, wait. She goes to where they are and there...

(Looking at a girl who seems lost)

Wait a minute, Rachel hasn't moved at all yet.

Come on Rachel, Wake up!

(The girl starts to trace a line).

Now they've reached the Zoo, and when they get there, what do they do?... Which way do they go?

Pp. To the right.

T. Why?

Pp. Because there's a sign...

T. *(Interrupting)* Because there's a sign that says you have to go to the right. Let's carry on. And now where?

Pp. To the left....

T. *(Interrupting)* Because there's a sign that says you have to go to the left. This page has turned out perfectly.

All of this -guiding, modelling and reinforcement- helps to keep the pupils active and interested in the task.

- The fact that the teacher singles out a girl who appears to have difficulties, naming her in front of the whole class, is harmful to the girl's self-esteem. Given that it was not possible to know the reasons for the child's difficulties, it would have been better to ask her what was wrong.

E. Activity 4.

18. T. Open your books at page 27. Look at the picture silently, because I'm going to ask you some questions.

(It is a drawing of a town, with factories, cars... pollution, etc.)

Don't talk. Be quiet for a moment...

T. Right. Now we all have to cover up the picture. Put your pencil case on top of it, so you can't cheat. And no shouting the answers out: hands up. Is it a village or a town? If you think it's a village, put your left hand up.

Pp. *(The pupils respond by raising their hands depending on what they think)*

T. Hands down. If it's very dirty, put five fingers up. If it's clean, close your fist.

- In Point 18 the teacher once more introduces an activity without making explicit its meaning. Thus, even though the pupils do not lose interest, which is held by the very change of activity, there is no contribution to their perceiving that what they learn in school is relevant and useful.

- Pp. *(They respond)*
- T. If there are no cars, close your fist, and if there are, open them.
- Pp. *(They respond)*
19. T. Right, Sylvia. Read what it says there.
- P10. *(The girl reads a paragraph relating to pollution, slowly and haltingly. When she has finished, the teacher asks her a question).*
- T. Sylvia, tell us about what you've just read.
- P10. The girl gives a summary, which the teacher corrects step by step.
- T. Very good, Sylvia. You've improved.
(They are going to celebrate a boy's birthday, and the class finishes because they all stand up and begin to mill around)
- The interaction with the girl, which we have not transcribed for reasons of space, helps her to feel that she is learning, and at the same time contributes to the enrichment of her verbal expression and reinforces her improvement. However, the teacher does not comment upon or discuss the girl's reading with the rest of the class, so that this activity has no meaning for them.

In sum, the class has many of the characteristics necessary for motivating children to learn. Special attention has been paid to factors contributing to maintaining interest -activation of previous learning, active participation of a large number of pupils, attention to the work of most of them, variation of tasks, etc. Moreover, the design and development of the activities has helped the pupils to work in a systematic way, step by step, and on tasks that are within manageable parameters of difficulty. All of this has helped to give the pupils the feeling that they were making progress. Also positive has been the fact that the pupils have been able to intervene spontaneously and that the teacher has accepted this type of intervention, since this facilitates voluntary involvement in learning.

Among the aspects that could be improved, two should be pointed out. First, the fact that at no time has the teacher referred to the relevance of the activities nor of the learning the children are supposed to achieve, probably because at this age pupils do not ask why they are doing a particular activity, though as we have mentioned, it is advantageous to emphasise the relevance of tasks in order to foster the idea that the things learned at school are relevant and useful.

Second, the differential way in which the teacher reacted to male and female pupils. As we have noted, showing approval of children's correct responses not only serves as reinforcement, but also aids the pupil's perception that he or she is accepted and valued. The teacher has used this resource correctly, but only with boys. The female pupils, with only a single exception, have received no confirmation or sign of approval of their correct answers. In this way, although probably unintentionally, the teacher is contributing to the fact that the girls perceive themselves to be valued less than the boys, a perception which may have a negative influence on motivation.

1.2. Physical Education: Seventh grade. Secondary School Class (Age 12-13)

Presentation.

The objective of the class described below was to practise some of the moves involved in playing volleyball. This an activity which involves, at the same time, co-operation and competition. The fact that there is competition, and one team has to lose, may lead to frustration in its members. Nevertheless, according to the teacher, it is not this fact that demotivates male pupils, but rather the fact that they prefer other sports, such as football. Female pupils, on the other hand, accept the game with enthusiasm. However, the level of ability varies, so that some pupils are not enthusiastic about the class. In any case, the way in which Physical Education teachers approach this situation may influence the motivational impact of the class. It is for this reason that we have included this example.

Transcript

Analysis

(Pupils arrive at the sports field. They know the routine and begin to form two columns).

- | | |
|---|--|
| <p>1. T. Right, now, quiet... Let's get started... jogging... Remember what they say on telly "Move your body and you move your heart"...</p> <p>P1. <i>(Whilst running)</i> And get exhausted!
<i>(Classmates laugh).</i></p> <p>2. T. Twice round the field... Mary, you direct the warm-up exercises.
<i>(They do exercises for three or four minutes. The female pupil directing them, acting as a model, seems happy in her task. It appears that this job is rotated among the pupils).</i></p> <p>3. T. Right, that's enough warm-up. Thank you, Mary, you can go back to your place. Let's practise the two exercises we learned the other day. First, the pass with the forearm. Get your arms into the right position...
<i>(He observes how they position their arms and continues).</i></p> | <ul style="list-style-type: none">• A first feature to note is that the teacher alludes to the general relevance of the class, making a reference to something the pupils have heard on the television (1). This is positive, but may not be sufficient to stimulate pupils with low ability in the sport to be practised and played.• Pupils (boys and girls) rotate in the job of directing the warm-up session (2). Given that the exercises are simple, no pupil appears to object. Moreover, it makes them feel more important, which facilitates interest in the activity.• The teacher shows appreciation for the pupils' work (3). Such appreciation tends to contribute to their feeling valued, and encourage involvement. |
|---|--|

4. T. Watch me. Some of you aren't doing it properly. This is the correct position (*he demonstrates*). If you put your hands like this (*demonstrating*), you can hurt yourself when you hit the ball.

(Once he has checked that their arms are in the correct position, they begin to practise in groups. After a while watching their passes, he continues).

5. T. Now let's look at the pass with the fingers. Remember it can be forwards, backwards, or to the side. Let's go!
(The pupils, probably following a routine they have learned, begin to pass the ball).

6. T. That's great!... Backwards... Forwards... You lot, stop laughing and do the exercises!
(The two boys continue doing the exercises without much enthusiasm).

7. T. Come on! More enthusiasm! You look more like ballerinas than volleyball players.
(After a while with them, he continues).

8. T. Good... now it's time for the game. Let's see if all this practise has done any good, and we can improve on yesterday's performance.

(The game begins. The teacher referees, also directing which pupils should enter or leave the game at a given moment, so that all can participate. At one point he stops the game. Taking advantage of the fact that a boy has hurt himself by hitting the ball incorrectly, he reconstructs the move and demonstrates how it should have been done. At the end of the game, he says the following...)

9. T. Well, you've done better today. As you can see, it's all a question of practice. And we've all enjoyed ourselves. Haven't we?
(The class is over and the pupils go to the changing rooms)

- The way of introducing the task, asking for the performance of activities taught the previous day (3), constitutes a form of activation of relevant knowledge -in this case, knowledge of the actions to be performed-, knowledge which is later corrected by modelling (3). At this point of the activity, then, the teacher underlines the importance of acquiring a skill and facilitates its acquisition, both positive for motivation.

- During the practice in groups the teacher moves among them. If it is necessary to correct a wrong position or movement, he does so not only pointing out that it is wrong, but modelling the correct way and then shaping the pupil, depending on whether his/her imitation of the model is correct or incorrect. This way of working, modelling and shaping the performance of the pupils, has a positive influence on their motivation.

- The fact that the teacher even stops the game in order to demonstrate the correct technique, in an effort to avoid the pupils hurting themselves (8), shows that, for him, the important thing is that there is useful learning -more important than the game itself. This helps the pupils to confront the task with the right motivation.

- The way in which he corrects the pupils is in a suitable tone - which cannot be appreciated in the transcript-, so that they do not feel he has a negative attitude.

de towards them, even if they are frustrated at not being able to do as they wish. He does not, however, manage to motivate them to confront the task with the idea of acquiring a skill, probably because the sport being practised is not interesting for them.

- Finally, he suitably reinforces their progress and draws their attention to the fun aspect of the activity, thus underlining its intrinsic incentive -that it is worth practising because it is enjoyable.

In conclusion, it is worth mentioning the following points. The objectives of the learning in this class are situated in a general context, the relationship between sport and health emphasised by the teacher, so that they can be applied to any sporting activity. However, this does not mean that the pupils perceive as relevant the specific activity involved here, given that different sports have different social value, and that pupils' abilities may also differ from one sport to another. Thus, if a teacher does nothing -as is the case here- to motivate learning in a specific sport or, having done so at the beginning, he does not provide reminders when necessary, pupils may approach the activity without enthusiasm. Meanwhile, the teacher continually focuses the pupils' attention on the execution of particular moves or movements, modelling them and shaping them, and underlines the fun aspect of the activity, strategies that are especially positive in that they encourage openness to learning in the activity.

1.3. Newspaper workshop. Ninth grade. Secondary School Class. (Age 14-15).

Presentation.

This transcript comes from a workshop which is a complement to the Language course. The aim of this activity is to help pupils find out more about how journalists write and, above all, to help them express themselves in writing. With the specific aim of teaching them to write reports, the pupils took advantage of an excursion to Bernardos, a village in the province of Segovia, to collect information about the location using a questionnaire. Later on, the teacher planned the unit by dividing it into three sessions. The first was devoted to bringing the necessary knowledge into play for the activity, to its organisation and to the activity itself. Due to lack of time, it was finished off at home. In the second session, a week later, the pupils were given some of the compositions which had been taken in, and which had been chosen for being especially relevant to the desired aims. The teacher provided the pupils with some correction criteria and asked them in pairs to correct two of the compositions handed in. The compositions were then offered to the class as a whole. The third session continued on from this. Finally, each pupil rewrote the composition as a result of the suggestions that came up in class. From the

whole process, we have transcribed only the extracts which turned out to be most illustrative of the motivational context created by the teacher.

Transcript

Analysis

Extract 1: Beginning of first class.

T: We're going to spend this and the next two classes learning how to write reports. To do this you're going to write a report for the school magazine about your trip to Bernardos. So bear this in mind over the two classes. How are we going to set about it?

(Whilst speaking, the teacher writes different terms on the board which will structure the subject matter).

We'll be using what we know about the elements involved in communication. We'll go over these now. Also, we'll use what we know about the features of reports compared to other ways of transmitting information.

So, the first part of the class will be to recall everything we know so we can apply it later on. In the second part of the class, each of you will say what is the main theme of your report and then you'll start to write about it. What I want at the end of the class is for each of us to have completed the first draft so that it can be corrected in the following classes.

Any questions about this?... Nobody?

You have all the information I gave you the other day, I mean last week, the photocopies, everything you need to concentrate now on the composition you're going to write.

- The beginning of the class will motivate learning, given that:
 - The aims of the class are pointed out, aims that are focused on the acquisition of a skill.
 - Reference is made to the external context, thereby making the acquisition of this skill relevant.
- The act of pointing out the resources required to perform the task is correct in motivational terms, since it anticipates the relevance of the activity to be undertaken.
- Using these resources, the stages through which the activity is to be structured are anticipated. A plan like this helps to avoid getting lost and to organise the information received. In this way interest is maintained, as mental blocks are avoided.
- Giving the pupils the chance to speak contributes to the notion that the important thing is the pupil's needs.
- This is positive because it provides a connection with previous classes, encouraging interest, and because it provides an *opportunity* to use the materials that are considered necessary.

We'll begin by recalling the elements of communication that affect the way we talk, whenever we speak. What elements are involved when communication takes place?

- The next extract serves to bring previous knowledge into play, thereby encouraging interest.

The previous extract was selected because it brings together all the necessary requirements for the beginning of a class to encourage motivation to learn. It points out the aims of the class, and shows the relevance of the tasks to be carried out and the resources to be used. Questions are raised that touch on the pupil's curiosity. The steps to be taken are anticipated, making the task appear attainable and helping pupils not to get lost. A context of choice is created which makes pupils feel they are not being forced to do something. Finally, the class continues as already shown in Box 9, bringing the pupils' previous knowledge into play. In this extract it can be seen, also, that the teacher stimulates participation and utilises many of the resources that encourage the perception of unconditional acceptance.

Transcript

Extract 2: After previous knowledge has been brought into play, she moves on to the precise instructions for the task.

T: We'll be doing this individually, each of you using your own information, apart from those who didn't go on the trip, who will join up with someone who did go and use their information. But everyone must do this individually. OK?

First you make a *plan* of the main elements you want to talk about in your report, you say what your aims are, and think about the type of linguistic register you want to use, both so that this fits in with your aims and to suit your classmates, as that's whom you're writing the composition for. This means that the language will be aimed at passing on information and will be colloquial.

You'll have to take the message into account, too. So don't stray from the theme, but concentrate on what you want to say... On the one hand, you'll be using writing as a medium, using the English language correctly, and on the other, your work will have the individual features of a report. All right? After each of you has written your report, we'll... I'll collect them all up and see how you've done.

Analysis

- Given that bringing previous knowledge into play has taken up more than half the class, the teacher sums up the elements that should be taken into consideration, as she had explained, when they write the report.
- The summary exercise is didactic and motivationally positive, helping to focus attention on the elements that must be taken into account when carrying out the task. This can help to prevent pupils getting lost. Nevertheless, if pupils are not able to translate the summary into questions through which the composition process can be organised, its potential usefulness may be lost. This is why it would have been better for the teacher to have "shaped" this process.

The next day in class we'll look at your reports and we'll correct them as we see fit. You've now got twenty minutes. At the end, I want you to hand in the plan containing the main ideas you want to use, together with your written report. Twenty minutes will give you enough time. The report should be about fifteen lines long. Concentrate on the questions you had to ask in the village. All right? Any problems?

(The pupils start to move and the teacher directs those who need to change seats. Then she walks around the class and answers the pupils' questions.)

This second extract has been chosen because it highlights something that teachers do frequently: tell the pupils what to do without shaping the thought process for them to do so. When teachers act in this way it often occurs that pupils do not know how to proceed. This is negative in terms of motivation, as it can produce a mental block, and hence the feeling that they do not know because they are incapable.

Transcript

Extract 3. Beginning of the second class.

T: Right, I'm going to give you all a photocopy that contains different examples from your compositions from the other day. We'll be using these examples to see how much they agree with the conditions we mentioned for how to write your reports. I've copied them down exactly. You'll see that there are spelling mistakes, mistakes in order, disconnectedness, words written down wrongly, etc. We'll have a look at all this now.

We're not trying to penalise the worst compositions. Nor are we trying to find an example for everyone to compare themselves with. What we are looking at are the most common mistakes in order to avoid them. All right?

We'll do this in pairs. I'll hand out the photocopy to all of you, but you're not all going to check the same compositions (she hands out the work).

- We stress this because it is frequent, particularly in open-ended tasks such as writing, for teachers to say what is to be done, but to fail to explain, through shaping, how to think about how to do so.

Analysis

- The beginning is acceptable in terms of motivation, as it points out the aim of the task: to analyse spelling, order, disconnectedness, use of terms, etc.
- It is stressed that the task to be performed will aid the acquisition of a skill, eliminating the evaluative components that can affect self-esteem. The message here stresses, then, that the goal is learning.

Right, what are we going to look at in these compositions? Remember the other day when we set out the conditions for writing the reports? First, the aspects that define the report itself: and then the aspects that influence the fact that it is an act of communication. That's what we'll be looking at here.

First, we'll see if those of you who've done the report have included the title, the heading and the body of the report, or if any of them are missing. You'll write this in your exercise books. Put Text 1, and then "Report", and write down whether it's got a title, whether there's a heading following on or if one can be found, even if you've not used a different type of letter, and a body. Show which lines have the heading and which ones the body of the report. If there's no distinction, then you put in your books that it has no title, that there isn't a clear difference between the heading and the body... any comments you should make about your compositions.

Is it clear what you have to do? Right? OK.

Second, with regard to the features of the composition as an act of communication, I've chosen some elements which I think are important. First, the structure or ordering of ideas. You've got to see whether in the composition there's a clear structure and order. If there is, if you can see it, say what that order is. For example, "First he introduces the atmosphere, then he introduces the people involved, then he says what happened": or for example, "First she introduces those involved and then she goes on to talk about each of the things that happened". Another possibility: "He introduces the village, he describes it and then goes on to talk about the people"... Say what you can see in the composition. All right? And if there is no structure, you do the same. You say "The ideas are mixed up: she mixes the traditional dances with the typical meals, with the appearance of the village, so it's a bit disordered, a bit chaotic, you can't see what the idea is." If this is the case, then you point it out. And in general, point out every type of mistake – spelling, and so on.

- The teacher proposes an aim for the task that differs from the one she introduced at the beginning. This redefinition may create confusion and uncertainty, causing interest to wane.
- The teacher gives the correction criteria. This allows the task to be organised and prevents pupils from feeling lost, which helps maintain interest and prevents the task being regarded as difficult.
- However, she does not indicate to which criteria particular attention should be paid. Nor does she indicate how to organise the analysis. This may be unimportant if the pupils are at an advanced level, but it will make learning more difficult, owing to the many aspects that need attention.
- To help the criteria to be understood, the teacher provides numerous examples, which help maintain interest, since the pupil is given a reference that aids his understanding of what is being asked of him/her.
- Nevertheless, it is easy for the pupils to feel lost when trying to judge the communicative quality of their classmates' compositions, due to the fact that they are not provided with a plan that allows them to carry out the task systematically.

There could be grammatical mistakes, that might affect the connectedness or the cohesion of the composition. And the same with the way the sentences are linked. Not just the words. If you see an error of the type "If we all go out, we'd have a good time", the "if" here introduces a first conditional, but the second clause uses a second conditional, so that there's a cohesion error.

Or if you talk about what's in the village church like this: "there are a lot of statues, the pews are made of wood, the windows are pointed and we had a pie", the "and" is not linking two related phrases. So it would be the wrong use of this conjunction. These are the biggest kinds of mistake you can find.

Finally, with regard to the information or the language, I would like to see if you know whether the information that appears is complete and important. It is not the same to say "The highlight of the church is the statue of Our Lady of the Castle together with some other statues" as saying "A highlight of the church is the seven pews at the front and two at the back". So look at the content and see how important is the information you've transmitted.

Is it clear what the aim is? Right, off you go, in pairs, make your comments.

- The analysis of the compositions is suggested to the pupils as a way of learning how to revise their own written work. If they do not know how to do so, they will realise that they are not capable of analysing the quality of the compositions, will feel they are not improving and will lose motivation.

- As it is hoped that the pupils learn to value the communicative quality of a composition, it would therefore be best to provide an organised plan reflecting the procedure that the reader follows spontaneously, though not necessarily consciously. The aim of the plan should be to understand, model and shape its use. Such a plan would have created the right conditions for the learning of strategies, giving pupils the feeling of progress and aptitude and, thus, motivating them to learn. Acting in this way would have meant providing, more or less, the type of questions shown in Box 18, either all together, or organising the analysis step by step, with each question coming once the previous one had been answered.

It will be clear that we have included this third extract because it illustrates a commonly-found problem. When teaching those tasks whose solution requires mental strategy in order to complete them systematically, the procedure that the expert normally follows is left unexplained. This affects learning, as many subjects will not generate the necessary strategy on their own. As a result, the satisfaction generated through the experience of progress -which provides the basis for pupils' confidence and motivation to learn- is not produced. Moreover, since the reason for not explaining the processes is that the user is often not conscious of them, we have considered it opportune to offer an example of how shaping should have taken place here. As we mentioned previously, in one of our earlier studies (Alonso Tapia, 1991) ideas can

be found with regard to the teaching of strategies involved in other tasks -reasoning, problem-solving, reading comprehension, written composition, study and recall.

- What is the text telling me about? Can I identify the topic easily?
If not, what is preventing me?
- What ideas does it include? Can I identify them clearly?
If not, what is preventing me?
 - Spelling problems?
 - Grammar problems?
 -
- Can I identify clearly how the ideas connect and progress?
If not, what is preventing me?
 - Cohesion and connection problems?
- How are the ideas arranged? According to the structure of narrative... descriptive... argumentative... cause/effect... problem/solution... texts?
If I can't identify any typical kind of order, what is preventing me?
- What does it basically tell me about what it is reporting? What is the most important thing it is trying to communicate to me?
If I can't identify what is the most important thing, what is preventing me?
- Why is the writer telling me this? What are his/her aims?
(In this case): Is it his/her intention to inform like a reporter?
If this does not seem to be the intention, why not?
 - Does the plan of the text not correspond to that of a report? What does it lack?
 - Does it not contain the type and quantity of information that a report usually contains?
- As a whole, does what it says reach me? Does it arouse my interest?
If not, what could have been done to better achieve its aims?
 - Increase information?
 - Organise it better or differently?
 - Use other terms?
 - Improve connectedness and cohesion?
 - Improve spelling?

Box 18. *Example of questions for structuring the process of revision of written work.*
(Alonso Tapia and Corral, 1996)

Extract 4: Corrections carried out by the class.

This extract from the class deals with the analysis of a pupil's composition. It has been left exactly as it was written and includes all the mistakes. The name does not appear with the composition, to avoid the classmates knowing the pupil's identity.

Trip to a Segovian village

The church: It was very big, made of wood, with a very big done and there was an old organ which had been hit by lightning and was burnt inside. on the altar was, Our Lady of the castle who is the Virgin of the village which was found a long time ago.

The "typical" and clothes are very decorated it was like an old dancing dress.

There is a book which has the history of the village all its pages is made of cow hide and it is written in Lattin.

It had a medellion on the book but as time went by it has come off.

It was incredible to touch a book and a medellion from Roman times.

Transcript

Analysis

(The analysis of the compositions in pairs has finished, after fifteen minutes)

T: Right then. Now listen because we're going to... We're going to begin and we're going to write down some comments in our books...

Again? What are you doing chewing gum? Wrap it up and put it straight in the bin.

...comments by those who have looked at the compositions...

T: Read the composition, X.

P: Trip to a Segovian village. The church was very big, made of wood with a very big done.

T: Sorry, read that again.

P: The church was very big, made of wood with a very big done.

T: Does it say with a very big dome? It says "done", it says a very big done. Is the word "done"? No! What is it?

Pp Dome.

T: What's the difference?

P: It has an "m" and not an "n".

T: Go on.

- In this part of the class, the teacher is going to attempt the correction of different aspects of the composition: spelling, making its structure appropriate to a report, organisation - cohesion and connectedness - and arrangement of the composition. Given that the system of work utilised is the same in every case, we have included only the first extract, which is devoted to spelling.

- This extract also offers us an example of how the teacher copes with indiscipline. She does not vary her tone of voice nor give it undue importance, but with total assertiveness makes the pupil observe the rules. She gives the pupil no special treatment to make him feel especially bad, and thus avoids the loss of motivation that this would have meant.

P: And there was an old organ...

T: Spell "there".

P: T-h-e-i-r.

T: Is that right?

Pp No.

T: What should it be?

P: T-h-e-r-e.

T: It says t-h-e-i-r. Spell organ.

P: O-r-g-u-n

T: Is that right?

P: No.

T: How do you spell it?

Pp O-r-g-a-n.

P: ...which had been hit by lightning

T: Does it say "Lightning" ?

P: No, "Lightening"

T: It says "lightening". Go on.

P: ...and was burnt inside. On the altar was, Our Lady of the Castle who is the Virgin of the village which was found a long time ago. The typical and clothes are very decorated..., it was like an old dancing dress.

There is a book which has the history of the village all its pages is made of cow hide and it is written in Latin.

T: Do you spell Latin L-a-t-i-n?

P: No, L-a-t-t-i-n.

(She continues analysing the spelling mistakes in a similar way up to the end of the composition, then goes on)

T: Right... It's true that this is an extreme example, but it's not such a strange example. We read the composition and we have to guess the words that have been written.

P: The "and" isn't a mistake because it says "typical and dresses".

T: Of course there's something odd, but we were analysing... Settle down *now (asking for silence)*. We were simply looking at how many times what we write is not what we think we write. What is the error that stands out in this composition?

Pp The spelling.

T: The spelling, the word "L-a-t-t-i-n" is not the same as "L-a-t-i-n" and the word "medellion" with an "e" is not the same as "medallion" with an "a". It's true that we

- Instead of pointing out the mistakes herself, she has asked the pupils to do so. This is a task which, although the composition has been done by a classmate, helps them to learn what is involved in revising a written composition oneself, learning which helps them to realise they are acquiring a skill.
- When carrying out a joint exercise, the teacher makes the pupil stop to read correctly. This will make him aware of what making spelling mistakes means. He feels he is learning, and therefore feels motivated.
- The class is participative. Not only do the pupils who have corrected the composition take part, but it is accepted that anyone else may do so, too. This produces the sensation that what counts is the pupil's learning, not what the teacher wants to talk about.
- Once the pupil has answered correctly, the teacher systematically repeats his/her answer. This has a positive effect on acceptance and aptitude.
- The summary she makes of spelling draws attention to the problem. This is positive both for learning and for motivation, as it helps to generate the sensation that something is being achieved. Moreover, the overall message given by the teacher when summarising stresses that the goal is to acquire a specific skill and nothing else.

are used to correcting because we know the word medallion and we say, "He meant to say this, but he didn't say it"...

Above all, this type of error is due to our lack of attention when we write. We have to value our own work so the rest may value it too.

Right, let's get on with the composition. Everyone note down first that we need to pay attention to writing exactly what we want to say. One of the basic elements is correct spelling, which we must be careful with in written compositions. In fact, you can see that when we read the composition out loud none of you have any difficulties. You all say "medallion". Well, you have to do the same when you're writing.

- The teacher proceeds in the same way to analyse the rest of the above-mentioned aspects with regard to this composition and others.

Teaching unit on composition: general comments.

Getting pupils interested in their work and motivating them to make an effort to learn goes beyond the organisation of each particular class. As the extracts have shown, some of the necessary guidelines for engendering motivation vary according to the stage reached in the teaching unit.

It is particularly necessary at the outset to show the relevance of the activity, stimulate curiosity and arouse interest. Nevertheless, as well as the general relevance of the unit as a whole, the specific relevance of the different activities that comprise it must be shown, something that this teacher has usually done.

It is also necessary to bring previous knowledge into play -albeit in a different way- in all the classes in the unit, something that this teacher has also done. Knowledge will be linked and interest will not be lost through the pupil not knowing where a particular piece of information comes from.

Let us consider the situation where the teacher has to give instructions for the task. This is something that usually follows classes where the teacher explains the ideas that pupils have to apply, where there has been a prolonged activation of previous knowledge. In this case, it is necessary for the pupils to be clear not only about *what to do* -the aims of the task- but also *how to proceed* -the strategy. If not, they suffer mental blocks and lose motivation. This was perhaps the only weak point in this teacher's performance. No strategy was provided to act as a back-up to the thought process behind the writing of the composition. Such a strategy has been demonstrated to be necessary by the works of Bereiter and Scardamalia (1987), and other studies we have reviewed in a previous work (Alonso Tapia, 1991, Ch.6). Furthermore, the teacher has not provided a strategy that serves as basis for the systemising of the revision of compositions, in a similar way to that suggested in Box 18. Nevertheless, the systemisation of the correction process in the final phase of the teaching unit provided, although not explicitly, a plan for how to proceed. This may aid the learning of a strategy for action, as well as

encouraging the sense of progress and, in consequence, the motivation to learn. In this way, the class was positive. This was illustrated when the teacher gave instructions and stressed the functionality of the procedures to be learnt. This is vital for motivation, as we have seen throughout these pages.

We have not included extracts of the sessions in which the pupils were engaged in pairwork because of the difficulty we had in recording their questions and deciding whether the teacher's indications were correct. However, it should be remembered that, in these cases, one must be aware of pupils' spontaneous demands and give them ideas for how to proceed.

In addition, something which must be achieved in every class is pupil participation, since it affects whether pupils feel they are being obliged or otherwise. This is illustrated both in previous extracts and in Box 9. Similarly, with regard to the pupils' contributions, it is particularly relevant to motivation that the teacher's response pattern facilitates the perception of acceptance and also of aptitude and progress, something which has been excellently illustrated by this teacher's performance.

The final extract illustrates how it is possible to integrate evaluation into the process of learning itself, in order for the pupils to learn from their mistakes without feeling their self-esteem threatened, stressing the fact that they are being offered an opportunity to learn. In reality, the pupil is not judged on the first composition, but on the one written after the correction work in class. All this creates a context which makes the pupil aware that it is the learning that is more important than the mark or than "looking good".

1.4. Language and Literature: Tenth grade. Secondary School Class. (Age 15-16).

Presentation

The extract below comes from a class that is exclusively expository, focused on the explanation of a literary fact as a sociocultural phenomenon. It does not deal, therefore, with the features of literary works, but rather with the causes of the literary phenomenon that is the theatre of the Golden Age.

The transcript of this extract has been included for two related reasons. On the one hand, because it represents a common type of class in many subjects, especially in secondary education. And, on the other, because the procedure it reflects has motivational repercussions that have not been shown in the previous examples, in which there was considerable teacher-pupil interaction.

The extract covers only the beginning of the class, but the rest runs along the same lines.

Transcript

(1) The boom in eighteenth-century theatre did not come out of nothing, but there were some antecedents that gave birth to this national theatre phenomenon, as I explained yesterday. Let's move on, then.

(2) The first point you should note in your books is: what is the most significant thing about the Golden Age? What has changed with respect to the 16th Century, to Renaissance theatre? The answer, and it's an important one, is none other than that theatre has become commercialised. We'll find that the importance of a set venue to hold the performance - which we saw when we went to Almagro to see the open-air theatre (teacher writes it on the board) - is the key to the transformation of medieval theatre. So now we're going to talk a little about the features of open-air theatre in Madrid.

(3) The end of the 16th and the beginning of the 17th centuries is a time when a very strong economic element begins to emerge. The theatre generates some juicy profits, as there's a set of people who want to get a slice of the action, of the theatrical action. This is where we reach our first point: the appearance of a fixed theatre as a venue. I was telling you yesterday that the theatre had emerged from the cathedrals. From there it went to the doors of the churches, and from the churches we got street theatre.

(The teacher explains sitting on one end of the desk, half reading out of an exercise book. The pupils take notes.)

(4) We know how the city council had organised performances in the street, at spots on public thoroughfares. But here the new thing is that there is a particular site dedicated, expressly and solely, to staging a play.

(He strolls around with the book in his hand).

(5) What does this imply? When there is a place, the place creates the function. So we're going to enter a stage where dramatic art has matured: we're going to widen the possibilities of mass communication: we're going to go beyond medieval performance or Renaissance palace performances and we're going to separate the festival, organised by town councils for the people, from what the theatre is itself. We have a space, a fixed and defined space.

Analysis

- The first point that should be noted for its motivational implications is that the beginning is very abrupt. A brief reference is made to the previous class, but this is probably not enough to facilitate the link with what the pupils have already seen, arouse curiosity and maintain attention.
- Secondly, at no point is there an explanation of the learning aims or the relevance of knowing about what is being taught. If this is how the teacher normally acts, this could have negative repercussions on motivation, as the pupil does not know the purpose of the learning. Obviously, the teacher points out that he wants the pupils to understand the role that commercialisation played in the boom in theatre. But any pupil would wonder: "And what do I need to know this for?", something the teacher should deal with at the beginning of the class.
- Thirdly, in an expositional class it is vital that the discourse be coherent enough for the pupil to understand and not to lose the thread. In general, this aspect is achieved, although there are moments in which it is disjointed, probably owing to changing an idea in mid-speech, as in the example at the beginning of the paragraph (3).

So this space, what does it do? It emphasises, it defines the scenic reality.

(Some pupils talk, some flick through the book, some write and others look at the teacher).

(6) We're going to see how theatre administration develops a complete set of rules, because of what I told you about before. We're going to find that the world of theatre is a cultural activity that's going to get a bit polluted, somewhat manipulated by the demands of profitability. When the theatre becomes financial business, money is what rules. The play that's a hit with the public, the play that can be staged for enough nights, will be a success. And we'll see in these classes that it's a paradox that some of these plays that today we study as the most important and the most representative of the theatre of the Golden Age, as it turns out were the biggest financial flops at the time. Those that worked financially were other plays that we have since forgotten.

(7) So, from the open-air theatres that you came across on the excursion to Almagro, which almost all of you went on and which you all recall, of course, because we chatted about it all etc., we're going to move onto new venues in Madrid. We'll go on to discover the Teatro de la Cruz and the Teatro del Príncipe in Madrid, which are to be used expressly for theatrical functions.

(8) So, then, when you subject an activity to the laws of supply and demand, you transform something cultural into something commercial.

(9) What influence will the new theatres have on comedy in the Golden Age? Well, for example, an author will give the public what it wants, an author will give the public plays that he knows they'll enjoy, plays with which they'll identify. He'll influence the tastes of the period.

(10) And he is none other than Lope de Vega, who will create a literary model that is exactly what the public demands at the time, and this literary model will bring him great financial profits...

- Fourthly, throughout the talk the teacher asks himself questions which he then answers. By doing so, he shapes a manner of thinking about causes and effects that the pupils must acquire. It is shaped didactically and is motivationally positive, as it aids the acquisition of a skill. However, as it is not made clear that learning this method of reflection is a learning aim, or pointed out why, pupils may be unaware of these aspects, and the class will be ineffective. Consequently, the feeling will not be encouraged that something useful is being learnt, and the pupils will not be motivated to learn.

- In the fifth place, the video-film of the class showed that although there were some pupils who took notes, others were distracted and talked, which led to the teacher calling the class to attention. The fact that the whole class took the form of a virtual monologue similar to this extract, with no participation, or almost none, by the pupils, could have contributed to this loss of attention.

1.5. History: Ninth grade. Secondary School Class. (Age 14-15).

Presentation

The extract from the class here deals with the topic "The Reformation". It continues from that presented in Box 1, used for commenting on pupils' goals when undertaking school activity. Both extracts will be discussed here, paying attention to the way the teacher acts. The reason for including a new extract from this class is that it provides a way of developing the class, when the important thing is for the pupils to build a conceptual representation of what is taught. This is a teaching method different from the method described in Example 3, and it carries different motivational implications.

To recap on Box 1, at the end of the previous day's class the teacher had asked the pupils to read about the Reformation, make a summary stressing the main ideas and make a note of the vocabulary they did not understand. This request formed part of the method she employed with the pupils.

Transcript

Analysis

- | | |
|---|---|
| <p>9. T. Let's move onto the <i>second cause</i>. Why does Humanism promote the Reformation?</p> <p>P5. Because they believe that they have to concern themselves more with spiritual things.</p> <p>10. T. Let's see, let's see. What do you mean? You haven't explained it to me very clearly.</p> <p>P5. Through knowledge of the Bible.</p> <p>11. T. Through knowledge of the Bible and of the freedom that everyone must have...What for?</p> <p>P5. To interpret the Bible.</p> <p>12. T. To interpret the Bible. The free interpretation of the Bible is an idea that has already appeared in the Humanists, and it will be defended later by Luther. All right, then? To achieve this they looked for other versions. Remember! No-one knows Hebrew and Greek, the majority don't know them. So what they're looking for are other interpretations as alternatives to what the Church provides them with. All right? This is why Humanism promoted the Reformation.</p> <p>13. T. And the <i>third cause</i>... let's talk about political and social motives. What does "political and social motivation" mean, Helen?</p> <p>P6. That the Reformation affects both aspects and was supported by the nobility.</p> <p>14. T. It was supported by the nobility. And by who else?</p> | <ul style="list-style-type: none">• The first feature of the way this teacher acts, highlighted in Box 1, is that she does not show the relevance of knowing and understanding the factors that gave rise to the Reformation, although she points out the immediate aim of the activity. This happens very often in classes, and has negative repercussions for motivation, as commented upon in Point 2. (Box 1)• Secondly, she avoids telling the pupils that the information is in their books, as this tends to provoke a loss of interest because they know they will be able to read about it afterwards. On the other hand, after the reading and the summary, she reviews and explains the subject matter so as to aid the pupils' structuring and comprehension of the important concepts. This keeps the pupils active during the class, helping to maintain their interest. |
|---|---|

- P6. By the bourgeoisie.
15. T. By the bourgeoisie. Why would they welcome the Reformation? What sense is there in that, Paula?
- P7. Because then they'll get richer, because the money the Church makes will go to them.
16. T. The assets of the Church will be secularised. Monarchs and nobles will profit from this and the bourgeoisie, as we know, will get support for their business because there is no hindrance to its development, as compared to medieval times.
17. T. Let's move on to what the Reformation actually was. What are the principles of Luther's doctrine? First, who is this Luther, Jackie?
- P8. He's... a leader who brought about the Reformation.
18. T. Very good. He's a leader who brought about the Reformation. Introduce me to Luther: What more do you know about him?
- P8. Well... introduce... er... He was born in the sixteenth century.
19. T. The fifteenth.
- P8. He imposed the doctrine that was based on... on...
20. T. Stop. Doesn't know a thing about Luther... Alan?
- P9. He was a Protestant.
21. T. He wasn't a Protestant. That happened later. What do you know about Luther?
- P9. He was a man who was born into a modest family, he studied Law at university. He was a Humanist who studied philosophy.
22. T. So he was a man who was interested in such matters -Philosophy, Theology. He was a Humanist and, above all, he was a German Augustine monk who was a teacher... *See what the book says...* He taught philosophy and theology. Right. What are the main concerns of his work? We're saying that he's a very religious man. What is his fundamental concern?
- P9. Saving the soul.
23. T. Salvation of the soul. And how is this done?
- P9. Through the free interpretation of the Bible.
24. T. But... what is basic to this salvation, Lorraine?
- P10. Faith.
25. T. Faith. The first and the most important foundation of Luther's doctrine. *This should be underlined.*

- In general, she repeats the answers when they are correct (11, 12, 14, 23, 25, 26, 27, 29, 31, 32), and even reinforces them in an explicit way (18), which gives pupils confidence.
- The teacher explains the topic by elaborating on the pupils' answers. This helps to integrate what is explained with the information that the pupils have just offered. Comprehension and, consequently, a sensation of competence is encouraged, and this contributes to a feeling of autonomy that provides motivation.
- She uses signalling expressions -e.g. "second" cause-, and gives explicit instructions about what must be underlined (25, 29, 32). All this helps the pupils to follow the discourse structure implicit in the dialogue and in her elaborations on the answers (9, 17). This prevents the mental blocks and loss of motivation that can be produced when a pupil feels lost.
- The fact that she uses pupils' names when asking them questions, and that any mistakes are made public, can make the class appear more like an oral examination than a learning task. This can have a negative effect on those pupils who do not know the answers, particularly if they have low self-esteem. However, the fact that she allows them to consult the summary that she has asked

Justification through faith. OK? I hope everyone's got it underlined. We should all underline "justification through faith" in the summary. Faith is the only thing that can bring salvation. Here he is denying some-thing. What is he denying? Here he is denying the value of something... Charlotte?

- P11. The value of indulgences.
26. T. Yes, of indulgences... And the value of what else?
- P11. The value of good works.
27. T. The value of good works. So here we have the first and main idea. Where does he get it from, Ryan?
- P12. From being against St Paul.
28. T. So, what source is Luther going to turn to as the only source of truth? Where are these truths to be found?
- P12. In the Bible.
29. T. In the Bible. Right. Let's see. First question, justification through faith and, second, all the truths are contained in the Bible. So, he included in his doctrine all the truths that appear in the Bible. Anything that does not appear, he leaves out. Right, so we've introduced the free interpretation of the Bible.

Please, everybody check that all this is in their workbooks

Luther will spend a great amount of his time translating the Bible into German so that everybody can read the Bible in their own language. Remember, too, that the printing press has been invented by Gutenberg. And this favours not just the reading, but also the spread –to a wider public- of these translations of the Bible. OK... More important ideas belonging to Luther's doctrine...?

- P13. He said that in his opinion the Pope had no value.
30. T. He didn't recognise the authority of the Pope, then, nor of any ecclesiastical institution or hierarchy...This must be expressed clearly. He doesn't agree with there being Protestant bishops or cardinals. Why not? What does he base this on?
- P14. Everyone is equal.
31. T. Everyone is equal...
- P15. Everyone has the same function, everyone is a counsellor.

them to make, as well as not giving much importance to a pupil not knowing something (20), helps to avoid this problem.

Despite all of this, a possible way to act in cases like these, which if used regularly would have more positive effects on motivation, is to ask the pupil who doesn't know to look at his notes or the book at the time. This would emphasise the idea that he/she is not being evaluated but being helped to understand.

- Another feature of the way this teacher acts, a pattern frequently observed, has a strong adverse effect on motivation. Although she shapes guidelines for elaboration and structuring of the ideas that pupils can use for study and learning, she concentrates on the content without ever making clear the usefulness of this process as a learning method. This, together with the failure to explain the relevance of the content, detracts from the meaning of the class, thereby hampering motivation to learn.
- Finally, it is often seen in classrooms that the teacher fails to give the pupils a challenge to encourage them to make an effort. Pupils should be presented with challenges at the same time as the relevance of the subject material is demonstrated. Since the relevance is not shown, it is unsurprising that challenges are not set either.

32. T. That's the key, that we're all counsellors. The priest must be only a counsellor, not a go-between, apart from the fact that these people do not appear in the Bible -there are no Popes either... none of the ecclesiastical hierarchy-. So, as everything is contained in the Bible, the priests, as such, are merely counsellors, not go-betweens. *Another idea that must be written in your workbooks.*

In general, this class includes various features which can motivate learning. The information is basically taken from a book, so that the pupils do not need to take notes. The class requires pupils to be active, allowing their spontaneous participation. The teacher repeats and reinforces the correct answers given by the pupils. Her allowing them to have access to the summary and the book avoids, at least in part, her system of questioning turning the class into an oral assessment. The teacher's additional explanation and elaboration of the content is presented in relation to the pupils' answers, aiding comprehension and providing guidelines that help the structuring and organisation of the information. All this shapes a usable strategy for learning the concepts in depth.

On the other hand, what has been observed also carries negative implications for motivation.

First, the teacher does not explain the aims -in the form of skills to be acquired- to be achieved through studying the topic, which causes the class to lack intrinsic incentive. Furthermore, neither does she point out the relevance of what is to be learnt.

Moreover, the way the teacher reacts to the pupils whose answers are wrong or non-existent could be improved. This would avoid pupils becoming excessively concerned with saving face and avoid, too, engendering dislike of class participation and, in consequence, hindering learning.

Finally, the fact that she does not explain the relevance of the learning strategies that are being shaped -probably because she is not aware that it is being done- weakens the capacity of the teaching to stimulate the motivation to learn. Thus, if the way she acts is typical and not merely sporadic, her performance should be modified so as to create an atmosphere that is better suited to motivation.

1.6. Plastic Arts: Tenth grade. Secondary School Class. (Age 15-16).

Presentation.

The transcript shown here corresponds to the first part of a class whose objective was to help pupils to observe an image and transform it using gradations of colour. The expressive function of this exercise was analysed previously through the comparison of different images. The reason for selecting this extract was that it demonstrates the applicability of motivational principles and strategies to situations where the learning to be achieved is more procedural and technical than conceptual and theoretical.

Transcript.

1. T. Today we're going to learn strategies and resources that can help us to express... to communicate the beauty we see in a landscape. Look at the picture I've given you. What's special about it?
(*The teacher has given the pupils a black and white picture of a landscape.*)
- P1. It's a landscape...
P2. It's in black and white...
2. T. Good, but what time of day is it? Is it in the morning, in the afternoon or evening, or at night... John?
- P3. I don't know... It's in black and white... I think it's the evening...
P1. (*Intervening spontaneously*) No, I think it's in the morning because there's more white than black...
3. T. Well observed, Louise. Light can give us an idea of the time of day. But we can be more precise.
4. T. Notice how the figures hardly cast any shadow. What does that suggest?
P1. That it's morning.
5. T. Yes, but what time would it be?... I'm not asking you to give me the exact time. Let's see, when the sun's rays fall perpendicularly onto the earth, the projection of objects onto the ground is also perpendicular, and that's why there are hardly any shadows. That tells us...
P4. That it's between 11 and 1.
6. T. That's right. So, then, we're looking at a black and white landscape with various figures. Apart from that, what else can we see in the picture?
P2. The line of the horizon... It's not very clear, but you can see it because of the figures. The ones that are nearer are smaller.
P1. And the figures (referring to those farthest away) haven't got a clear outline...

Analysis

- A first positive factor for motivation is that the teacher begins the class by making explicit the learning objective to be achieved (1), thus facilitating the perception of the task's relevance.
- At the same time, he poses an apparently trivial question - What's special about it? - but one which serves to provoke the curiosity of the pupils and to get them involved. This curiosity and involvement facilitates *interest* in the task.
- He reinforces in a consistent way the pupils comments, even when it is not altogether desirable (2, 3, 6, 7, 9), at the same time broadening and enriching their responses (3, 6, 7). This fact facilitates the *perception of personal acceptance*.
- In Points 1 to 7 he reinforces a basic learning strategy, that of systematic observation. This reinforcement contributes to its consolidation as a learning strategy. However, he fails to add, at the end of Point 7, something like "And we've got this far by systematically observing what's in front of us,

7. T. Exactly, very good. We can sum up by saying that the perspective in this landscape heightens the colours in the foreground -they're darker-, whilst, the farther away they get from the observer and the nearer to the horizon, the more diffuse they are, and the smaller the figures.

8. T. Let's go on. You probably find this picture sad, lifeless, as I do. How could we make this same picture express more clearly the time of day? Express the way we might feel when we saw it in real life?... Fiona?

P5. ...By colouring it?

9. T. Very good, by colouring it. But not just anyhow. We have to use colours that fit. The problem is to decide what colours to use, and that means interpreting... imagining... thinking about the intensity, the harmony and the contrasts that might help us to capture this moment of the day. How can we do this? Well, what we are going to do now is compare different colour slides of a landscape at different times of day and, at the same time, compare them with our picture.

(The teacher begins to present the slides, giving the pupils time to observe them, and asks different pupils, first to describe the slide and then to point out the differences. Once these comparisons have been made, he asks them to relate what they have seen to the different shades of grey in the picture they have to colour in. His way of reacting to the pupils' comments is similar to that observed on previous occasions).

a very useful strategy, since it provides us with precise information. A strategy we should get accustomed to using...". Because of this omission, pupils are less likely to consciously employ systematic observation in this type of context, or to apply it to others. Thus the opportunity to persuade them that they are learning something useful -which would aid motivation- is lost.

- In Point 8 a new problem is presented, one which entails a *challenge*. This stimulates *curiosity* and the motivation to achieve something. Moreover, the way the challenge is presented underlines the intrinsic relevance of what is to be learned: how to express and communicate emotions.

- In Point 9 the teacher redefines, in a more concrete way, the problem and the objective stated in Point 8: instead of talking about "expressing more clearly", he talks of "deciding what colours to use,... thinking about the intensity, the harmony and the contrasts... ". Redefining and making more specific the objective is a problem-solving strategy that helps to give pupils a feeling that they are making progress. However, as occurred with the systematic observation, he does not make explicit either what is being used or its potential usefulness, thus impeding greater feelings of progress and, in turn, greater motivation for learning.

10. T. Right. Now you've seen how useful this strategy can be for stimulating our imagination and understanding reality. Now we're going to apply what we've learned.

In one picture we're going to use the three colours we identified when we analysed the slides, using gradations of intensity –from more to less- in a rhythmic way –the gradations of the different colours have to be more or less similar- and bearing in mind that the intensity has to be preserved in a horizontal way, I mean, a colour has to have the same intensity across a whole horizontal band.

(As he talks, he indicates these things on a slide: the similarity of the colour gradations and the horizontal homogeneity of intensity).

Don't worry if it doesn't turn out right at first. Just try and get somewhere near – we'll be getting more practice at it.

(He gives out the materials and they start working).

As it can be seen, the only problem with the way this teacher works, assuming the transcript is representative of his normal way of working, is that he does not make explicit -even though he does shape it- the use of general strategies of thinking and problem-solving. The only immediate result of this is that the pupils do not perceive an added function of the work they are doing – a perception which would have a positive influence on motivation. However, if this approach represents his typical way of working, it could have negative effects on motivation in the long term, as pupils' progress is hindered due to their failure to employ strategies that the teacher did not make explicit.

1.7. Mathematics: Tenth grade. Secondary School Class. (Age 15-16).

Presentation.

The class described below is a revision session prior to an internal exam. Its didactic objective was to help consolidate knowledge about the procedures for graphical plotting of linear functions and parabolas. It is a fairly representative example of one of the most frequent types of class within the field of mathematics -explanation followed by exercises-, which is the reason for its inclusion here. The rhythm the teacher adopts is steady, with frequent pauses, so that the pupils can follow her.

- Although the teacher does not make explicit the usefulness of the general strategies mentioned previously, he does point out the relevance of the specific strategy that is going to be employed (9, 10), thus fomenting interest in learning.
- On moving to the practical part, it is particularly useful that he describes in a specific way, and accompanied by illustrative indications, the objective of the exercise and the criteria to be borne in mind. The more he clarifies what has to be done, the more he dispels uncertainty and mental blocks, which can affect expectations of achieving the objective and, consequently, motivation. His last comments, in which he tries to help pupils to set realistic expectations, have this function.

Transcript

1. T. Quiet... Tomorrow there's an exam. So, today we'll be doing revision... Let's do a few exercises, to see whether you've got things clear.
2. T. We'll start with the plotting of linear functions. Suppose you have to represent graphically the following function:

$$Y = 4X - 9$$

(She writes on the blackboard as she speaks and as the pupils respond, so that they can see the procedure at each step.)

You know that the method for plotting a function is simple. All you have to do is make a table of values. OK? You give values to X and you apply the formula of the function to obtain the values of Y. For example, if X is 0, what is the value of Y?...

- P1. (-9).
3. T. Correct. The value is (-9). And if X is 1, what's the value of Y?
 - P2. (-5).
4. T. Very good, (-5). So, then, we have two values for each variable, which are sufficient to allow us to plot the straight line. Right?

5. T. Now, to plot the straight line, the first thing you have to do is draw the axes of the co-ordinates, OX and OY. *(She draws)*. We divide the axes in equal units *(she divides the axes)*, and now we plot the points given to us by the table of values... (0, -9) and ... (1, -5) *(she plots them)*. We join them up with a ruler, and there we have the straight line. Is that clear?
(A pupil speaks. The teacher looks at him, but says nothing).
6. T. Now let's see the second type of function. Imagine you have to plot the function:

$$Y = 2X^2 + 8$$

There's an important difference, as you can see.

Analysis

- The first thing to mention in this extract is the fact that the class takes place within the context of an objective external to the learning itself: they have an exam the next day. This inevitable circumstance means that the pupils pay more attention to the means they require for passing the exam than to whether or not they understand why things are done. It also means that the possibility of looking foolish in front of the others comes to the fore. In order to soften, at least, the negative impact of the targets set, it would have been advantageous for the teacher to remind her pupils of the relevance of the knowledge to be assessed. We say "remind" because this is something that should have been done initially when the subject was first introduced, long before the revision session.

- A second point to be noted is that the teacher, instead of going directly onto doing problems, begins by modelling the procedure to be followed (2, 3, 4, and 5), and at a pace that helps to facilitate understanding, and gradually involving all the pupils, without forcing them. This modelling and pace helps to avoid the pupils feeling pressured or rushed.

In the previous example, the function was linear, because the exponent of X was 1. X was raised to the power 1. And now? Now the exponent of X is 2, that is it's squared. So it's the function of a curve. And how can we prove that? By plotting the function on a graph...

Larry, pay attention, or I'll have to plot a curve on you! (*His classmates smile*).

7. T. How do we do that? We could use the same method as we used for plotting the linear function, but it would be a long way round, because we'd need more than two points. Can anybody remember what we have to do?

Pp. ... (Nobody answers).

8. T. Right... First we have to determine the principal point of the curve, which is its vertex. Now, can anyone remember what to do to find the vertex ?

Pp. ... (*Nobody answers*).

9. T. We know that we can find the X of the vertex through the expression:

$$X = -B / 2A$$

In this case, what would B be?

P2. 8?

10. T. Why do you think it's 8?

P2. Because it's the coefficient of the second term of the equation.

11. T. Let's see if we can get this clear. B is the coefficient of the second term of the second level equation, but of the "complete" equation, with X², X and the term C. Where's the X here?

P2. It's not there.

12. T. Exactly. So, what will be the value of B?

P2. (*After some hesitation*) Zero?

13. T. Good, zero. So, the value of X will be:

$$X = -0 / 2A = 0$$

- In dealing with distractions and classroom noise, she also uses strategies that do not show up individual pupils, thus avoiding feelings of rejection and, in turn, demotivation. In one case, she looks in silence at a pupil who is chattering (5), and in another uses humour (6).

- When pupils intervene, the teacher shows her approval in a positive way (3, 4, 12, 13, 14, 15, 17, 24, 26 and 28), enlarging or enriching their interventions where appropriate (27), all of which helps to make them feel accepted and encourages them to participate.

- The way the teacher deals with incorrect answers is particularly appropriate for creating the feeling that errors are seen as something natural, and can be learned from. Thus, instead of just telling a pupil straight away that his/her answer is wrong (10), she asks the pupil why he/she thinks that. This helps the pupil to identify in the answer the source of error, thus providing the help he/she needs. Moreover, if errors are due to a simple slip -not ignorance-, rather than saying "that's wrong", the teacher asks a question so that the pupil him/herself can realise the mistake, showing that it was a slip and not lack of knowledge, with the consequent less negative effect on self-esteem.

And we know the vertex will be in the horizontal axis. What do we do now to find the value corresponding to the vertical axis?

P3. We work it out, substituting X for 0 in the equation.

14. T. Very good, Gemma. We do that and, what does it give us, Gemma?

P3. $Y = 2x0^2 + 8 = 8.$

15. T. Very good. Now we have the vertex of the parabola. It's the points (0, 8). What do we have to do now? We're going to give X any value different from 0. For instance, we can make X = 1 and X = 2. What's the value of Y?

P4. $Y = 2x1^2 + 8 = 10.$
 $Y = 2x2^2 + 8 = 16.$

16. T. And if the values of X were -1 and -2?

P4. The Y values would be the same.

17. T. Exactly, because the parabola is symmetrical. So, we have the vertex and four points, symmetrical two by two, with which we can represent the function. Summing up, then, we have two types of function: those for a straight a line, in which X is raised to the power of 1, and functions that can be represented by a curve, in which X is squared.

We're going to do some exercises now. Who wants to come up to the blackboard? ... Come on, I won't eat you ... I'm not a witch -I don't think- (laughter). Julia? (Who has put her hand up). Right. Do this exercise:

Given the function $y = x^2 - 4x + 3$, a) Plot the function, and b) Indicate the points of intersection with the co-ordinate axes.

P5. (She speaks so quietly that she is not understood).

18. T. Julia, speak a bit louder so we can all hear you.

P5. Er... You have to find the vertex... So, ...
 $X = -B / 2A = -4 / 2 = -2.$

19. T. Are you sure? What's the value of B?

P5. ... Four, Ooh! No. Minus four. So:
 $X = -B / 2A = 4 / 2 = 2.$

- Allowing the pupil who comes up to the blackboard to be a volunteer, rather than obliging someone, added to the creation of a relaxed atmosphere through her lighthearted comments (17), are positive strategies of this teacher that help to avoid the pupils feeling as though they are being examined in front of their classmates. Thus, an excessive preoccupation with self-esteem -which could prevent pupils coming forward- is avoided. However, even though the strategy is appropriate, the majority of the pupils still appear reluctant to participate.

20. T. See how easy it is to make a mistake if you're not careful with the signs? Go on, Julia.

P5. The Y of the vertex will be:

$$Y = 2^2 - 8 + 3 = -1.$$

Now we have the points of the vertex (2, 1).

Now...

(She thinks for a few moments; murmuring can be heard).

21. T. Come on. Let her think for a minute... What was it we had to do?

P5. Give values to X and Y.

22. T. Good, give values to X and Y and find the values corresponding to Y. So...?

P5. *(She makes a table)*

X	-1	0	1	2	3	4	5
---	----	---	---	---	---	---	---

Y	8	3	0	-1	0	3	8
---	---	---	---	----	---	---	---

23. T. Five values would have been enough, but I let Julia put more so that you could see that the values of Y are symmetrical. Can you draw the function?

P5. *(She draws the axes, puts in the points correctly and draws the parabola).*

24. T. Very good, Julia. Now, who can give me the answer to the second question?

P6. You can see it on the graph.

25. T. Yes, but it's not very precise, and we could get it wrong. Another, more precise way?

P7. Could you do it by making the equation equal zero?

26. T. You're on the right track... Quiet! Then you wonder why you get things wrong in the exam!... If we give Y a value of 1, what happens?

P7. The two solutions to the equation would be the points where the curve cuts the horizontal axis...

27. T. Exactly. Are you all following? They'd be the points where the parabola cuts the horizontal axis, very good, Anabelle. And the point where the vertical axis is cut?

- Although she is dealing with one pupil in particular, she continually demonstrates that she is including the others, through comments in which she clarifies points that could cause confusion (20, 23, 26).

- Furthermore, the teacher uses strategies that allow her to extract from the pupils the majority of what they know but sometimes do not bring out due to lack of confidence. In (21), for example, she gives the pupil time to come up with the answer, thus transmitting an impression of confidence in his/her capacity. In a similar way, when a pupil responds with a question, as though unsure or lacking in confidence (25), she reinforces the pupil's answer and involves him/her in the development of the task, a reinforcement that also demonstrates confidence in the pupil's capacity.

- Even though the answer to the second question in the problem (17) was in what Julia said (20), she follows the suggestion of pupil P7 (26), making it clear that the important thing is not the result, but knowing why you have to follow a certain procedure.

P7. You just have to do $X = 0$. It's 3.

28. T. Very good. We do as Anabelle says. But in this case it was much easier: by giving values, we already had the answer.
See how easy it is? Let's do more problems. Let's see, one of those that we never do...
(*The class continues in a similar way*).
- Finally, she tries to transmit confidence about how easy it is to solve the problems, basing this confidence on the fact that those who have come out to the front to do them have had no problems (28).

In general, the class atmosphere is motivationally positive, with the exception, on the one hand, of the fact that nothing is done to counteract the potentially negative effect of the exam context and, on the other, that the relevance of what is being learned is not made explicit, with the negative effect that this implies for motivation. A further point concerns the pace of the class: it is appropriate for pupils of a medium or medium-low level, but would probably be a little slow, and not very challenging, for particularly bright pupils.

2. Conclusion.

The examples of classes or extracts from classes we have described and analysed do not cover all subjects or all school years. Moreover, the data included here is subject to the bias that the classes described are those of teachers who volunteered to be recorded on video, this group being in a minority, since most refused. Nevertheless, we feel that the information presented here is sufficient to illustrate some of the typical ways in which teachers, through our teaching patterns, create a particular motivational climate. These climates include positive and negative aspects that are worthy of comment. We shall make these comments in accordance with the inventory included in Box 17.

As we have seen, the first point to make, perhaps because it corresponds to the beginning of the classes, is that there is scarcely any use by teachers of strategies for *provoking curiosity*. The only strategy we have been able to observe (in the Plastic Arts class) is the presentation of problems or questions that constitute a challenge. Furthermore, it is only in the classes of a more applied nature, Newspaper Workshop and Plastic Arts, that any reference is made to the *relevance* or function of what is to be learned. Thus, the beginning of the classes, fundamental for creating a motivational climate oriented to learning, leaves plenty of room for improvement: this is one of the areas on which teachers' self-assessment should be focused.

Secondly, with regard to the conditions and strategies necessary for maintaining *interest*, we have found a great variety of approaches. We have seen how previous knowledge has been activated in the Newspaper Workshop and Mathematics classes (in the latter case in the form of explanation-revision), but not in classes of an expository type, such as the Literature class. On some occasions this activation has taken the form of a veiled assessment of what has been studied, such as in the History class.

We should point out that *activation of previous knowledge* is important for various reasons. When we are dealing with knowledge about how to do something, its activation is necessary

because, otherwise, pupils may fail to apply the appropriate strategies, giving rise to errors and mental blocks that may produce the sensation that they do not know how to do it, leading to demotivation.

If concepts are to be introduced that probably contradict previous –erroneous- beliefs that are often deep-rooted (as frequently occurs in science classes), activation of previous knowledge is essential as a first step towards demonstrating their inappropriateness. If this is not done, a false impression of learning may be created. Although this may appear positive at the time, pupils' later failure to solve problems that require having abandoned erroneous ideas may generate frustration, perplexity and demotivation.

Finally, it is always a good idea in classes that involve the development of a topic to remind pupils of the approaches seen in previous classes, so that they can organise the work to come. We thus feel it important for teachers to self-assess with regard to the use they make of this strategy.

As we have seen, the variation and diversification of tasks as a technique for maintaining interest is commonly found, even if more so with younger children and when such variation is suggested by the textbooks themselves. Teachers who approach the majority of their classes in the way the Literature teacher did may perhaps think that such variety is inappropriate when what is needed is explanation. However, it is clear that a continuous monologue by the teacher leads to pupils becoming distracted. On the other hand, insofar as the objective of explanation is that pupils use concepts and ideas to apply them and solve problems, tasks requiring applications can always be intercalated –for example, those suggested for the assessment in Box 16. Such tasks help pupils to perceive the function of the knowledge acquired.

As regards the coherence of what the teacher says, or of what is said in teacher-pupil interaction, as a condition for fomenting interest, the classes transcribed here appear to be relatively successful. Nevertheless, we should point out that we found various examples in which the teacher's discourse was quite chaotic, and which we have not included, since, in any case, they did not contribute to our consideration of motivational context. Thus, although this aspect of the classes probably presented fewer problems than some others, it would be useful for teachers to consider their performance in this regard in order to avoid their pupils becoming lost and, consequently, demotivated.

The remainder of the strategies necessary for maintaining interest –the use of illustrations and examples, use of a narrative context, etc, were scarcely observed, perhaps due to the fact that in the extracts transcribed their use was not particularly relevant.

Moving on to the activities themselves, in the classes where there is considerable teacher-pupil interaction we have observed that the teacher's working patterns are, in general, appropriate in that they encourage pupils to perceive that they are being unconditionally accepted by the teacher. However, given the fact that very few classes given by a same teacher were filmed and transcribed, it was not possible to observe whether the teacher dedicated sufficient time to each pupil - a necessary condition for avoiding pupils feeling discriminated against and becoming demotivated. Furthermore, an important observation was made: the reinforcement of appropriate behaviour only in certain pupils. Specifically, in the case of the

female teacher in 2nd-grade primary, she gave preference in her reinforcement to the responses of boys over those of girls, which she did not reinforce at all. Given the importance of situations like this in terms of acceptance and, consequently, motivation to learn, it would seem necessary for teachers to consider carefully whether their working methods reflect such biases.

We have not been able to offer examples of the planning and development of individual or group practical tasks, which provide the conditions for teachers to act in a way that encourages pupils to get involved independently in learning and that helps them to feel they are acquiring skills. Nevertheless, the examples in Boxes 10 to 13 show the procedures that could be used. Moreover, the transcripts include positive indicators, showing some teaching patterns in the required direction.

In general, pupils' spontaneous participation is stimulated and accepted, and this helps them to feel that the important thing is their progress, and that they are not just there to listen to what they are told. In the Physical Education and Mathematics classes, the teachers even shaped the activities by means of the appropriate corrections. However, the organisation of classes around systematic questioning, as in the History class -a type of organisation that can create an assessment context- , or around a monologue, as in the Literature class, tend to contribute to the sensation in pupils that they are being obliged to do something, especially when the relevance of the task has not been made explicit.

A classroom aspect of which no examples have been shown is the use of co-operative activities in pairs or small groups. The reason for this is that there is scarcely any use of this method by teachers, a fact pointed out by numerous teachers and pupils interviewed. Without wishing to go into the reasons for this lack of use, we should nevertheless like to point out that teachers are failing to take advantage of a resource that, if used in accordance with the principles maintained throughout this book, has a quite positive impact on motivation to learn. It would be convenient for teachers to examine their reasons for not using this resource, as well as to consider the contexts in which it could be productively employed.

Finally, even though the teacher in the Newspaper Workshop provided an example of the integration of assessment in learning, the motivational impact of which is quite positive, it has not been our objective to show how teachers design and contextualise assessments and use their results.

A previously-published work (Villa and Alonso Tapia, 1996) demonstrated that, in general, the way in which assessments are designed in Secondary Education does not provide the conditions necessary for facilitating motivation to learn. Beyond this, we have no information on whether assessment is contextualised in accordance with the principles described, nor on the use that is made of results. As regards Primary Education, we hope to have data available in the near future. In any case, it would be advisable for teachers to examine the extent to which their working patterns with respect to assessment are in accordance with the principles suggested here, if they wish this activity to have a positive impact on motivation to learn.

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