

# Evaluation as a strategy for teaching. Evaluating processes and results

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## ABSTRACT:

The call for the inclusion of evaluation in teaching strategy is based on a constructivist-epistemological conception of teaching, coherent with a certain conception of the subject and, by extension, with a certain approach to teaching. We evaluate to find out; only by knowing what a student knows and does not know is it possible to take the appropriate measures to obtain an improvement in the student's learning. The author therefore argues that evaluation has to be the starting point in teaching, not curricular content (as important as this is); and the author further proposes that not only should results be evaluated (a necessary thing), but that learning processes should be too. It is learning processes which allow teachers to provide support which is both systematic and suited to the learning potential of the student, and to ensure the continuity of the learning processes of the student.

Furthermore, and in view of an educational tradition which often confuses evaluation with qualification, the author seeks to make a clear distinction between a strictly pedagogical process such as evaluation and an action of administrative nature, such as qualification. In the view of the author, this distinction is important if the teacher is to accord to each the importance it deserves.

## KEYWORDS:

Evaluation, Strategies, Teaching, Learning.

## EVALUATION AS A STRATEGY IN THE TEACHING PROCESS<sup>1</sup>

### I

The concept of evaluation has had various acceptances over the course of history. None of these acceptances has been aleatory, however, but rather closely associated with ideological, epistemological, psychological and, consequently, educational viewpoints. The ways in which we conceive and implement evaluation are directly related with the perceived functions of the educational institution in society; with the criteria of objective validation and evaluation of knowledge; with the way we conceive the nature of knowledge and the learning process; and, consequently, with the conception of learning and teaching which underpins the practice of the teacher in the classroom.

As Miguel Ángel Santos Guerra puts it, “Evaluation is a process which brings into play the conceptions the teacher has of society, of the school, of education and, consequently, of his role in the school” (Santos Guerra, 1996).

### II

Evaluation can be seen as a teaching strategy which allows us to identify the theories and hypotheses that students form for themselves as very young children, the constructive errors they commit when resolving problems and, in general, their previously acquired knowledge. All this facilitates the pedagogical activity of the teacher, in so far as it makes it possible to adjust

teaching strategies to the learning potential of the students and to the complexity of the object of knowledge.

If we accept that students construct and reconstruct their knowledge in a learning process, we might agree that learning means giving new meaning to acquired skills. Learning realities cannot be interpreted except in terms of the *learning potential of each student*, as given by his cognitive make-up, his knowledge (curricular and extra-curricular), his values, his system of belief, etc. Therefore, *teaching always entails evaluating* the skills of the student, proposing the correct strategies for the student to progressively restructure and give new meaning to schemata and knowledge, in this way closing the distance between knowledge and curricular content. The fact, however, is that teaching practice continues to elude interpretation via a single template which would allow us to *relate and globalize* content and give *continuity* to the learning process, and to curricular areas, cycles and levels.

We know that the learning of notions and concepts involves a process of construction which can only be “measured” in years. For example, the concept of number (in strict terms) requires students to exercise logical thought, and this is achieved, approximately, when they are in the second or third year of primary education, regardless of whether they have actually been writing numerals for some time already. Yet this does not mean that we have to wait for the child to attain the necessary level of cognitive formation; students work intuitively and resolve problems with the cognitive skills they have, but the *evaluation*

*of what they do right and what they do wrong* is one of the fundamental markers of genuine learning.

Consequently, teachers must *evaluate* every piece of output of their students if their educational activity is to be suited to the cognitive skills of the students. They must evaluate the knowledge their students apply, the hypotheses or theories on which their knowledge is based, the types of error they commit, and the position they occupy in the process of construction of the notion in question.

Take, for example, a child who solves the sum presented below as follows:

$$\begin{array}{r} 49 \\ +14 \\ \hline 513 \end{array}$$

Has the child performed the addition correctly? Or incorrectly? What was the error committed by the child? Is he unfamiliar with the addition process? Or is his error related with the decimal system and positional value? These are ostensibly banal questions which are nevertheless fundamental in an examination of the teacher's approach to teaching. A teacher working within a traditional educational framework will pronounce the sum incorrect and give the student other similar sums to solve. A teacher who is interested not only in results but also in evaluating the learning process of the student, on the other hand, will seek to identify what type of error the student committed. In other words, evaluating what the student knows and what he doesn't know, so that the teacher can continue teaching and set the student activities which enable him to overcome his errors, successively, until he can perform the operation correctly; he will have to work on positional value, the decimal system and the mechanics necessary for adding two two-digit numbers (and not concern himself merely with the result).

*The starting point for the teaching process has to be the evaluation of the skills of the students*

Construction of knowledge engenders the need for the school to guarantee the *continuity of the learning process* from the start of teaching to its completion. Although the learning process is not linear, it should nevertheless be systematic. The student's

learning trajectory is a tortuous one, fraught with contradictions, errors and conflicts. But it is precisely the doubts and uncertainties which make it possible to evaluate output, whether correct or not, and identify which *errors or skills can function as didactic indicators* to facilitate the intervention of the teacher and the production of genuine learning.

*Therefore, evaluation is a teaching strategy which can either facilitate or obstruct the learning process*

## THE RELATION BETWEEN EVALUATION AND QUALIFICATION: A PROBLEM AWAITING A SOLUTION

Given that the most common symptoms of learning problems are retention in the same academic year, a marked disconnect between ability and output, and a higher incidence of early school-leaving, it would seem essential to examine the way we conceive evaluation, the place it occupies in the teaching and learning process, its *relation with qualification* and, fundamentally, with *accreditation and promotion*, since many situations evaluated as "error" express the only possible outcome from the student.

When qualification became part of educational practice last century, the teachers and students of Oxford University complained that they had lost the pleasure of teaching and learning. They said that with the inception of the qualification system teachers prepared their courses in accordance with the exams which would be taken, and students studied only what they expected to be covered in the exam. With the introduction of qualifications teachers succumbed to a methodological complacency, for instead of addressing the challenges that learning implies, they simply gave exams as sanctions to force students to study (Díaz Barriga, 1991, p. 43).

The above is an effective statement of the problem of *evaluation and learning*, and allows us to identify various levels of analysis. We can start from the premise that *the qualifications system did not always exist*, and promotion and accreditation have not always been tied to evaluation. Therefore, we might ask ourselves whether qualifications are really

necessary<sup>2</sup>. Why award qualifications to school-age students? Why accredit and promote students year after year when, in for instance primary education, seven years are allowed for the student to learn a minimum ensemble of content? Perhaps questioning the obvious is the best way for us to re-think and unravel this and many other problems in the field of education, *and to address in other terms the relation between diversity, evaluation and promotion*. Depending on the criteria we bring to bear on it, this dimension may either promote the emergence of obstacles or encourage us to view “problematic” situations as exactly the situations we should be expecting to arise in everyday classroom situations.

Taking the sources cited in my earlier published work<sup>3</sup> and my own research as points of reference, we can generally say that evaluation considers only that which can be empirically observed — and that in many cases, *the only purpose of the teacher is to award qualifications*. In mathematics, for example, we evaluate results, algorithms or the graphical representation of numbers. What is important is the efficiency and the performance of the student. This is a business-based model of practice which is over a hundred years old now, but which continues to be deeply rooted, in a greater or lesser degree of suitability to everyday practice in the school, even in environments where the stated intention is to respect the learning processes of students and which proclaim the need to take students’ previous knowledge into account, for example. Paradoxically, as Díaz Barriga (1991) noted, when qualification comes into the classroom the pleasure of learning and teaching leaves it. It shifts the emphasis of education, both for the teacher and for the student, and inevitably positions itself as a prize or a penalty for the student’s output. And this entails a certain model of student for a certain type of society: an “obedient” yet competitive student for a capitalist society whose duty is to perpetuate itself.

Viewing teaching from the perspective of instilling and attaining genuine learning involves taking into account the diversity of the students, as well as the biography and social and cultural background of each individual student. This means we have to make a clear distinction between evaluation as an inevitable and desirable part of the teaching process, and qualification and accreditation as questions of an administrative nature.

Evaluation is a broader process than qualification. And one is fundamentally different from the other. Which does not rule out evaluation as necessary for qualifying and promoting, but neither does it entail the contrary.

Evaluation in the teaching process is both beneficial and inevitable. *Beneficial*, because it enables teachers to adopt the teaching measures best suited to the learning potential and knowledge of the student; and *inevitable*, because the mere fact of being in the classroom, listening to and observing the output of a student, requires the teacher to assess and evaluate this output in terms of certain criteria.

So why not evaluate on an everyday basis? In this author’s view, this is not a didactic or pedagogical option, but rather a necessity upon which the very quality of the teacher’s work depends.

#### *Evaluation*

*is and has to be part of the teaching process,  
and can encourage learning  
based on the possibility of structuring problems,  
generating conflicts and encouraging the assign-  
ment of new meaning by the students,  
based on the analysis of their output*

Viewing teaching in terms of intervention and support designed to enable students to acquire real and significant skills requires that we examine the cognitive structures and schemata and previous knowledge of students with regard to the material to be taught. But how can we examine the existing knowledge and schemata without evaluation? How can we respect the levels of conceptualization or the hypotheses and theories formulated by students while still very young children, without evaluating them? Evidently, examining what a student knows about multiplication or what procedure he uses to perform an arithmetical operation, for example, requires us to evaluate the knowledge, theories and learning strategies he articulates.

*To do this, it is essential that we distinguish between evaluation and qualification / promotion, and adjust teaching to the real learning potential of the student to avoid placing obstacles in the way of the knowledge construction process*

The teacher performs evaluation at every moment in his everyday work in the classroom, and it is precisely this evaluation — of the errors committed by students, of the knowledge they have of the content at hand — that can point to a counter-example or elicit a question: but in all cases based on knowledge of the student's output. Evaluation has to be continuous, global and encompassing, and has to fit the framework of educational objectives as well as the skills and cognitive abilities of the student.

This is an approach which is opposed to the traditional one and which will hopefully redeem the possibility of the *globalization of learning*, put an end to the fragmentation and compartmentalization of knowledge, eradicate “tests” (as these would no longer be necessary), put an emphasis on the meaningfulness of learning and produce independent students who are capable of exercising critical judgement and of “looking after themselves”, not passive-acquiescent students who regurgitate without understanding, out of obedience to or “respect” for their teacher.

If evaluating is understanding, it's easy to deduce that evaluation will make a positive contribution to educational quality and, in particular, the learning process.

Aspiring to *continuous evaluation* with a strong formative component does not mean overlooking, for example, the adoption of certain technical and methodological resources or ignoring qualification and promotion; *but evaluation is not qualification*. We have to make a clear distinction between them, and redeem the function performed by evaluation within the framework of a constructive school and the role performed by the teacher. Teachers must be able to evaluate previously-acquired knowledge, levels of acquaintance with the different concepts in different curricular areas, and constructive errors. All this turns educational practice into a minefield of obstacles and difficulties, and it requires highly specialized training to be able to negotiate one's way across this minefield.

Of course, anyone who shares this perspective might easily slide into despair, for who can possibly know all levels of acquaintance with each and every concept of each and every area, when all that has been achieved so far is a knowledge of some concepts in certain areas? But the fact that research into levels of

conceptualization is still in its infancy, and is essentially directed at initial and early primary education, does not entitle us to ignore skills which allow us to substantially improve the quality of teaching and learning. And in any event, it's a question of examining the knowledge of students and the errors they commit in every aspect of their classroom output.

## EVALUATING PROCESSES AND RESULTS

Students do not learn alone. Teachers will have to evaluate every aspect of the output of their students if their intervention is to be suited to the cognitive skills and requirements of the students with regard to their output; they will have to evaluate the knowledge which students bring to bear on the tasks set them in the classroom, the hypotheses and theories on which they base their work, the singular procedures which they use and the point they occupy in the process of construction of the notion in question; otherwise, their intervention will merely be “blind”. The concept of balance, for example, takes over a decade to fully understand, but then again all concepts, procedures and social mores involve a constant re-attributing of meaning, take time to be constructed and reconstructed, operate in psychological time-frames proper to the cognitive skills of the student.

In these systematic processes of construction and reconstruction of knowledge, the intervention and assistance of the teacher is vital, and this intervention must be based on the evaluation of the actions and output of the student.

*All of this entails evaluation of the learning process and not just of the end product or successive interim products*

This author proposes evaluation of the learning process; in other words “backward” evaluation. Evaluation of final and interim output is now general practice in schools; but this is “forward” evaluation in which the output of the student (interim or final) is correlated with a target (curricular content, indicator of achievements, etc). The evaluation of processes, however, is not the same thing as the successive evaluation of interim outputs.



*Evaluation of the learning process of a student involves “backward” evaluation in which the output of the student (at any given moment) is correlated with his skills at the moment he begins the task (or more simply at any previous moment)*

This is a complex process in which students gradually acquire a set of notions, concepts, procedures, mores and values — it is only we adults who divide these into curricular areas and academic years. If they are given the chance, students can globalize their knowledge and put together an ensemble of knowledge of different types and diverse complexity during the same process.

Learning the concepts of division or of energy, of geographic space or historic time, of tolerance or punctuality, generate the need for the school to guarantee their *continuity (in the learning process)*, from the moment the students enter school until the day they leave. And evaluation is one of the teaching strategies which is necessary for guaranteeing this continuity and the construction of knowledge itself.

To conclude, this author argues that teachers:

- *should not equate evaluation with qualification,*
- *should not reduce evaluation to merely technical issues,*

- *should view the issue of evaluation from within a paradigm of complexity,*
- *should understand the reasons and knowledges which underpin the output of their students,*
- *should evaluate interim and final outputs, as well as the learning processes of their students,*
- *should evaluate using criteria and indicators which give coherence to their actions,*
- *should implement teaching strategies designed to achieve globalized, contextualized and meaningful learning,*
- *should organize knowledge as a mesh of many intersecting strands,*
- *should take on board evaluation as a highly-significant teaching strategy to ensure the continuity of the learning process beyond the immediate confines of area, cycle or level, and*
- *should work to make comprehension easier and break with the mechanistic approach that can hinder or obstruct the knowledge acquisition process.*

As Santos Guerra (1996) notes, the important thing is to empower the richer functions of evaluation (diagnosis, comprehension, improvement, learning, assistance) and disenfranchise the less desirable aspects (comparison, discrimination, hierarchization).

## ENDNOTES

1. The present exposition was previously published in “*Globalización, redes y transversalidad de los contenidos en el aula*”, Homo Sapiens, Rosario, Argentina, 1995.

2. The award of qualifications to students to enable their promotion emerged in response to the need to select and hierarchize those most suited to discharging certain functions demanded by society. This need was founded on a type of society whose purposes are specific, and on a positivist paradigm which acquires significant importance with the emergence of quantitative approaches to education whereby evaluation is in fact reduced to qualification. This conception has gradually taken root, and over time has acquired legitimacy with the emergence of instruments like psychological tests, which in their turn promote the illusion that we are arriving at objective measurements which overcome the arbitrary and subjective elements involved in the elaboration and correction of tests, as traditionally performed.

3. I am referring here to my research published under the title “*Condiciones y procesos de producción de los obstáculos para el aprendizaje genuino*” (1999/2001). CIUNR, Argentina.

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