



Study Guide for “Cuatro formas de incorporar las TIC a la enseñanza en el aula”, chapter 6, *Libro Abierto de la Informática Educativa*,

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Instructions: Complete the summary of the chapter by filling in the blanks.

Technology is advancing (1) **quickly** in schools. To make sure that students advance in all areas of learning means that teachers need to change their (2) **pedagogical practices**.

We assume that education is a (3) **human right**, everyone deserves a high-quality education regardless of their background and (4) **social status (SES)**. Access to technology is essentially equivalent to access to (5) **knowledge**.

This paper has 4 parts:

1. a review of effective (6) **teaching**.
2. a review of the current evidence related to technology and teaching,
3. a (7) **typology** to describe teaching-learning in the classroom,
4. comments about the need and the possibility for the innovative use of technology in the classroom.

EFFECTIVE TEACHING is characterized by:

- (8) **clear specific objectives**,
- good planning and organization,
- mastery of the contents,
- (9) **interactive teaching**,
- attention to diversity in learning styles and rates,
- good time management,
- use of teaching resources,
- continual evaluation and feedback,
- good classroom environment,
- high expectations and commitment and
- (10) **motivation of the teacher** of the teacher.

NOTE: other factors that the author fails to mention include: clear, logical, understandable input; beginning with prior knowledge and extending to new material; the i+1 principle; ending with review of material and increasing student motivation.

Three main factors in Latin America:

1. the classroom (11) **environment**
2. the teaching methods and
3. (12) **time in classrooms**.

This paper confirms that students achieve more when the teachers use (13) **technology** for learning activities. This is true across the curriculum.

Having access to the technology is not enough. The way the technology (14) **is used** for is key. This implies teachers that are skilled in the technology and competent in their field of study, and that the technology is managed well by the institution.

Use of technology is not the same as using the technology for teaching. Many teachers are weak in their ability to organize (15) **activities** that make good use of the technology available in the classroom.

Good use of technology in the classroom is characterized by:

- focus on the (16) **content** (not the technology),
- the teacher needs to understand that technology has no magical effect,
- the technology is to be used together with a (17) **planned activity**,
- the students should be learning how to “do things” with the technology,
- technology should be used as a resource to support (18) **academic learning**: it can be used to search for or verify, elaborate information.



- it should be used for individual tasks as well as collaborative tasks (including virtual collaboration),
- lesson plans should include the (19) **ICT** learning objective,
- teachers should avoid improvisation, and
- the use of technology should not be seen as parallel or apart but incorporated within the lesson.

Many teachers are not (20) **trained** in the correct use of technology in the classroom. Some resist and criticize. They admit not feeling secure about the technology, and they mention that there are not enough computers, they prefer to use textbooks, and they lack technical knowledge about how to use the technology. Three of these four reasons for not using tech are characteristics of the teachers. Many admit that they do not know how to (21) **plan** activities that incorporate the technology.

International studies show that there are many (22) **barriers** to the use of technology, but also that teachers grow in their sense of security and confidence when they use the technology more and more and when they good technical support.

It is clear that teacher (23) **training** is critical, and that the school system needs to design relevant strategies for training teachers and teachers-to-be, guarantee the technology resources and their support, develop teaching mechanisms that are consistent with the ICT and curricular objectives.

The (24) **management** and organization of the technology matters more than the quantity of technology available.

The teacher's role needs to be more active and dynamic, and they must make the effort to re-organize the curriculum and develop new (25) **strategic** to incorporate the new technology. However, some teachers find themselves in a school environment that limits the use of technology. The school administrators must acknowledge that success in this area is not the sole (26) **responsibility** of the teachers.

5 dimensions to the good use of technology in the classroom:

1. (27) **innovation** in teaching,
2. integration of ICT in the (28) **curriculum**,
3. teaching practices,
4. results and impact and
5. the use of (29) **technology**.

Typology

Two axes: The (30) **horizontal** axis represents the skill and knowledge of the teacher. This axis represents the use of technological resources.

The (31) **horizontal** axis represents the clarity and type of desired learning, mastery of the contents, student's participation (as encouraged by the teacher in the plan), the level of interest and motivation developed within the student

The (32) **vertical** axis represents the relevance of technology to the desired learning outcome, clarity of instructions, coherence of the activity that integrates technology, opportunities given to explore and discover through the use of technology, self-correction and revision using ICT.

A DETAILED EXPLANATION OF THE FOUR TYPES OF INSTRUCTION THAT RESULT FROM THIS FORM OF ANALYSIS: BASICALLY GOOD PEDAGOGY PLUS GOOD USE OF ICT, OR GOOD PEDAGOGY AND POOR USE OF ICT, OR BAD AT BOTH, OR GOOD USE OF TECHNOLOGY AND POOR PEDAGOGY.

Final comments: ICT must be integrated into the curriculum and the pedagogy of modern schools. The proposed typology gives us a way to analyze current practices and then make a plan for improving them.

The evidence at this point indicates that our teaching force needs to be strengthened in better pedagogy and in the correct use of ICT in the classroom. We need teacher training workshops that target these problems. Having technological resources is not enough by itself, the school system must integrate the use of technology into the curriculum and teacher training.