



**UNIVERSIDAD ORT**  
**Uruguay**

**PROJECT ALPHA**

### **Educational Characteristics**

- **Centralized planning of educational policy**
- **Literacy rate over 95%**
- **Free public education, from kindergarten to the university**
- **Spanish, only language in the country**
- **Approximately 125.000 students (aged 12 – 17)**
- **A long tradition of educational excellence, by international standards**
- **A dominant conservative attitude in education**

# Project Alpha

## Objectives

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### Alpha objectives are:

- To integrate information technologies to the set of teaching and learning resources operationally available in the secondary education environment.
- To foster curricula update with an emphasis on methods and research over contents, preparing the high school graduate for a new kind of university studies.

### Alpha objectives are not:

- To teach computer literacy.
- To reach general computer literacy.
- To develop alternate education – delivery systems (teachware, distant learning).
- Logo.

# **Project Alpha**

## **A very difficult question**

**“Why are we spending time and money in computers when we lack chalk, teachers salaries are low and there is no library in the school?”**

**A school Principal  
Uruguay, 1983**

- Not to be dismissed arrogantly.**
- And me didn't mention the external debt.**

- **Less resources you have better you have to manage them.**
- **Cheap manpower is disappearing as an economic asset.**
- **High tech is reversing the comparative advantages.**
- **Information and knowledge – intensive industries will hold the key to development.**
- **A new division between countries: The ones who do and the ones that know how to do.**
- **The relative value of education.**
- **University won't have time for computer studies.**

# Project Alpha

## Hardware and software selection

- Hardware should not exceed 25% of budget (software and teachers training 75%).
- Costs must be considering taking into account present and future requirements (best cost  $\neq$  best value).
- Strategic decisions should be hardware independent as much as possible.
- Look for:

**Local support and maintenance**

**Maximum accessibility (ratio of users per keyboard)**

**Variety beside digital microcomputers (A/D interfaces, networks, videos, communications...)**

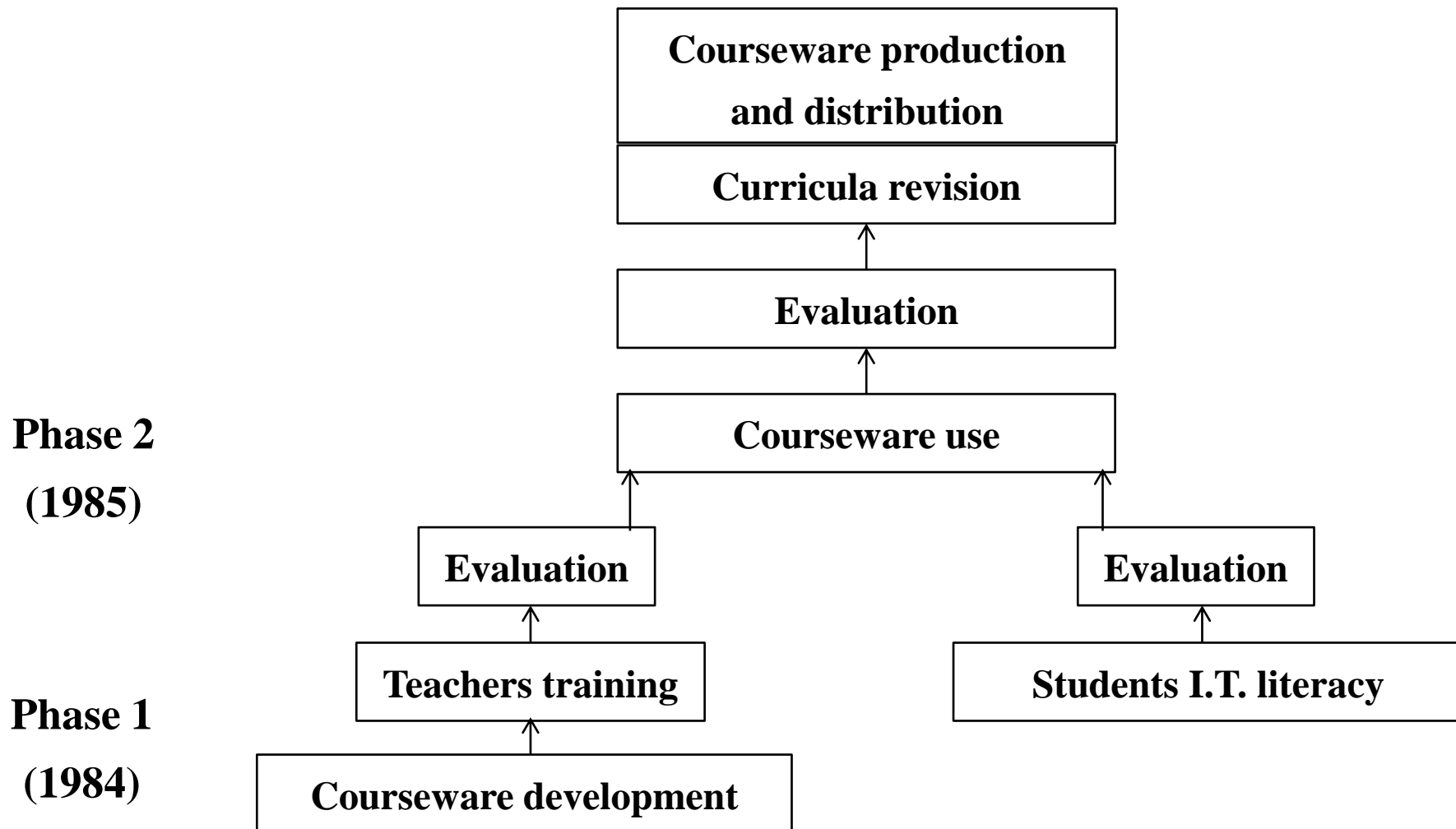
**Openness (such as RS232C)**

**Graphics**

**Response time**

**Reliability (beware of communication lines)**

# Project Alpha Strategy



**STUDENTS:**      **High interest (and attendance)**

**No dropouts**

**65% optional projects**

**70% “high recommendations”**

**TEACHERS:**      **Bad relations with technicians**  
**Good courseware production working:**

- **Math**

- **Chemistry**

**Medium**

- **Physics**

**(due mainly to graphics hard problems)**

**Bad**

- **History**



- Preliminary and unsuccessful experience (1983)
  - Crash programming courses, off service during vacation time for all teachers.
- Problems:
  - Course focus was on programming rather than on educational uses.
  - No systematic follow up was ensured between courses.
  - The course was the same for all subjects.
  - Teachers schedules were not reduced to enable their computer work.

- **A less unsuccessful experience (1984)**
  - **Teachers as authors: (160 h. in service course including project).**
    - **Design and develop courseware with computer programmers and systems analysts.**
    - **Support teachers – users training and courseware use.**
  - **Teachers as users: (30 h. off service course)**
    - **Select and use courseware, evaluate and give feedback of courseware use.**
    - **Exploit “intelligently” the ITLAB as teaching resource.**

- **Scenarios**
    - **Problems to be solved with computer tools, programmed or not (DBMS, etc...)**
  - **Scripts**
    - **Drill and practice**
    - **Formative evaluation**
    - **Simulation**
    - **Electronic blackboard**
  - **Portability level**
    - **Design**
    - **O/S**
    - **Source**
    - **Object**
- Lab control**
- Electronic mail**