



# ITU Academy Event – April 28-29 Prague – Czech Republic

## Distance Education Services

### *Concepts, Challenges and Innovation*

***Inatel***

*Instituto Nacional de Telecomunicações*

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**Brasil - 2014**

### Part I

- Distance Education Experience (E-Learning Program at Inatel – Brazil)

### Part II

- Case Study (E-Learning – Digital TV Course for Mozambique)

### Part III

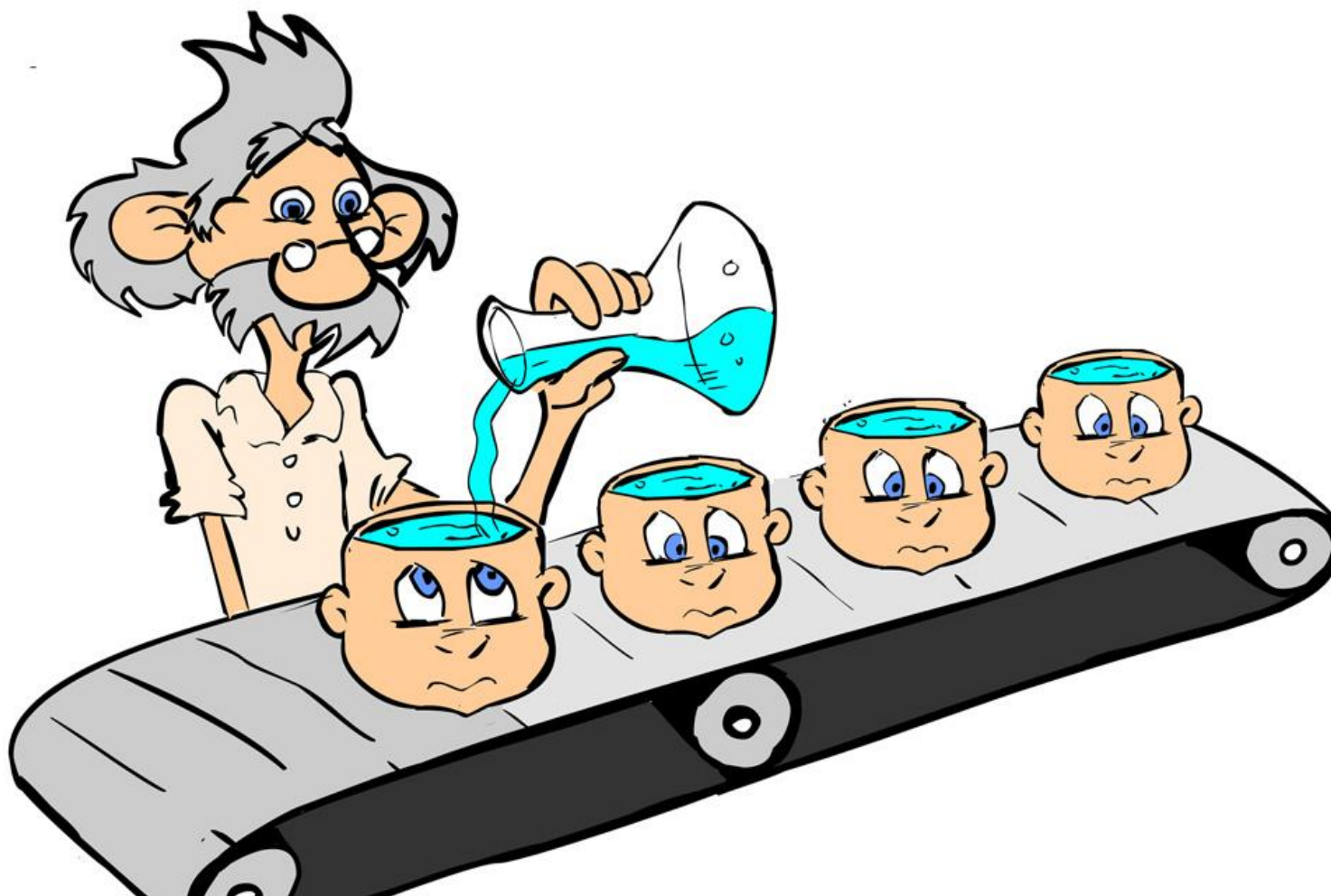
- Ideas for New Centers of Excellence

## Part I

- Distance Education Experience (E-Learning Program at Inatel – Brazil)

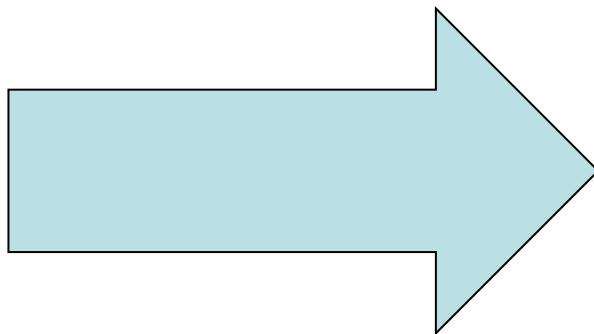
### Traditional Teaching Method

The teacher transfers the information as if the students were all equals



- E-learning group was created in 2009.
- Various models was discussed (which platform to use, which methodology, etc.)

Next slides we will present Inatel's E-learning model



- Distance Education (DE) brings endless possibilities and opportunities, such as, **education, training, qualification, improvement, updating** and **inclusion** of people to act in society and in the market.
- We can cite as other benefits of Distance Education:
  - The **flexibility** in space, time and pace to study.
  - The **effectiveness**, as it provides a dynamic and innovative learning where the student is considered an active subject of his training.
  - The **economy**, because reduces the students locomotion costs.



- There is a huge difference between **TEACHING** and **LEARNING**.
- When planning a course of Distance Education, besides the reformulation of content from classroom teaching experience chosen according to the media, he alone does not guarantee the **motivation** and students **learning**: there are **teaching strategies** that use technology to produce high-quality distance learning courses, in other words, that emphasize **interaction** among participants in the teaching-learning process and placing the student on the completion of **problem situations**, making them **subject constructors** of their own knowledge.
- Therefore, the formation of a **multidisciplinary** team of DE, specialized in various areas of knowledge, who understand **technology** and **pedagogy**, working cohesively guarantee better results in students learning. It is with this approach that Inatel through its Center for Distance Education acts to fulfill their educational goals.

- The e-learning courses are offered to the market in extension level, fully from distance (virtual), with a duration on average from 30 to 70 hours, divided from 5 to 7 modules lasting 2 to 3 weeks each one, requiring dedication of students of 5 hours per week with support from an expert in the field, who portrays teacher-tutor, mentor and facilitator of knowledge, the one who shows the way, provides guidance, and students collectively seek to build new knowledge and thus provides technical and affective feedback.
- Our target are technicians, engineers and / or professionals working in the field of electrical, electronics, computer and / or telecommunications.
- We adopted the Moodle Virtual Learning Environment, which is widespread worldwide, supports collaborative work, and presents a modern and friendly interface with several tools, aiming to mediate and motivate the teaching-learning methodologies by them applied.



- Activities: they aim to
  - Promote flexibility of the course according to the student (variety of activities)
  - Comprehend the diverse learning styles.
  - Articulate the theory with practice.
  - Encourage interaction, cooperation, collaboration, socialization, affection, reflection, autonomy and resolution of problem situations in order to encourage the student to be pro-active, able to produce and receive content while more critical learner.
  
- Evaluation System: diagnostic, formative and summative.
  
- Certification: is conditioned to 70% of approbation.

- Lessons in **Digital Book** developed by INATEL (rich in images, tables, charts, diagrams, animations, glossary, video lessons, PDF version, among others).
- **Exercises** of multiple-choice, true and false, association between columns and dissertative.
- **Discussions** through forums, chats and Video chats.
- **Research** through individual and team work.
- **Games**
- **Dynamics** with individual and collective **challenges**.
- **Cases**
- **Survey of opinion** of modules.

[www.inatel.br/ead](http://www.inatel.br/ead)

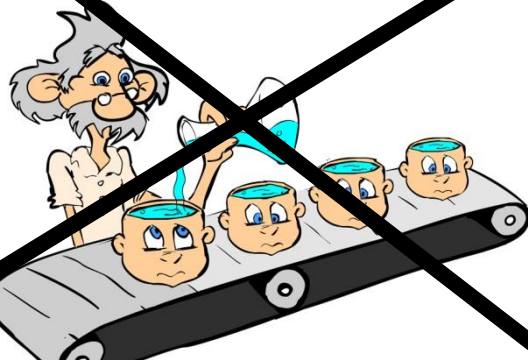
STUDENTS  
ARE NOT  
EQUALS!!!

BREAK

OLD

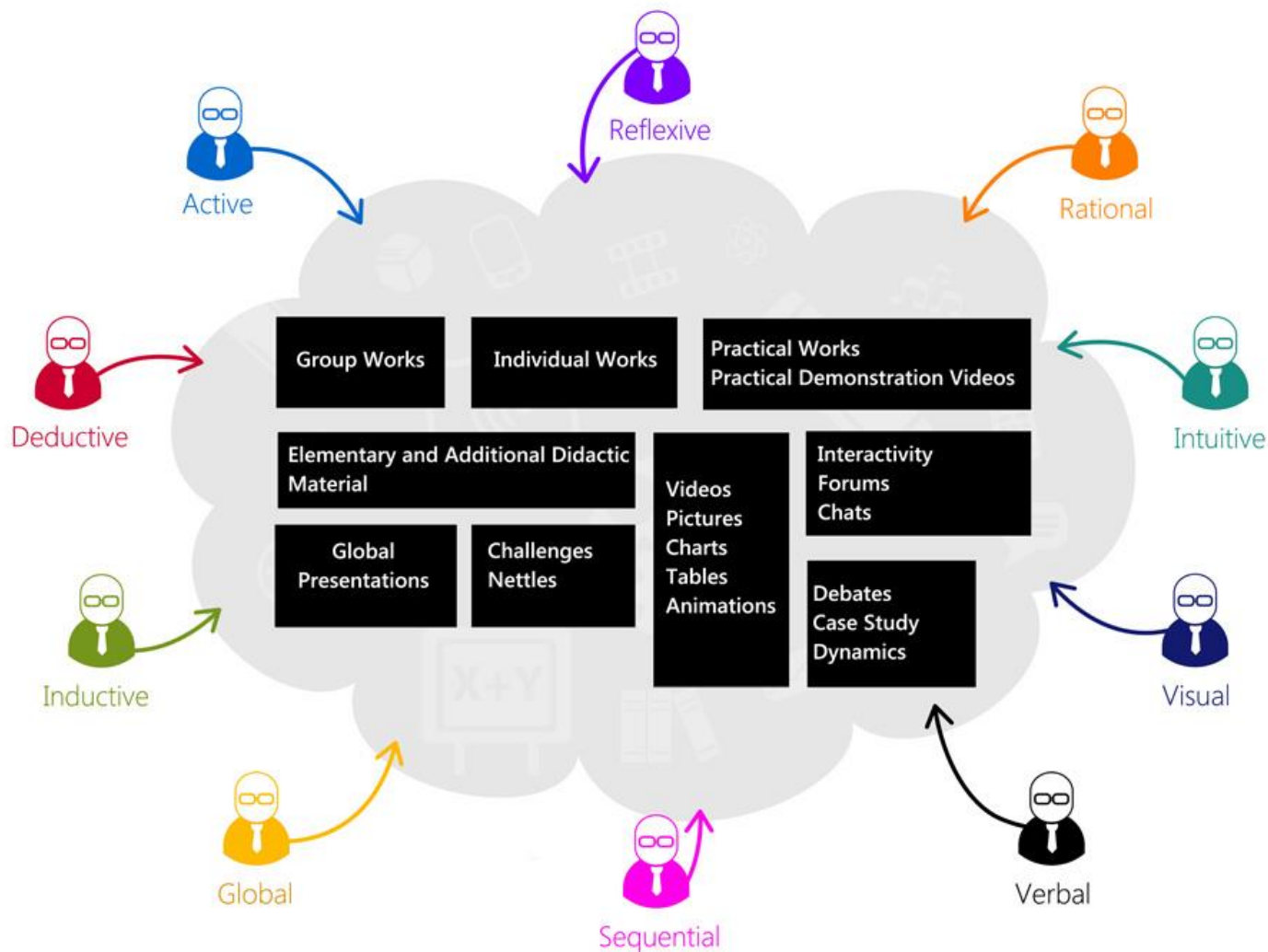
PARADIGMAS!!!

Traditional Teaching Method  
The teacher transfers the information as if the students were all equals



### Inatel Distance Education Method

Respect for different learning styles



## Part II

- Case Study (E-Learning – Digital TV Course for Mozambique)

# 1. Introduction

From May 13 to June 30 – 2013 Inatel provided the course Digital TV to African countries that speak Portuguese.

The course was totally virtual, web based on Mozambique's MOODLE (Virtual Learning Environment).

The training had 60 hours divided in 6 modules, requiring at least 10 hours of dedication by the student.

Eighteen students were enrolled in Moodle. Engineers and Technical professionals that work in Broadcast were the target audience.



## 2. Methodology

The course stimulated the interaction between all participants of the course.

The Pedagogical Proposal was collaborative-cooperative. So, the students were motivated to interact under the instructor mediation, an experienced Digital Television Systems Specialist of Inatel.

## 3. Course Structure

The forums have been created to encourage interaction and stimulate communication among course participants.

In Area of Interaction Moodle (located in the central area of the virtual room), there were four (4) discussion forums fixed, which remained throughout the course: News Forum, Forum of Pedagogical Questions, Forum of Technical Support and Coffee Forum.

The programming of each module had a video presentation, a PowerPoint presentation file, the material (web and PDF), the chat, the supplementary material and a multiple choice test.

The e-books contained important elements such as images, list of abbreviation and acronyms, tables, graphs, glossary, animations, video classes, bibliographic references, electronic index, quizzes and help.

## 4. Evaluation System

The assessments were held during each Module and were diagnosed the absorption of the content by the student.

These assessments consisted of multiple choice questions.

The student's approval depended on achieving a minimum score (7 points).

## 5. Results

**55.55% (10 students) were APPROVED.**

**44.44% (8 students) were DISAPPROVED.**

The students demonstrated motivation to apply the knowledge in their professional activities.

In order that the methodology works properly in the next team it is necessary to continue the work of engagement and motivation from ITU and Inatel, to emphasize characteristics of a student of eLearning courses, work the culture of studying at a distance and also allow time for learning procedurally, because the technology of digital TV is complex. The time wasn't enough to absorb content and interact in forums and chat.

This pilot course allowed diagnosing strengths and areas to improve in the Moodle platform and in the methodology.

# Part III

- Ideas for New Centers of Excellence

- Transfer knowledge in telecommunications issues for development countries

## HOW?

To establish local partnerships for create local centers (multimedia centers) to offer on-line courses. For example: rouse youngsters (high school level) for science and technology areas, like Information and Communication Technologies – ICT.

Partnership between the ITU Academy and technical/major degree learning institutions to supplement students curriculums



- Transfer knowledge in telecommunications issues for development countries

HOW?

Build capacity for leaders, technicians and engineers with qualitative and efficient programs.

Build capacity of institutions and partnerships networks in various development countries. Support them to lead process to create, to conform and to preserve local learning programs inside them country.

Propose a different collaborative learning model involving different centers of excellence distributed in other regions of the Globe: We believe that this interaction can further improve the experiences exchange between the students

Muito Obrigado

Thank you

Děkuji

# *Inatel*

*Instituto Nacional de Telecomunicações*

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*Consultoria - Hardware - Software*

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