## Slide 1

**You've Found...**
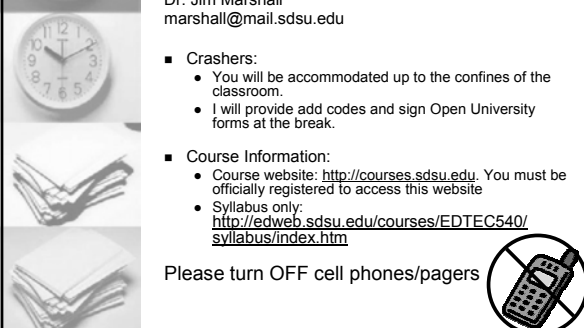
EDTEC 540:
Introduction to Educational Technology

Dr. Jim Marshall
marshall@mail.sdsu.edu

- Crashers:
  - You will be accommodated up to the confines of the classroom.
  - I will provide add codes and sign Open University forms at the break.
- Course Information:
  - Course website: http://courses.sdsu.edu. You must be officially registered to access this website
  - Syllabus only: http://edweb.sdsu.edu/courses/EDTEC540/syllabus/index.htm

Please turn OFF cell phones/pagers

## Slide 2

EDTEC Introduction

**WELCOME TO...**

**Introduction to**

**Educational Technology**

**Dr. Jim Marshall**
San Diego State University
Fall 2002

## Slide 3

Comments from the course evaluation:
*The professor shouldn't let students talk so much. Too many students this semester wanted ... own ...*

**Goal:** Be a good education consumer

**Objective:** Match your needs, abilities and efforts to the courses you take, with the result being your success

...field
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*...ing ...ng if our ...to our ...assignment Plus, along with the ...ere is a paper also right? Thanks.*

## Slide 4
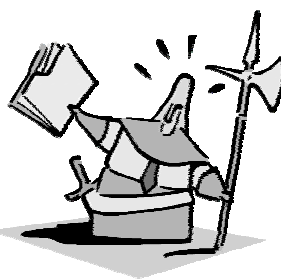
## Top 10 (-4) List

- Pursuing MA in EDTEC, or interested in the practice of instructional design
- Looking to turn theory into application, apply models to the real world
- Long to go beyond whiz-bang techy-ness, to figure our what works with technology, and why
- Curious why people do, and don't, perform as expected
- Problem-solver… long to make things better
- Nosey – like to look at situations, ask questions, determine what is going on… and why

## Slide 5

## Another way of looking at it…

- Doctor of Philosophy
  - Doctorum = teach
  - Philosphia = love of knowledge
- Master
  - Magister = one who has control
  - Gaining intellectual control over subject
- Bachelor
  - Cheval = horse, in French
  - Chevalier = a knight
  - Bas chevalier = received formal training in combat, but who has not been into battle

## Slide 6

## Logistics

- Course Website – Blackboard@SDSU
  - http://courses.sdsu.edu
  - Resources
    - Announcements
    - Syllabus
    - Lecture Slides
    - Discussion Boards
    - Student Homepages
  - Only registered students can access website

## Logistics

- Lecture & Demonstration
- Small Group Exercises
- Assessment
  - Midterm option, Quizes, Final Examination
  - Projects
    - Performance Analysis
    - Weekly Reflections
    - Instructional Product Development: Job Aid
- Other Particulars
  - Attendance/Meeting Hours/Break
  - Office Hours

## Make an Informed Decision

**Goal:** Be a good education consumer

**Objective:** Match your needs, abilities and efforts to the courses your take so that you are successful



## An Introduction to Educational Technology
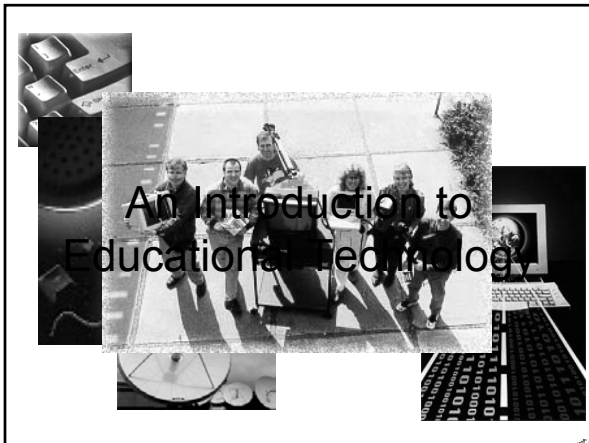
## Old definition of Educational Technology

"**The media born of the communications/technology revolution which can be used for instructional purposes alongside the teacher, textbook, and blackboard.**"

## Newer definition of Educational Technology

**"A systematic way of designing, carrying out, and evaluating the total process of learning and teaching, based on research in human learning and communication, and employing a combination of human and non-human resources, in order to improve human and organizational performance."**

## More definitions

➢ *Education:*

➢ *Training:*

➢ *Instruction:*
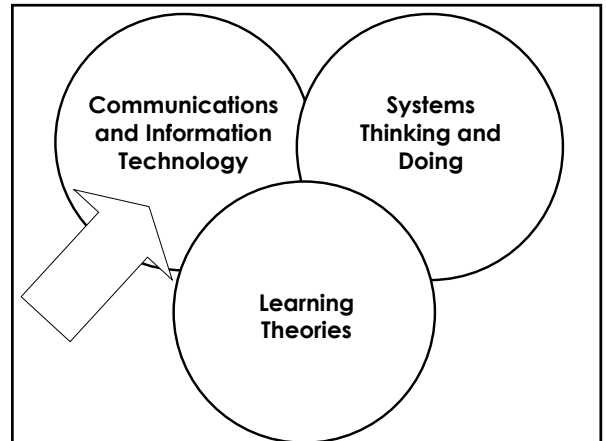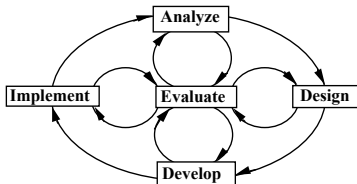
## More definitions

> *Education:*
>> • **the philosophies and practices which seek an increase of each individual's general capacities to function and thrive in society; learning to think; learning to learn.**
>
> *Training:*
>> • **the endeavor to promote the acquisition of specific knowledge and skills; usually vocationally related.**
>
> *Instruction:*
>> • **the processes and products which facilitate planned changes in individual capacities, most commonly in knowledge and skills.**

## Educational Technology includes Hard & Soft Technologies

> Hard Technologies: the things, **STUFF,** tangible systems and products
>> • a computer, a satellite, Internet Explorer

> Soft Technologies: the ideas, thoughts, planning systems, intellectual tools
>> • a checklist for picking software; a theory about how to motivate people, a process by which successful instruction is created

## The ISD Process

> A soft technology that informs our use of hard technologies



## (diagram)



Communications and Information Technology

Systems Thinking and Doing

Learning Theories

## Communications/ Information Technology

> Comenius' illustrated textbook (1650s);
> School museums→media centers
> From visual instruction to AV
>> • "Books will soon be obsolete in our schools."
>>   Edison, 1913

> WWII training films
>> • German chief, "We had everything perfectly calculated except…." [457 training films!!!]
>> • Birth of the IPISD

## Communications/ Information Technology

> Aftermath of Sputnik: NDEA  beyond hardware to communications theory ($40M)
> FCC sets aside ETV stations
> Ford Foundation funds MPATI (and others to $170M)
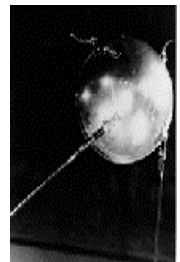
Interest in ETV wanes:
talking heads, teacher resistance, equip. cost,
TV unable to present multiple conditions
necessary for student learning

*"the role played in formal education by instructional television has been on the whole a small one... With minor exceptions, the total disappearance of instructional television would leave the educational system fundamentally unchanged"*

[Carnegie Commission on Higher Education, 1967

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## Communications/ Information Technology

> Technologies are many – and constantly evolve:
- Main frame computers
- Multimedia
- Videodisc
- Portable computers
- Internet

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Communications and Information Technology

Systems Thinking and Doing

Learning Theories

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## Systems Thinking and Doing

> War effort: need for systematic approach to training-- >ISD
> Systematic AND systemic
> "Self‑correcting process for planning, implementing and evaluating instruction to achieve a purpose." [Banathy]
> Behavioral objectives movement
> Task analysis linking work & training
> Individualization of instruction; mastery learning

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Communications and Information Technology

Systems Thinking and Doing

Learning Theories

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## Learning Theories

> Behavioral psychology
> Cognitive psychology
> Adult psychology

## Behavioral Psychology

➤ Concern with the learner 'doing it'
➤ Emphasis on breaking skills into that which is observable and measurable
➤ Thorndike's Principals of Learning (1921), "learning would occur if subject matter were carefully refined and sequenced and students appropriately reinforced"
➤ Examples?

## Cognitive Psychology

➤ Concern with the learner 'getting it'
➤ Focus on internal factors like understanding, valuing, interest, motivation, readiness, memory
➤ Interest in self-knowledge, self-assessment, construction of meaning
➤ Making connections – content to existing scaffolding/schema
➤ Examples?

## Adult Learning Theories

➤ Importance of self-directedness in learning
➤ Willingness to learn is congruent with its relationship to personal goals
➤ Preference for need or problem centeredness, not subject driven approaches
➤ Need to attach instruction to that which is already known
➤ Adults prefer active learning

## Why use EDTEC?

➤ Large numbers, lower cost when a product or repeatable system in place
➤ Anytime
➤ Anywhere—particularly appropriate for global settings
➤ Individual choice; independent growth
➤ Teach dangerous skills or those that need repetition

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**"Multimedia training has the potential to be very engaging, but it can also be deadly dull. A shiny CD-ROM or a trip to a jazzy WWW site is no guarantee of a rewarding learning experience.... came across some products that sucked the life out of topics like communication, coaching and leadership-- dynamic domains murdered by endless objectives, complex interfaces, and, worst of all, inauthentic tests and practices.**

**Bad training remained bad because of bad instructional design decisions. It was not at all improved by the color, sounds and action of multimedia technology."**

[Rossett & Barnett, 1996, p.42]

## Coming Attractions

➤ Next Week's Special Guest…

The ADDIE Model