

**The First International Conference on Open and  
Distance E-Learning**

**CONSTRUCTING A CRITERIA FOR THE  
ASSESSMENT OF INTERACTIVITY IN  
LEARNING MANAGEMENT SYSTEMS**

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# What do we know about interactivity?

- It is a concept
- It is relatively enigmatic – ““it seems relatively unclear just what ‘interactivity’ and ‘interactive media’ mean” (Jensen, 2011:185)
- We are free to interpret the concept for as long as no narrow perspective of it is acquired
- As a result, exploration of the concept has been very dynamic in the past years
- Some scholars posit that interactivity:
  - Makes many things accessible through technology
  - Extends from the concept of interaction
  - Occurs between two or more people
  - In the context of the web: is bilateral interaction between two or more people in a learning context (in Karatas, 2008:1)

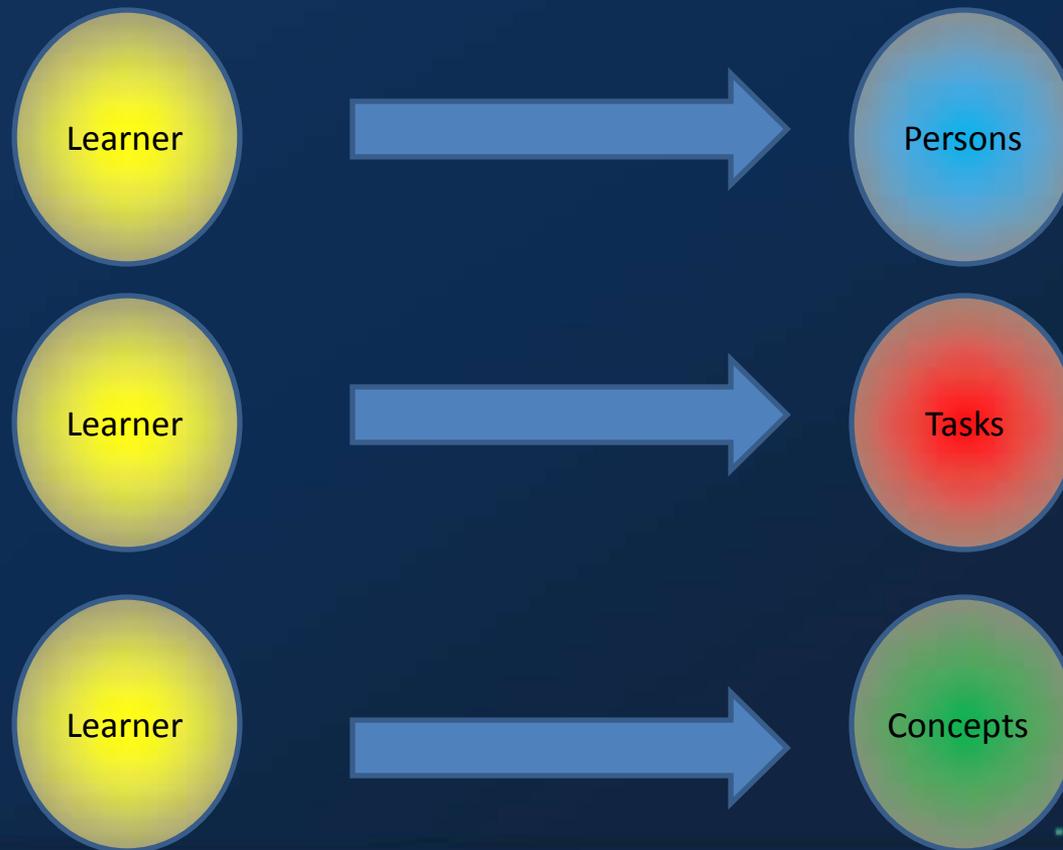
# Definitions of interactivity tell us that it is?

- An interplay
- An exchange
- Causes mutual influence
- Can be in the context of learning
- Between people
- Aided by the web

## What about interactivity that does not occur between people?

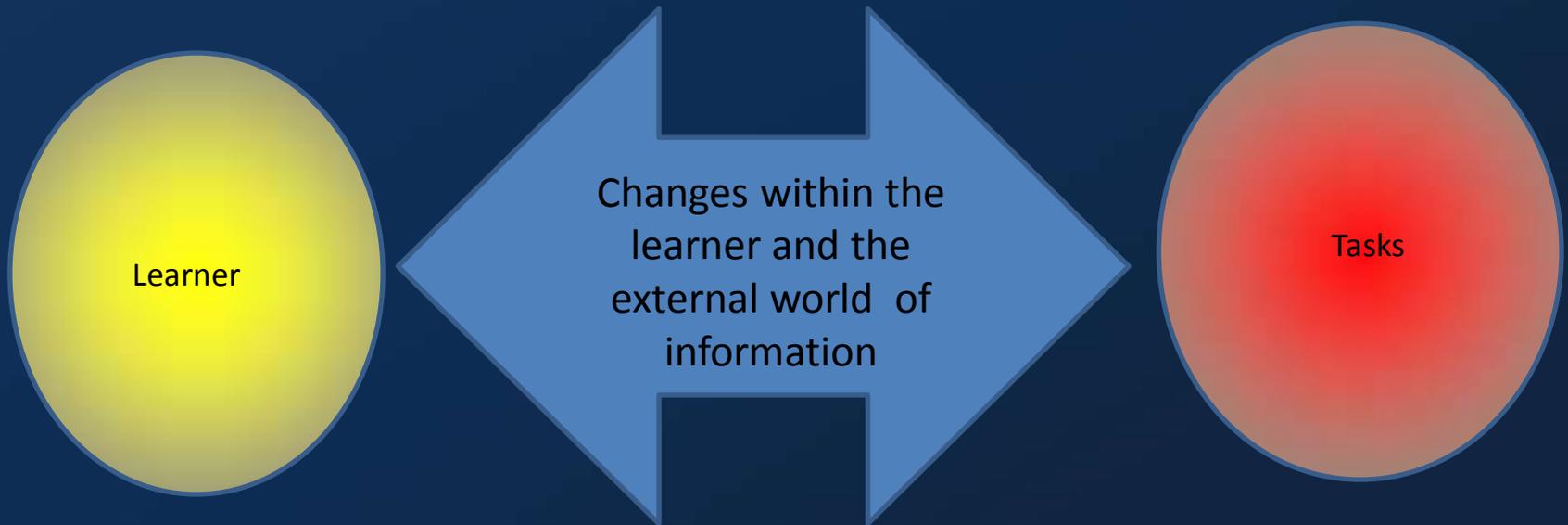
- Interaction can occur with concepts and tasks (Mayes, 2006:10) .

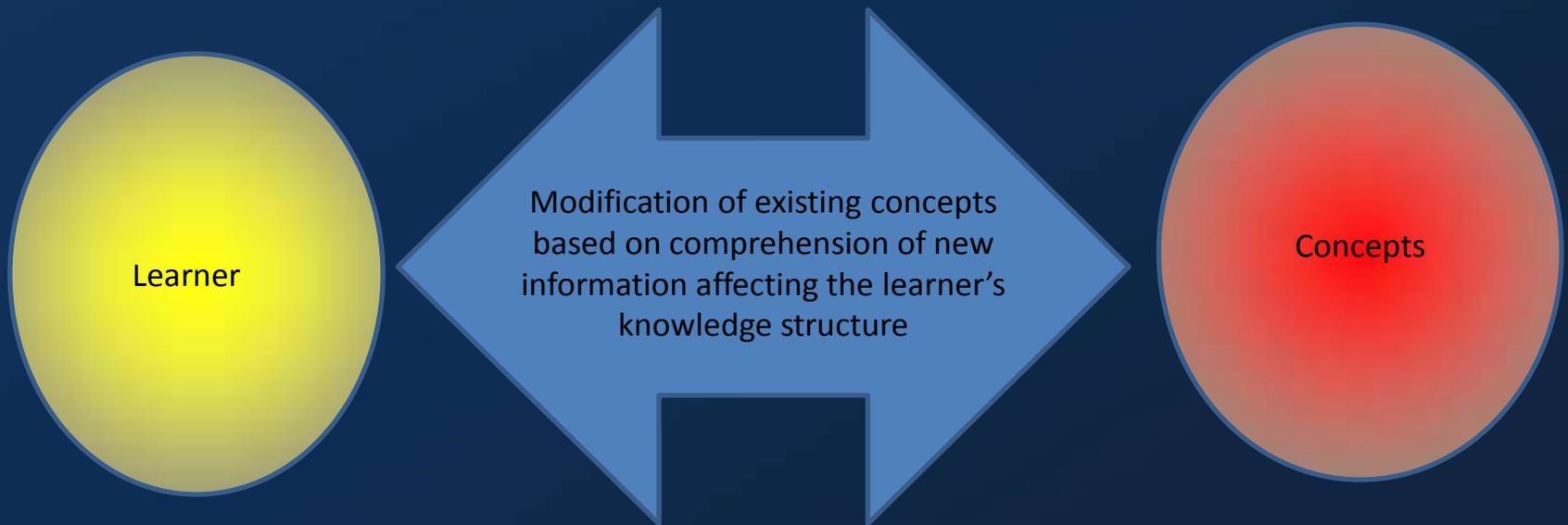
# Based on existing definitions of interactivity, such a concept can occur in three ways:



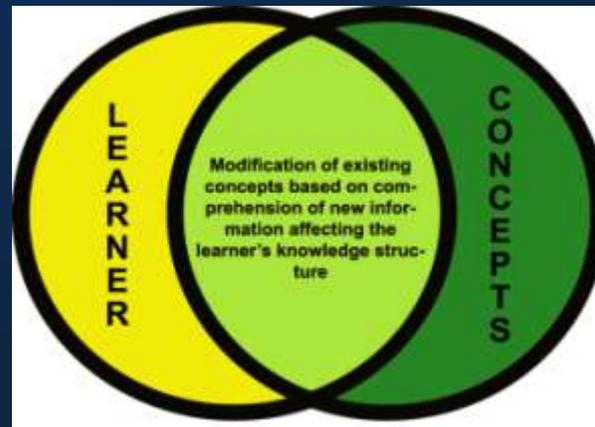
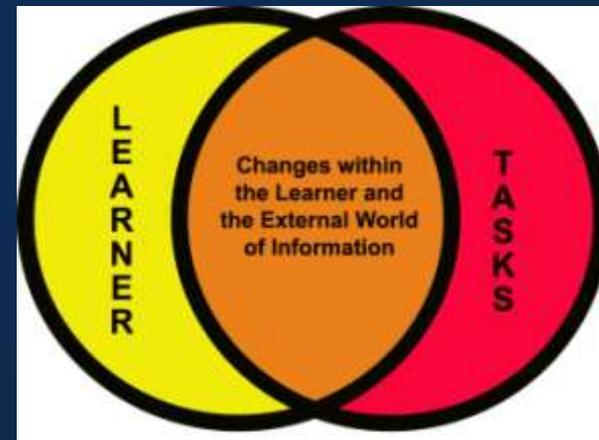
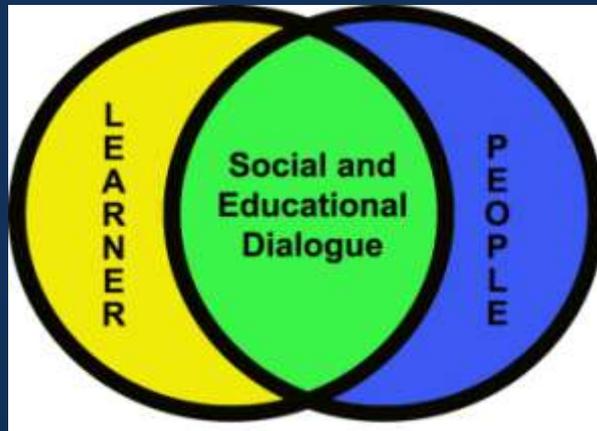
# What comes out of these interactions, ideally?



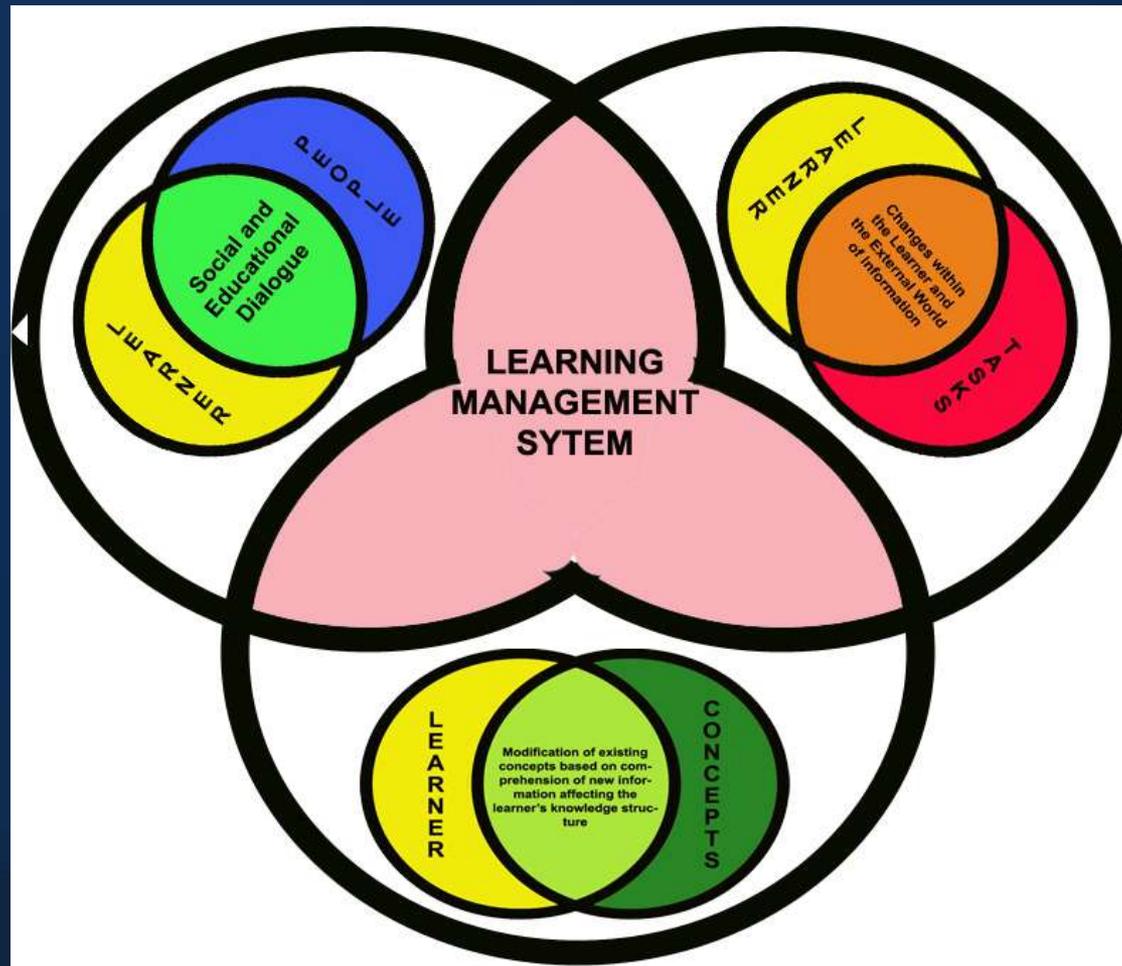




# Proposed models of the three levels of Interactivity



# Proposed Model of a Fully Interactive Learning Management System



# In effect, an interactive learning management system should:

Allow interaction between:

- Learner and Persons
- Learner and Concepts
- Learner and Tasks

And...

- Result to or encourage Social and Educational dialogue
- Cause Changes within the learner and the external world of information
- Cause Modification of existing concepts based on comprehension of new information affecting the learner's knowledge structure

# Based on existing perspectives of interactivity, the concept has several dimensions:

## Dimensional Models of Interactivity:

- One Dimensional – proposed by Everett Rogers in 1988
- Two Dimensional – proposed by Bohdan O. Szuprowicz in 1995
- Three Dimensional – proposed by Brenda Laurel in 1990
- Four Dimensional – proposed by Lutz Goertz in 1995
- N-Dimensional – proposed by Carrie Heeter in 1989

# What do these models have in common?

All the models describe how interactivity is achieved in each of the dimensions!

The Problem: How do we put them all together to illustrate a multi-dimensional model of interactivity?

The Answer:  
Superimpose them against the  
theoretical model for an  
Interactive Learning  
Management System...

# Therefore,

	Learner-Person: Educational And Social Dialogue	Learner-Task: Changes Within The Learner And External World Of Information	Learner-Concept Paradigm: Modification Of Existing Concepts Based On Comprehension Of New Information Affecting The Learner's Knowledge Structure
One Dimensional Model of Interactivity (Everett Rogers, 1986)	Interactivity is the capability of new communication systems (usually containing a computer as one component) to 'talk back' to the user, almost like an individual participating in a conversation"		
Two Dimensional Model of Interactivity (Bohdan O. Szuprowicz, 1995) "Interactivity is best defined by the type of multimedia information flows"	User to user interactivity	User to computer interactivity	User to document interactivity
Three Dimensional Model of Interactivity (Brenda Laurel, 1990) "Interactivity exists on a continuum that could be characterized by three variables" specifically:	Frequency, in other words, how often you could interact"		"Significance, or how much the choices really affected matters" "Range, or how many choices were available"

<p><b>Four Dimensional Model of Interactivity (Lutz Goertz, 1995 in Jensen, 2011)</b>  <i>Isolates four dimensions, which are said to be meaningful for 'interactivity':</i></p>		<p>“The degree of choices available”</p>	<p>“The degree of modifiability”,  The quantitative number of the selections and modifications available”  The degree of linearity or Non-linearity”</p>
<p><b>N-Dimensional Model of Interactivity (Carrie Heeter, 1989)</b>  <i>Understands interactivity in relation to communication technologies as a multidimensional concept</i></p>	<p>“The degree to which users can add information to the system that a mass, undifferentiated audience can access”  “The degree to which a media system facilitates interpersonal communication between specific users”</p>	<p>“The amount of effort users must exert to access information”  “The degree to which a medium can react responsively to a user”  “The potential to monitor system use” (: 224), understood as a form of feedback that automatically and continuously registers all user behavior while on the media system”</p>	<p>“Selectivity concerns the extent to which users are provided with a choice of available information”</p>

**Thank you very  
much!!!**

