

# Designing a Responsive e-Learning Infrastructure

## Systemic Change in Higher Education

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# Session Overview

- Project Overview
- Systems Design
- Research Questions
- University e-Learning Needs Assessment
- Results
- Implications
- Final Thoughts
- Q & A



# Project Overview

- A mid-sized university in the southeastern US is preparing for increased e-Learning opportunities.
- Following a systematic process utilizing systems thinking, the e-Learning needs of the university were analyzed using mixed methods:
  - Interviews (administrators, faculty, staff) (n=24)
  - Surveys:
    - Faculty (n=89)
    - Division of Continual Learning Survey (n=24)
    - Graduate Students (n=50)



# Systems Design

## Kaufman's Organizational Elements Model (1988):

- Macro (Ends) = Clear Goals
- Micro (Means) = Resources to attain goals
- Process (Policy & Procedures) = Aligned policy and procedures



# Systems Design

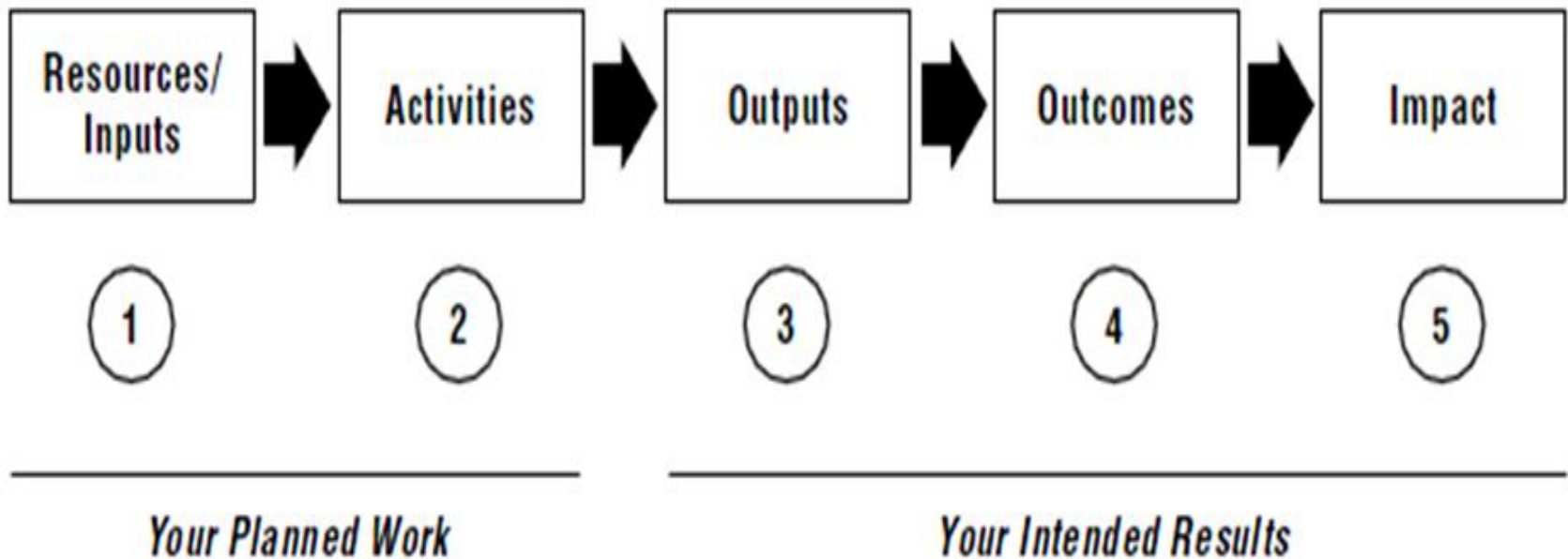
## Organizational Elements Model (Kaufman, 1988)

	<b>Inputs</b>	<b>Processes</b>	<b>Products</b>	<b>Outputs</b>	<b>Outcomes</b>
	(New Material)	(How-to-do-its)	(En-route results)	(Deliverables)	(Effects of outputs in and for community)
Scope	Internal (Organizational)			External (Societal)	
Cluster	Organizational Efforts		Organizational Results		Societal Results /Impacts



# NSF Logic Model

A Logic Model (W. K. Kellogg Foundation, 1998)



# Research Questions

1. What are the administrator, faculty, staff, and student perspectives on the current state of online learning at one mid-sized university in southeastern US?
2. What are the specific needs of faculty and students with regard to e-Learning?
3. What organizational elements are currently in place to support e-Learning at this institution?
4. Is there alignment between administrator, faculty, staff, and student goals, needs, and organizational elements to support e-Learning?



# e-Learning Needs Assessment

## Macro Assessment (Interviews n=24)

- Provost
- Associate Provost
- Registrar
- Dept Chairs
- Faculty
- Staff

## Micro Assessment (Surveys n=163)

- Faculty Needs, Attitudes, & Self-Efficacy (n=89)
- Staff of Division of Continual Learning (n=24)
- Student Needs (n=50)

Is there alignment between policies and procedures, needs and resources?





# RQ1: Administrator Perspectives

A quote from a top level university administrator helps summarize the study's overall findings:

*"...what's missing still is a very clear view from (the University) as to what it wants to be in online learning. Do we want to... deliver the premium experience... I'm not sure the university knows where it wants to go with online learning. I do think that the environment and economic situation defines what we'll do for a while as well. So, we may be wanting to do this, but we may not be able to do so, so that we have to meet somewhere in the middle" (University administrator, 2013)*



# RQ1: e-Learning Support Unit Staff Perspectives

**Interviews with e-Learning administrative support unit suggest division regarding the unit's primary role**

Support &  
Entrepreneurship

*OR*

Innovation & Laboratory  
for Best Practices



# RQ1: Faculty Perspectives

## Faculty Highlights

1. Willing to teach an online course in the future.
2. Students in their degree programs would like the option of taking some courses online.
3. They do not feel particularly prepared to teach online.
4. They would prefer to teach a combination of f2f and online courses.
5. Online courses are not of equal quality to f2f courses.
6. Teaching online courses takes more work than a face-to-face class.



# RQ1: Faculty Perspectives

## Faculty Highlights

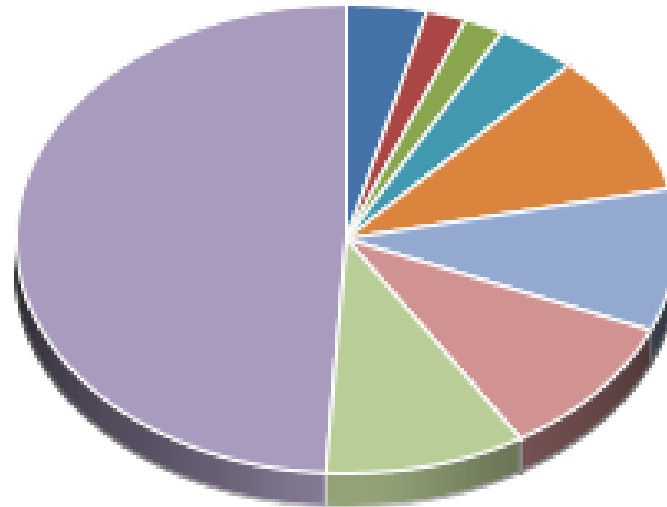
Question	Total Responses	Mean
Online learning is or, will soon be, highly relevant in delivering courses that I teach.	87	4.13
I feel prepared to teach online.	84	4.07
I feel that I know how to teach online.	83	3.96
I feel confident in using technology to teach online.	86	4.44
I have enough support for teaching online.	78	3.82
Online teaching is easy for me.	68	3.68
The quality of online learning is equal to face-to-face instruction.	88	2.78
I have enough time to design and develop my online courses.	78	2.41

Scale: 1-7 (1=disagree / 7=agree)

# RQ1: Student Perspectives

## Students Want Option for Online Courses

Providing online courses in my program is a positive.



■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ 6 ■ 7 ■ 8 ■ 9 ■ 10

1. Technology Help Desk
2. Student Support Services (e.g. advisement, real-time chat, etc.)
3. Faculty Virtual Office Hours



# RQ2: Specific e-Learning Needs of Faculty & Students

## Faculty Concerns

1. I do not have enough time.
2. Online learning is not equal to f2f in quality.
3. Online teaching is not easy for me.
4. I do not have enough support for teaching online..

### Faculty's Top Five

1. Help desk real-time technology support
2. Incentives
3. Communication & collaboration w/ online students
4. Multimedia Dev.
5. Student tech training

### Chair's Top Five

1. Incentives
2. Marketing & Recruitment
3. Course design
4. Help desk real-time technology support
5. Transitioning from F2F to online teaching & learning

### Student's Top Three

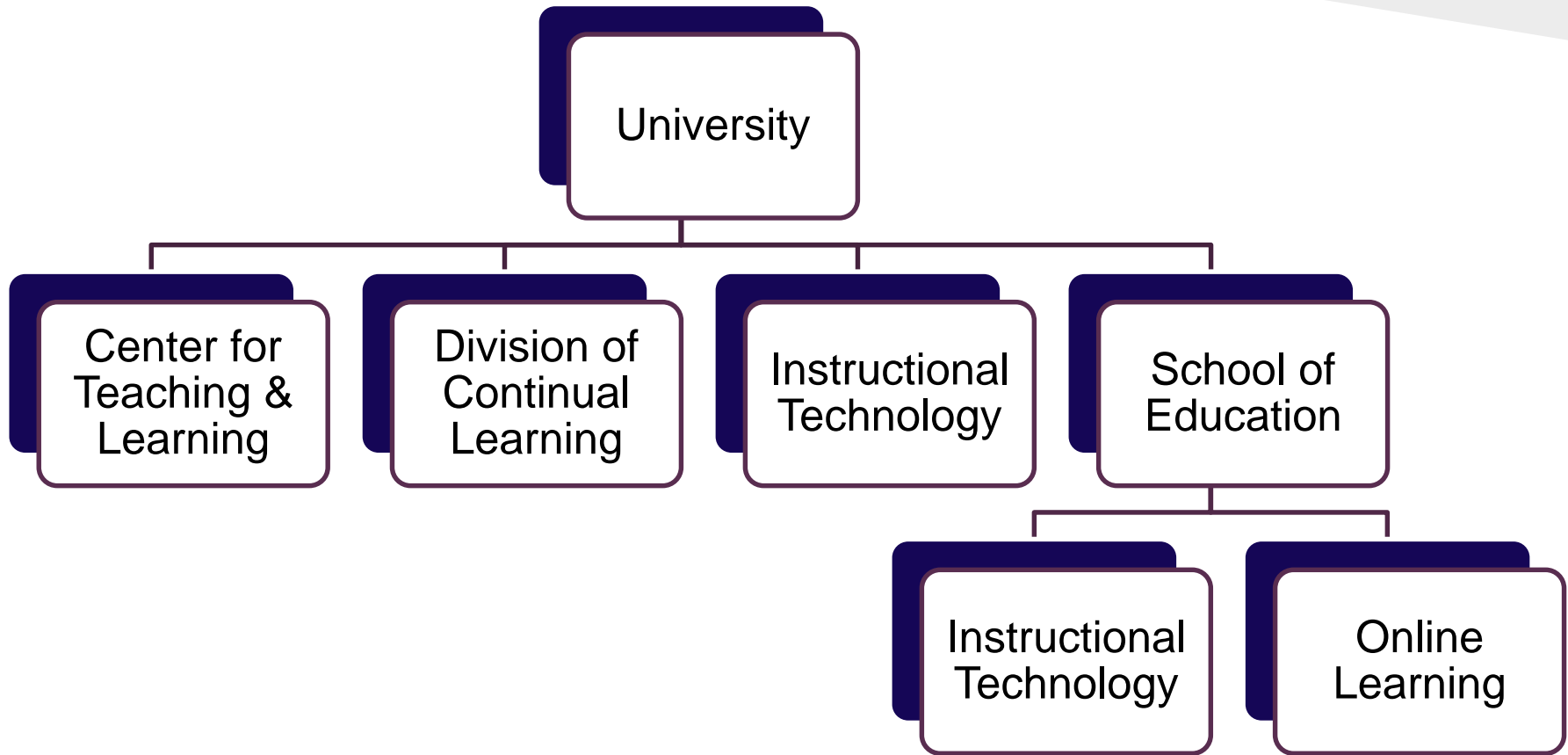
1. Help desk real-time technology support
2. Student support services
3. Faculty virtual office hours

# RQ2: e-Learning Needs Compared

Question	Chairs	Faculty
Faculty and department incentives	6.67	6.11
Marketing and recruitment	6.33	5.16
Course design	6	5.8
Help desk real-time technology support	6	6.17
Transitioning from F2F to online teaching and learning	6	5.51
Enrollment management for department	5.5	5.11
Existing models for online learning	5.33	5.44
Multimedia development for courses	5.33	5.82
Assessment of the quality of online learning	5	5.74
Communication and collaboration with online students	5	5.89
Advising and mentoring online students	5	5.74
Business planning and development	4.67	4.90
Trends in the field	4.67	5.22
General technology skills training	4.67	5.54
General overview of online learning	4.33	4.98
Facilitating online discussions	4	5.57
Class sizes	4	5.59
Delivering online lectures	3.5	5.48
Teacher and student satisfaction	3.5	5.55
Student technology training and orientation	3	5.81

# RQ3: e-Learning Organizational Elements

## Duplicative and/or Competitive Support Units





# RQ4: Do goals, needs, and organizational elements align?

## Goals

University

Student  
Graduation &  
Career Success

## Needs

Faculty #1 Need

IT Support – eLearning  
Skills & Technology

Students #1 Need

IT Support – Access &  
Course Related Tech Issues

## Elements

Continual Learning Unit

Entrepreneurial

- New student enrollment
- Income generation

(Not set up for direct  
student & faculty support)



# Implications: Redesign of eLearning

## Long Term Outcome (Impact 6+ mo)

1. 100% graduates employed / enrolled in add' l education
2. 100% graduate satisfaction
3. 100% faculty satisfaction

## Short Term Outcome (Impact 0-6 mo)

1. 100% student graduation
2. 100% graduate satisfaction
3. 100% faculty satisfaction

## Outputs (What is Done)

1. Integrated support services (FTLC, DCL, IT services)
2. Students receive real-time support
3. Faculty received real-time support
4. Admin funding & goal restructuring for FTCL, DCL, and IT units

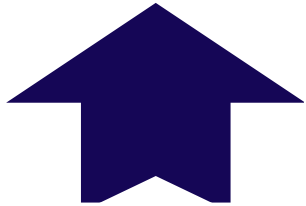
## Activities (What You Do)

1. Identify list of faculty and student support needs.
2. Integrate IT tech support for faculty & students (FTLC, DCL, IT)
3. Shift emphasis of DCL funding to support (not entrepreneurial)
4. Reconfigure support services to provide real-time just in time support
5. Inputs (Resources Allocated)

## Inputs (Resources Allocated)

- Students, faculty, administration, staff
- Policies
- Technology infrastructure and processes

**Goal (Noun Based Accomplishment): Quality e-Learning**



# Final Thoughts

- Systems thinking has provided a theoretical and applicable “guiding” framework
- Faculty and student needs have been assessed
- Building e-Learning infrastructure takes time to evolve
- Currently many misalignments between goals identified and implementation
- Framework provides roadmap to where we want to go.... Ends, Means, and Processes

# Final Thoughts

Q & A



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# Thank you!

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Slides:

<http://systemicchange.wordpress.com/research/aect-conferences/aect-2014/13/>



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