Developing an Effective e-Learning Infrastructure: Ends, Means, and Processes

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Overview

- The Project
- Systems Design
- School of Education Needs Assessment
- Implementation Framework
- Final Thoughts
- Q&A

The Project

- A mid-sized university in the southeastern US is preparing its faculty for increased e-Learning opportunities.

- Following a systematic process utilizing systems thinking the existing needs of its six departments were assessed using mixed-methods:
  - Chair interviews (n=6)
  - Chair survey (n=5)
  - Faculty surveys (n=35,n=32)
  - Student survey (n=50)

The School of Education

Counselor Education

Teacher Education

Educational Leadership

Specialized Education

Educational Research

Library and Information Studies

Online degree program as of Fall 2013

Online degree program as of Fall 2014

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Theoretical Framework

Kaufman's Organizational Elements Model (1988):
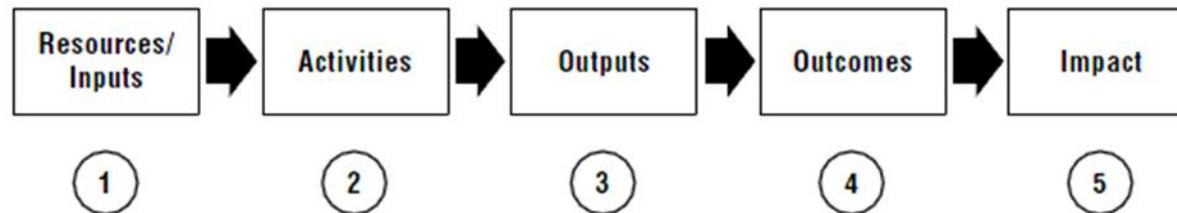
- Macro (Ends) = Clear Goals

- Micro (Means) = Resources to attain goals

- Process (Policy & Procedures) = Aligned policy and procedures

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Organizational Elements Model (Kaufman, 1988)

	Inputs	Processes	Products	Outputs	Outcomes
	(New Material)	(how-to-do-its)	(en-route results)	(the aggregated products of the system that are delivered or deliverable to society)	(the effects of out-puts in and for society and the community)
Scope	Internal (Organization)				External (Societal)
Cluster	Organizational Efforts		Organizational Results		Societal Results/Impacts

Logic Model (Kellogg Foundation, 2004

Resources/ Inputs → Activities → Outputs → Outcomes → Impact

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Your Planned Work   *Your Intended Results*

Phase 1: Establish e-Learning Needs

- Needs Assessment
  - Department chairs
  - Faculty members
  - Students

Students Want Option for Online Courses

Providing online course options in my program is a positive
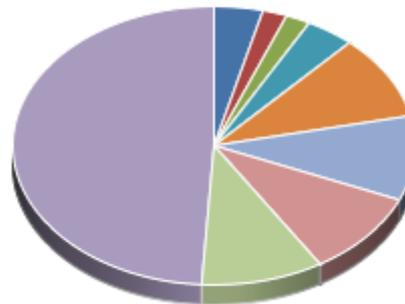
1. Technology Help Desk
2. Student Support Services (e.g. advisement, real-time chat, etc.)
3. Faculty Virtual Office Hours

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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 course are not of equal quality to f2f courses.
6. Teaching online courses takes more work than a face-to-face class.

Faculty (2)

2013 Follow-up Survey (1-7 scale)

Question	Total Responses	Mean
Online learning is or, will soon be, highly relevant in delivering courses that I teach.	31	4.9
I feel prepared to teach online.	32	4.8
I feel that I know how to teach online.	32	4.6
I feel confident in using technology to teach online.	32	4.5
I have enough support for teaching online.	31	4.5
Online teaching is easy for me.	32	4.3
The quality of online learning is equal to face-to-face instruction.	31	3.1
I have enough time to design and develop my online courses.	31	2.7

Faculty – How Can We Help You?

To what extent do you and/or your department need/will need the following services in support of online teaching and learning (1=disagree, 7=agree):

Question	Mean
1. Multimedia development for your courses.	5.6
2. Help desk real-time technology support.	5.3
3. Student technology training and orientation.	5
4. Course design.	4.7
5. Assessment of the quality of online learning.	4.7
6. Marketing and recruitment.	4.6
7. Enrollment management (e.g. class sizes).	4.5
8. Facilitating online discussions.	4.4
9. Delivering online lectures.	4.3
10. General technology skills training.	4.3
Business planning and development.	3.9
General overview of online learning.	3.6

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Department Chairs – e-Learning Needs

Question	Chairs	Faculty
Faculty and department incentives	6.67	
Marketing and recruitment	6.33	4.61
Course design	6	4.7
Help desk real-time technology support	6	5.29
Transitioning from F2F to online teaching and learning	6	
Enrollment management for department	5.5	4.47
Existing models for online learning	5.33	
Multimedia development for courses	5.33	5.57
Assessment of the quality of online learning	5	4.67
Communication and collaboration with online students	5	
Advising and mentoring online students	5	
Business planning and development	4.67	3.92
Trends in the field	4.67	
General technology skills training	4.67	4.29
General overview of online learning	4.33	3.58
Facilitating online discussions	4	4.4
Class sizes	4	
Delivering online lectures	3.5	4.33
Teacher and student satisfaction	3.5	
Student technology training and orientation	3	5.03

Chair SWOT Analysis

Strengths	Weaknesses
• **Existing expertise** • **Content that works nicely and demand for online learning** • **Strong technology support and infrastructure**	• **Lack of interest** • **Concerns over quality of online learning** • **Lack of capacity, capability**
Opportunities	Threats
• **New programs that can leverage online format** • **Meeting needs and genuine interest from school districts**	• Time and funds • Competition from others • Faculty to student ratio

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Meeting the Identified Needs of Faculty and 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. Multimedia development
2. Help desk real-time technology support
3. Student technology training and orientation
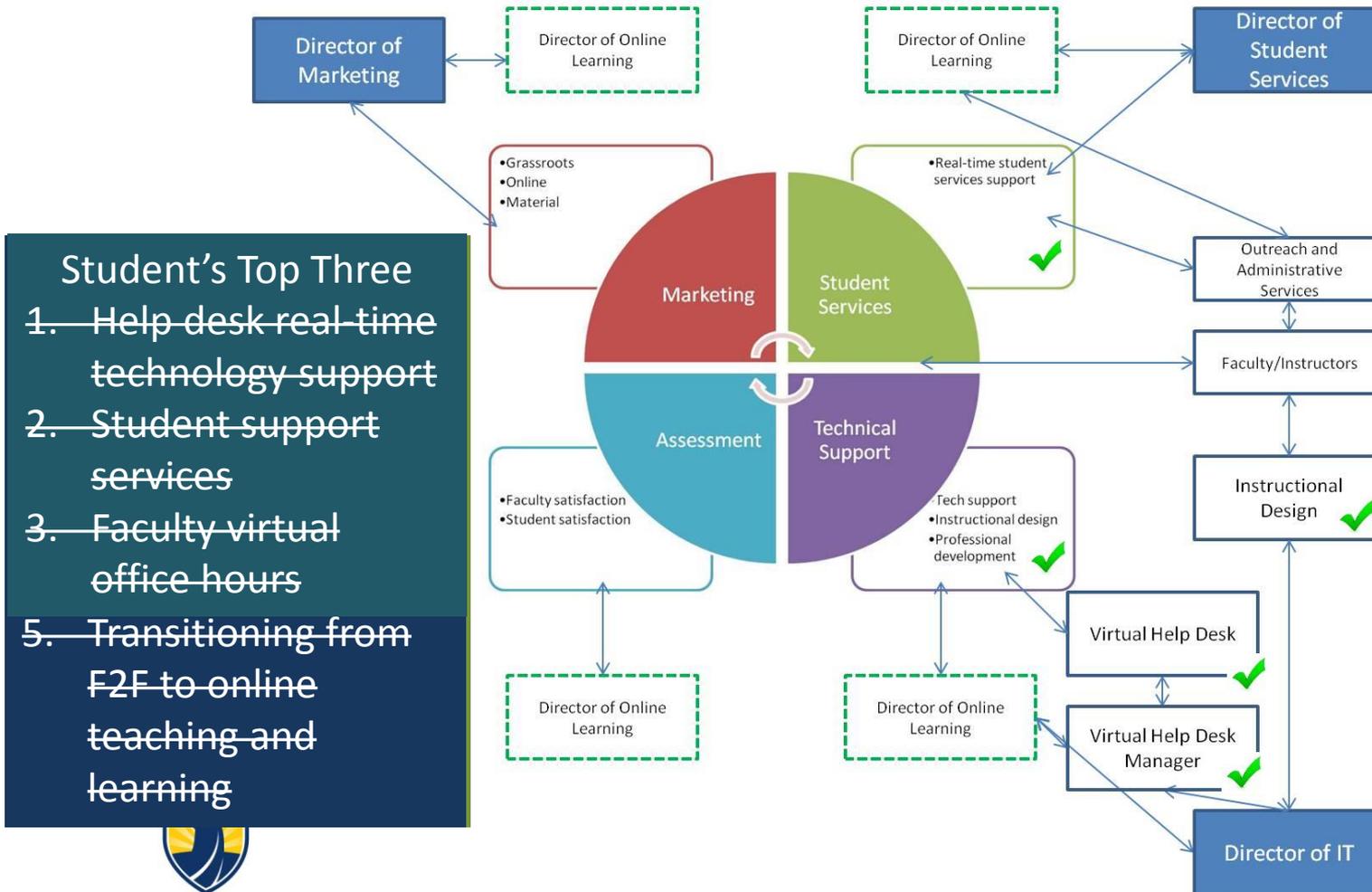4. Course design
5. Assessment of quality

Chair's Top Five
1. Incentives
2. Marketing and Recruitment
3. Course design
4. Help desk real-time technology support
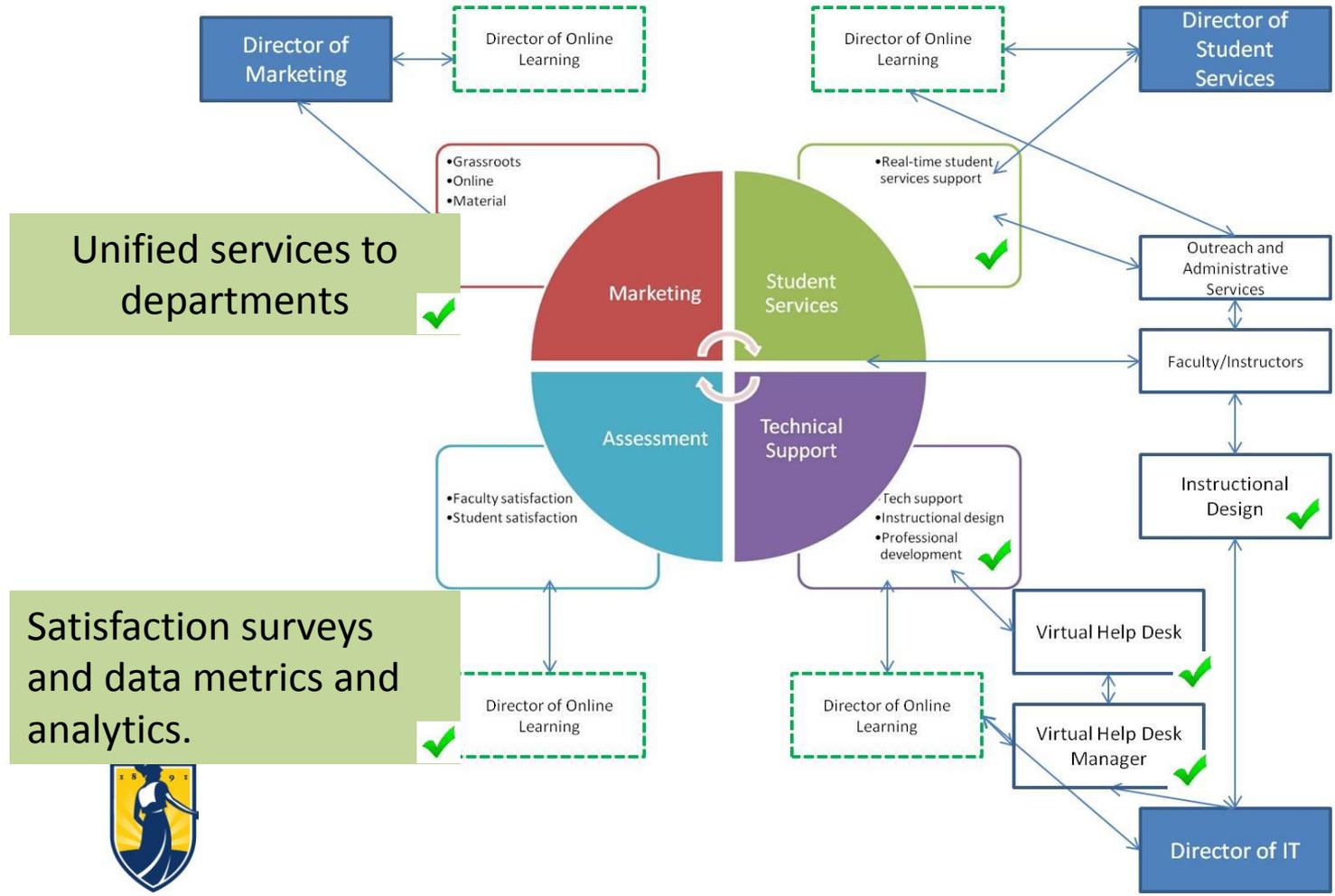5. Transitioning from F2F to online teaching and learning

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

Phase 2: Designing a Responsive e-Learning Support System

Student's Top Three
1. ~~Help desk real-time technology support~~
2. ~~Student support services~~
3. ~~Faculty virtual office hours~~
5. ~~Transitioning from F2F to online teaching and learning~~

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Future Directions

School-wide Guidelines ✔

Director of Marketing

Director of Online Learning

Director of Online Learning

Director of Student Services

Student Technology Orientation ✔

Unified services to departments ✔

- Grassroots
- Online
- Material

- Real-time student services support ✔

Marketing

Student Services

Outreach and Administrative Services

Faculty/Instructors

Preliminary Incentives ✔

Assessment

Technical Support

Instructional Design ✔

- Faculty satisfaction
- Student satisfaction

- Tech support
- Instructional design
- Professional development ✔

Virtual Help Desk ✔

Satisfaction surveys and data metrics and analytics. ✔

Director of Online Learning ✔

Director of Online Learning

Virtual Help Desk Manager ✔

Director of IT

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University e-Learning Support Services
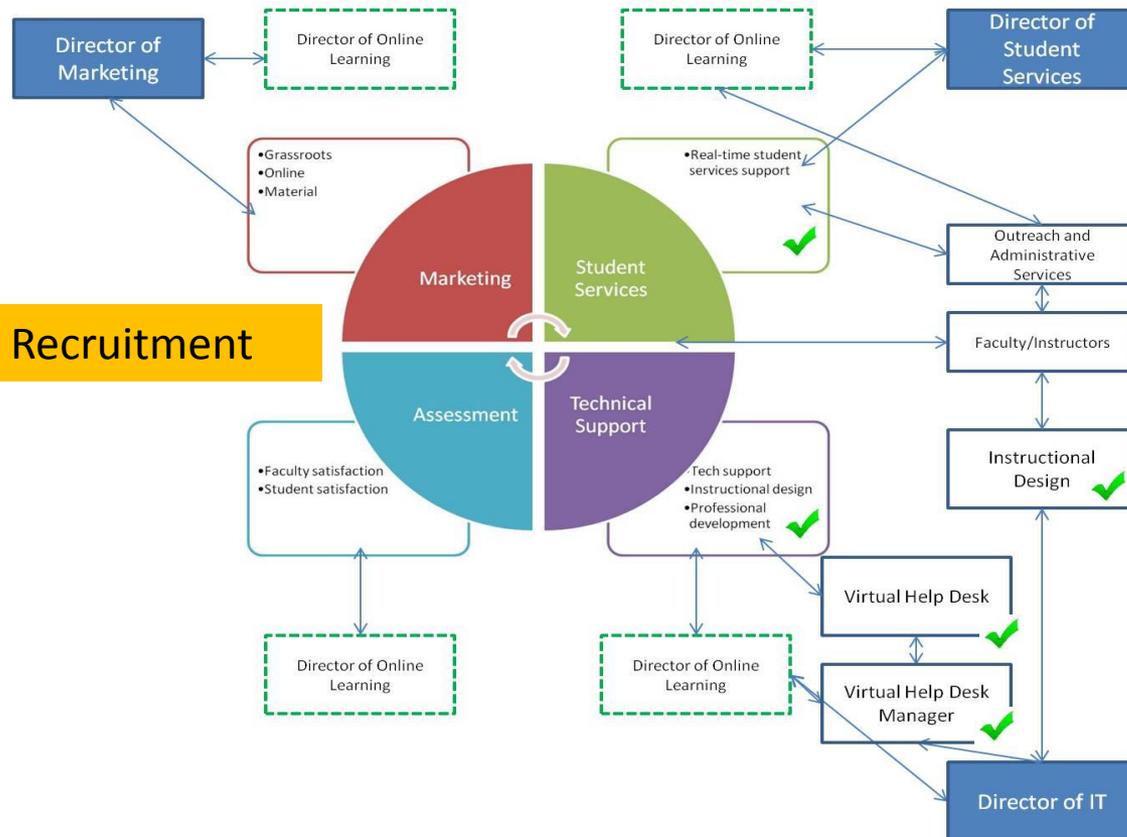
Final Thoughts

- 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

Thank You!

- Q&A

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