



*Listening. Learning. Leading.*

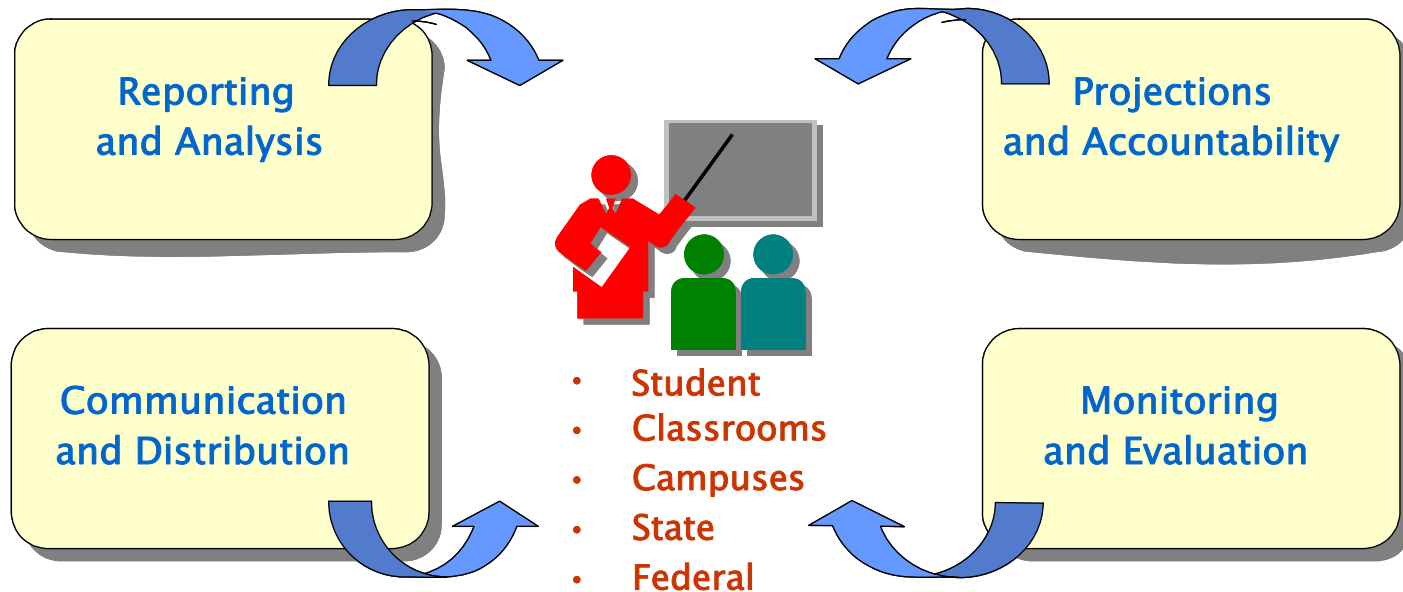
# NEW FOUNDATIONS:

*Building a Culture of Evidence from the Ground Up*

# Decision Support System Architecture for Higher Education

Web-based Educational Accountability and Reporting System that is:

- Learner centered
- Instructionally focused
- Performance oriented
- Data driven
- Customer friendly
- Fiscally affordable



...across all stakeholder levels!

## What is Knowledge Management in Higher Education?

- Analysis and Creation of Knowledge
- Bi-Directional Transmission/  
Communication of Knowledge
- Use of Knowledge for Decision Making



## What is Data and Knowledge Mining?

....the process of discovering (uncovering) meaningful correlations, patterns, trends, and other useful information from immense quantities of data using statistical and pattern recognition technologies.



# How Can Data Mining be Used in Higher Education?

## Students

- What are the skills, knowledge, behavioral attributes, and/or critical success factors needed to acquire a certificate/degree in my chosen area of study?
- What courses contain the skills, knowledge and behavioral attributes that are required for me to be successful in my area of study?



# How Can Data Mining be Used in Higher Education?

## Faculty

- What students in my class have not met what course prerequisites?
- What type of longitudinal student data would help me improve my course activities and/or interest?



# How Can Data Mining be Used in Higher Education?

## Administration

- What are the pre-enrollment characteristics of students who leave after one semester? or stay for 2-to-4 years and graduate?
- What type of courses can we offer to attract more students?
- What type of on-campus experiences/programs did our alumni donors have?



# How Do You Best Approach the Use of Data in Higher Education?

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Guiding Principle:

Focus first on why you need to know and then on what you need to know.

For Example:

In order to choose the right scope and sequence of courses based upon my area of study and existing skills/knowledge, I need to know ....

## What is the Most Important Guiding Principle for Data Management?

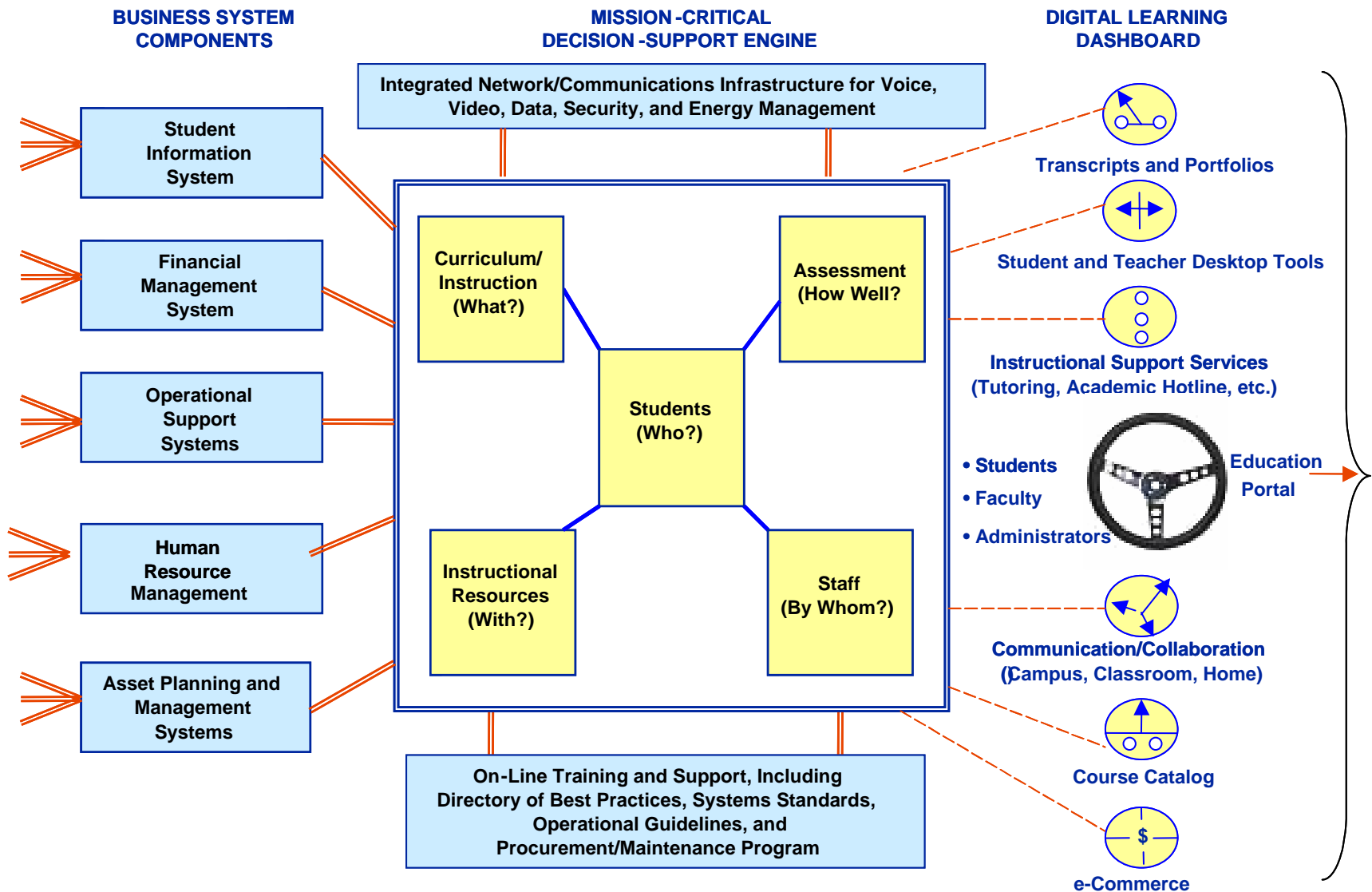
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Avoid using technology to automate systems that were created due to the lack or absence of technology. We must use new tools in new and creative ways.

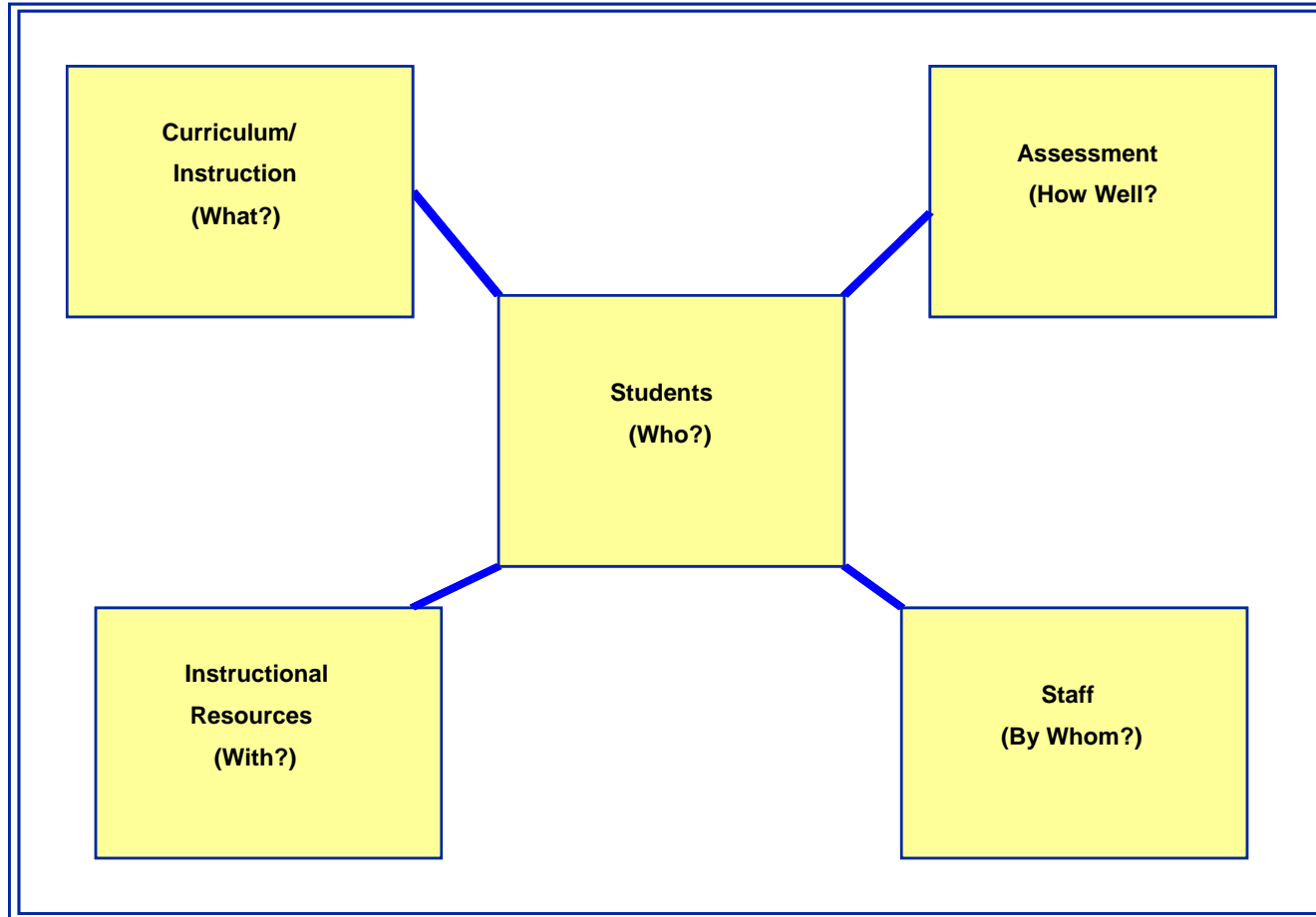
Example:

Academic grades, student transcripts, and course catalog descriptions are the artifacts of the community colleges created and operated during the agricultural and industrial age.

# An Architectural Framework for Transporting Learning Into the 21st Century



# An Architectural Framework for Transporting Learning Into the 21st Century



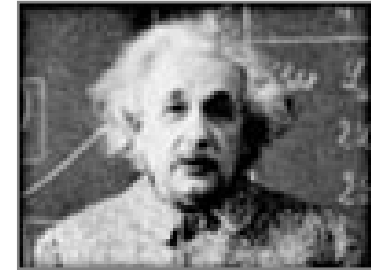
## Top Ten IT Issues in Higher Education

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1. Security and Identity Management
2. Procurement Strategies and Funding Sources
3. Administrative Information Systems (ERP)
4. Disaster/Failure Recovery (Business Continuity)
5. Faculty Development and End-User Support
6. Integrated Network/Communications Infrastructure
7. Strategic Planning and Digital IT Blueprint
8. Staffing, Organization, and Leadership
9. E-Teaching, Learning, Commerce
10. Role-Based Portals and Web Services

Source: 2006 EDUCAUSE Current Issues Committee

# New Interactive Learning Technologies



“Computers are incredibly fast, accurate and stupid; humans are incredibly slow, inaccurate and brilliant; together they are powerful beyond imagination.”

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- Albert Einstein