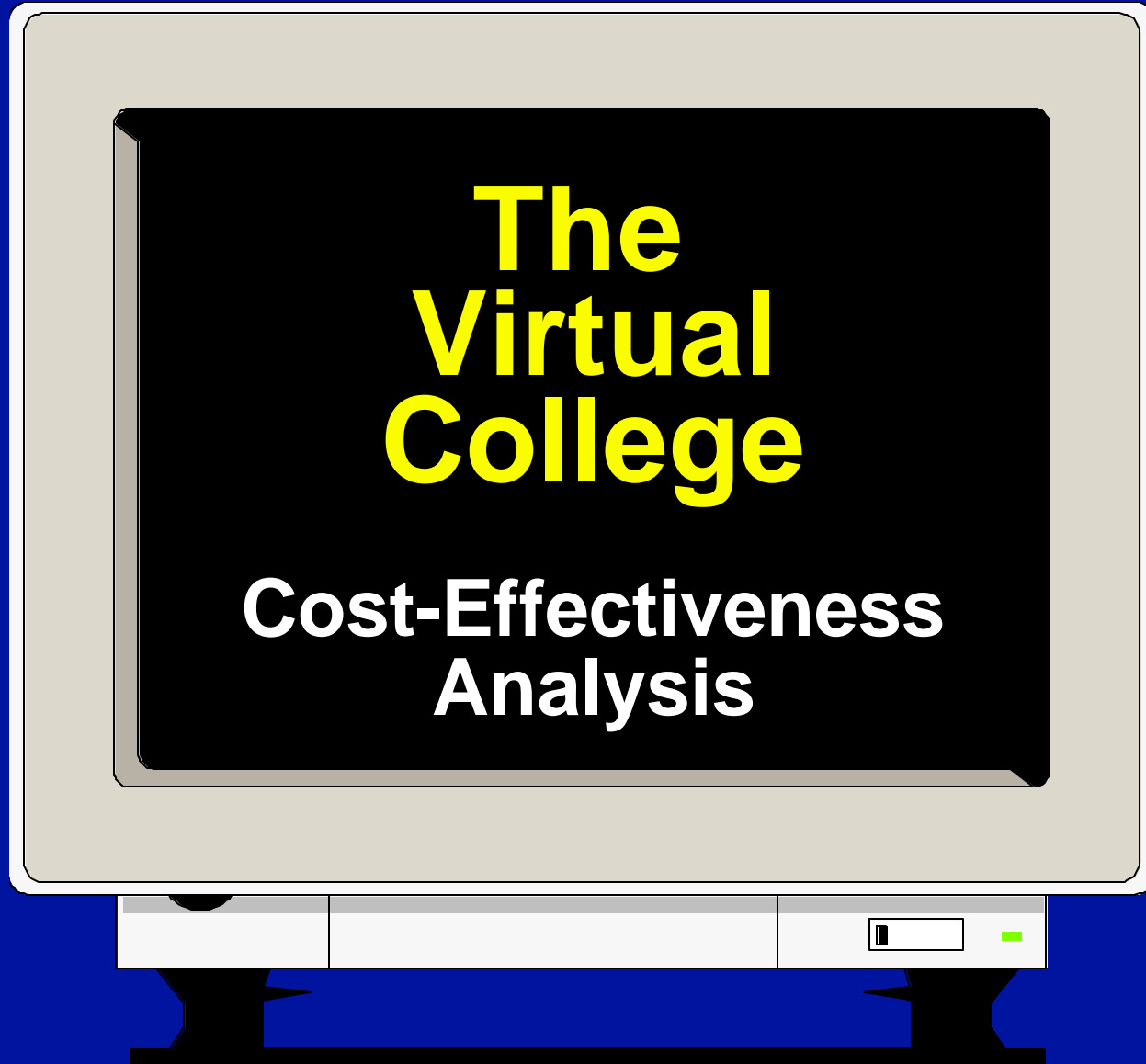


The Virtual College

Cost-Effectiveness
Analysis



Access Issues Addressed by Distance Education

- **Spatial Boundaries**
- **Temporal Boundaries**
- **Instructional Boundaries**

Distance Education Delivery Models

- **Video and Print Telecourses**
- **Videoconferenced Telecourses**
- **Asynchronous Networked Telecourses**

The Interactive Video Telecourse Project

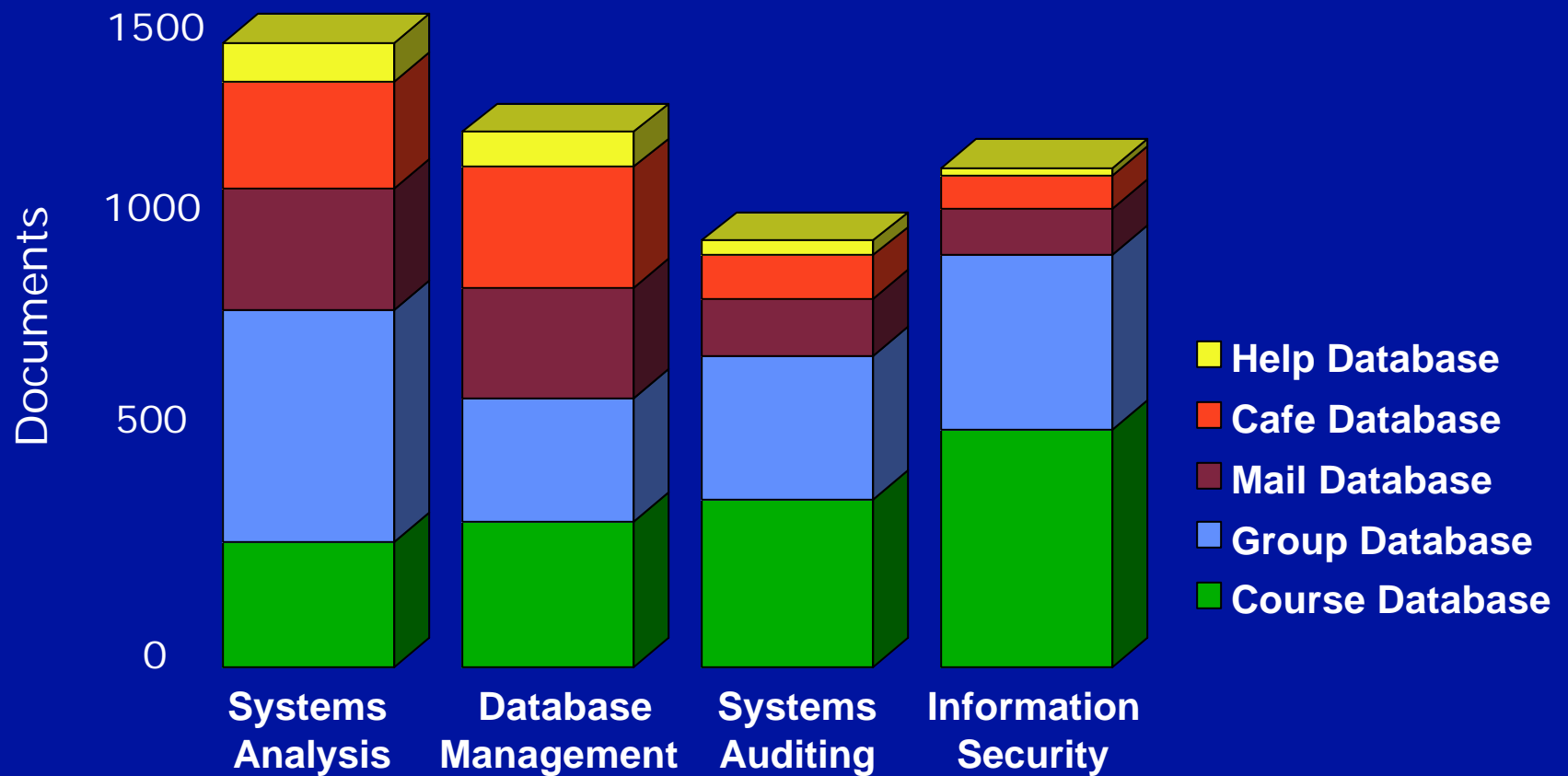
APC in Information Technology

- Systems Analysis
- Database Management
- Systems Auditing
- Information Security

Project Evaluation Objectives

- ISDN Network (Digital Video, Online Labs)
- Cost Effectiveness of Instructional Media

Database Documents Created During Teleprogram

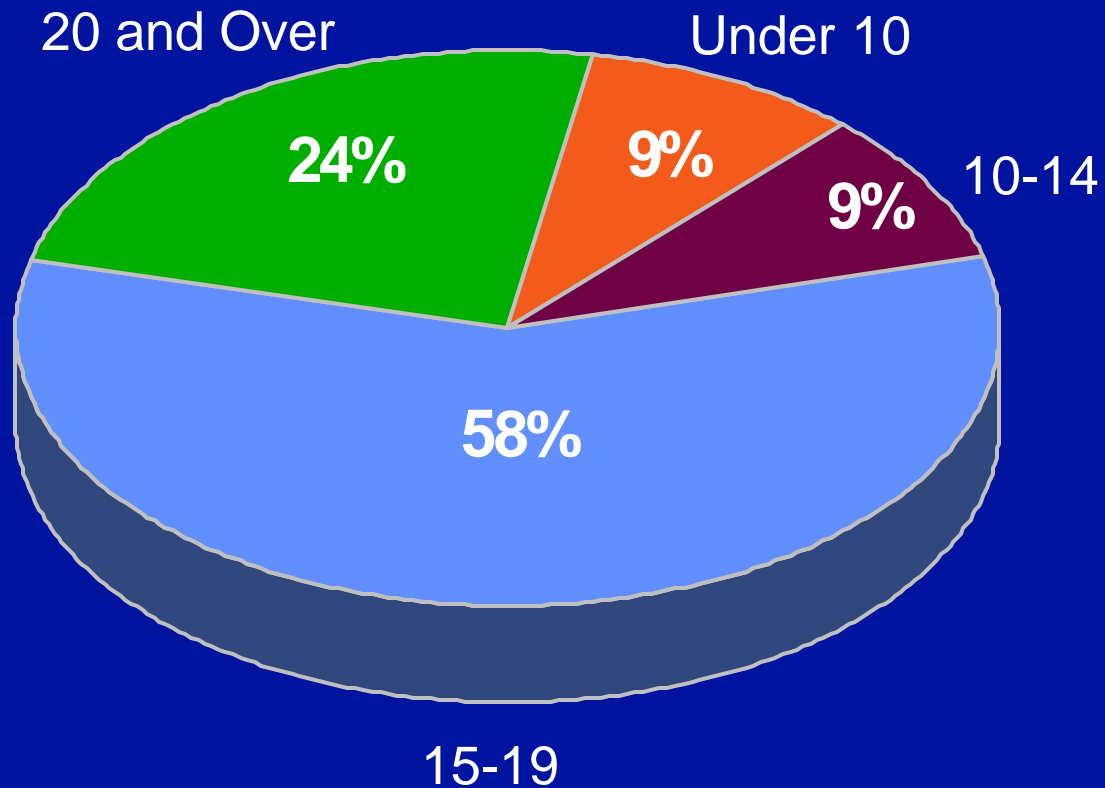


Distribution of Teleprogram Documents

	Teleprogram Databases					
<i>Telecourse</i>	<i>Course</i>	<i>Group</i>	<i>Mail</i>	<i>Cafe</i>	<i>Help</i>	<i>Total</i>
Systems Analysis	323	600	315	275	100	1,613
Database Management	377	320	285	311	90	1,383
Systems Auditing	433	373	146	112	38	1,102
Information Security	615	453	117	86	20	1,291
<i>Total</i>	<i>1,748</i>	<i>1,746</i>	<i>863</i>	<i>784</i>	<i>248</i>	<i>5,389</i>

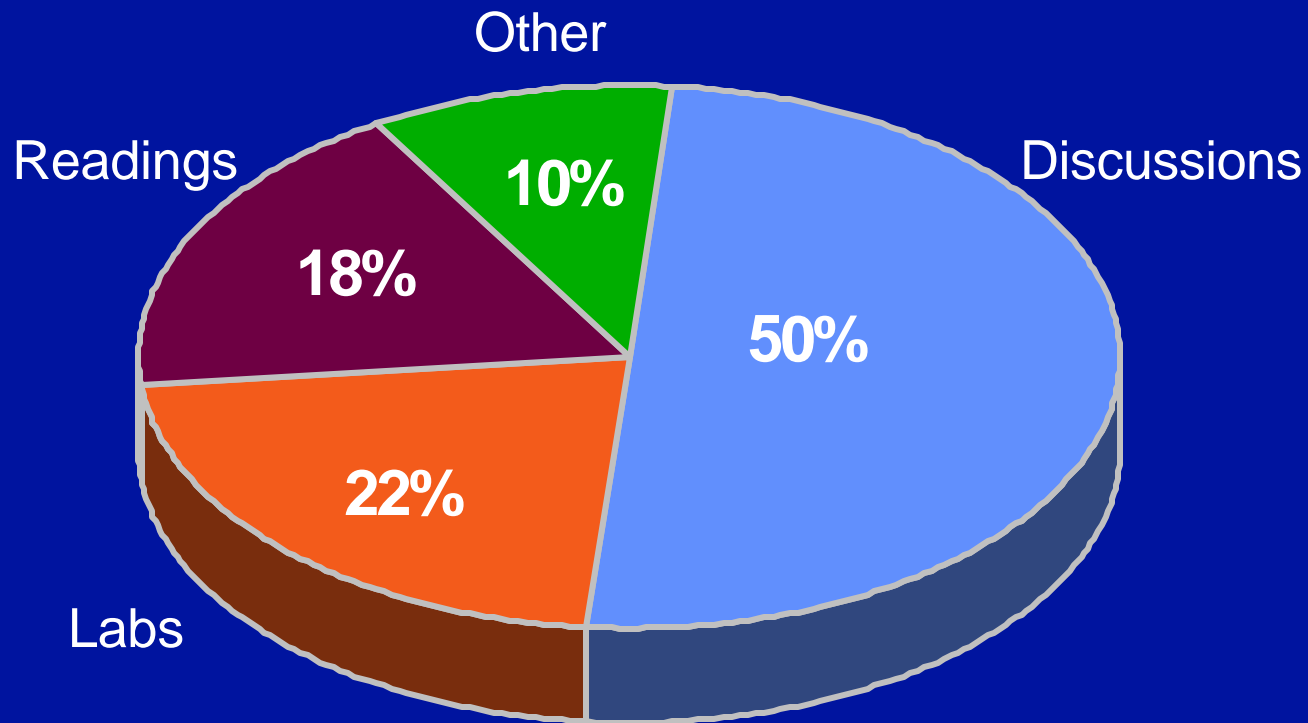
Student Coursework Statistics

Hours per Week



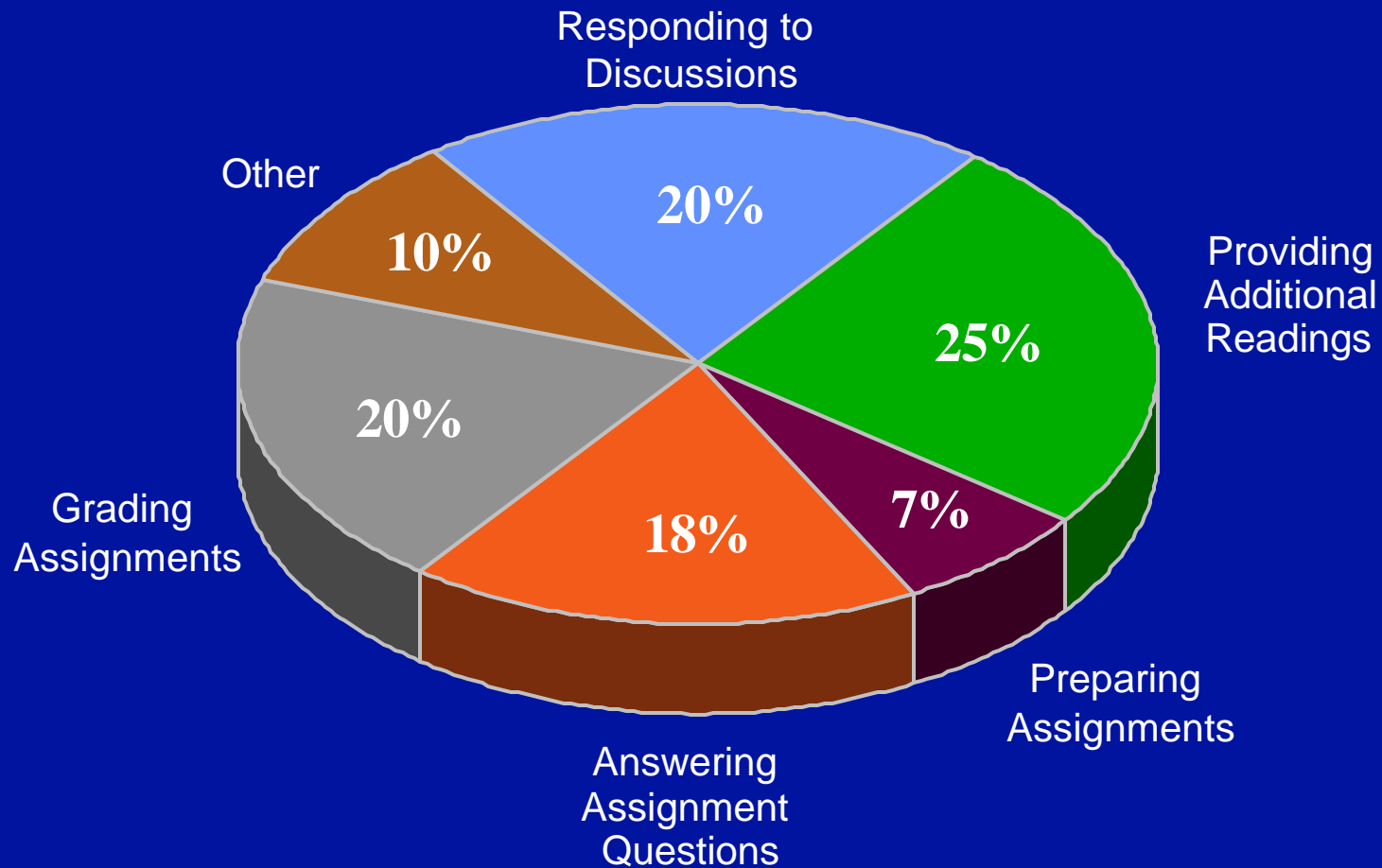
Student Coursework Statistics

Time on Activity

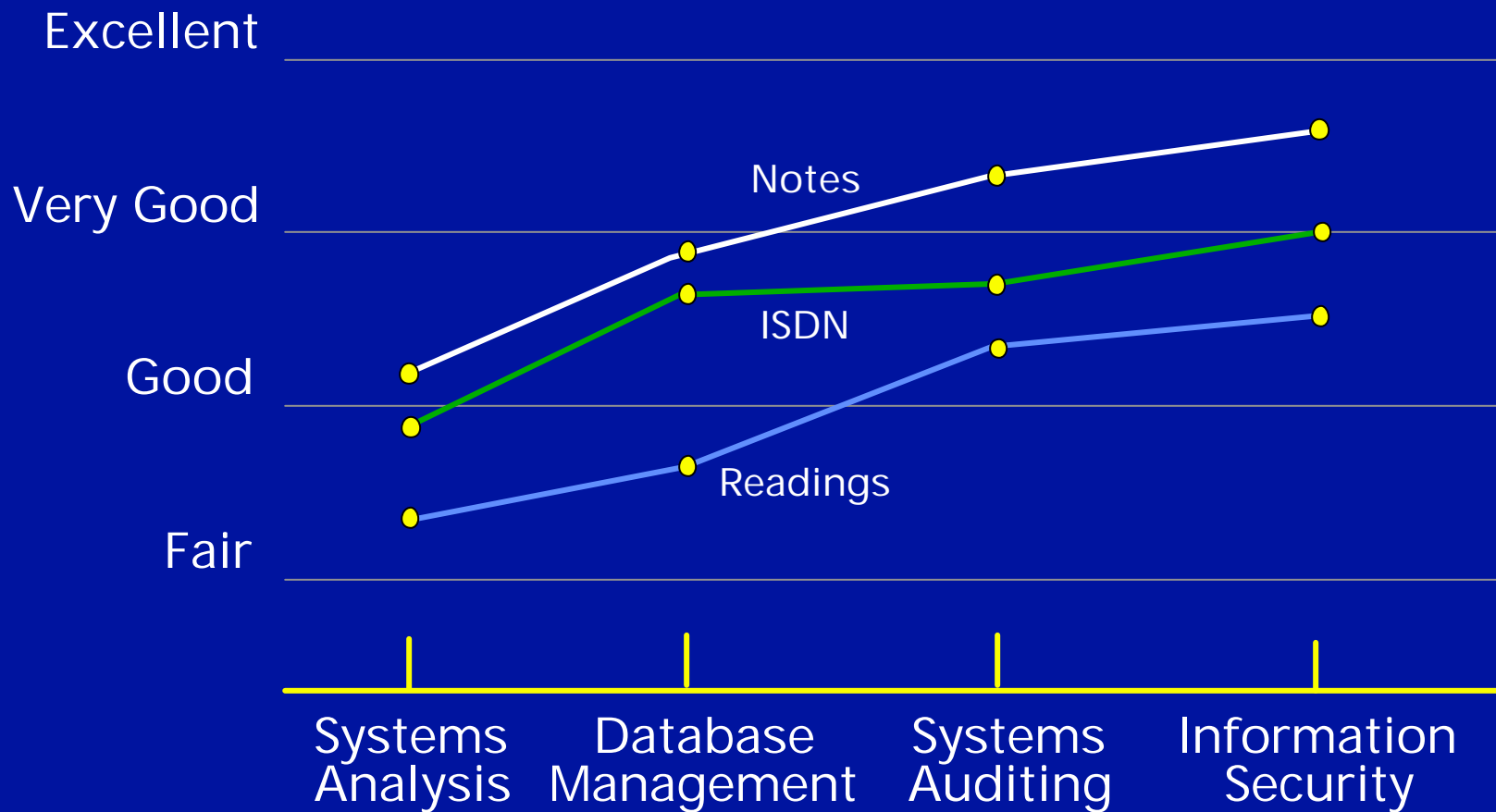


Faculty Course Statistics

Time on Activity



Longitudinal Student Assessment of Delivery System



Evaluation Components

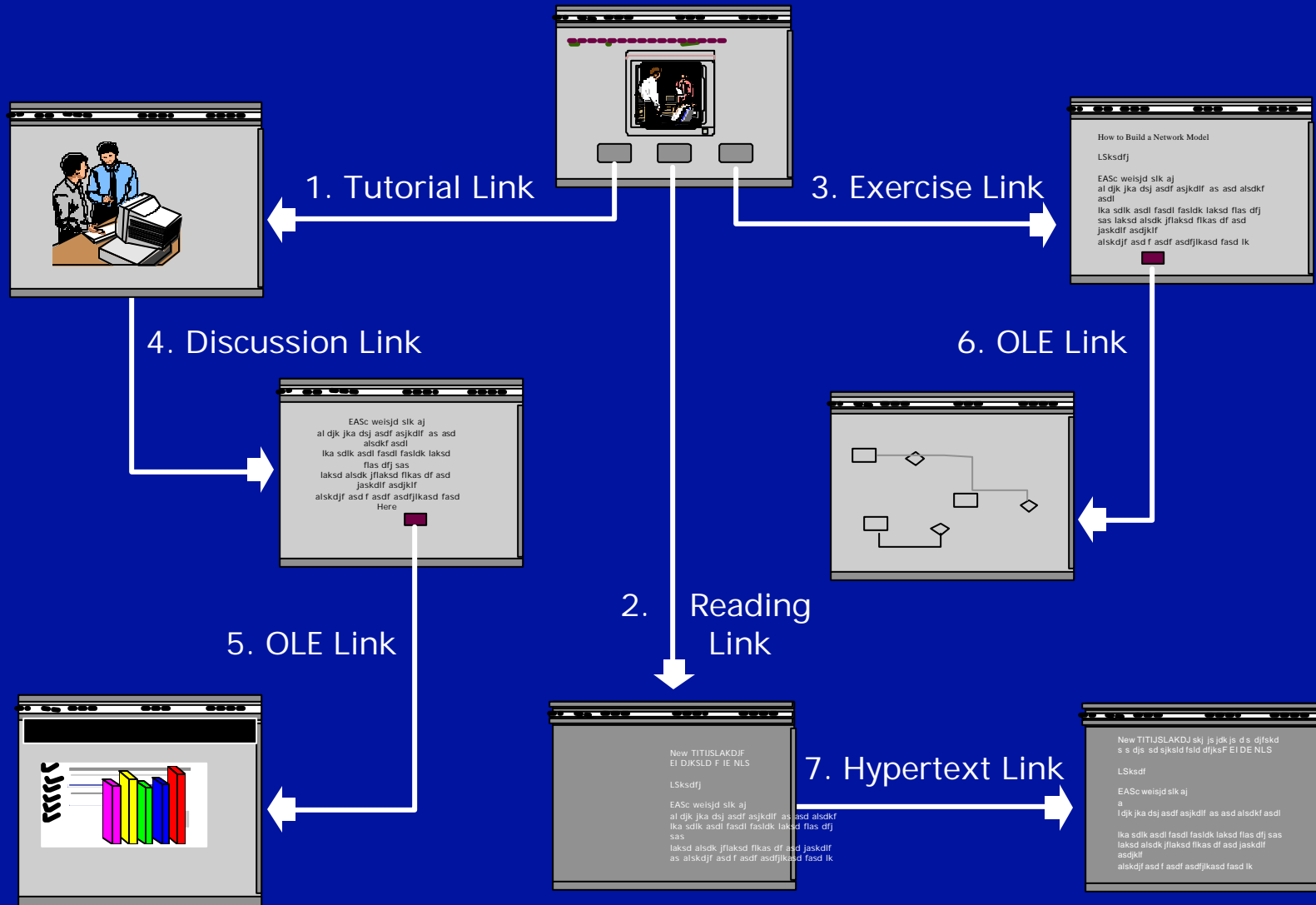
Instructional Media

- Hypertext Only
- Audiographic + Hypertext
- Discussion + Hypertext
- Digital Video + Hypertext

ACM Mastery Levels

- Knowledge Level
- Understanding Level

Anatomy of a Telecourse Session



Mastery Levels for Information Systems Curricula

Association for Computing Machinery	Data Processing Management Association	Institute of Internal Auditors
Knowledge Level	Awareness	Level 1
	Literacy	
Understanding Level	Concept	Level 2
	Detailed Understanding	
Skill Level	Skilled Use	Level 3

ACM Mastery Levels

- **Knowledge Level**
Acquired through self-study or listening to a lecture
- **Understanding Level**
Acquired through completion of problems, exercises or cases
- **Skill Level**
Acquired through completion of projects representative of real-world business situations

Matrix of Evaluation Topics

Mastery Level	Hypertext Only	Audio-Graphic	Discussion	Video
Knowledge	6	6	4	4
Understanding	6	6	4	4
Total	12	12	8	8

Topic Production and Delivery Costs

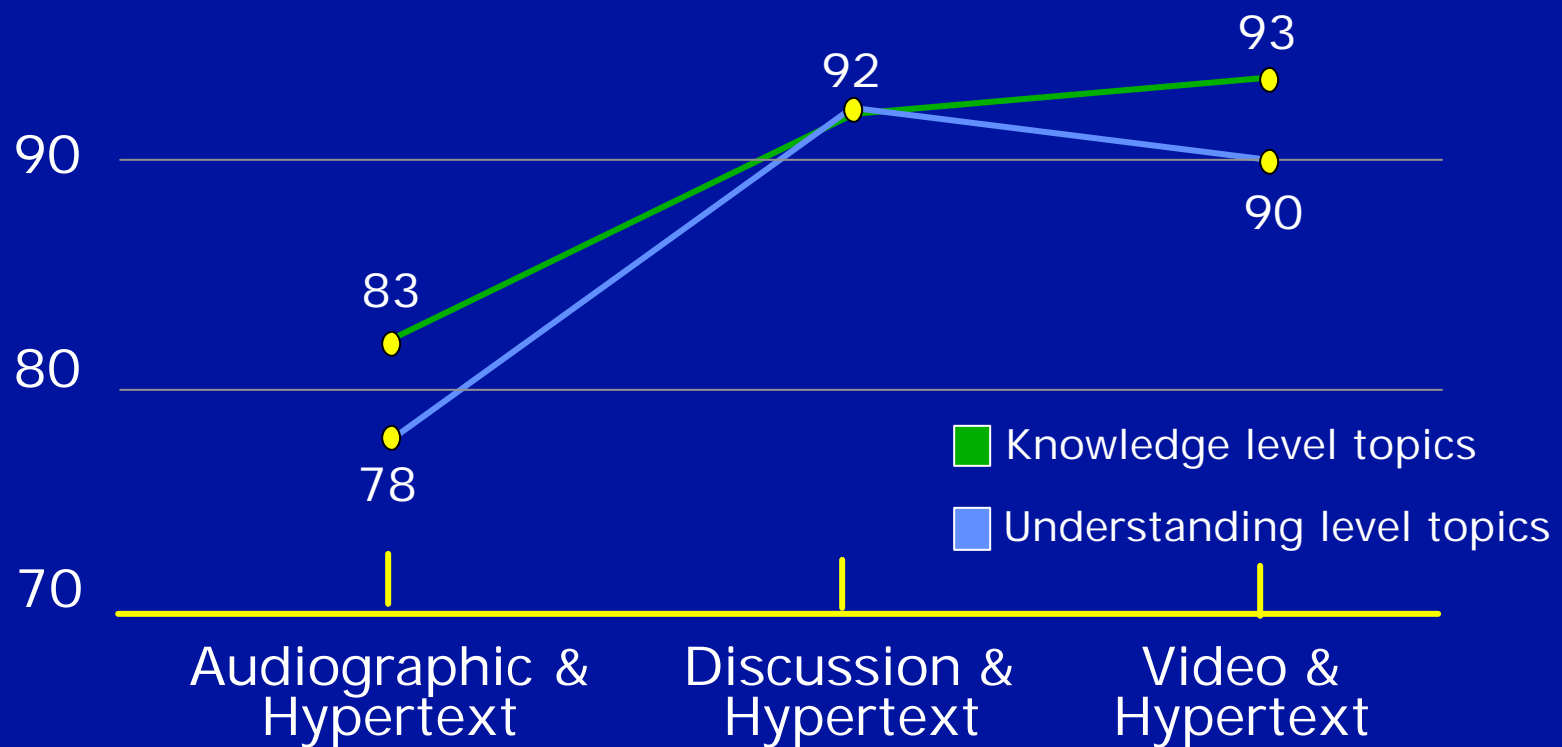
Topic Media	Production Costs	Delivery Costs	Total Costs
Hypertext Topic	\$ 470	\$ 200	\$ 670
Audiographic Topic	705	550	1255
Discussion Topic	1400	900	2300
Video Topic	1530	300	1830

Teleprogram Media Scores and Costs

Mastery Level	Outcomes	Audio-Graphic	Discussion	Video
Knowledge	Mean Score	83	92	93
	Score Gain	+3	+12	+13
	\$/Point Gain	\$195	\$136	\$89
Understanding	Mean Score	78	92	90
	Score Gain	+2	+16	+14
	\$/Point Gain	\$292	\$102	\$83

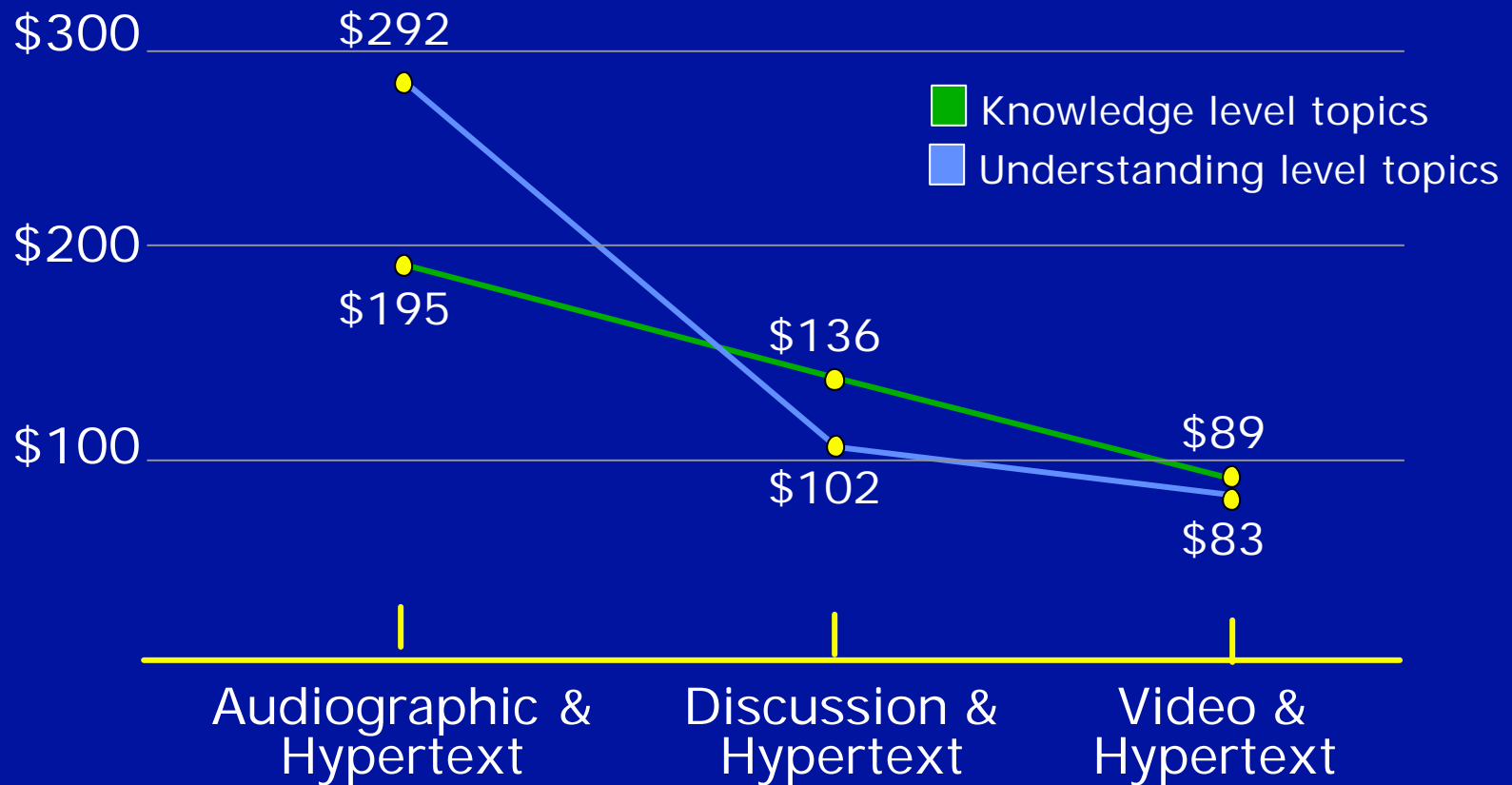
Student Achievement for Teleprogram Media

Mean score
100



Cost-Effectiveness of Teleprogram Media

Cost per point gain



Cost-Effectiveness of Telesession Models

Telesession Models	A	B	C	D
<i>Teleprogram Media</i>				
Audiographic Topics	1	2	2	3
Discussion Topics	2	2	1	1
Video Topics	2	1	2	1
<i>Session Cost</i>				
Production Cost	\$5,035	\$5,740	\$5,870	\$5,045
Delivery Cost	\$4,480	\$3,200	\$2,600	\$1,595
Total Cost	\$9,515	\$8,940	\$8,470	\$6,640
<i>Knowledge-Level Session</i>				
Mean Score	91	89	89	87
Cost/Score Point	\$104	\$100	\$95	\$76
<i>Understanding-Level Session</i>				
Mean Score	88	86	86	83
Cost/Score Point	\$108	\$104	\$98	\$80

Virtual College Next Steps

- Web and Notes Delivery
- MPEG-1 Digital Video
- Education-On-Demand
- Knowledge Agent Technology
- 30 Telecourses in 7 Certificates
- M.S. Degree in Management

