

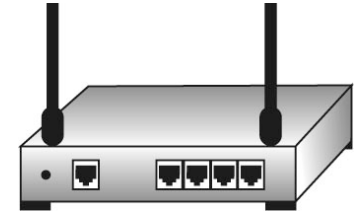
How to Set up a Wireless Network



Mike, M.E. and Claire

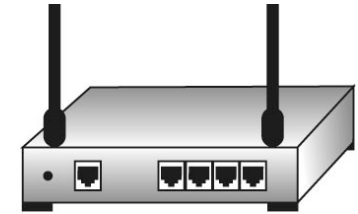
**Instructional Design Module
University of Hawaii at Manoa
ETEC Department
Spring 2006**

Agenda



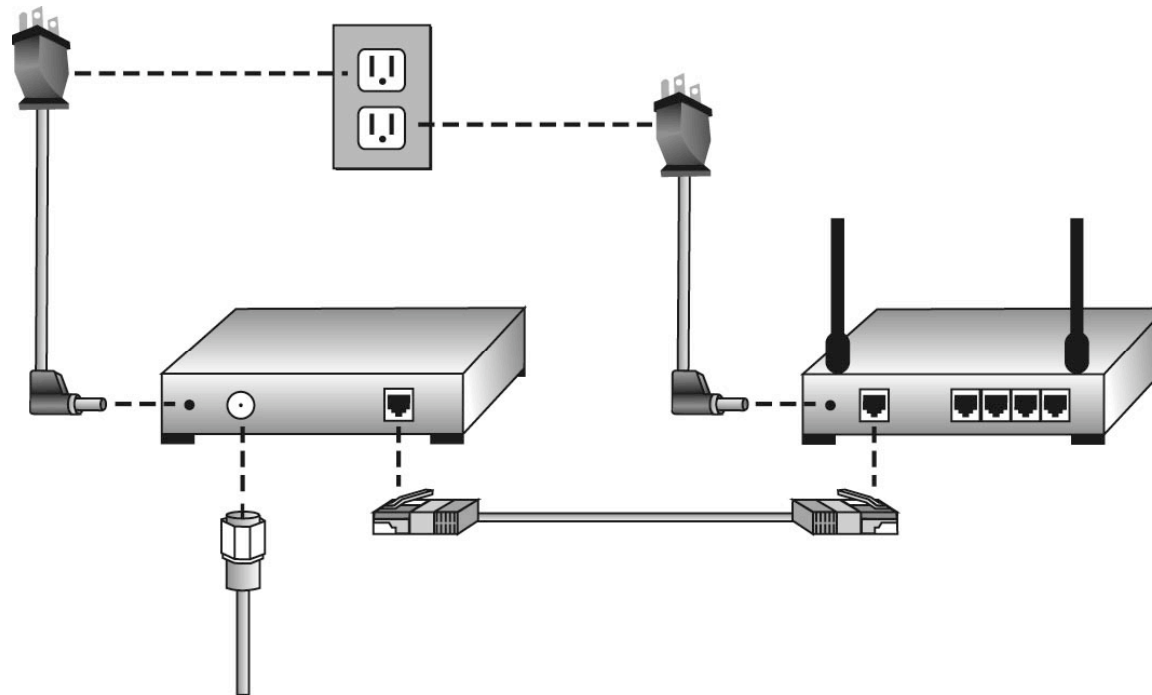
- ❖ **Content Analysis**
- ❖ **Module**
- ❖ **Methodology**
- ❖ **Analysis & Results**
- ❖ **Recommended Revisions**
- ❖ **Insights**

Content Analysis: Goals



❖ Teach target audience:

- What a wireless network is
- The basic components of a wireless network
- The steps necessary to setup a wireless network



Content Analysis: Hierarchy

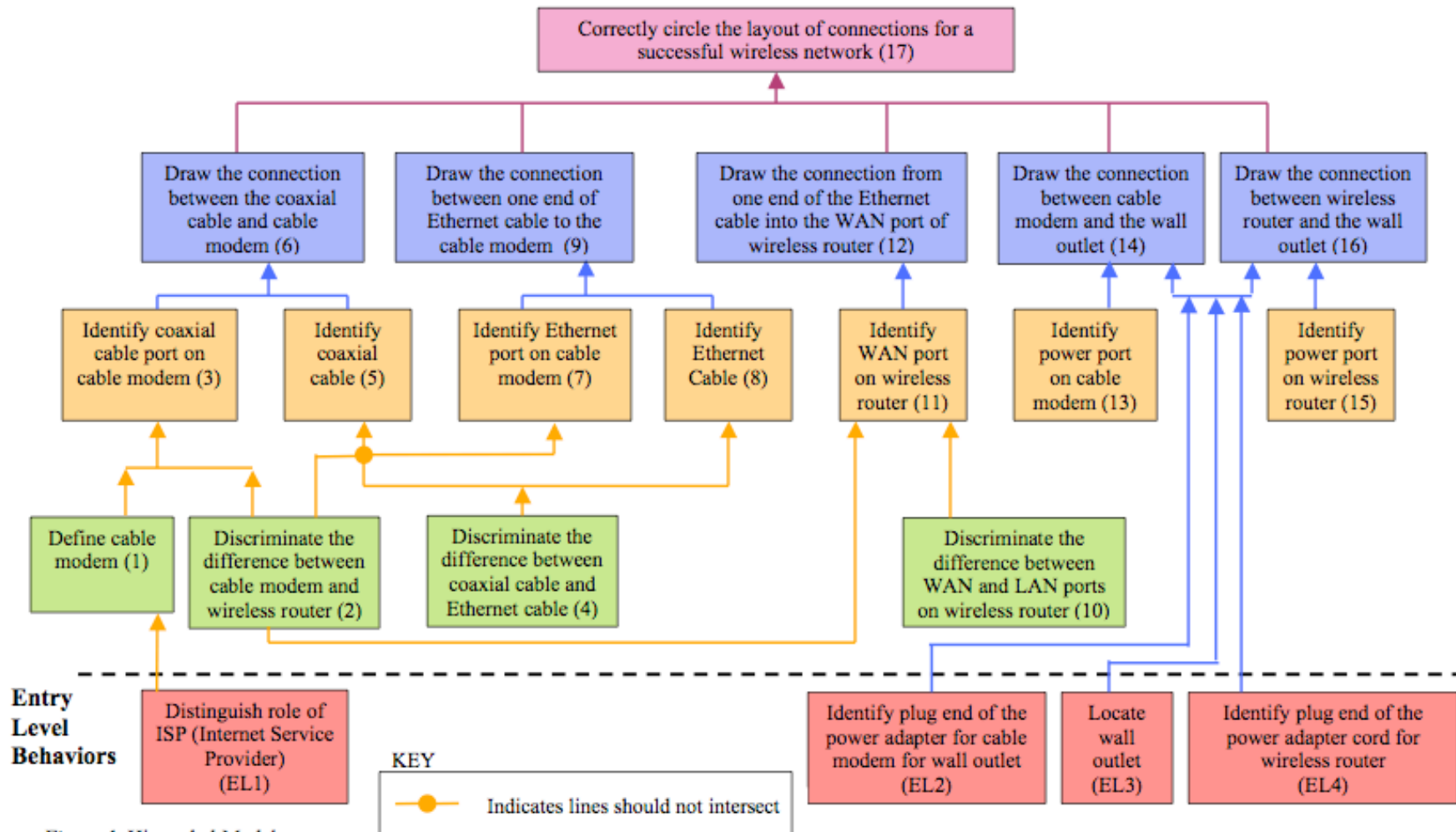
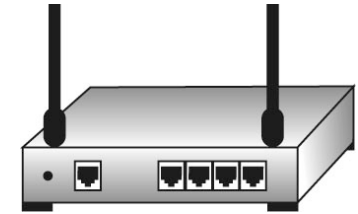
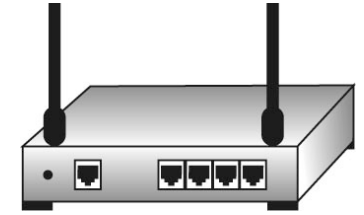
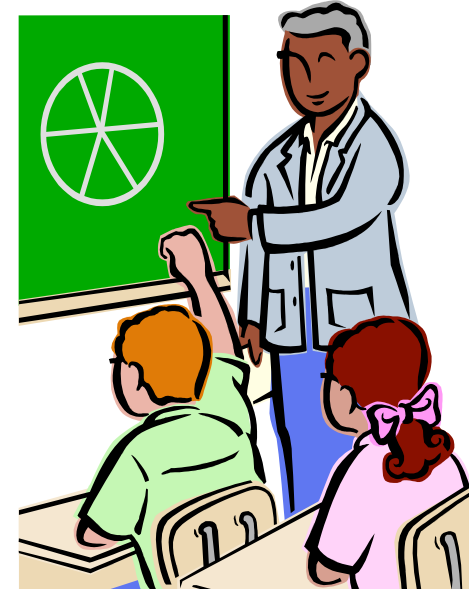


Figure 1. Hierarchical Model

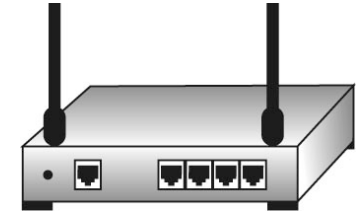
Content Analysis: Target Population



- ❖ **General Characteristics**
- ❖ **Prior Knowledge**
- ❖ **Characteristics**
 - **Cognitive**
 - **Affective**
 - **Social**

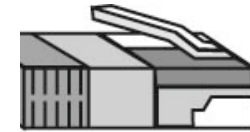


Content Analysis



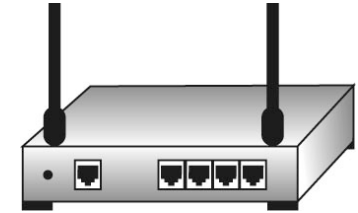
❖ Test Design and Strategy

- Lots of graphics
- Stop / Proceed format
- “Imagine” statements
- Step-by-Step instruction follows procedure



I	m	a	g	i	n	e
<p>Imagine paying your bills through your Bank's website from the comfort of your couch.</p>						

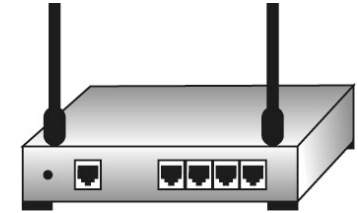
Content Analysis - Strategy



❖ Gagne's Nine Events of Instruction

- **Gain Attention**
- **Inform Learners of Objectives**
- **Stimulate Recall**
- **Present Content**
- **Provide Learning Guidance**
- **Elicit Performance**
- **Provide Feedback**
- **Assess Performance**
- **Enhance retention**

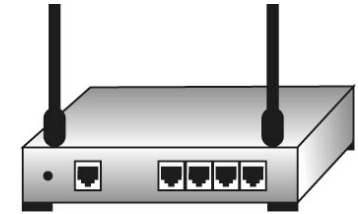
Methodology



One-on-Ones

- **Family and Friends**
 - » **Spring Break**
 - » **Content Expert, Graduate Student, Appliance Technician**
- **What happened?**
 - » **Pretest, Embedded, Post**
 - » **Grammar and Articulation**
 - » **Graphic Revisions**
 - » **Repetitive Questions**
 - » **Comment Example**

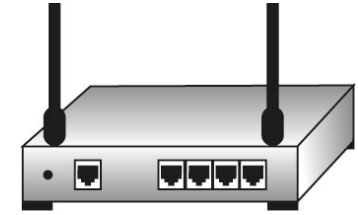
Methodology



❖ Small Group

- **Hamilton Library – YAP Room – 4/11/06**
 - » **9 Hamilton Library System Workers**
 - » **Pretest, Embedded, Posttest Attitudinal Survey & Demographic Data**
 - » **Scripted Presentation**
 - » **Observer, Collector, Scorer**
 - » **Packets – CD Quick Study Guide**
 - » **Brown Bag Lunch with Desserts**
 - » **Time Average – 45.8 Minutes**

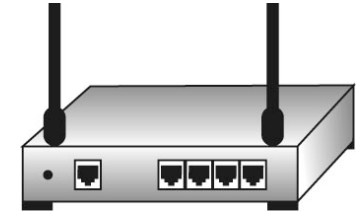
Analysis and Results



❖ Comments

- **Repetition**
- **Compounded Questions**
- **WAN and LAN Definitions**
- **Ethernet and Phone Cable Differentiation**
- **More Technical “Tips”**
- **Simple**
- **Very nice workshop and session**
- **Drawings were clear**
- **Thanks! I learned a lot!**

Analysis and Results



❖ Demographic Data

- **N = 9**
- **4 Males, 5 Females**
- **More Civil Service Workers than Faculty Members**
- **Average age = 44**
- **Target Population and Sample Population**
 - » **English Speaking, High-School Graduates**
 - » **Between the ages of 18-65**
 - » **Basic understanding of computers/internet**

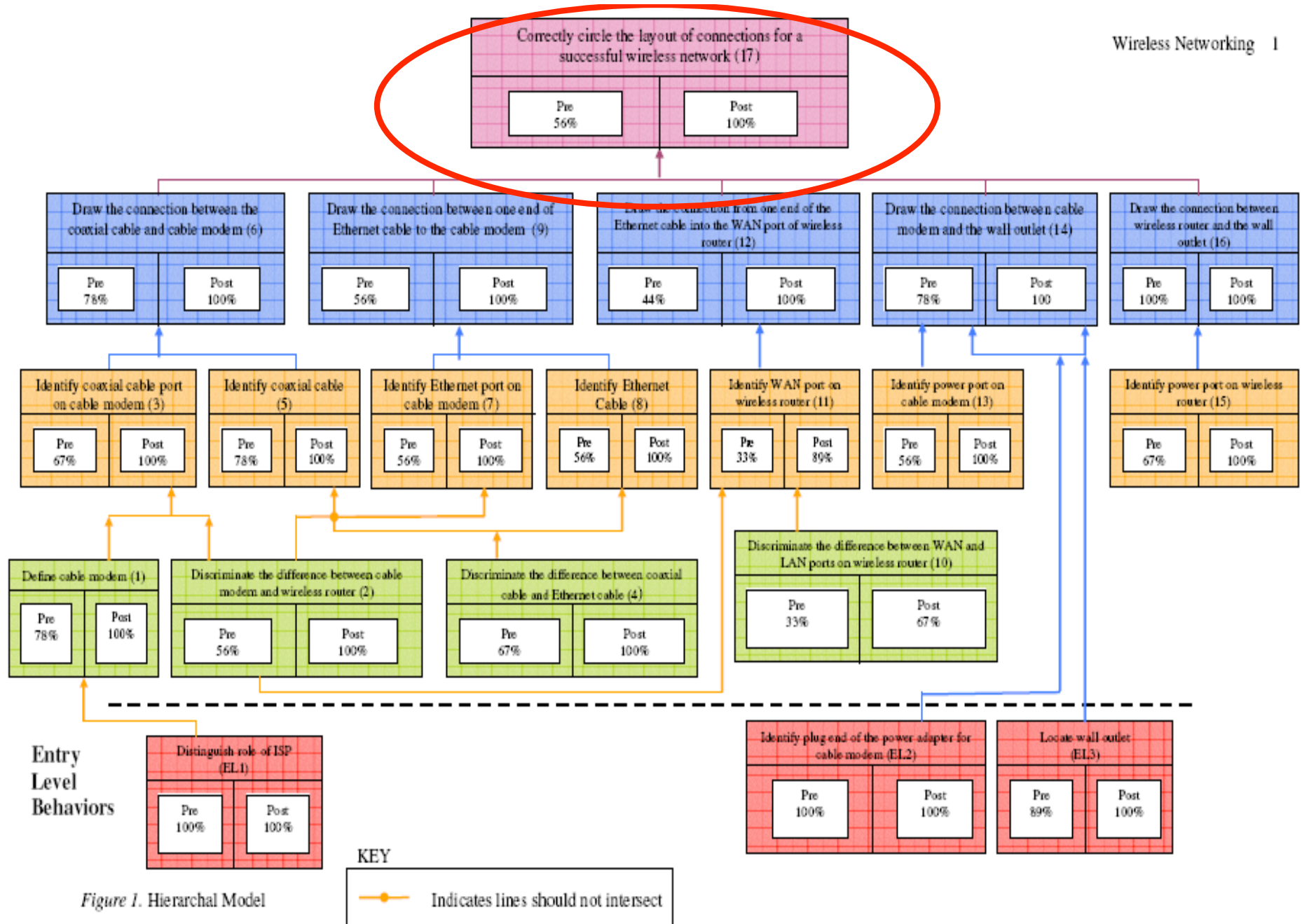
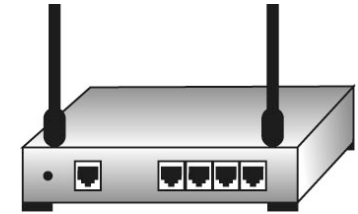


Figure 1. Hierarchical Model

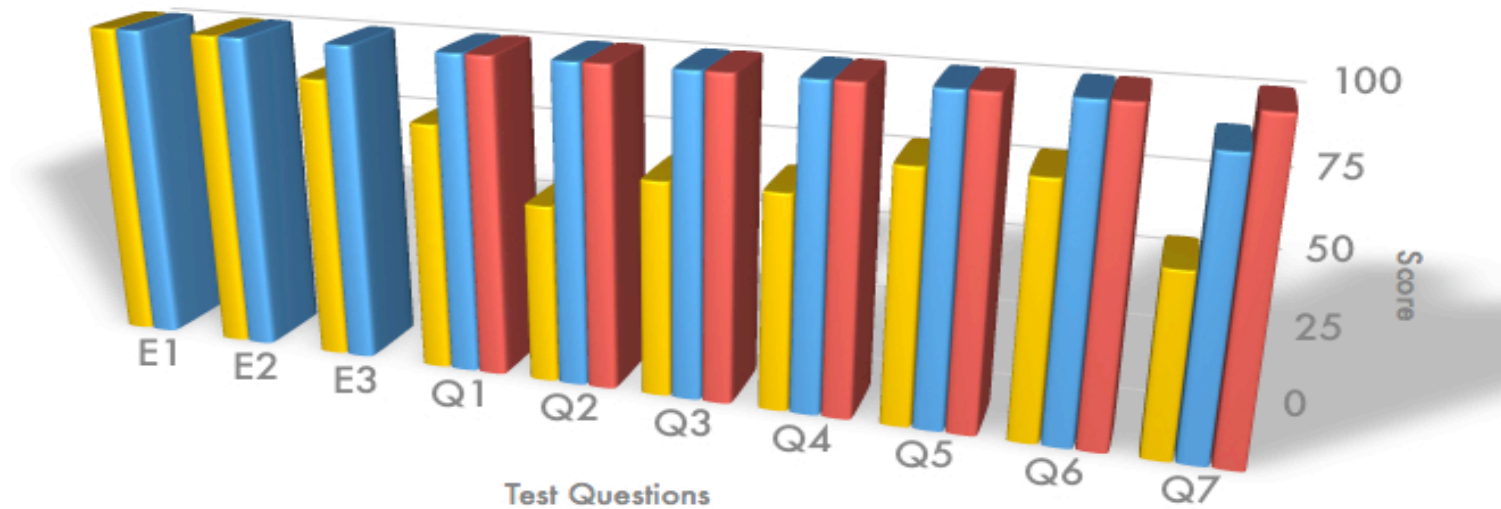
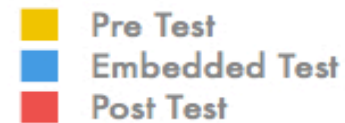
Analysis and Results



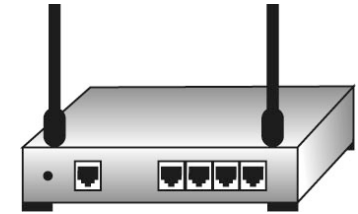
❖ Test Data

Test Results

n= 9 students

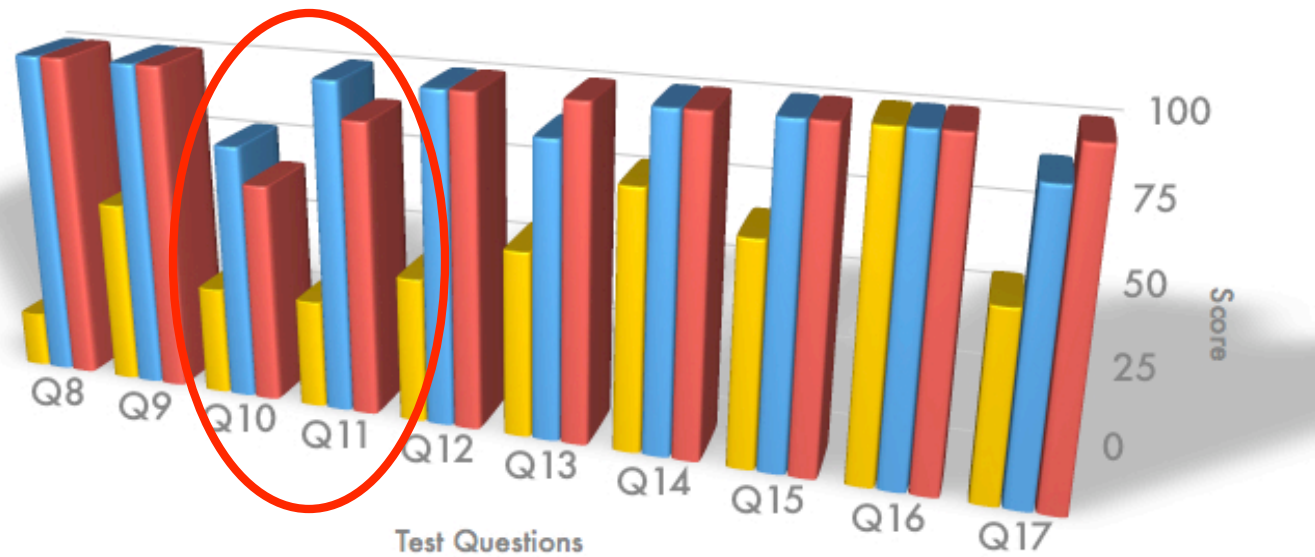
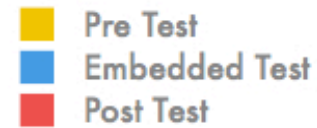


Analysis and Results

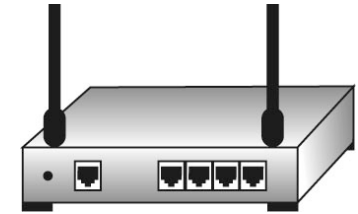


Test Results

n= 9 students



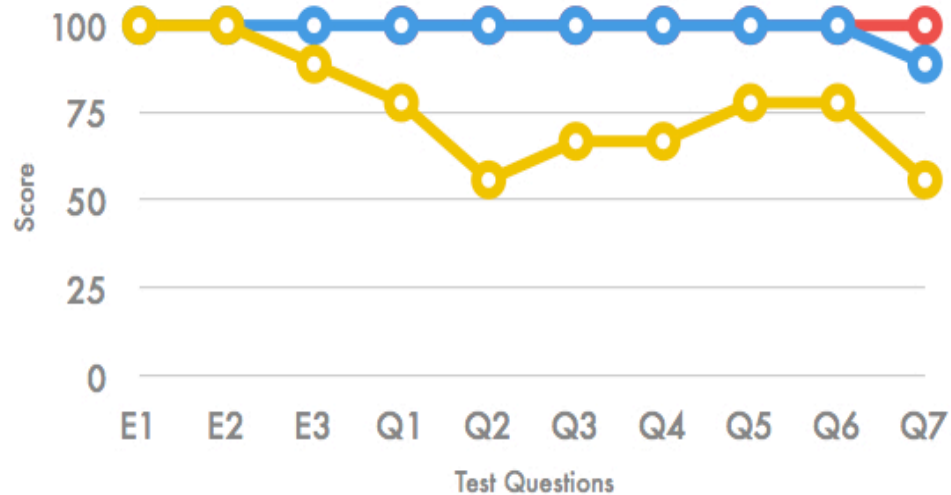
Analysis and Results



Test Results

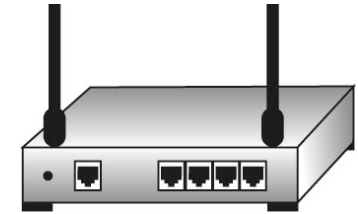
n= 9 students

- Pre Test
- Embedded Test
- Post Test



Note: The Post-Test's red line is covered by the Pre-Test's yellow line in E1 and E2 and by the Embedded Test's blue line from E3 through Q6.

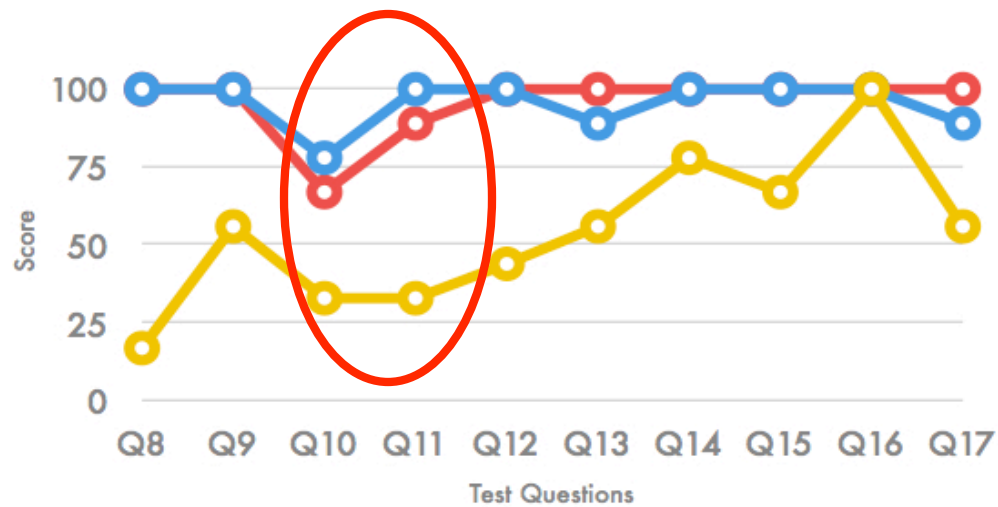
Analysis and Results



Test Results

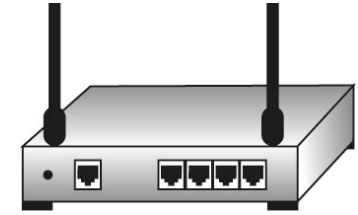
n= 9 students

- Pre Test
- Embedded Test
- Post Test



Note: The Post-Test's red line is covered by the Embedded Test's blue line on Q8, Q9, Q12, Q14 and Q15 and by the Pre-Test's yellow line on Q16.

Analysis and Results



❖ Attitude Survey

- **Module**

- » **Agreed & Strongly Agreed**

- » **Motivation**

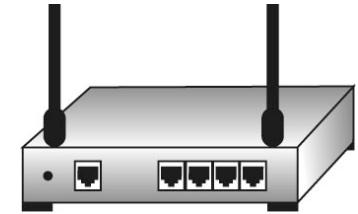
- » **Graphics Issue**

- **Learning Style**

- » **Agreed & Strongly Agreed**

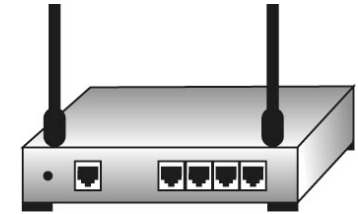
- » **Mixed**

Revisions: Content



- ❖ Revise section describing WAN and LAN ports
- ❖ Illustration of Cable port
- ❖ Modify Key's dashed line indicator

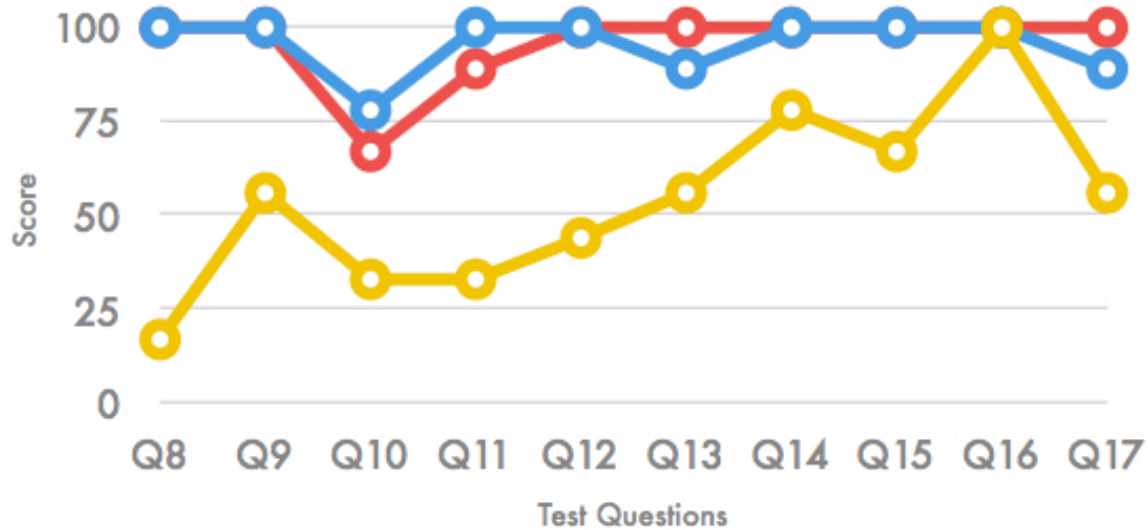
Revisions: Content



Test Results

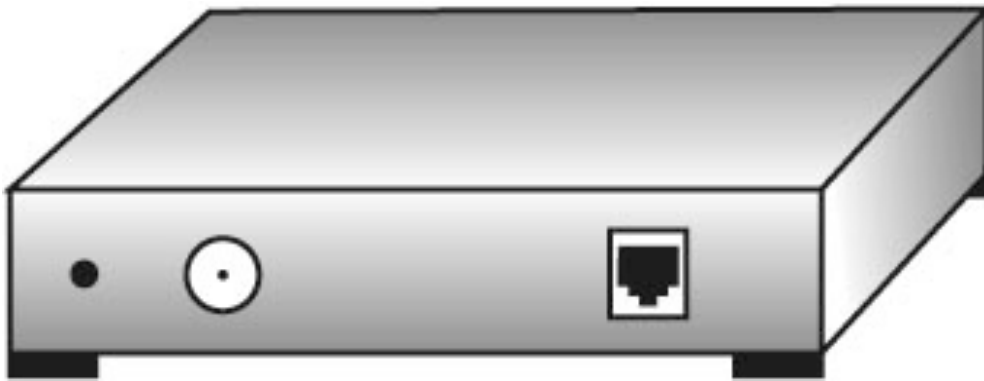
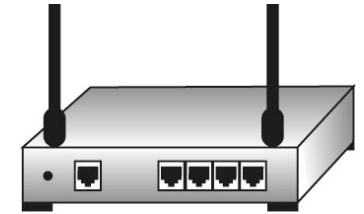
n= 9 students

- Pre Test
- Embedded Test
- Post Test

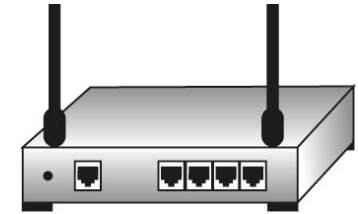


Note: The Post-Test's red line is covered by the Embedded Test's blue line on Q8, Q9, Q12, Q14 and Q15 and by the Pre-Test's yellow line on Q16.

Revisions: Content



Revisions: Content



5. Circle the picture of a coaxial cable based on the picture and short description below it.



A) This cable is used for phone line connections.



B) This cable is used for Internet connections between hubs, routers, or computers.



C) This cable is used for cable television and Internet connections.



D) This cable is used for audio-visual connections.

6. Using the illustrations from Test Question #5, draw a line from the end of the coaxial cable to the coaxial connection in the illustration below drawing an "X" on the connection.



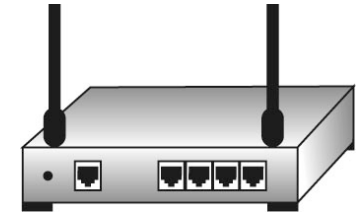
KEY

--- Use the dashed line to draw connections between pictures.



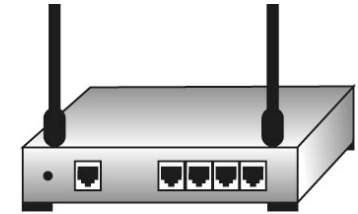
Circle each part that you will be connecting.

Revisions: Process



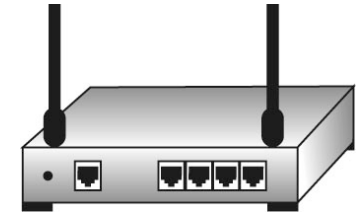
- ❖ **Encourage small group to take time**
- ❖ **Make a clock more readily available**
- ❖ **Solicit more people for small group**

Revisions: Format



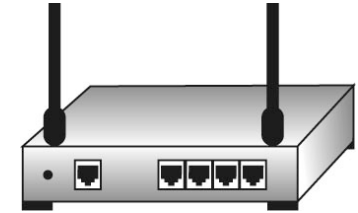
- ❖ **Use more definitions in testing than graphics**
- ❖ **Include typed area on tests for time**
- ❖ **A third?**

Insights - Learned/Discovered



- ❖ **How to create a module**
- ❖ **What a “non-example” was**
- ❖ **Proper way to write questions**
- ❖ **Parallel questions**
- ❖ **M.E is an excellent artist!**
- ❖ **Lot of steps to setting up a network**
- ❖ **Our target audience was smarter than we thought**

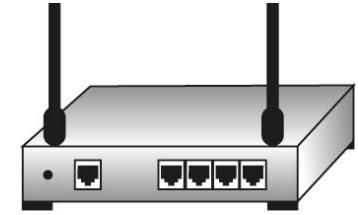
Insights - What worked



❖ **Cooperative Team functioned great!**

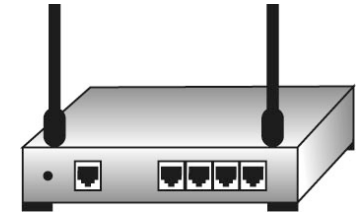
- **Used time in class wisely**
- **All used email**
- **Broke down pieces by strengths/desires**
- **Stayed on track through sickness, travel, floods!**

Insights - What went wrong



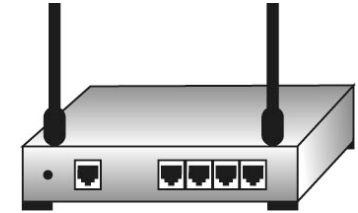
- ❖ **Content Analysis - Mac/PC troubles**
- ❖ **13 confirmed learners, only 9 showed up**
- ❖ **Didn't turn in checklist with module and tests**
- ❖ **Struggled through writing blocks**

Insights - What to do Different



- ❖ **Look at terminal objective some more**
- ❖ **Make it more hands-on**

Insights - Time/Money



❖ Create training lab

- **Actual hands-on setup and testing of network**
- **Teach web-based set up portion**
- **Teach about wireless security**

Questions?

