Information Technology Environments

Module 2

Module Objectives

1. Establishing an understanding of what an IT environment is.
2. Explore why and how the purpose of IT for an "organization" affects the design of the IT environment.
3. Compare the IT environments of home, school and small business.

Module Guidance

1. slides	Introduces the module and addresses the first module objective	Duration: 3 minutes
2. Activity 1	Small group worksheet identifying common IT environments and some of their parts. Group review of worksheet	Duration: 10 minutes - 5 Minutes for completion - 5 minutes for review
3. slides	Addresses the second objective	Duration: 5 minutes
4. Activity 2	Small group worksheet comparing the IT environments of home and school	Duration: 5 minutes
5. slides	Review of previous exercise and discussion of a small businesses IT environment.	Duration: 5 minutes

Total time: 28 minutes

Supplemental Materials

1. No supplementary materials for this module.

Module Considerations

1. This module assumes students have context with regards to the use of I.T. in high school. If students are believed to be lacking this context, consider another more familiar IT environment as a substitute for a high school.
2. This module assumes the high schools are part of a greater school system that is administered centrally.

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Comparing IT Environments

Module 2: Activity 2

Exercise Objectives

The worksheet is designed to encourage students to recognize the differences in IT environments and the possible rationale for those differences.

Exercise Instructions

1. Form groups of 2 or 3 people,
2. Each person should write down the group's answers on a sheet of paper.
3. Answer all of the following questions in 5 minutes.
4. This activity will be reviewed in the last video segment for this module.

Questions

This activity is focused on two IT environments with which you should be fairly familiar. Apply the following comparison questions in relations to a home environment and a high school environment:

1. How are the purposes of a Home and School similar?
2. How are the purposes of a Home and School different?
3. How important is the IT environment's functionality to each of the environments?
4. How do the IT environments' costs compare?
    a. Would you guess that these environments are affordable to their respective owners?
        i. Why do you think that?
5. How do the laws, regulations or internal rules compare between these two environments?

Responses That Should Be Mentioned in Video

Question 1:

- Both environments have users less than 18 years old.
- Both environments are used for student education.

Question 2:

- Home
  - Environment is used primarily for personal uses.
  - Some equipment may be owned by or uses may involve multiple work for employers
- School
  - Environment is primarily to serve the mission of the school
  - Personal use by employees may be permitted, but is typically restricted to promote productivity and reduce costs resulting from non-essential activities.

Question 3:

- Home: Functionality is nice to have, but if something cannot be afforded then it is sacrificed. Essential functionality that is not affordable is sought out in other environments (examples: library, school, work, coffee shop, copy center, Internet applications).
- School: Functionality needs is broken down into priorities. School's budget is limited, but there are functions it cannot live without. Lesser priority functionality may be acquired if budgets permit. For example, the administration of the school requires documentation and it may be required that documents be composed and delivered electronically to the district. Textbooks and PCs/Tablets could be viewed as substitutes. If accessing textbook content on computers or tablets for each student is cheaper, more effective, more convenient than physical books than administrators may choose to invest in technology and increase that functionality's priority and fund it. As an organization it cannot relocate to make use of an existing functionality. It may be able to borrow technology and accept donations, but non-technological solutions will be used ensure essential school functions are performed (example: teacher will use a white board instead of a smart board).

Question 4:

- Similar: Both environments have costs related to electricity needed to run the equipment. They both require people to understand the technology and spend time making it all work, so skilled people either need to be paid or divert their attention from other activities. Purchasing and maintaining computing technology requires money for equipment, software and information content. Connectivity is another common expense.
- Different: The amount of money being spent on a school's environment is much higher. The quantity of components and the complexity of the environment is much greater for a school than for a home.

Question 4a:

- There is no right answer. We can hope that the costs of these environments are manageable. The alternative is that some bills are not being paid or that some other need is not being met.

Question 5:

- Similar: Everyone using these environments is subject to the same criminal laws.
- Different: At home the rules are not likely formally written down. Parents/guardians develop rules that they feel are appropriate in accordance with their beliefs, values and understanding. A school's rules must be written and reviewed by lawyers. Regulations exist to protect the students' records from those who do no need to know. Parents expect the technology used by their children will not put their children at risk, so schools introduce rules that are meant to limit students' exposure to risk especially with respect to Internet use. Those who rely on the educational system rely on the school records to be accurate, and rules are instituted to ensure this accuracy.

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Comparing IT Environments

Module 2: Activity 1

Exercise Objectives

The worksheet is designed to encourage students to identify and evaluate the nature of IT environments they frequently encounter.

Exercise Instructions

1. Form groups of 2 or 3 people,
2. Select one person to write down the group's answers on a sheet of paper.
3. Select one person to speak for the group.
4. Answer all of the following questions in 5 minutes.

Questions

1. Over the past week, what IT environments did you encounter?
2. Who do you think owned those IT environments? If do not know the actual person or organization, describe the type of entity (examples: individual, business, government).
3. What technology components did you observe for each of these environments?
4. What technology components do you suppose may be present even though you did not see them?

Responses That Should Be Mentioned

Question 1:

- Home
- School
- Grocery Store
- Public library
- Department store

Question 2:

- Home environment owned by parent(s)
- School environment owned by school district
- Grocery store owned by business's owner
- Public library owned by local government
- Department store owned by business's owner

Question 3:

- Home: personal computer(s), cable router, smartphone(s), TVs, printer(s), wireless access point
- School: personal computer(s), tablets, printers
- Grocery store: Inventory scanners, cash registers, pharmacy computer(s), lottery kiosk
- Public library: Public PCs, librarian computers, holdings-catalog computers
- Department store: Cash registers
- Note: No applications were listed, but many may have been observed

Question 4:

- Home: connectivity devices for wireless and/or wired networking; social media applications(s); email servers and possibly components mentioned in Question 3. Ownership of social media applications and servers is someone else's, but posted information may be owned by parents or individual. The same is likely true for email.
- School: connectivity devices for wireless or wired networking; connectivity to school district office or Internet connection; enrollment & attendance application; grades application; central computers; central data storage; central data recovery devices; website and possibly components mentioned in Question 3.
- Public library: connectivity devices for wireless and/or wired networking; connectivity to local government office or Internet connection; patron management application; central computers; central data storage; central data recovery devices; website; and possibly components mentioned in Question 3.
- Department store: connectivity devices for wireless and/or wired networking; connectivity to central office or Internet connection; inventory management application; personal computers; printers; central computers; central data storage; website; central data recovery devices; and possibly components mentioned in Question 3.

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