

Lesson Plan

Course Title: Computer Maintenance I

Session Title: My Printer Won't Work: Troubleshooting Printers

Performance Objective:

Upon completion of this lesson, the learner will be able to troubleshoot common printer problems.

Specific Objectives:

- Define terms/safety guidelines associated with the lesson
- Understand problem-solving process
- Apply problem-solving process to real-life situations

Preparation

TEKS Correlations:

125.46(c)(5)(E)

troubleshoot computer peripheral and communication devices;

125.46(c)(5)(F)

apply the essential knowledge and skills in computer technologies to work-based learning experiences including, but not limited to, cooperative education, job shadowing, mentoring, and apprenticeship training;

Interdisciplinary Correlations:

English:

110.xx(6) – Reading/word identification/vocabulary development

110.xx(6)(A)

expand vocabulary through wide reading, listening, and discussing;

110.xx(16) – Listening/speaking/purposes

110.xx(16)(D)

use effective verbal and nonverbal strategies in presenting oral messages;

110.xx(16)(E)

ask clear questions for a variety of purposes and respond appropriately to the questions of others;

110.xx(16)(F)

make relevant contributions in conversations and discussions;

English – Speech Communication:

110.56(3)(H)

Prepare, organize, and present group discussions for an audience;

English – Communication Applications:

110.58(4)(L)

Participate in question and answer sessions following presentations;

Computer Science I:

126.22(c)(1)(A)

Demonstrate knowledge of appropriate use of operating systems, software applications, and communication and networking components;

Instructor/Trainer

Instructional Aids:

1. Problem-Solving Performance Aid
2. Troubleshooting Printers Evaluation Rubric

References:

- Carter, C., Bishop, J. and Kravits, S.L., (2001). “Critical and creative thinking” in Keys to success: How to achieve your goals (3rd ed.). 129-132.
- www.dictionary.com

Materials Needed:

1. Pencil (one per student)

Equipment Needed:

1. PC (Pentium II, 128 RAM, 20 Gig Hard drive)
2. Installed printer and printer drivers

Learner

None.

Introduction

Introduction (LSI Quadrant I):

ASK: Have you ever experienced or known someone who has experienced one or more of the following printer related problems?

- Out of memory
- Computer does not see the printer
- Printer won't print
- Data not received

SAY: Today we are going to learn some of the common causes for printer problems and the appropriate solutions to those problems.

Outline

Outline (LSI Quadrant II):

I. Define terms associated with printer problems

- Online – refers to a printer that is plugged in, turned on and ready to print
- KGC – Known good cable – a cable that is working on another machine
- Seated – applies to cables that are connected to the right ports correctly
- Test page – printer self test to verify that the printer prints correctly
 1. Click on Start Menu
 2. Go to Control Panel
 3. Click on Printers
 4. Select appropriate printer
 5. Open printer menu and access properties menu
 6. Select the “General” tab and click “print test page”
 7. Verify print quality
- Purge – deletes all print jobs from the print queue
- Drivers – pieces of software that allow a computer to communicate with a peripheral device such as a printer; should be current and compatible with the make and model of the peripheral device
- Printer cable length – should be 50’ or less in length according to IEEE 1284 code

II. Problem-solving process

- Identify the problem accurately
 1. Identify and state facts/details
 2. Focus on causes rather than symptoms
- Analyze the problem
 1. Break the problem down into pieces or chunks
 2. What are the important effects of the problem?
 3. What are the causes of these effects?
 4. Are there less obvious causes?
- Brainstorm possible solutions
 1. Think of similar previous problems that you have solved
 2. Compare the similarities and differences of the problems
 3. Generate possible solutions
 4. Focus on the important causes not the effects
- Explore each solution
 1. What will happen if you apply a possible solution?
 2. Will the solution work partially or completely to solve the problem?
 3. Evaluate the pros/cons of using each solution
 4. Predict (as much as possible) the chain of events that will occur if you use the solution
- Choose and apply the best solution (in your opinion)
 1. Make a decision
 2. Do it

- Evaluate the solution you selected
 1. What happened?
 2. Was the solution effective? Why? Why not?
 3. Is the problem solved? Completely? Partially?
 4. Does the solution need to be modified?
 5. Would another solution work better?
 6. Would you use the same solution again?
- Continue to evaluate and refine the solution

Application

Guided Practice (LSI Quadrant III):

The teacher will demonstrate the problem solving process by posing a problem or case study situation to the class. Students will use the Problem-Solving Performance Aid to assist the teacher in proficiently solving the problem.

Independent Practice (LSI Quadrant III):

Students should use the Problem-Solving Performance Aid to practice troubleshooting printer problems.

Summary

Review (LSI Quadrants I and IV):

Have students informally discuss observations as a whole group. Teacher should facilitate discussion about observations and ask questions as appropriate.

Evaluation

Informal Assessment (LSI Quadrant III):

Teacher monitors individual/group progress as students work on activities. Teacher provides individual help/redirection as needed.

Formal Assessment (LSI Quadrant III, IV):

Students will individually demonstrate the ability to troubleshoot printers. Use the Troubleshooting Printers Evaluation Rubric to evaluate students.

Extension/Enrichment (LSI Quadrant IV):

Students who have mastered the skills associated with this lesson may be called upon to help maintain other computer systems throughout the building by troubleshooting printers as required.