VITAL INFORMATION

Subject(s): Careers, Computer Fundamentals 1-2

Topic or Unit of Study: Software Development

Grade/Level: 9-12

Objective: At the conclusion of this lesson students will be able to:

1. Better recognize when they need to make a written response on a worksheet.

2. Complete worksheet tasks more accurately.

Summary: Students look over two old worksheets and identify places where the need for written responses is indicated. They group these places into those indicated implicitly (e.g., fill in the blank), explicitly by a command that orders a response, and by virtue of a question followed by a question mark. They observe that most cases fall into these groups. They then turn the process around and look for signs of group membership in order to figure out (or double check) where responses are required. In so doing the students learn to better catch their own mistakes.

IMPLEMENTATION

Learning Context: In checking homework I have noticed a great number of cases in which a requested response is not made. Rather than there being a correct or incorrect answer on the page, there is no response at all. Usually when I get an answer, it's the right one, so students are missing points and the associated learning in these cases, and missing a question on a job or scholarship application could easily disqualify them. I do not believe that students are aware of this trend, and as part of the feedback for worksheet activities (only 17 more to go), we should look more closely at the situation and do something about it.

Procedure: 0. Students should bring at least one, but preferably two writing utensils to the front of the room for a discussion.

1. Introduce the topic referring to the learning context above. Announce the return of dreaded activities number 2 and 3. Explain the theory that need for responses is indicated by the clues mentioned above and that students will be used to test the theory, which could easily be the basis of a software process that automatically checks homework. Ask students to name instances of each kind of clue on the page. Model the writing of B, C, and Q next to the clues.

2. Next divide students into groups of around four students each.

Have students in their groups tally the number of clues in each of the categories. They should write letters directly on the page for blanks (B), commands (C), and questions (Q), and then count them up. Have them include names for all group members, the date, and period on one summary worksheet to hand in.

3. Tally results on the board, checking for any noteworthy discrepancies and comparing the summary worksheets if necessary to find missing or mistaken clues. It may be that an "other" category is required. The occurrence of multi-part questions (e.g., those with "and" in them) may be noted. Also, some of the C and Q summarize other instructions and so aren't written, or the command one to do something other than to write. These observations should be welcome. Students will probably also find mistakes on the worksheets.

4. Hand out a second worksheet that students have not yet seen. It includes activities 5 and 6. Have students separately spend five to ten minutes marking up the papers in the same way and counting up numbers. If students finish early, have them help someone who is taking longer.

5. Project the teacher's answer key with the letters written in. Have the students fill in anything they missed with their other writing utensil. Add anything students found that the teacher missed. For modeling purposes, accidentally miss something fairly obvious that the students will see and correct it. Students have just improved the algorithm.

6. Inform students that their papers are being collected for analysis and that they will be handed back soon so that their work can help them when they really fill in the worksheets. Their work will not only improve the computer's algorithm but also their own. They should add their own names and the date to the sheets.

Differentiated Instruction: There is little differentiation in this assignment.

Sample Student Products: The teacher's key serves as a model. I only have a paper version all marked up.

Collaboration: Students will work collaboratively & individually. Students will work in groups of 4.

Time Allotment: 1 class period. 45 Min. per class.

Author's Comments & Reflections: Reflections will follow in a diary entry.

MATERIALS AND RESOURCES

Instructional Materials: http://www.ade.az.gov/cte/Counselors/TeachersGuide.pdf

Resources:

- Technology resources:
  Elmo-like projector with screen

STANDARDS & ASSESSMENT

Standards:

AZ- Career and Technical Education Programs

- **Level :** Career Preparation (Grades 10 - 12)
  - **Program :** Information Technology CIP No. 15.1200
    - **Option :** Software Development - Option C
      - **Competency :** *3.0 DEVELOP APPROPRIATE WORK HABITS FOR SUCCESSFUL EMPLOYMENT IN INFORMATION TECHNOLOGY
        - **Indicator :** 3.3 Complete tasks accurately

Assessment/Rubrics: Students should have "corrected" their own work. Look for students having problems when the work is turned in and figure out what the problem can be. This activity is not meant to be graded, except perhaps for participation, but is to improve performance on future assignments.