Mr. Nelson Baquero

Instructional Design Project Report

EDTECH 503 (4172): Summer 2009

Submitted to: Dr. Ross A. Perkins

July 31, 2009

Project Goal:

Given a set of instructions students will be able to install a video card, in order to update existing computer video card, with 100% accuracy according to manufactory standards.
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SYNTHESIS REFLECTION

In today’s technological world, traditional education as we know it has been heavily supplemented with technology. For example in the field of academic instruction, computers are used in order to accomplish tasks and keep track of student’s records and grade performance. Tasks that instructors from past decades did not have available as a tool for helping design an instructional teaching module. From the students point of view technology has also contribute to cognitive development and creative abilities. Some of this technology includes the use of the computer to create homework, do research, create charts and graphs, and enhance the communication of daily activities. Through the use of e-mail, chat room, and mobile devices, Education Technology has presented a challenge for instructors at all levels, from elementary to higher education. Therefore a good instructional design must be created and assembled in order to meet the needs of the learners in our society.

During my study and research of instructional design, in the class of Dr. Perkins, I have come to appreciate the complexity and the importance of the instructional design process. Such process which consist of a set of procedures, based on inspiration and creativity, in order to help the learner in a way that makes perfect sense, purposeful, and enjoyable. The results are positive in the development for the student’s passion for learning the content, and for the instructor developing a passion for teaching. Several models of instructional design have been developed over the years according to traditional and contemporary learning theories. I come to appreciate that it is important to take into consideration all aspects of the learner in order to develop a well rounded learning instruction. According to John Dewey, one of the world’s most influential educators, stated back in 1900 considered learning process as a “linking science” between what is known about “how people learn” and the “practice of delivering instruction”. Later we learned that by 1915 the application of scientific methods, set the stage for the development of Dewey’s linking science. Scholars such as Snellbecker (1974) suggested that that Dewey’s linking science is the discipline of instructional design, which descended directly from educational psychology.

After attending the class of Dr. Perkins, I now have the confidence in constructing an Instructional Design for my future teaching plans. At first it seems a lot of instruction and a challenge to understand the overall concept. But the encouraging words of Dr. Perkins put me at ease when telling the learners to take a step at a time then everything comes together at the end. Instructional design takes a more meaningful part in my life. It makes me appreciative of the efforts that the instructor takes to deliver such well put together content instruction. For example the adobe presentations well detailed and carefully researched reinforces the learner motivation to continue learning and actively engage in developing tasks activities. The models presented during instruction also gave me the basis for preparing my content instruction. I realized that the design is the most important part of the instruction delivery. As a result of a well designed model based on systematic approach will create a well teaching and learning experience, where cognitive and authentic instruction is accomplished in an asynchronous environment.
One of the models I learned this summer is the four part instructional design developed at the University of Michigan in 1996. The first part defines instructional design as a process: a systematic development, which deals with includes the process of analysis of learning the needs and goals, and the delivery systems to meet the needs (Materials, activities, and tryout-evaluations of activities). The second part defines it as a Discipline: knowledge concerned with research and theory about instructional strategies and the process for developing and implementing the strategies. Third part as a science: creating detailed specifications for development, implementation, evaluation and maintenance of situations that facilitate learning. And the fourth part as a Reality: starts at any point in the design process; looking back to check if all parts of the “science” have been taken into account and written as if it occurred in a systematic fashion.

According to my investigation, the systems approach is understood in the context that we use a model to represent the real instruction scenario. Therefore the progression fits the instructional design, such as Dick and Carvey’s (2001) system approach, where we first identify instructional goals, then conduct an analysis in order to identify learners behaviors, then we want to write performance objectives based on our conducted analysis of the learner. The next step is to develop criterion standards, instructional strategies, and materials, then we design and conduct evaluations through the entire process in order to confirm that our instruction meets the objectives.

I believe that when learners of all backgrounds, including special needs populations, are participating in Educational Technology programs, careful consideration must be given to Instructional design. For example when designing instructional context, it is imperative to think of the learners physical and cognitive abilities to accomplish all tasks. As a result the instruction must be design in conformity with all students attending the course. Perhaps adding several options, for students with disabilities, that will accomplish the same tasks expectations. One of the factors behind the reasoning is the asynchronous environment, unless the student specifies their disability, the instructor would not know. Therefore, the need for a well written learner analysis prior to the instruction is a must in an effort to identify a realistic educational goal for the learner. This would provide a basic system of accountability for providing the specifics of the educational needs.
Part 1: Instructional Design Project Proposal

Topic 1: Hardware

Topic 2: Installation

Topic 3: Computer component / video card

Age Group of Participants: Grades K-12 and higher

Means of Delivery: Web-based – Part-time classroom

Description of Purpose: Prior to instructions, students must purchase the system kit suggested by instructor, which includes a new video card and a fully functional computer tower. The content instruction and identification of the components will be available by means of a web-site or home page and partially in-classroom. In this instruction students will be able to install a video card, in order to upgrade an existing one, on a motherboard inside a computer. Students will learn to identify the component and install it in a correct manner. Given a set of instructions, students will be able to evaluate installation with 100% accuracy, according to manufacturer standards.

SME Name: Jorge Gutierrez

SME Email address:

Relationship to SME / His or her experience: Brother In-law – Worked at Micron for over 10 years. Studying computer applications
Part 2: Front-end Analysis Plan

Installing a computer video card in order to upgrade an existing one

PARTICIPANTS

How many people will you survey or interview to collect needs assessment data?
I will survey twelve people.

Where will you find these potential participants?
I will ask my friends and relatives, ages 14 and above, whom are more knowledgeable and show an interest in technology and computers.

What are some of the characteristics of the participants?
The participants I selected have different characteristics. They all have a computer at home, none of them object to an on-line or long distance instruction. Some are more outgoing than others, some are serious about their jobs, and some are dedicated parents. There are two participants going to high school next year. Even though at different levels, all share a common interest in learning something new.

LOGISTICS

What kind of instrument(s)/tools /techniques will you use to collect data for the analysis?
I will conduct a paper based survey including 25 related questions.
- The first 10 questions will be based on video technology to find their background on the subject. Questions such as, I want to know if they are familiar with the insides of a computer? I want to know if they have installed a computer component into the mother board. I want to know if they know how to identify a video card.
- The next 5 of the questions will be focus on the personal preferences for learning such as, are you interested in classroom instruction? Are you interested in taking a class on line? Do you own a computer, do you have Internet Service? I want to know if they feel comfortable installing a video card? Or have they ever seen a video card before?
- The next 5 questions will cover identifying components by presenting actual pictures, and I will ask if they can identify a mother-board? Or can they identify a video card?
- The final 5 questions will deal with functionality and operation such as; do you know how to install video software? Have you ever install a video card? In order to find at what level of expertise from the learners. Then I will enter the data collected in a Microsoft’s excel spreadsheet to compare the results from the survey.

Where will the actual collection of data for the analysis to take place? (Online? On the street? In school?)
The paper-based survey will be conducted in my house, after an invitation to a family – friend reunion.
Part 3: Front-end Analysis Report

Section 1: Characteristics of Participants

I selected the following participants on the basis of my preconceived notion on their knowledge and interests in computer components and video cards. After all participants were present I gave a short introduction on the purpose of the activity and a brief instruction on how to fill-out the survey then handed out the pencils and paper based surveys.

<table>
<thead>
<tr>
<th>Participants</th>
<th>Relationship</th>
<th>Age</th>
<th>Occupation</th>
<th>Interest</th>
<th>Level of expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorge Gutierrez</td>
<td>in-law</td>
<td>48</td>
<td>accounting</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td>Jorge Ortiz</td>
<td>in-law</td>
<td>47</td>
<td>translator</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td>Julio Leon</td>
<td>in-law</td>
<td>47</td>
<td>machinist</td>
<td>high</td>
<td>medium</td>
</tr>
<tr>
<td>Carlos Leon</td>
<td>friend</td>
<td>39</td>
<td>printer</td>
<td>medium</td>
<td>low</td>
</tr>
<tr>
<td>Bryant Rob</td>
<td>friend</td>
<td>42</td>
<td>customer service</td>
<td>high</td>
<td>high</td>
</tr>
<tr>
<td>Dora Gutierrez</td>
<td>sister</td>
<td>46</td>
<td>secretary</td>
<td>medium</td>
<td>low</td>
</tr>
<tr>
<td>Claudia Leon</td>
<td>sister</td>
<td>43</td>
<td>home-mom</td>
<td>medium</td>
<td>low</td>
</tr>
<tr>
<td>Leslie Crist</td>
<td>friend</td>
<td>34</td>
<td>medical assistant</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>Luz Baquero</td>
<td>mother</td>
<td>65</td>
<td>retired</td>
<td>low</td>
<td>low</td>
</tr>
<tr>
<td>Melissa Leon</td>
<td>niece</td>
<td>14</td>
<td>student</td>
<td>low</td>
<td>low</td>
</tr>
<tr>
<td>Andrea Gutierrez</td>
<td>niece</td>
<td>14</td>
<td>student</td>
<td>low</td>
<td>low</td>
</tr>
<tr>
<td>Alexandra Ortiz</td>
<td>sister</td>
<td>40</td>
<td>secretary</td>
<td>medium</td>
<td>medium</td>
</tr>
</tbody>
</table>

According to the participants characteristics data, there were 5 male constituting a 42%, and 7 female, constituting a 58%, all together ranging from ages 14 the youngest to 65 the oldest. There were 9 participants between 39 and 48 years of age, I considered being good number of participants that helped me decide on targeted audience for my Instructional Design. Interesting is also the fact that two young girls were participants that gave me an idea, according to their performance, of how much the content would satisfy these age category.
Section 2: Explanation of learning needs discovered

The levels of expertise appear to be consistent with the percentage of interested learners. 55% almost half of the participants had some knowledge and half of the participants 50% show a low percentage of interest in the subject. Therefore instruction must be develop in a way that motivates the entire group of learners. However overall it seems to be a group of participants, according to the characteristic data, that will be willing to participate in learning the instruction. Since some of the learners had not previous knowledge on the subject I had to design a step by step instruction of how to install a video card into the mother board of the computer, perhaps using more hands-on practice and more visual aids to complement the desired outcome. At the 2% of high expertise level I will be required to incorporate more technical in-depth tasks that will keep them interested and willing to continue learning.

Section 3: Explanation of learner preferences

According to the survey questions related to learning preferences, the participants preferred in-classroom instruction over on-line instruction. However, after analysis of responses, the data showed that they are willing to take an on-line course given that the learners will benefit by having their own schedule time for learning and studying, and the instructor will be available via e-mail, telephone, conference call, and video chat. Therefore my instructional design will include the expressed desired characteristic of the learner in the virtual Learning environment.
Section 4: Influence on general goals or approach

For a group of 12 learners it could be somewhat difficult to determine a consistent pattern for analysis purposes, due to the small number of students and the different preferences. However the responses do create a well distribution among responses and reflects a strong emphasis on the benefits of on-line instruction. I find the use of the learner analysis very helpful in pinpointing the areas that I will need to focus during the Instructional Design. For example, the responses to experience for on-line learning is very low therefore an additional component must be included to help the learner, as well as increase their interest and motivation.

The learner analysis helped me to realize that the content instruction needs to be detailed for the inexperience learners, but also to incorporate levels of difficulty for the most experience learners. Therefore I must take into consideration, when designing an Instructional Design, the level of expertise, the age of the learner, the motivation factor, the many ways technology must be utilized for a well conducted asynchronously instruction.
Part 4: Goal – Analysis

1: Goal statement
Given a set of instructions students will be able to install a video card, in order to update existing computer video card, with 100% accuracy according to manufactory standards.

2: Outline of major goal tasks

   I. Given a set of instructions, students will be able to complete the pre-installation setup for installing a video card.
   II. After given instructions, students will be able to prepare the computer for installing a video card.
   III. After a demonstration, students will be able to remove the existing video card inside the computer from the mother board.
   IV. Given a set of instructions, students will be able to compare the video card to the mother boards’ socket prior installation.
   V. Given a set of instruction students will be able to insert the new video card into the mother-board inside the computer.

3: SME Review
As a subject matter expert in the field of electronics technology, Mr. Gutierrez reviewed the outline of the major goal tasks and discussed with me the areas I could modify and incorporate into my Instructional Design. For example, he suggested an instructional video for the different goal tasks I had created. Overall he seemed to like the goal of my instruction. Since the instruction is going to be on-line I told him I would consider his suggestions, and I will get back with him.

Part 5: Task Analysis and Entry Behaviors for Installing a Video Card

Goal statement: Given a set of instructions students will be able to install a video card, in order to update existing computer video card, with 100% accuracy according to manufactory standards.

Entry Behaviors
- The task analysis for this instruction is designed for a computer systems class.
- The setting for this instruction has been designed for a continuous learning pattern of class sessions.
- Students have already been introduced to the computer in previous lessons.
- Prerequisite skills previously learned by students would include computer components as a whole.
- In this particular instruction students will be able to install a video card which is more in-depth knowledge for continuous learning.
- At this point students have built confidence in exploring the computer parts, and it should not be a surprise to install a video card into the video-socket on the mother-board.
- In order to learn the new skill students will have to read the manual for installation of the video card and the manufacturer specifications for a static safety environment.
Task Analysis for Installing a Video Card

1. Identify the correct video card
   - Identify PCI video card 1.2.1
   - Identify AGP video card 1.2.2

2. Prepare the computer
   - Demonstrate how to physically open the computer 2.1
   - Identify anti-static wrist strap 1.1.2
   - Identify anti-static mat 1.1.3
   - List proper tools 1.1
   - Discriminate type of screw driver 1.1.1

3. Remove existing video card
   - Demonstrate how to Pull-out video card 3.4
   - Demonstrate how to unlock video card 3.3
   - Demonstrate removal of metal plate screws 3.3.2
   - List the procedure for handling wires inside the computer 2.2.1
   - Identify locking metal plate 3.3.1

4. Compare video card to socket
   - Locate video card 3.2.1
   - Identify two sides for holding video card 3.4.1
   - Describe removal of two screws 2.1.2
   - Describe putting on anti-static wrist strap 3.1
   - Describe testing wrist strap 3.1.1
   - Locate where to connect wrist strap 3.1.2
   - List two potential damages 3.1.3

5. Insert new video card
   - Demonstrate insertion of two screws 5.5.1
   - Demonstrate how to secure cover 5.5.6
   - Identify type of video card according to pin count 4.2.1
   - Identify type of socket according to pins of a socket 4.1.2
   - Explain how to evaluate the type of connector socket and video card 5.3
   - Explain difference PCI Vs. AGP video card 5.3.1
   - Discriminate proper handling of video card 5.2
   - Identify 2 sockets on mother-board 5.3.2
   - Demonstrate insertion of new video card 5.4
   - Demonstrate how to close computer 5.6
   - Demonstrate insertion of two screws 5.5.1
   - Demonstrate how to secure cover 5.5.6

6. Pass/Fail
   - Pass
   - Fail
   - Discriminate video socket and video card 4.1.1
   - Explain anti-static precautions 5.1
   - Show how to evaluate the type of connector socket and video card 5.3

7. Complete
   - Rule
   - Concept
   - Discrimination

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**Flowchart**
Part 6: Learner and Context Analysis

<table>
<thead>
<tr>
<th>LEARNER ANALYSIS</th>
<th>DATA SOURCE</th>
<th>CHARACTERISTIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Behaviors</td>
<td>Observation (recorded)</td>
<td>According to the survey analysis the learners have the potential for learning the instruction, from the very young to the older person.</td>
</tr>
<tr>
<td>Prior knowledge of topic area</td>
<td>Observation (recorded)</td>
<td>According to my Instructional Design the learners would be able to start learning the new concept from the designed activity plan, or continue learning while enrolled in the course.</td>
</tr>
<tr>
<td>Attitudes toward content and potential delivery system</td>
<td>Observation (recorded)</td>
<td>The general attitude is positive. Learners find it fascinating to see inside a computer and deal with electronics.</td>
</tr>
<tr>
<td>Academic motivation</td>
<td>Observation (recorded)</td>
<td>Some intrinsic learners have worked in the industry of electronics and have the motivation for continuing training in this particular field. The younger ones seem to be extrinsic.</td>
</tr>
<tr>
<td>Education ability and levels</td>
<td>Observation (recorded)</td>
<td>Two younger learners are active in high school, the mid-range adults completed post-secondary education. And the oldest have been out of school for some time.</td>
</tr>
<tr>
<td>General learning preferences</td>
<td>Observation (recorded)</td>
<td>Difference in age and maturity levels is present in the group. Some prefer additional instructional tools such as videos and the older ones prefer hands-on training.</td>
</tr>
<tr>
<td>Attitudes towards person(s) or organization providing the training or education</td>
<td>Observation (recorded)</td>
<td>Attitude seems positive since I have come to know the learners from past experiences.</td>
</tr>
<tr>
<td>Group characteristics</td>
<td>Observation (recorded)</td>
<td>From the visit with my potential learners I observed, according to my Analysis Plan, that the learners range from knowledgeable to non conceptual learners. Some learners are more alert than others, with differences in age and gender.</td>
</tr>
<tr>
<td>CONTEXT ANALYSIS</td>
<td>CHARACTERISTIC</td>
<td>IMPLICATION</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Performance Context</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>According to the (ISTE) Standards for Secondary Computer Science CS Standard II. Computer Systems-- Components, Organization, and Operation. candidates and their students will: CS- II. 2. Describe the operation of a computer system- CPU &amp; instruction cycle, peripherals, operating system, network components, and applications- indicating their purposes and interactions among them.</td>
<td>The program needs support from the school and the community; due to lack of funding the program may be at risk.</td>
</tr>
<tr>
<td>Physical aspects</td>
<td>Conducted in a computer lab environment, but instruction can be adapted for distance learning using a computer and E-learning environment, such as multimedia.</td>
<td>In a distant learning environment student must apply the appropriate precautions when performing power based experiments.</td>
</tr>
<tr>
<td>Social aspects</td>
<td>The computer lab in the school setting will allow students to interact and help each other. In a distance learning environment students will acquire skills working alone but will have support from instructor at anytime.</td>
<td>In distant learning environments students may not be as motivated as student who interacts with others on a daily basis.</td>
</tr>
<tr>
<td>Relevance</td>
<td>Learning the computer and peripherals will provide new knowledge and skills that will help students in today’s demands for technical skills.</td>
<td>Students must demonstrate continuous improvement; equipment may not be available for practicing the new skill at home.</td>
</tr>
</tbody>
</table>
### CONTEXT ANALYSIS

<table>
<thead>
<tr>
<th>Learning Context</th>
<th>CHARACTERISTIC</th>
<th>IMPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compatibility</strong></td>
<td>Computer lab is big enough for student collaboration and the desired instruction, hands-on installation of computer components.</td>
<td>Older desks and seating equipment may need update and lack of windows will not have proper ventilation in the lab environment.</td>
</tr>
<tr>
<td><strong>Adaptability for simulation</strong></td>
<td>Computer lab will have actual computer in which students will perform the desired installation.</td>
<td>If the class were to increase in number the room would not be able to support individualize practices sharing equipment may be an option.</td>
</tr>
<tr>
<td><strong>Delivery accommodations</strong></td>
<td>Each station will have a seat and when written test is to be performed the equipment will be removed from the station and place in the storage cabinet.</td>
<td>If class size were to increase the room will have to be re-designed for space constrains and station will have to be share among two or more students.</td>
</tr>
<tr>
<td><strong>Learning-site constraints</strong></td>
<td>Not available funds to update older equipment, and keep up with new styles and new computer models. Such us operating systems.</td>
<td>If money funds are not available students may not learn the new technology in a proper manner. Instructional design must be carefully consider.</td>
</tr>
</tbody>
</table>

### Part 7: Outline of Instructional Objectives

**Goal statement:** Given a set of instructions students will be able to install a video card, in order to update existing computer video card, with 100% accuracy according to manufacturer standards.

With 100% accuracy according to manufacturer standards:

1.0 Given a set of instructions, students will be able to complete the pre-installation setup for installing a video card.
   1.1 Select the proper tools for installation given the pre-installation setup list instruction.
      1.1.1 Identify a screw driver as shown by instructor.
      1.1.2 Identify the anti-static wrist strap as shown by the instructor.
      1.1.3 Identify an antistatic mat as shown by the instructor.
   1.2 Given a set of instructional visual aids, select the correct video card.
      1.2.1 Identify a PCI video card as shown by the instructor.
      1.2.2 Identify an AGP video card as shown by instructor.
2.0 After given instructions, students will be able to prepare the computer for installing a video card.

2.1 Demonstrate how to physically open the computer’s case after given demonstration by instructor.
   2.1.1 Differentiate the two types of screws.
   2.1.2 Demonstrate proper removal of the two screws from the back using a screw driver shown by the instructor.
   2.1.3 Demonstrate proper removal of the computer cover as shown by instructor.

2.2 Demonstrate how to put aside any wires that interfere with insertion of new video card.
   2.2.1 List the procedure for handling wires inside the computer as shown by instructor.

3.0 After a demonstration, students will be able to remove the existing video card inside the computer from the mother board.

3.1 Given a set of instructions demonstrate how to put on the anti-static wrist strap.
   3.1.1 Describe how to test a wrist strap after the given demonstration by instructor.
   3.1.2 Locate where to connect the wrist strap to the inside of the computer, after given instructions.
   3.1.3 List two potential static damages to the card as explained by the instructor.

3.2 Identify the mother-board inside the computer as shown in the visual aid presented by instructor.
   3.2.1 Locate the video card installed on the mother board as shown by instructor.

3.3 Demonstrate how to unlock the existing video card after the instructor’s given demonstration.
   3.3.1 Identify the locking metal plate on the video card as shown by instructor.
   3.3.2 Demonstrate how to remove the screw from locking metal plate as shown by instructor.

3.4 Demonstrate how to pull out the card from mother board as shown by instructor.
   3.4.1 Identify the two sides for properly holding the video card as shown by instructor.

4.0 After a set of instructions, students will be able to compare the video card to the mother boards’ socket prior installation.

4.1 Given a visual aid, explain the count of pins inside the socket as shown by instructor.
   4.1.1 Discriminate socket from video card.
   4.1.2 Identify the type of socket connector according to pin count as explained by instructor.

4.2 Given a visual aid, explain the count of pins on the bottom of video card as shown by instructor.
   4.2.1 Identify the type of video card according to pin count as explained by instructor.
5.0 Given a set of instruction students will be able to insert the new video card into the motherboard inside the computer.

5.1 Explain the anti-static precautions taken when working inside a computer as shown by instructor.

5.2 Demonstrate proper handling of the new video card as explained by instructor.

5.3 Evaluate the type of connector socket needed for inserting the new card as demonstrated by instructor.

5.3.1 Explain the difference between a PCI and an AGP video card as shown by instructor.

5.3.2 Identify the two available types of connector sockets on the motherboard as explained by instructor.

5.4 Demonstrate proper insertion of new video card into the motherboard as shown by instructor.

5.5 Demonstrate how to secure the new video card as shown by instructor.

5.5.1 Demonstrate insertion of screw to secure the metal plate as shown by instructor.

5.6 Demonstrate how close the computer case as explained by instructor.

5.6.1 Demonstrate how to secure the computer cover as shown by instructor.

Part 8: Learner Assessment

Goal statement
Given a set of instructions students will be able to install a video card, in order to update existing computer video card, with 100% accuracy according to manufacturer standards.

Students will be assessed on the bases of completion of 5 written projects and 2 hands-on demonstration one on one with instructor, via Google – mail video conference, on how to install a video card into a socket of the motherboard which is located inside the computer.

• Develop a check-list and take short 5 questions quiz, worth 20%, according to rubric.
• Submit an internet based report, worth 10%, according to rubric.
• Generate and submit a step by step writing assignment, worth 10%, and take a 10 questions quiz worth 20%, according to rubric.
• Submit a detailed report, worth 10%, according to rubric.
• Create and submit a step by step writing assignment, worth 10%, and take a 10 questions quiz worth 20%, according to rubric.

Assessment of student performance:

Grading Criteria:

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>WEIGHT</th>
<th>Points</th>
<th>GRADE Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>10%</td>
<td>100</td>
<td>A = 100-90</td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
<td>100</td>
<td>B = 89-80</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20%</td>
<td>200</td>
<td>C = 79-70</td>
</tr>
<tr>
<td>3 projects</td>
<td>30%</td>
<td>300</td>
<td>D = 60-69</td>
</tr>
<tr>
<td>Final project /Demonstration</td>
<td>30%</td>
<td>300</td>
<td>F = 59-0</td>
</tr>
</tbody>
</table>

Total points = 1000
Major Sub-goals

1.0 Given a set of instructions, students will be able to complete the pre-installation setup for installing a video card.
**Assessment:** after instruction, students will be asked to develop a personal check list in order to identify the components required for a pre-installation setup, when installing a video card. The check list will be submitted to the instructor for an evaluation according a rubric developed by instructor.

2.0 After given instructions, students will be able to prepare the computer for installing a video card.
**Assessment:** students will be asked to submit an internet researched report on proper techniques for preparing a computer for installation on new components. In this particular case it will be a video card. After submission of the written report for an evaluation according a rubric developed by instructor. Assessment will be based on the acquired knowledge as suppose to the previous knowledge gain from the designed instruction.

3.0 After a demonstration, students will be able to remove the existing video card inside the computer from the mother board.
**Assessment:** after instruction and demonstration by instructor, students will be required to demonstrate hands-on and verbally explained. For asynchronous assessment, Google video chat conference will be used to re-produce demonstration of removal of the existing video card inside the computer. After the streamed-media demonstration, assessment will be based on verbal cues previously explained by instructor’s rubric.

4.0 After a set of instructions, students will be able to compare the video card to the mother boards’ socket prior installation.
**Assessment:** after instruction delivered by instructor, students are asked to describe the differences and the thing to look for when comparing the video card to the socket of the mother board. In order to check for compatibility which results in proper functionality? Students will submit a detail report, including pictures on the executed comparison. The report will be submitted to the instructor for an evaluation according a rubric developed by instructor.

5.0 Given a set of instructions students will be able to insert the new video card into the mother-board inside the computer.
**Assessment:** similar to sub-goal #3. After instruction and demonstration by instructor, students will be required to demonstrate hands-on and verbally explained. For asynchronous assessment, Google video chat conference will be used to re-produce demonstration of removal of the existing video card inside the computer. After the streamed-media demonstration, assessment will be based on verbal cues previously explained by instructor’s rubric.

Part 9: Motivational Strategies

**Project Goal Statement** (Terminal Objective): Given a set of instructions students will be able to install a video card, in order to update existing computer video card, with 100% accuracy according to manufacturer standards.
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ATTENTION</strong></td>
<td></td>
</tr>
<tr>
<td>A.1. Perceptual arousal</td>
<td>A.1. In order to capture learner’s interest I will be using photos of the actual components and real-life applications. When installing a video card I provide the actual components or expected to be acquired by student as a pre-requisite, for a real hands-on learning experience. In addition a programmed instruction, on proper installation and safety issues, will be available on-line for students to review instructional content at their own pace and time.</td>
</tr>
<tr>
<td>A.2. Inquiry arousal</td>
<td>A.2. Inquiry arousal will be encourage by providing information of different applications and types of video cards that will provide better or excellent video quality than the ones being used, I intent to stimulate an attitude of inquiry by students getting interested in higher technology applications.</td>
</tr>
<tr>
<td>A.3. Variability</td>
<td>A.3. I will maintain students participation by promoting participation among learners, by providing individualize learning kits where each participant will follow each steps for installing a video card as the instructor explains the procedure.</td>
</tr>
<tr>
<td><strong>RELEVANCE</strong></td>
<td></td>
</tr>
<tr>
<td>R.1. Goal orientation</td>
<td>R.1. After the learner analysis I will pay close attention to their particular interest. For example, when the student preference is to learn from e-learning media, I plan to provide the best possible e-presentations according to my abilities for web-based instruction. Or when the student prefers in-depth explanation on the subject, I will do research in order to meet my learner’s needs.</td>
</tr>
<tr>
<td>R.2. Motive matching</td>
<td>R.2. As long as students requests don’t interfere with content instruction, flexibility will be available for different time arrangements; if web-conferences are to be required, how much time for breaks, seating preferences, provided that the required work is accomplish in a responsible manner. With better performance outcomes from learners more flexibility and responsibility will be given.</td>
</tr>
<tr>
<td>R.3. Familiarity</td>
<td>R.3. After examining the learners’ abilities and levels of competency, I may ask a competent student to create a researched instruction presentation for the entire class in an effort to tie the instruction to the learner’s experiences and expertise. For students with less expertise I will provide chat-rooms or wikis for discussion sessions where students express themselves and share with the class how the learned instruction relates to their personal life.</td>
</tr>
<tr>
<td>CONFIDENCE</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>C.1. Learning requirements</td>
<td>C.1. Breaking down the tasks in order to build confidence in the student’s performance and execution of the tasks. For example I won’t be requiring students to insert the video card in a motherboard from the start of the course, or even after the instruction, instead I will give the students a broken or nonfunctional piece to practice on without any risks.</td>
</tr>
<tr>
<td>C.2. Success opportunities</td>
<td>C.2. Having experience learners instruct or assist other less experienced learners will build confidence and support or enhance students’ beliefs in their competence. Even for inexperienced learners appraisal for every task accomplished will re-enforce believe in being able to accomplish the tasks at hand.</td>
</tr>
<tr>
<td>C.3. Personal control</td>
<td>C.3. Through assessment and evaluation learners will measure their own understanding and abilities to perform. Students are provided a rubric that clearly identifies the steps to accomplish and how to succeed. For example when installing a video card, functionality of the system will depend on their effort to follow the tasks and their own abilities to install it correctly.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SATISFACTION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S.1. Natural consequences</td>
<td>S.1. In order to provide meaningful opportunities, instructor will ask experience learners to participate or assist in updating the school’s computers. Also after students learn the proper skills for installing a video card, instructor encourage the use of their new acquired skills and knowledge by informing and asking friends and family if they need their services to replace their existing video card with a more improved high tech component.</td>
</tr>
<tr>
<td>S.2. Positive consequences</td>
<td>S.2. To reinforce the learner success I plan to present personal testimonies from students and experts in the field, who have applied their potential and skills successfully in their own life. For example mentioning the importance of becoming an expert in the field, by learning as much as they can in order to master taking precautions and becoming experts at dealing with static electricity and their consequences, in order to succeed when the time comes to do a real job.</td>
</tr>
<tr>
<td>S.3. Equity</td>
<td>S.3. Creating a positive feeling in learners minds will be done by reviewing their accomplishments and mentioning that there is a technical field out there for everyone, if so desire, that require the skills learned in the class, and encourage continuous progressive learning for obtaining a higher level of understanding, perhaps motivating to take the next course which teaches them how to install a similar component such as a sound card.</td>
</tr>
</tbody>
</table>
**Part 10: Sequence & Timing.**

**Project Goal Statement (Terminal Objective):** Given a set of instructions students will be able to install a video card, in order to update existing computer video card, with 100% accuracy according to manufacturer standards.

<table>
<thead>
<tr>
<th>CLUSTER</th>
<th>TIME FRAME</th>
<th>OBJECTIVES LISTED IN ORDER OF HOW THEY WILL BE TAUGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.0 Given a set of instructions, students will be able to complete the pre-installation setup for installing a video card.</td>
</tr>
<tr>
<td>1</td>
<td>8:05 – 8:15 AM</td>
<td>1.1 Select the proper tools for installation given the pre-installation setup list instruction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.1.1 Identify a screw driver as shown by instructor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.1.2 Identify the anti-static wrist strap as shown by the instructor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.1.3 Identify an antistatic mat as shown by the instructor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2 Given a set of instructional visual aids, select the correct video card.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2.1 Identify a PCI video card as shown by the instructor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2.2 Identify an AGP video card as shown by instructor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.0 After given instructions, students will be able to prepare the computer for installing a video card.</td>
</tr>
<tr>
<td>2</td>
<td>8:16 – 8:20 AM</td>
<td>2.1 Demonstrate how to physically open the computer’s case after given demonstration by instructor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1.1 Differentiate the two types of screws.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1.2 Demonstrate proper removal of the two screws from the back using a screw driver shown by the instructor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1.3 Demonstrate proper removal of the computer cover as shown by instructor.</td>
</tr>
<tr>
<td>3</td>
<td>8:21 – 8:30 AM</td>
<td>2.2 Demonstrate how to put aside any wires that interfere with insertion of new video card.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2.1 List the procedure for handling wires inside the computer as shown by instructor.</td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>8:31 – 8:40 AM</td>
<td>3.0 After a demonstration, students will be able to remove the existing video card inside the computer from the mother board.</td>
<td></td>
</tr>
</tbody>
</table>
| 8:41 – 8:45 AM | 3.1 Given a set of instructions demonstrate how to put on the anti-static wrist strap.  
3.1.1 Describe how to test a wrist strap after the given demonstration by instructor.  
3.1.2 Locate where to connect the wrist strap to the inside of the computer, after given instructions.  
3.1.3 List two potential static damages to the card as explained by the instructor. |
| 8:46 – 8:50 AM | 3.2 Identify the mother-board inside the computer as shown in the visual aid presented by instructor.  
3.2.1 Locate the video card installed on the mother board as shown by instructor.  
3.3 Demonstrate how to unlock the existing video card after the instructor’s given demonstration.  
3.3.1 Identify the locking metal plate on the video card as shown by instructor.  
3.3.2 Demonstrate how to remove the screw from locking metal plate as shown by instructor. |
| 8:51 – 8:55 AM | 4.0 After a set of instructions, students will be able to compare the video card to the mother-boards’ socket prior installation. |
| 8:31 – 8:40 AM | 3.4 Demonstrate how to pull out the card from mother board as shown by instructor.  
3.4.1 Identify the two sides for properly holding the video card as shown by instructor. |
| 8:41 – 8:45 AM | 4.1 Given a visual aid, explain the count of pins inside the socket as shown by instructor.  
4.1.1 Discriminate socket from video card.  
4.1.2 Identify the type of socket connector according to pin count as explained by instructor. |
<table>
<thead>
<tr>
<th></th>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 8 | 8:56 – 9:05 AM | 4.2 Given a visual aid, explain the count of pins on the bottom of video card as shown by instructor.  
4.2.1 Identify the type of video card according to pin count as explained by instructor. |
|   |              | 5.0 Given a set of instruction students will be able to insert the new video card into the mother-board inside the computer. |
| 9 | 9:06 – 9:20 AM | 5.1 Explain the anti-static precautions taken when working inside a computer as shown by instructor.  
5.2 Demonstrate proper handling of the new video card as explained by instructor.  
5.3 Evaluate the type of connector socket needed for inserting the new card as demonstrated by instructor.  
5.3.1 Explain the difference between a PCI and an AGP video card as shown by instructor.  
5.3.2 Identify the two available types of connector sockets on the mother board as explained by instructor. |
| 10| 9:21 – 9:30 AM | 5.4 Demonstrate proper insertion of new video card into the mother board as shown by instructor.  
5.5 Demonstrate how to secure the new video card as shown by instructor.  
5.5.1 Demonstrate insertion of screw to secure the metal plate as shown by instructor.  
5.6 Demonstrate how close the computer case as explained by instructor.  
5.6.1 Demonstrate how to secure the computer cover as shown by instructor. |
Sample Lesson Plans

**STATED OBJECTIVE:** Given a set of instructions, students will be able to complete the pre-installation setup for installing a video card.

<table>
<thead>
<tr>
<th>Objective #</th>
<th>1.0</th>
</tr>
</thead>
</table>

**PRE-INSTRUCTIONAL ACTIVITIES**

**Motivational strategy:** Attention – Variability. I will maintain students interest by promoting participation among learners, by providing individualize learning kits where each participant will follow each steps for installing a video card as the instructor explains the procedure.

**Pre-Assessment:** take short 5 questions quiz, worth 20%, according to rubric.

**CONTENT PRESENTATION**

**Content:**

1. Select the proper tools for installation given the pre-installation setup list instruction.
   1.1 Identify a screw driver as shown by instructor.
   1.2 Identify the anti-static wrist strap as shown by the instructor.
   1.3 Identify an antistatic mat as shown by the instructor.
2. Given a set of instructional visual aids, select the correct video card.
   2.1 Identify a PCI video card as shown by the instructor.
   2.2 Identify an AGP video card as shown by instructor.

**Examples:** [http://www.youtube.com/watch?v=EXR8ES0uL-Y&feature=fvw](http://www.youtube.com/watch?v=EXR8ES0uL-Y&feature=fvw)

**Groups:** Individualized instruction

**Media selection:** On-line Programmed Instruction

**STUDENT PARTICIPATION**

**Practice Items:** provided individualize learning kits.

**Feedback:** E-mail responses and annotated comments from instructor

**Assessment:** Develop a check-list. After instruction, students will be ask to develop a personal check list in order to identify the components required for a pre-installation setup, when installing a video card. The check list will be submitted to the instructor for an evaluated according a rubric developed by instructor.

**FOLLOW-THROUGH ACTIVITIES**

**Memory aids:** Multimedia presentations and cue cards created by instructor.

**Transfer:** Repeat process practicing updating their own computer’s video card or their friends.
**STATED OBJECTIVE:** After given instructions, students will be able to prepare the computer for installing a video card.

**Objective #2.0**

**PRE-INSTRUCTIONAL ACTIVITIES**

**Motivational strategy:** Attention - Perceptual arousal. In order to capture learner’s interest I will be using photos of the actual components and real-life applications. When installing a video card I provide the actual components or expected to be acquired by student as a pre-requisite, for a real hands-on learning experience. In addition a programmed instruction, on proper installation and safety issues, will be available on-line for students to review instructional content at their own pace and time.

**Pre-Assessment:** take a performance survey.

**CONTENT PRESENTATION**

**Content:**
2.1 Demonstrate how to physically open the computer’s case after given demonstration by instructor.
   2.1.1 Demonstrate proper removal of the two screws from the back using a screw driver shown by the instructor.
   2.1.2 Demonstrate proper removal of the computer cover as shown by instructor.
2.2 Demonstrate how to put aside any wires that interfere with insertion of new video card.
   2.2.1 List the procedure for handling wires inside the computer as shown by instructor.

**Examples:** [http://www.youtube.com/watch?v=5ILrq7IMe-0&feature=fvw](http://www.youtube.com/watch?v=5ILrq7IMe-0&feature=fvw)

**Groups:** Individualized instruction

**Media selection:** On-line Programmed Instruction

**STUDENT PARTICIPATION**

**Practice Items:** provided individualize learning kits.

**Feedback:** E-mail responses and annotated comments from instructor.

**Assessment:** Submit an internet based report, worth 10%, according to rubric. Students will be asked to submit an internet researched report on proper techniques for preparing a computer for installation on new components. In this particular case it will be a video card. After submission of the written report for an evaluation according a rubric developed by instructor. Assessment will be based on the acquired knowledge as suppose to the previous knowledge gain from the designed instruction.

**FOLLOW-THROUGH ACTIVITIES**

**Memory aids:** Multimedia presentations and cue cards created by instructor.

**Transfer:** Repeat process practicing updating their own computer’s video card or their friends.
**STATED OBJECTIVE:** After a demonstration, students will be able to remove the existing video card inside the computer from the mother board.

<table>
<thead>
<tr>
<th>Objective # 3.0</th>
</tr>
</thead>
</table>

**PRE-INSTRUCTIONAL ACTIVITIES**

**Motivational strategy:** Confidence - Learning requirements.
Breaking down the tasks in order to build confidence in the student’s performance and execution of the tasks. For example I won’t be requiring students to insert the video card in a mother board from the start of the course, or even after the instruction, instead I will give the students a broken or nonfunctional piece to practice on with-out any risks.

**Pre-Assessment:** take a performance survey.

**CONTENT PRESENTATION**

**Content:**
3.1 Identify the mother-board inside the computer as shown in the visual aid presented by instructor.
   3.1.1 Locate the video card installed on the mother board as shown by instructor.
3.2 Demonstrate how to unlock the existing video card after the instructor’s given demonstration.
   3.2.1 Identify the locking metal plate on the video card as shown by instructor.
   3.2.2 Demonstrate how to remove the screw from locking metal plate as shown by instructor.
3.3 Demonstrate how to pull out the card from mother board as shown by instructor.
   3.3.1 Identify the two sides for properly holding the video card as shown by instructor.

**Examples:** [http://www.youtube.com/watch?v=vAL_Wj68utA&NR=1&feature=fvwp](http://www.youtube.com/watch?v=vAL_Wj68utA&NR=1&feature=fvwp)

**Groups:** Individualized instruction

**Media selection:** On-line Programmed Instruction

**STUDENT PARTICIPATION**

**Practice Items:** provided individualize learning kits.

**Feedback:** E-mail responses and annotated comments from instructor.

**Assessment:** Submit a detailed report, worth 10%, according to rubric.
After instruction and demonstration by instructor, students will be ask to demonstrate hands-on and verbally explained in a reordered media video, the procedure to remove the existing video card inside the computer.

**FOLLOW-THROUGH ACTIVITIES**

**Memory aids:** Multimedia presentations and cue cards created by instructor.

**Transfer:** Repeat process practicing updating their own computer’s video card or their friends.
**STATED OBJECTIVE:** After a set of instructions, students will be able to compare the video card to the mother boards’ socket prior installation.

| Objective # | 4.0 |

**PRE-INSTRUCTIONAL ACTIVITIES**

**Motivational strategy:** Attention - Inquiry arousal.

*will be encourage by providing information of different applications and types of video cards that will provide better or excellent video quality than the ones being used, I intent to stimulate an attitude of inquiry by students getting interested in higher technology applications.*

**Pre-Assessment:** take a 10 questions quiz worth 20%, according to rubric.

**CONTENT PRESENTATION**

**Content:**

4.1 Given a visual aid, explain the count of pins inside the socket as shown by instructor.
   - 4.1.1 Identify the type of socket connector according to pin count as explained by instructor.

4.2 Given a visual aid, explain the count of pins on the bottom of video card as shown by instructor.
   - 4.2.1 Identify the type of video card according to pin count as explained by instructor.

**Examples:** [http://www.youtube.com/watch?v=TTFNXXxHvn8w&feature=related](http://www.youtube.com/watch?v=TTFNXXxHvn8w&feature=related)

**Groups:** Individualized instruction

**Media selection:** On-line Programmed Instruction

**STUDENT PARTICIPATION**

**Practice Items:** provided individualize learning kits.

**Feedback:** E-mail responses and annotated comments from instructor.

**Assessment:** Generate a step by step writing assignment, worth 10%, and Submit a detailed report, worth 10%, according to rubric. After instruction delivered by instructor, students are ask to describe the differences and the thing to look for when comparing the video card to the socket of the mother board. In order to check for compatibility which results in proper functionality? Students will submit a detail report, including pictures on the executed comparison. The report will be submitted to the instructor for an evaluation according a rubric developed by instructor.

**FOLLOW-THROUGH ACTIVITIES**

**Memory aids:** Multimedia presentations and cue cards created by instructor.

**Transfer:** Repeat process practicing updating their own computer’s video card or their friends.
**STATED OBJECTIVE:** Given a set of instruction students will be able to insert the new video card into the mother-board inside the computer.

<table>
<thead>
<tr>
<th>Objective #</th>
<th>5.0</th>
</tr>
</thead>
</table>

**PRE-INSTRUCTIONAL ACTIVITIES**

**Motivational strategy:** Confidence - Success opportunities. Having experience learners instruct or assist other less experienced learners will build confidence and support or enhance students’ beliefs in their competence. Even for in-experience learners appraisal for every task accomplished will re-enforce believe in being able to accomplish the tasks at hand.

**Pre-Assessment:** take a 10 questions quiz worth 20%, according to rubric.

**CONTENT PRESENTATION**

**Content:**
5.1 Explain the difference between a PCI and an AGP video card as shown by instructor.
   5.1.1 Demonstrate the two available types of connector sockets on the mother board as explained by instructor.
5.2 Demonstrate proper insertion of new video card into the mother board as shown by instructor.
5.3 Demonstrate how to secure the new video card as shown by instructor.
   5.3.1 Demonstrate insertion of screw to secure the metal plate as shown by instructor.
5.4 Demonstrate how close the computer case as explained by instructor.
   5.4.1 Demonstrate how to secure the computer cover as shown by instructor.

**Examples:** [http://www.youtube.com/watch?v=a7rbmcThlDk&feature=related](http://www.youtube.com/watch?v=a7rbmcThlDk&feature=related)

**Groups:** Individualized instruction

**Media selection:** On-line Programmed Instruction

**STUDENT PARTICIPATION**

**Practice Items:** provided individualize learning kits.

**Feedback:** E-mail responses and annotated comments from instructor.

**Assessment:** Create and submit a step by step writing assignment, worth 10%.
After instruction and demonstration by instructor, students will be ask to demonstrate hands-on and verbally explained in a reordered media video, the procedure to insert the new video card into the socket inside the computer.

**FOLLOW-THROUGH ACTIVITIES**

**Memory aids:** Multimedia presentations and cue cards created by instructor.

**Transfer:** Repeat process practicing updating their own computer’s video card or their friends.
Part 11: Instructional Materials – Installing a Video Card

<table>
<thead>
<tr>
<th>Pre-Installation Setup</th>
<th>1.0 Given a set of instructions, students will be able to complete the pre-installation setup for installing a video card.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1</strong> Select the proper tools for installation given the pre-installation setup list instruction.</td>
<td>Pre-installation set-up includes selecting the proper tools for opening the computer and taking precautions for Static Electricity damage to the component or video card.</td>
</tr>
<tr>
<td>1.1.1 Identify a screw driver as shown by instructor.</td>
<td>The list will consist of a document including the tools necessary to start the process.</td>
</tr>
<tr>
<td>1.1.2 Identify the anti-static wrist strap as shown by the instructor.</td>
<td><strong>SETUP – LIST</strong></td>
</tr>
<tr>
<td>1.1.3 Identify an antistatic mat as shown by the instructor.</td>
<td>Warning symbol denoting a device's susceptibility to electrostatic discharge.</td>
</tr>
<tr>
<td>1.2 Given a set of instructional visual aids, select the correct video card.</td>
<td>• Star screw driver</td>
</tr>
<tr>
<td>1.2.1 Identify a PCI video card as shown by the instructor.</td>
<td>• Anti-static wrist strap</td>
</tr>
<tr>
<td>1.2.2 Identify an AGP video card as shown by instructor.</td>
<td>• Anti-static mat</td>
</tr>
</tbody>
</table>

- A typical 32-bit PCI, AGP video card. Smaller gap between back plate and connection pins in PCI video card.
<table>
<thead>
<tr>
<th><strong>Preparing the computer for installing the video card.</strong></th>
<th><strong>Handling Procedure – LIST</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 After given instructions, students will be able to prepare the computer for installing a video card.</td>
<td><strong>• Identify type of screws</strong></td>
</tr>
<tr>
<td>2.1 Demonstrate how to physically open the computer’s case after given demonstration by instructor.</td>
<td><strong>• Remove the two screws</strong></td>
</tr>
<tr>
<td>2.1.1 Differentiate the two types of screws.</td>
<td><strong>• Remove the cover</strong></td>
</tr>
<tr>
<td></td>
<td><strong>• Putting wires aside</strong></td>
</tr>
<tr>
<td>2.1.2 Demonstrate proper removal of the two screws from the back using a screw driver shown by the instructor.</td>
<td><strong>Computer open after cover removal</strong></td>
</tr>
<tr>
<td>Back of the computer</td>
<td>![Computer open after cover removal](photo from bing.com)</td>
</tr>
<tr>
<td>2.1.3 Demonstrate proper removal of the computer cover as shown by instructor.</td>
<td>Instructor uses actual components in-classroom setting and Instructor uses “YouTube” in asynchronous instruction as video resources for different handling procedures:</td>
</tr>
<tr>
<td>2.2 Demonstrate how to put aside any wires that interfere with insertion of new video card.</td>
<td><img src="http://www.youtube.com/watch?v=EXR8ES0uL-Y&amp;feature=fvw" alt="Handling Procedure" /></td>
</tr>
<tr>
<td>2.2.1 List the procedure for handling wires inside the computer as shown by instructor.</td>
<td><img src="http://www.youtube.com/watch?v=5IIrq7lMe-0&amp;feature=fvw" alt="Handling Procedure" /></td>
</tr>
<tr>
<td>![Wires inside the computer](photo from bing.com)</td>
<td>![Wires inside the computer](photo from bing.com)</td>
</tr>
</tbody>
</table>
# Removing the existing video card

<table>
<thead>
<tr>
<th>3.0 After a demonstration, students will be able to remove the existing video card inside the computer from the mother board.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set of Instructions:</strong></td>
</tr>
</tbody>
</table>
| - Putting on the anti-static wrist strap  
- Testing the wrist strap  
- Connecting wrist strap to ground.  
- Potential damage from ESD. (electro-static-discharge) |

3.1 Given a set of instructions demonstrate how to put on the anti-static wrist strap.  
3.1.1 Describe how to test a wrist strap after the given demonstration by instructor.  
3.1.2 Locate where to connect the wrist strap to the inside of the computer, after given instructions.  
3.1.3 List two potential static damages to the card as explained by the instructor.  

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### Set of Instructions:

- Putting on the anti-static wrist strap  
- Testing the wrist strap  
- Connecting wrist strap to ground.  
- Potential damage from ESD. (electro-static-discharge)

---

3.2 Identify the mother-board inside the computer as shown in the visual aid presented by instructor.  
3.2.1 Locate the video card installed on the mother board as shown by instructor.  
3.3 Demonstrate how to unlock the existing video card after the instructor’s given demonstration.  
3.3.1 Identify the locking metal plate on the video card as shown by instructor.  
3.3.2 Demonstrate how to remove the screw from locking metal plate as shown by instructor.  
3.4 Demonstrate how to pull out the card from mother board as shown by instructor.  
3.4.1 Identify the two sides for properly holding the video card as shown by instructor.
<table>
<thead>
<tr>
<th><strong>Compare the video card to the motherboards’ socket prior installation.</strong></th>
<th><strong>4.0</strong> After a set of instructions, students will be able to compare the video card to the motherboards’ socket prior installation.</th>
</tr>
</thead>
</table>
| 4.1 Given a visual aid, explain the count of pins inside the socket as shown by instructor.  
4.1.1 Discriminate socket from video card.  
4.1.2 Identify the type of socket connector according to pin count as explained by instructor. | Instructor shows the types of connectors on the mother-board. |
| ![A typical 32-bit PCI. Video card](photo from wikipedia.com) | ![Instructor shows the types of connectors on the mother-board.](photo from bing.com) |
| ![A row of three PCI sockets](photo from wikipedia.com) | ![Instructor shows how to discriminate a socket connector from video card.](photo from bing.com) |
| Smaller gap between back plate and connection pins in PCI video card. | ![An AGP slot (having maroon color) and two PCI slots](photo from wikipedia.com) |
| 4.2 Given a visual aid, explain the count of pins on the bottom of video card as shown by instructor.  
4.2.1 Identify the type of video card according to pin count as explained by instructor. | ![AGP video card.](photo from wikipedia.com) |
<p>| ![Instructor uses actual components in-classroom setting and Instructor uses cue cards on web-based instruction to help identify the tools in the list.](photo from wikipedia.com) | ![AGP video card.](photo from wikipedia.com) |</p>
<table>
<thead>
<tr>
<th>Insert the new video card into the motherboard inside the computer.</th>
<th>5.0 Given a set of instruction students will be able to insert the new video card into the motherboard inside the computer.</th>
</tr>
</thead>
</table>
| 5.1 Explain the anti-static precautions taken when working inside a computer as shown by instructor.  
5.2 Demonstrate proper handling of the new video card as explained by instructor.  
5.3 Evaluate the type of connector socket needed for inserting the new card as demonstrated by instructor.  
5.3.1 Explain the difference between a PCI and an AGP video card as shown by instructor.  
5.3.2 Identify the two available types of connector sockets on the mother board as explained by instructor.  
5.4 Demonstrate proper insertion of new video card into the mother board as shown by instructor. | Students are asked to review and demonstrate previously learned instruction, and continue to build upon by inserting the video card and completing the process. |
| Students are asked to review and demonstrate previously learned instruction, and continue to build upon by inserting the video card and completing the process. | Instructor uses actual components in-classroom setting and Instructor uses cue cards on web-based instruction to help identify the tools in the list.  
The instruction is web-based on-line, but it’s also available on DVD disc, for students review. |
| Kit requirements, in addition to video card and tools, for this course:  
5.5 Demonstrate how to secure the new video card as shown by instructor.  
5.5.1 Demonstrate insertion of screw to secure the metal plate as shown by instructor.  
5.6 Demonstrate how close the computer case as explained by instructor.  
5.6.1 Demonstrate how to secure the computer cover as shown by instructor. | Kit requirements, in addition to video card and tools, for this course:  
Fully operational  
Computer tower.  
Webcam |
“One-to-one Formative Evaluation”
The main purpose for the one-to-one evaluation is to identify aspects of performance that need improvements. Through the interview process and observations made by the SME, the plan will be accomplished. According to the subject matter expert, there were some suggestions made in order to correct and improve the quality of the content. One of the observations was based on explaining how hands-on instruction could be possible in an asynchronous environment. I explained the technology involved in today’s higher education settings, such as at BSU Moodle environment and multimedia content designed especially for distance learning. Regarding teaching with the real objects in distant learning, I explain that pre-requisites are required for learners to purchase a learning Kit that allows hands-on training. When communicating with the instructor Google mail allows one on one video chat, given that student owns a webcam, for the instructor to perhaps see the student perform the tasks required for demonstration activities. When does instruction takes place? The time when learners attend the instruction would be at the instructor and learners accommodations. Since instruction would be designed for web-based, it is going to be available as instructor makes it available. In other words, since the type of instruction is available on multimedia sections and DVD, student can referred back to these in order to review at their own leisure time what they have missed the first time. The SME suggested bigger graphical cues in to accommodate for smaller computer screens and also to require from learners to have for this class at least 19 to 20 inch monitors. The suggestions from the SME would be taken into consideration and reviewed periodically in order to implement and improve the type of instruction for this particular Instructional Design.

“The Small Group Formative Evaluation”
Small group evaluation will be addressed by means of completed surveys and group feedback all through-out the instruction plan. Before training session starts, during the training interventions, and post instruction. According to the surveys conducted, improvements and implementation of suggested changes will take place. Ongoing processes for providing feedback about the quality and effectiveness of the course instruction will be available through e-mail and course forums. Students will express their concerns with any type of issues that resurfaces during instruction. For example safety issues may be addressed by a particular student. If there are not enough explanations of safety, then instructor will design new material in addition to the existing one in order to implement safety during handling of a computer. Another implementation of safety would be to re-emphasize removing the power from the computer before entering the insides to update any of the computer’s components. Who is the instructional content implemented for in an asynchronous environment? Perhaps an on-line Black-Board or Moodle environment will accommodate for intervention of a small group of learners. Environment in which surveys, suggestion boxes, and students forums will be available for communications and suggestions related to improvements and changes. If the feedback received is not achievable for the particular class, then implementations and changes will be made for the next course instruction. Evaluation of instruction will be an on-going developmental design process. Since not all students possess the same knowledge levels and same cognitive levels of understanding, changes and suggestions from students will be taking into consideration for implementing the desired outcomes of the Instructional Design.
INDEX

References


Professional Standards Addressed (AECT)

The following standards, developed by the Association for Educational Communications and Technology (AECT), and used in the accreditation process established by the National Council for Accreditation of Teacher Education (NCATE), are addressed to some degree in this course. The numbers of the standards correspond to the numbers next to the course tasks show on the list of assignments. Not all standards are addressed explicitly through student work.

Standard 1: DESIGN
1.1 Instructional Systems Design (ISD) X
   1.1.1 Analyzing X
   1.1.2 Designing X
   1.1.3 Developing X
   1.1.4 Implementing X
   1.1.5 Evaluating X
1.2 Message Design
1.3 Instructional Strategies X
1.4 Learner Characteristics X

Standard 2: DEVELOPMENT
2.0 (includes 2.0.1 to 2.0.8) X
2.1 Print Technologies X
2.2 Audiovisual Technologies
2.3 Computer-Based Technologies X
2.4 Integrated Technologies
Standard 3: UTILIZATION
3.0 (includes 3.0.1 & 3.0.2)
3.1 Media Utilization
3.2 Diffusion of Innovations
3.3 Implementation and Institutionalization
3.4 Policies and Regulations

Standard 4: MANAGEMENT
4.0 (includes 4.0.1 & 4.0.3)
4.1 Project Management
4.2 Resource Management
4.3 Delivery System Management
4.4 Information Management

Standard 5: EVALUATION
5.1 Problem Analysis
5.2 Criterion-Referenced Measurement
5.3 Formative and Summative Evaluation
5.4 Long-Range Planning

1.0 Design
1.1 Instructional Systems Design
   1.1.a Utilize and implement design principles which specify optimal conditions for learning.
   1.1.b Identify a variety of instructional systems design models and apply at least one model.

1.1.1 Analyzing
   1.1.1.a Write appropriate objectives for specific content and outcome levels.
   1.1.1.b Analyze instructional tasks, content, and context.

1.1.2 Designing
   1.1.2.a Create a plan for a topic of a content area (e.g., a thematic unit, a text chapter, an interdisciplinary unit) to demonstrate application of the principles of macro-level design.
   1.1.2.b Create instructional plans (micro-level design) that address the needs of all learners, including appropriate accommodations for learners with special needs.
   1.1.2.d Incorporate contemporary instructional technology processes in the development of interactive lessons that promote student learning.
1.1.3 Developing
   1.1.3.a Produce instructional materials which require the use of multiple media (e.g.,
          computers, video, projection).
   1.1.3.b Demonstrate personal skill development with at least one: computer authoring
          application, video tool, or electronic communication application.

1.1.4 Implementing
   1.1.4.a Use instructional plans and materials which they have produced in contextualized
          instructional settings (e.g., practical, field experiences, training) that address the needs of
          all learners, including appropriate accommodations for learners with special needs.

1.1.5 Evaluating
   1.1.5.a Utilize a variety of assessment measures to determine the adequacy of learning
          and instruction.
   1.1.5.b Demonstrate the use of formative and summative evaluation within practice and
          contextualized field experiences.
   1.1.5.c Demonstrate congruency among goals/objectives, instructional strategies, and
          assessment measures.

1.3 Instructional Strategies
   1.3.a Select instructional strategies appropriate for a variety of learner characteristics and
          learning situations.
   1.3.b Identify at least one instructional model and demonstrate appropriate
          contextualized application within practice and field experiences.
   1.3.c Analyze their selection of instructional strategies and/or models as influenced by the
          learning situation, nature of the specific content, and type of learner objective.
   1.3.d Select motivational strategies appropriate for the target learners, task, and learning
          situation.

1.4 Learner Characteristics
   1.4.a Identify a broad range of observed and hypothetical learner characteristics for their
          particular area(s) of preparation.
   1.4.b Describe and/or document specific learner characteristics which influence the
          selection of instructional strategies.
   1.4.c Describe and/or document specific learner characteristics which influence the
          implementation of instructional strategies.

2.0 Development
   2.0.1 Select appropriate media to produce effective learning environments using
          technology resources.
   2.0.2 Use appropriate analog and digital productivity tools to develop instructional and
          professional products.
2.0.3 Apply instructional design principles to select appropriate technological tools for the development of instructional and professional products.

2.0.4 Apply appropriate learning and psychological theories to the selection of appropriate technological tools and to the development of instructional and professional products.

2.0.5 Apply appropriate evaluation strategies and techniques for assessing effectiveness of instructional and professional products.

2.0.6 Use the results of evaluation methods and techniques to revise and update instructional and professional products.

2.0.7 Contribute to a professional portfolio by developing and selecting a variety of productions for inclusion in the portfolio.

2.1 Print Technologies

2.1.3 Use presentation application software to produce presentations and supplementary materials for instructional and professional purposes.

2.1.4 Produce instructional and professional products using various aspects of integrated application programs.

2.3 Computer-Based Technologies

2.3.2 Design, produce, and use digital information with computer-based technologies.

3.0 Utilization

3.1 Media Utilization

3.1.1 Identify key factors in selecting and using technologies appropriate for learning situations specified in the instructional design process.

3.1.2 Use educational communications and instructional technology (SMETS) resources in a variety of learning contexts.

3.3 Implementation and Institutionalization

3.3.1 Use appropriate instructional materials and strategies in various learning contexts.

3.3.2 Identify and apply techniques for integrating SMETS innovations in various learning contexts.

3.3.3 Identify strategies to maintain use after initial adoption.

4.0 Management

(none specifically addressed in 503)

5.0 Evaluation

5.1 Problem Analysis
5.1.1 Identify and apply problem analysis skills in appropriate school media and educational technology (SMET) contexts (e.g., conduct needs assessments, identify and define problems, identify constraints, identify resources, define learner characteristics, define goals and objectives in instructional systems design, media development and utilization, program management, and evaluation).

5.2 Criterion-referenced Measurement

5.2.1 Develop and apply criterion-referenced measures in a variety of SMET contexts.

5.3 Formative and Summative Evaluation

5.3.1 Develop and apply formative and summative evaluation strategies in a variety of SMET contexts.

SMET = School Media & Educational Technologies

AECT Standards