**CADD File Formats**

**Problem Technology X.X –**

**Translating the Autodesk AutoCAD Headstock Design into Inventor**

Learn about the use of Computer-Aided Drafting (CAD) translator files and use this application to share a drawing between Autodesk AutoCAD and Inventor software programs.

**Learning Objectives:**

**Student will be able to:**

* Define the use of a translator file.
* List various types of computer-aided drafting (CAD) translator files
* Transfer an AutoCAD file into Autodesk Inventor
* Keep in mind as to how the activity will be assessed.
* Use those “learning objective” words and phrases like; identify, analyzes, convert, translate, solve, illustrate, etc. You know the ones and if you don’t check out this website <http://www.4faculty.org/Demo/digdeeper/lc_learning_object.htm> or [www.4faculty.org](http://www.4faculty.org)

**Materials Required:**

Autodesk AutoCAD and Inventor software applications and CADD files for guitar headstock design.

**I: Translator files**

Translator files are files that are used to communicate between various software programs that have the same application.

Example: A drawing created in AutoCAD, a drafting and design software package, needs to be opened in another software package. It needs to have some way to communicate this drawing with the other software.

Think of it this way, Kernen neiman verstehen was Ich sagen? What do you need to have in order to understand what this means? Right, an interpreter or a knowledge of the German language. This is the same way that translator files work.

Some various file standards taken from Wikipedia and file info are:

Dxf Drawing Interchange Format or Drawing Exchange Format that was developed by AutoCADin 1982.

Iges Initial Graphics Exchange Specification. This was

developed by the U.S. National Bureau of Standards as NBSIR 80-1978.

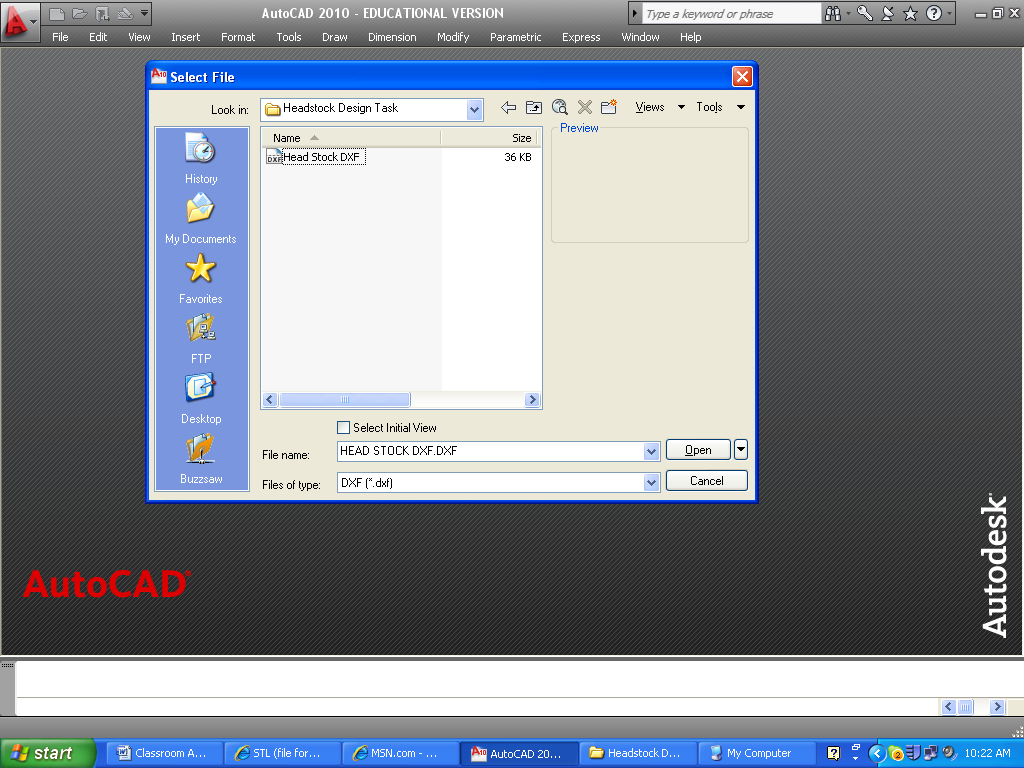
STL Stereolithography file used for three-dimensional

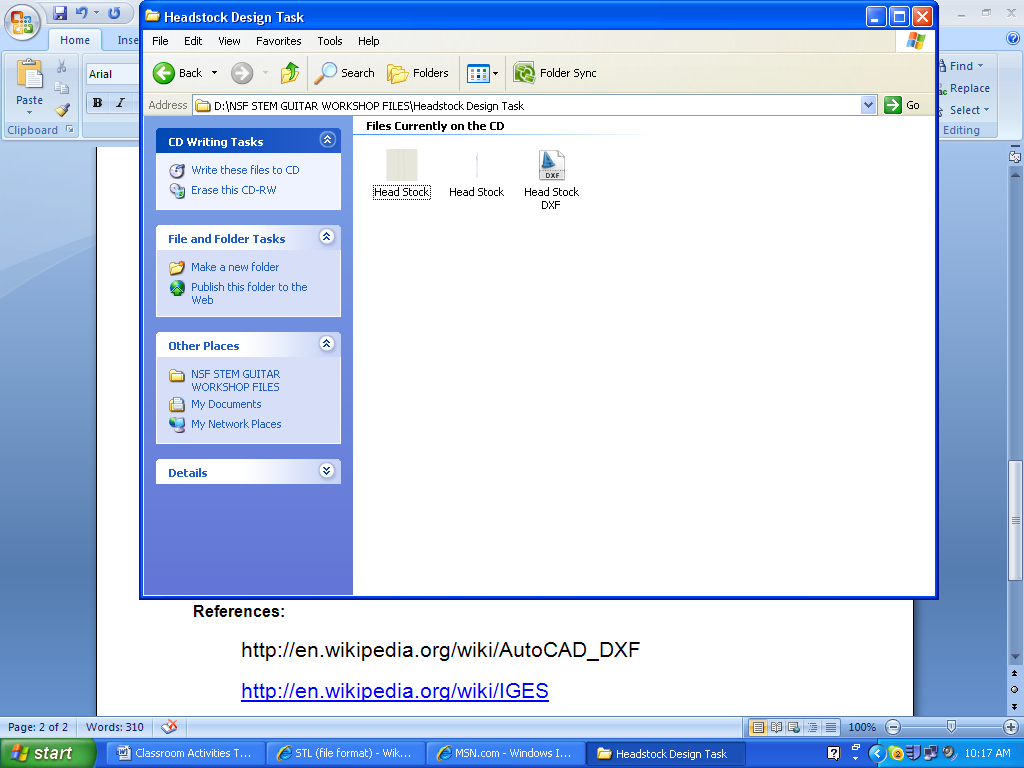
(3D) drawing files.

STEP Standard for the Exchange of Product Data developed as an International Standard Organization (ISO) 3D drawing file exchange.

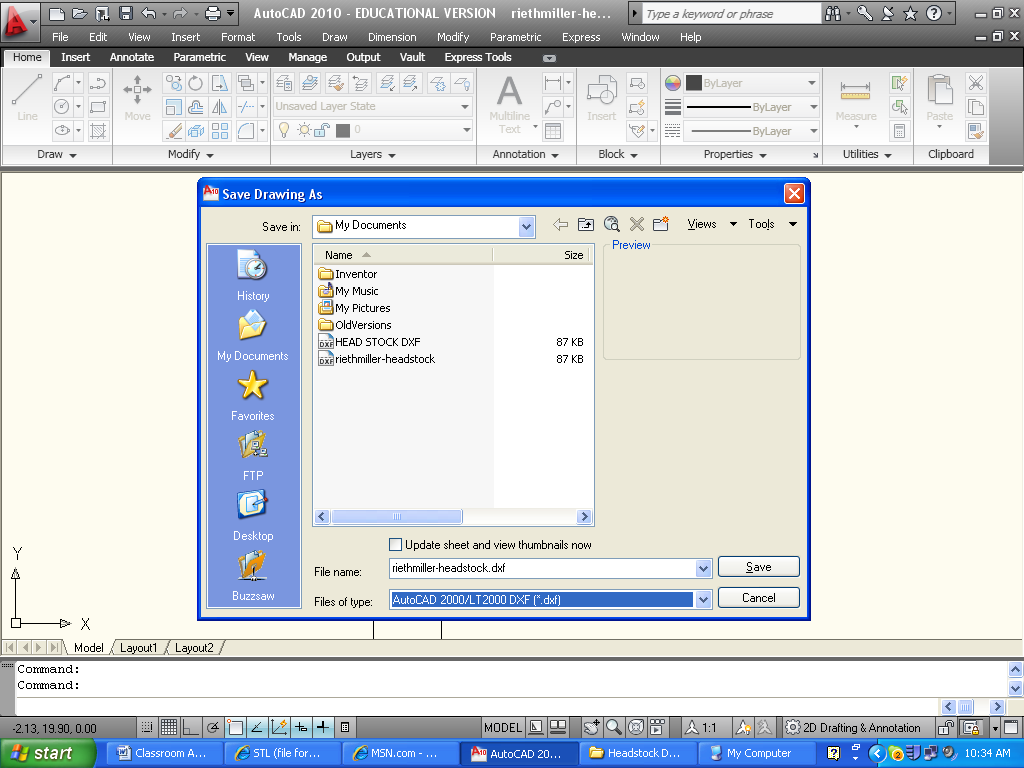
**II. Drawing Transfer**

1. Open the Autodesk AutoCAD software program. Go to file open and change the Files of type to dxf. Then browse to find the AutoCAD Head Stock DXF file from your Guitar workshop disk. D:\NSF STEM GUITAR WORKSHOP FILES\Headstock Design Task and left click on Open.

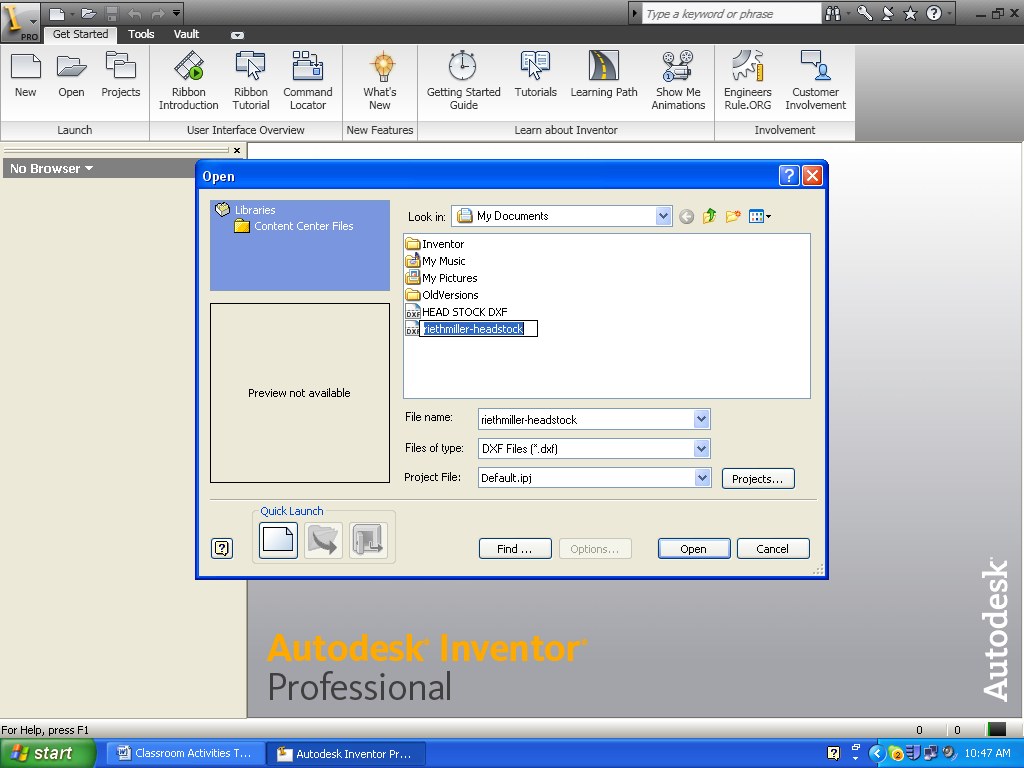




1. Use AutoCAD to design your own head stock. Do not worry, someone should be there to help you.
2. Your design file needs to be titled by your last name-headstock. Save your design by going to File Save As and save your file two ways in the area specified by your instructor. One as a .dwg file and the other as a dxf file. The 2000/LT2000 DXF format seems to work the best.

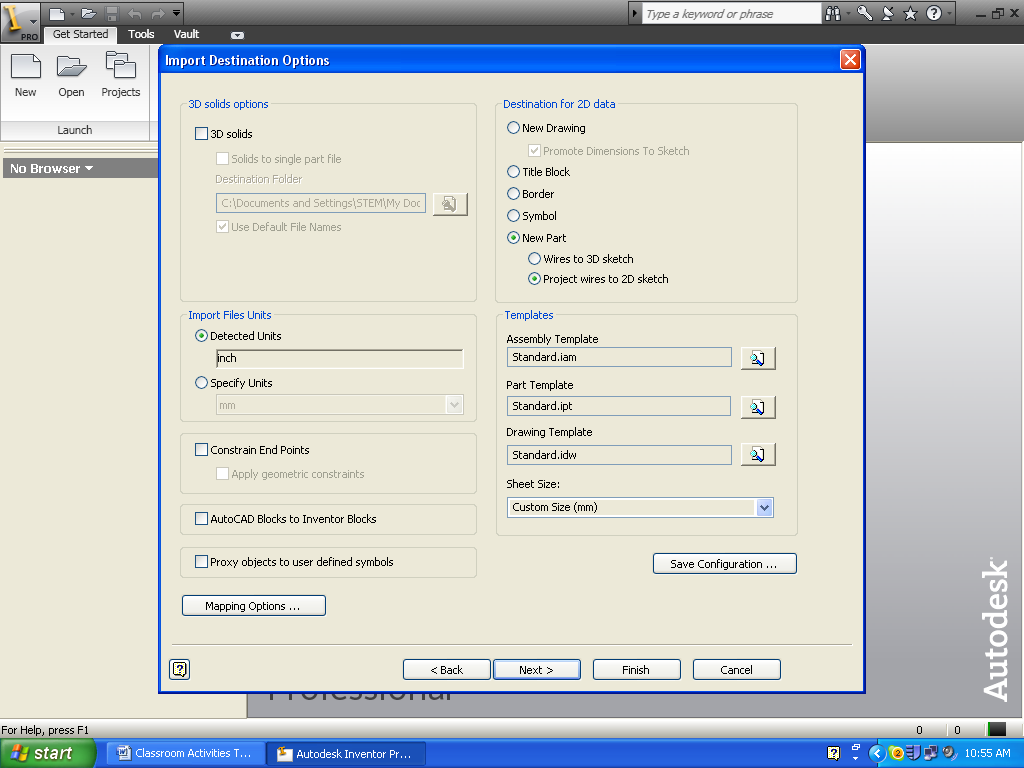


1. **Start Autodesk Inventor and go to file open. Be sure to have file of type set to DXF and go to Look in and browse to find your saved head stock DXF file.**

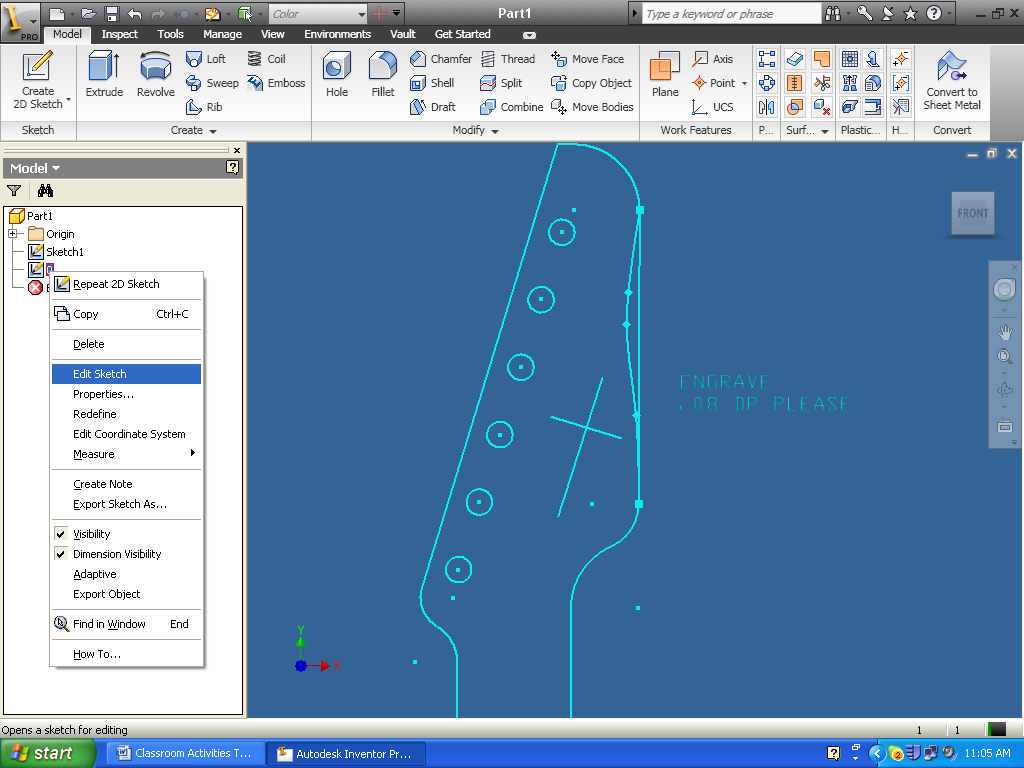
****

**The DWG/DXF WIZARD WILL APPEAR.**

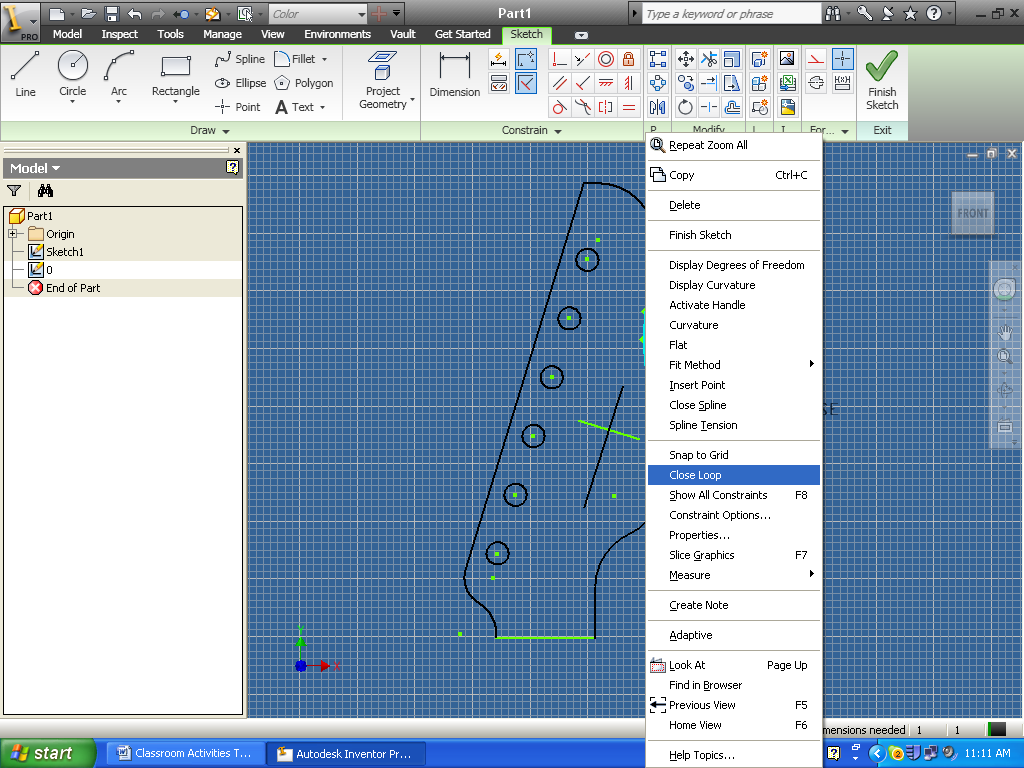
1. **Under configuration, change to DXF default configuration and left click the next button.**
2. **Under the Destination 2D data column, select the New Part and Project wires to 2D sketch radio buttons and select next.**

****

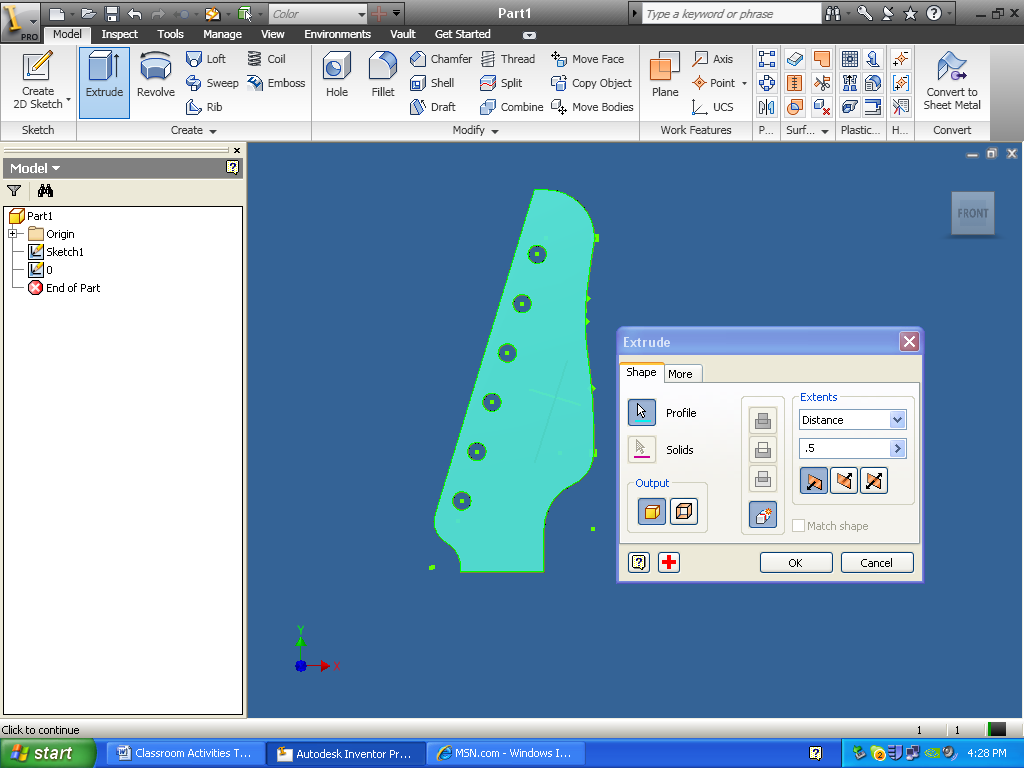
1. **Finally click the Finish button to open your drawing.**
2. **In the Model browser your sketch should appear under sketch1 as sketch0. Right click this title and left click on edit sketch.**

****

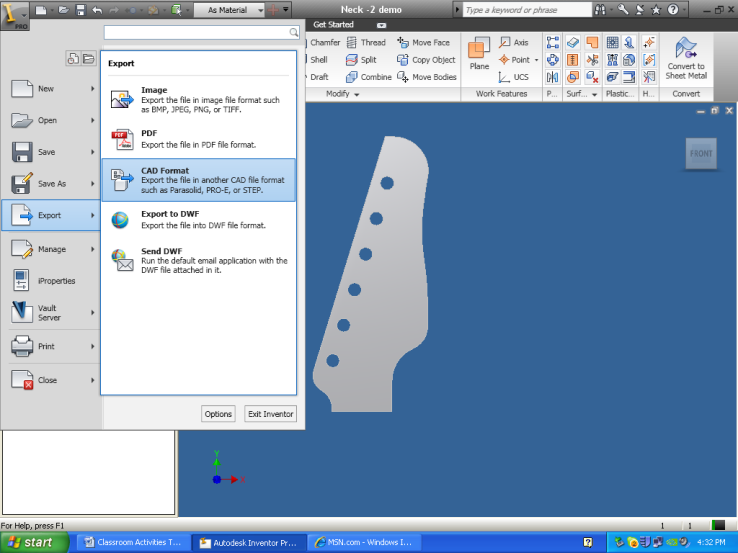
1. **Your drawing will appear on a grid area. You can now eliminate any undesired lines- such as the right side edge. Also go in a put a line across the bottom of the head stock and delete the lower lines of the neck.**
2. **You will have to go in and join lines to create a closed loop. All you need to do is right click on a line and choose Close Loop. Keep on selecting the lines until you have a closed loop. (Note: The lower left radius was in very short segments. We ended up adding a new radius and deleting the little short segments.)**

****

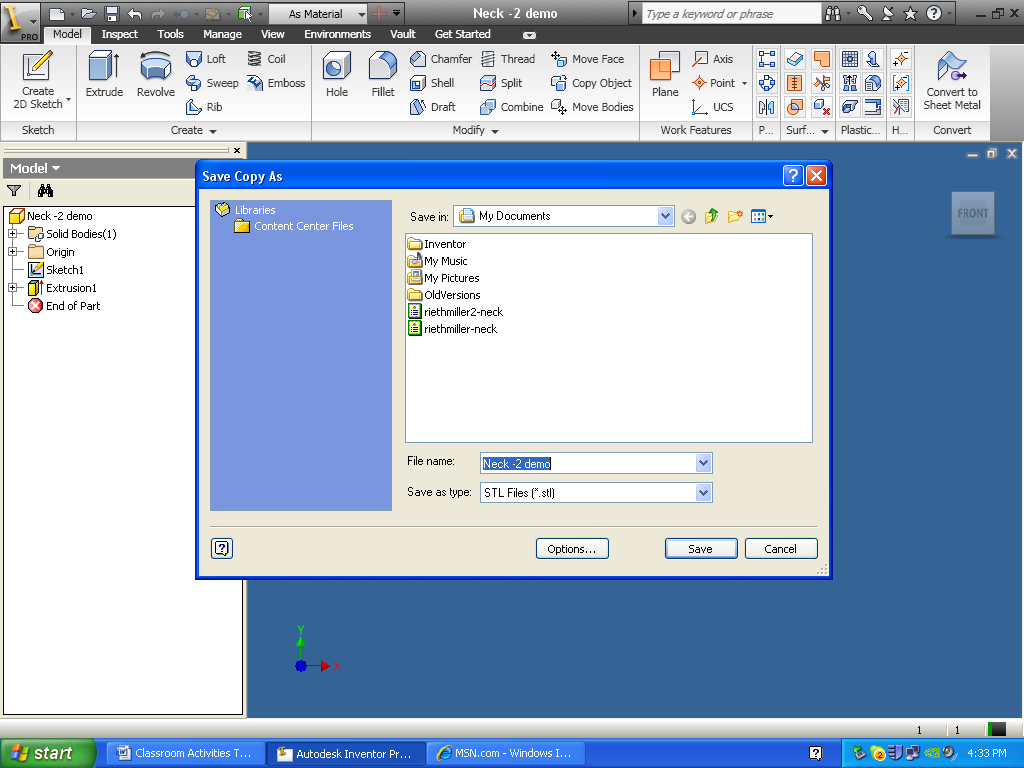
1. **Select Finish Sketch and select the Extrude tab to open the extrude dialog box. Select the center area for the Profile and set the depth to .500 and click the OK button.**

****

1. **Save your Part file to the specified directory.**
2. **Now go to the yellow A pull down menu and select export and the CAD Format.**

****

1. **Set the save as type to STL and resave to the specified directory.**

****

**You have now completed the lesson on translators.**

**References:**

http://en.wikipedia.org/wiki/AutoCAD\_DXF

<http://en.wikipedia.org/wiki/IGES>

http://en.wikipedia.org/wiki/STL\_(file\_format)

http://www.fileinfo.com/extension/step