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## **UNIT 1A – WORKSPACE & KEYBOARD SHORTCUTS TO AUTOCAD 2020**

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Objectives: At the end of this unit, you will be able to:

- 1) Launch AutoCAD 2020,
  - 2) Familiarise the Navigation aspects in the AutoCAD - 2D Drafting & Annotation workspace (Ribbon) and creating relevant Toolbars,
  - 3) Use the AutoCAD Ribbon workspace & relevant Toolbars created in Unit 1A to Unit 6,
  - 4) Use keyboard shortcuts proficiently.
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The introduction shall consist of three parts namely:

- A. Launching the new look AutoCAD- 2D Drafting & Annotation (Ribbon) workspace and its features,**
- B. Inserting Menu Bar as another means of using various commands instead of Ribbon,**
- C. Creating frequently used Straight Toolbars such as Draw, Modify, Draw Order, Layers, Dimension & Properties.**

After identifying the layout structure, one can be competent in using either the AutoCAD 2D Drafting & Annotation workspace (Ribbon) &/or Straight Toolbars in any drawing.

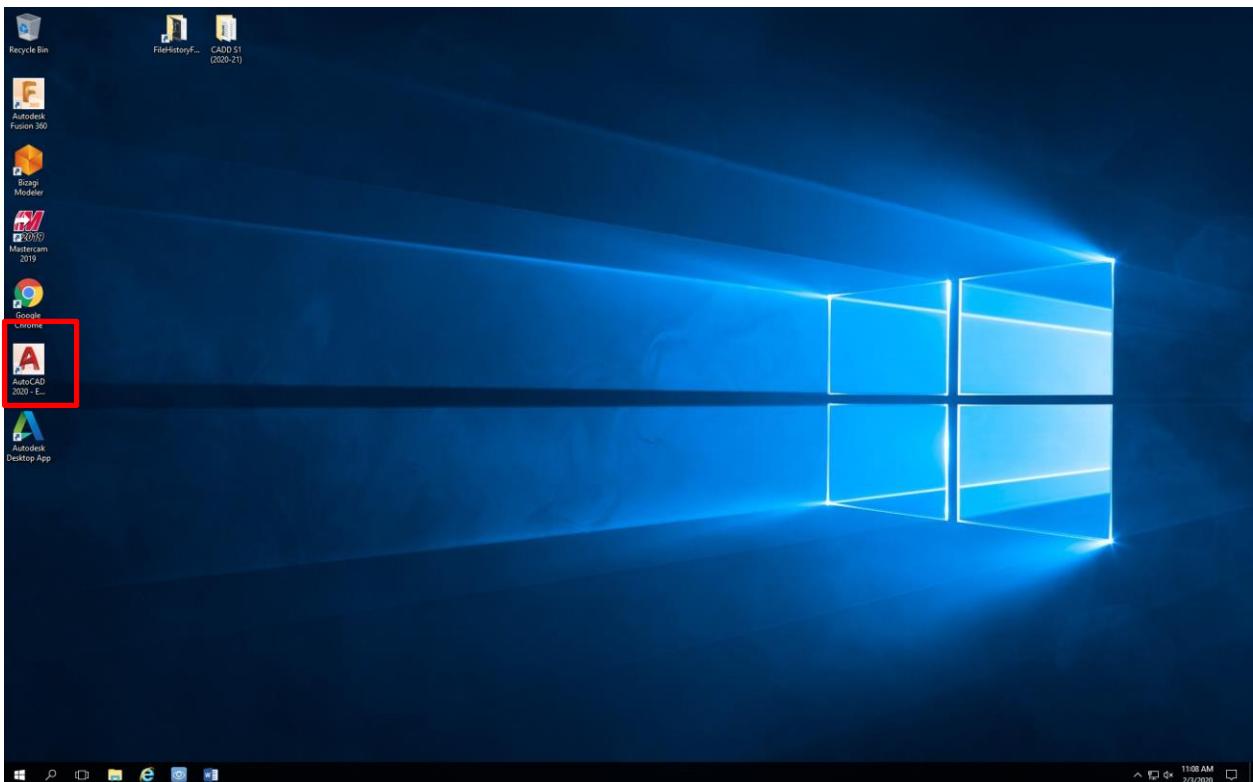
Since we will be focusing on drawing mostly mechanical objects, it's best to use the **Ribbon workspace complete with frequently used Straight Toolbars** as the format follows closely to the detail basic 2D & intermediate commands shown in Unit 1A to 6 in this bounded notes.

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## 1) Launching new AutoCAD and its features

Launch AutoCAD 2020 in CAD/CAM Workstation as shown in Fig 1A – 1E:

Start → All Programs → Autodesk → →AutoCAD 2020 English

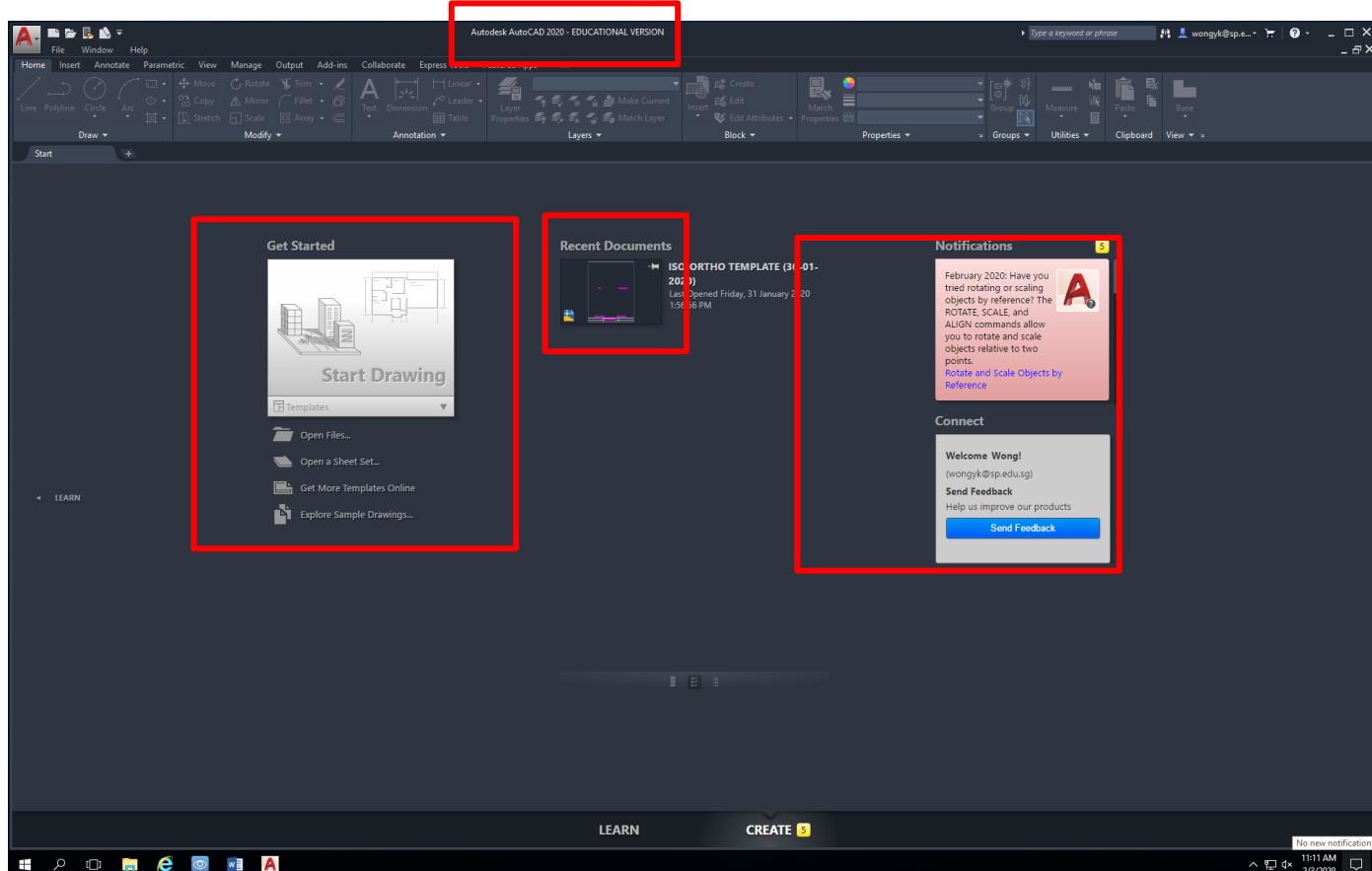


In laboratory workstations, just double click “**AutoCAD 2020–English**” icon which will launch AutoCAD 2020 Educational Version opening template.

Fig 1A – 1  
(Launching AutoCAD 2020)

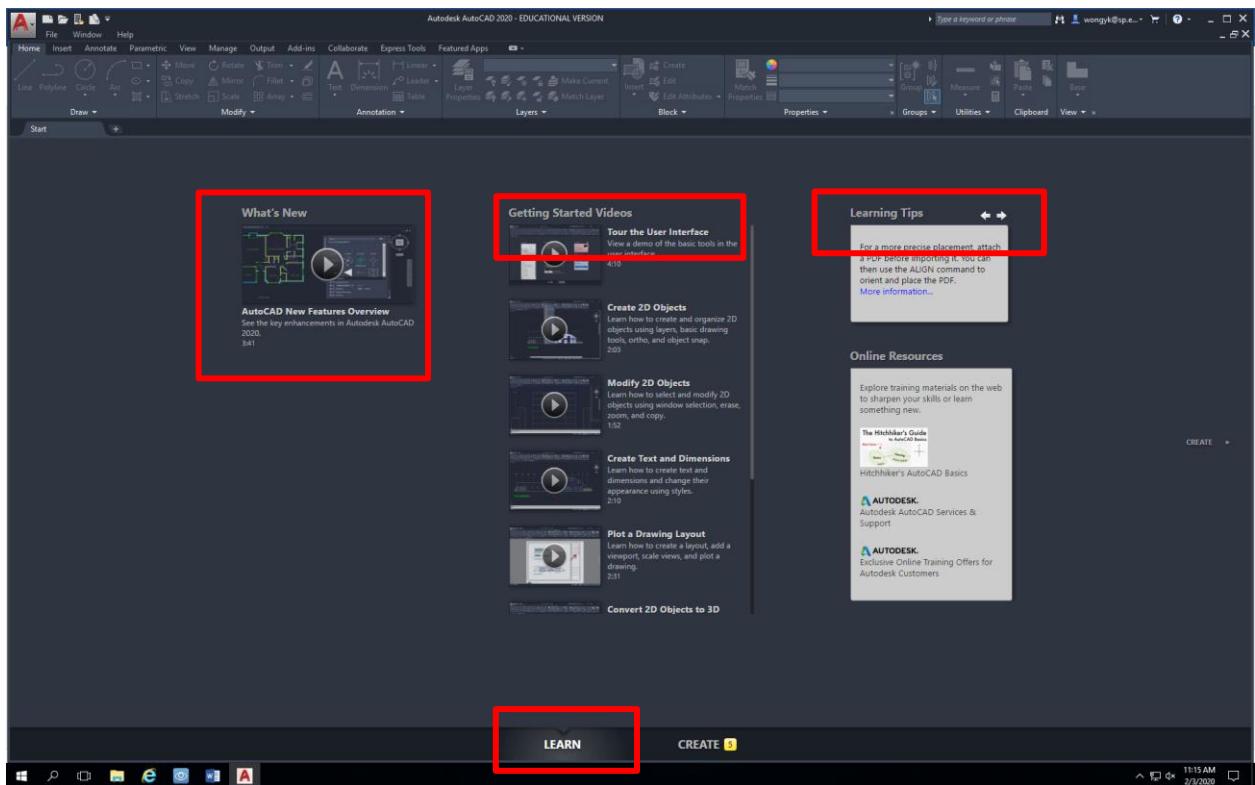
## AutoCAD 2020 features in AutoCAD defaulted 2D Drafting & Annotation Workspace

AutoCAD 2020 will be launched as default, in 2D Drafting & Annotation (Ribbon) workspace shown below.



AutoCAD 2020 opening template is defaulted to **CREATE**. This template shall help you to Get Started, Opening of Recent Documents and also Notification, Comment & Feedback. To start a new drawing, click on space “Start Drawing”.

Fig 1A – 2



Click **LEARN** to familiarise the navigation in AutoCAD 2018 like:  
What's New Videos, Getting Started Videos, Feature Videos, Learning Tips & Online Resources.

Fig 1A – 3

The essential features at the **top of workspace** are labelled as shown in Fig 1A – 4.

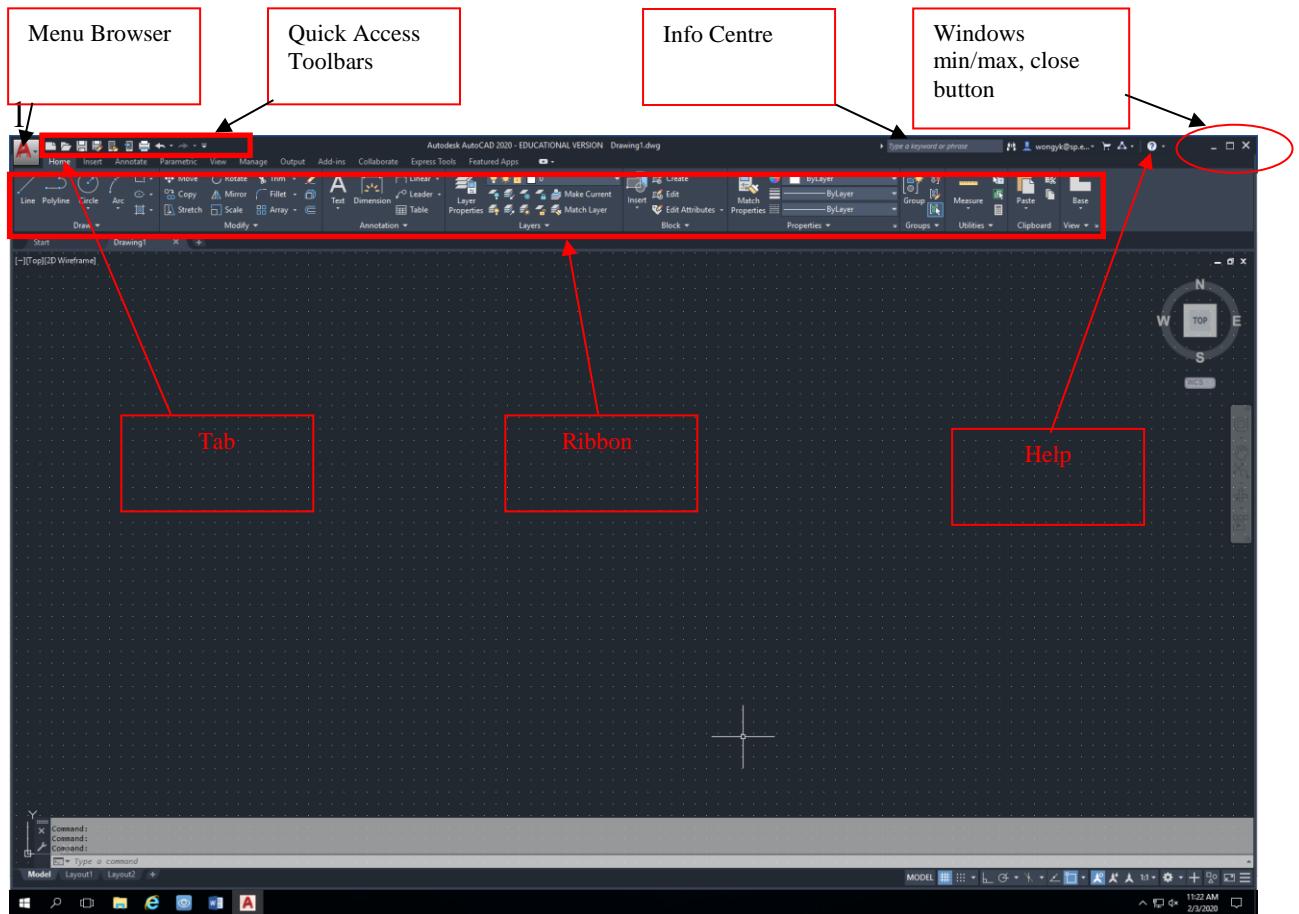


Fig 1A – 4  
(Features at top of AutoCAD - 2D Drafting & Annotation (Ribbon) Workspace)

The essential Status Bar features at the **bottom of workspace** are shown in Fig 1A-5 below:

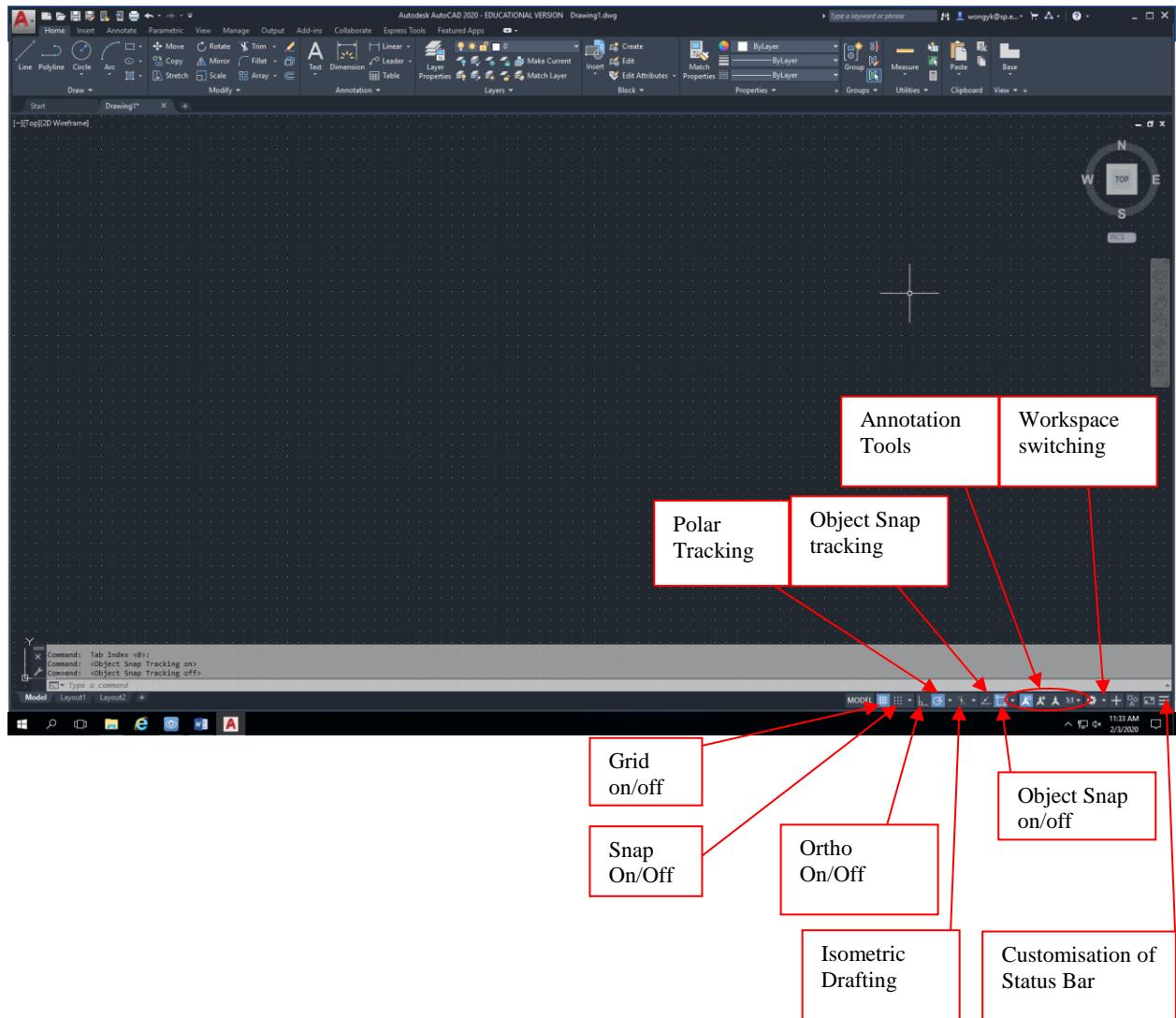


Fig 1A - 5  
Status Bar Features at bottom of AutoCAD – 2D Drafting & Annotation  
(Ribbon) workspace)

\*NOTE: Status toolbar icons display may not be the same for CAD/CAM Workstation or in your Notebook. Icons can be added or deleted.

**1.2 Familiarise navigation aspect in AutoCAD 2D Drafting & annotation (Ribbon) workspace & creating relevant toolbars**

**1.3 Switch-over from default AutoCAD 2D & Annotation to 3D Basics, 3D modelling, etc.**



Click mouse on icon at bottom left → E.g. Select other workspace like 3D Basic if you are doing 3D drawings (shown in Fig 1A-6):

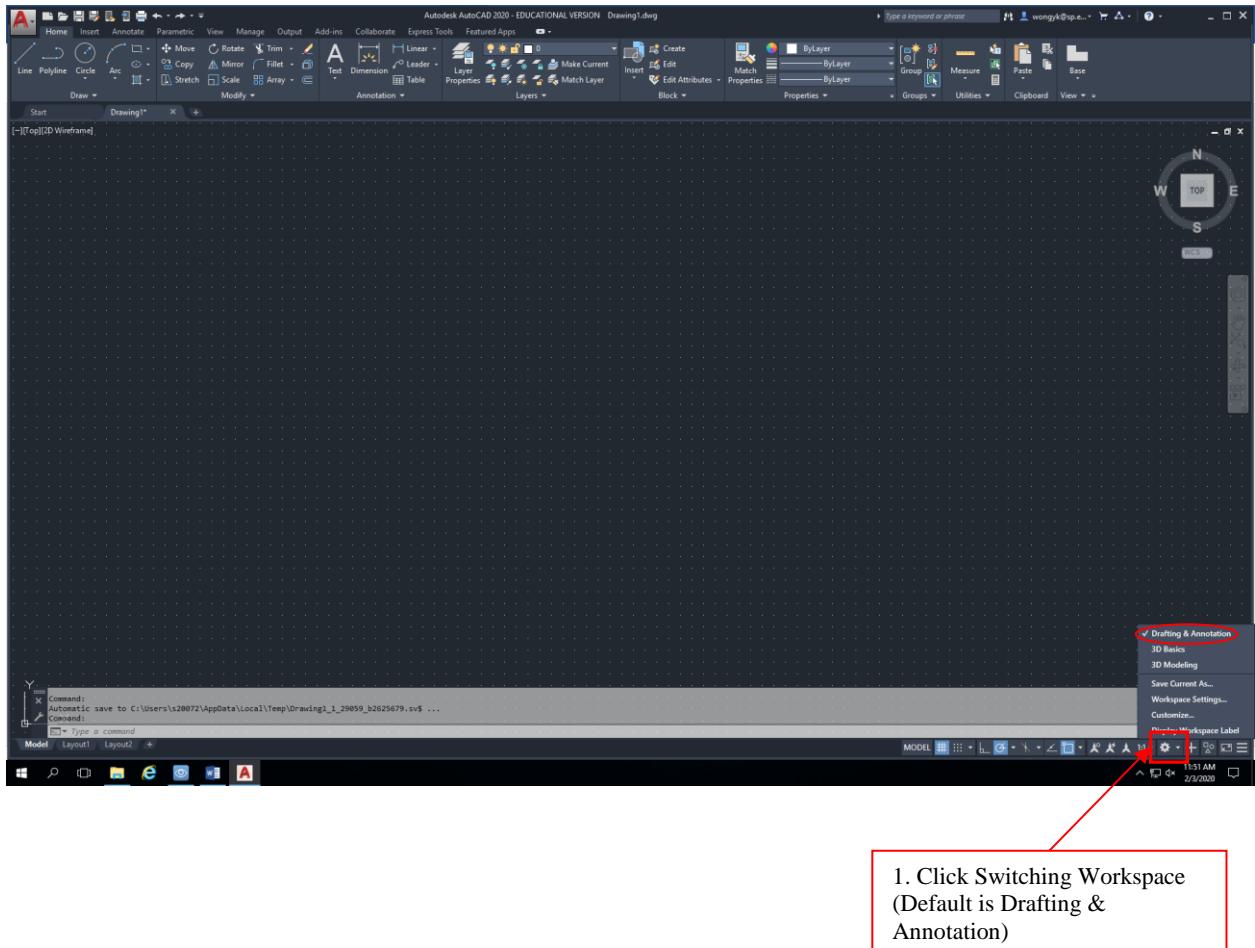


Fig 1A – 6  
(Change workspace from AutoCAD 2D Drafting & Annotation [Ribbon] to other workspaces)

The Application Menu  at the top left hand corner is shown in

Fig 1A – 7. It is an alternative way in navigating besides those shown in the Pull-Down Tabs:

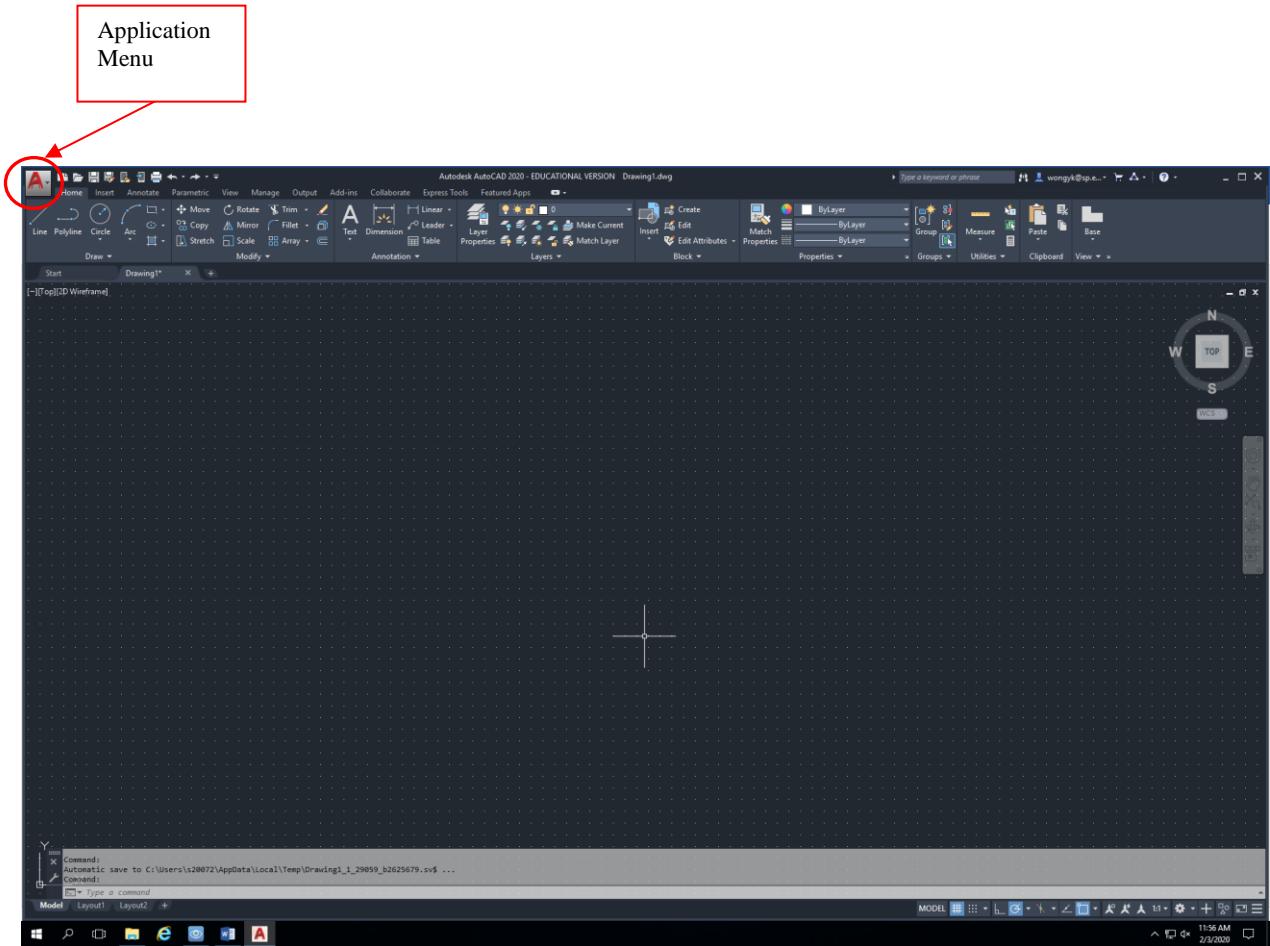
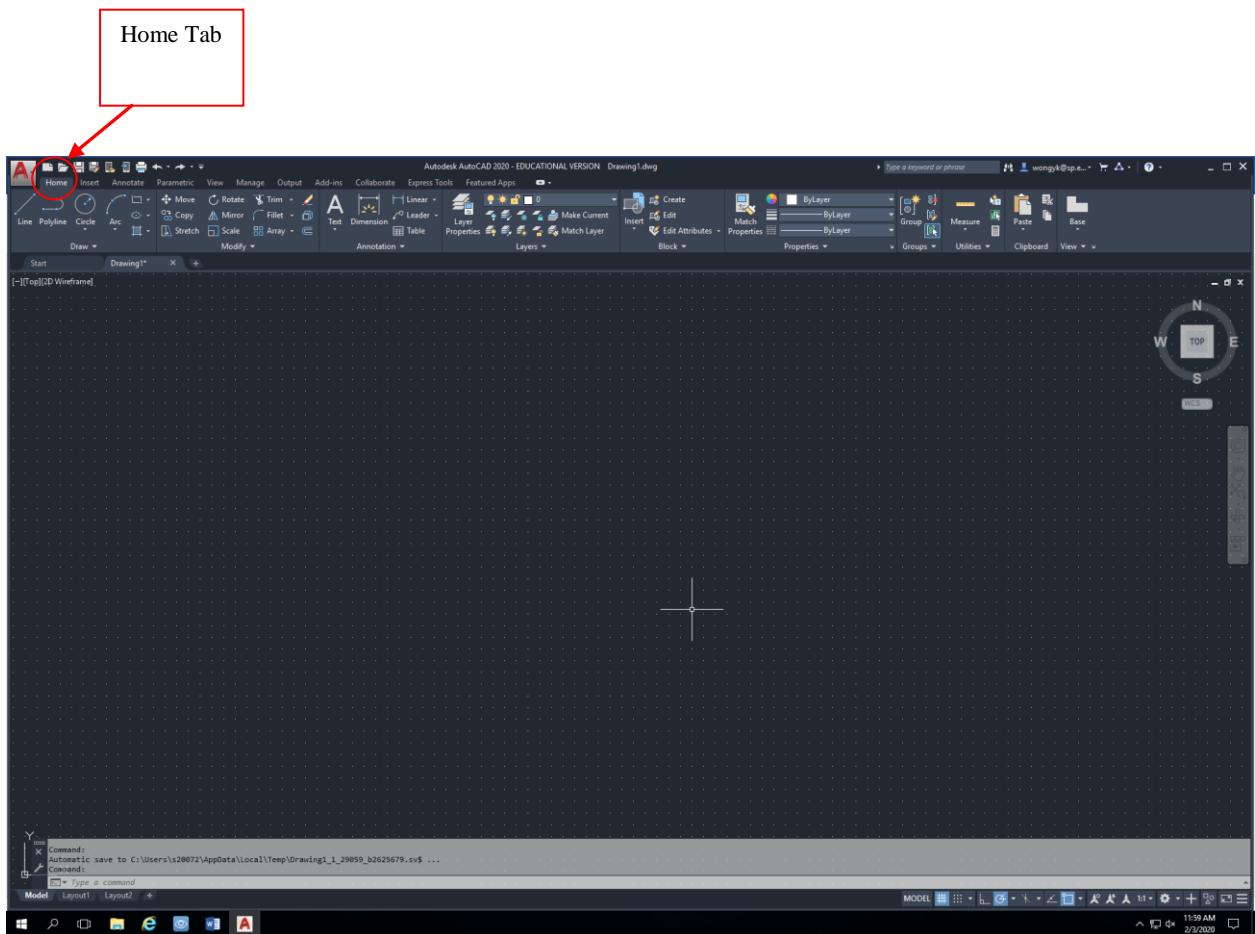


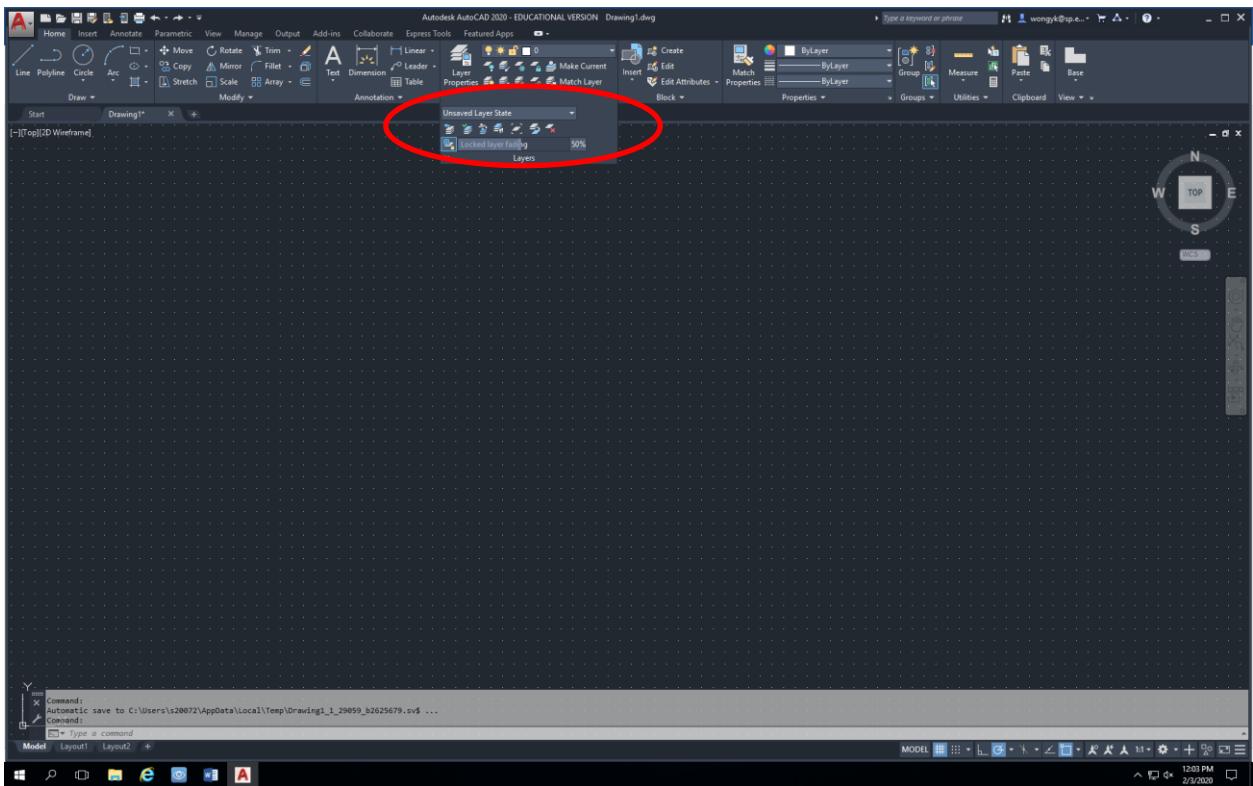
Fig 1A – 7  
(Application Menu)



Under **Home Tab**, frequently used features for drawing are **Draw, Modify, Annotation, Layers, Block & Properties**, etc.

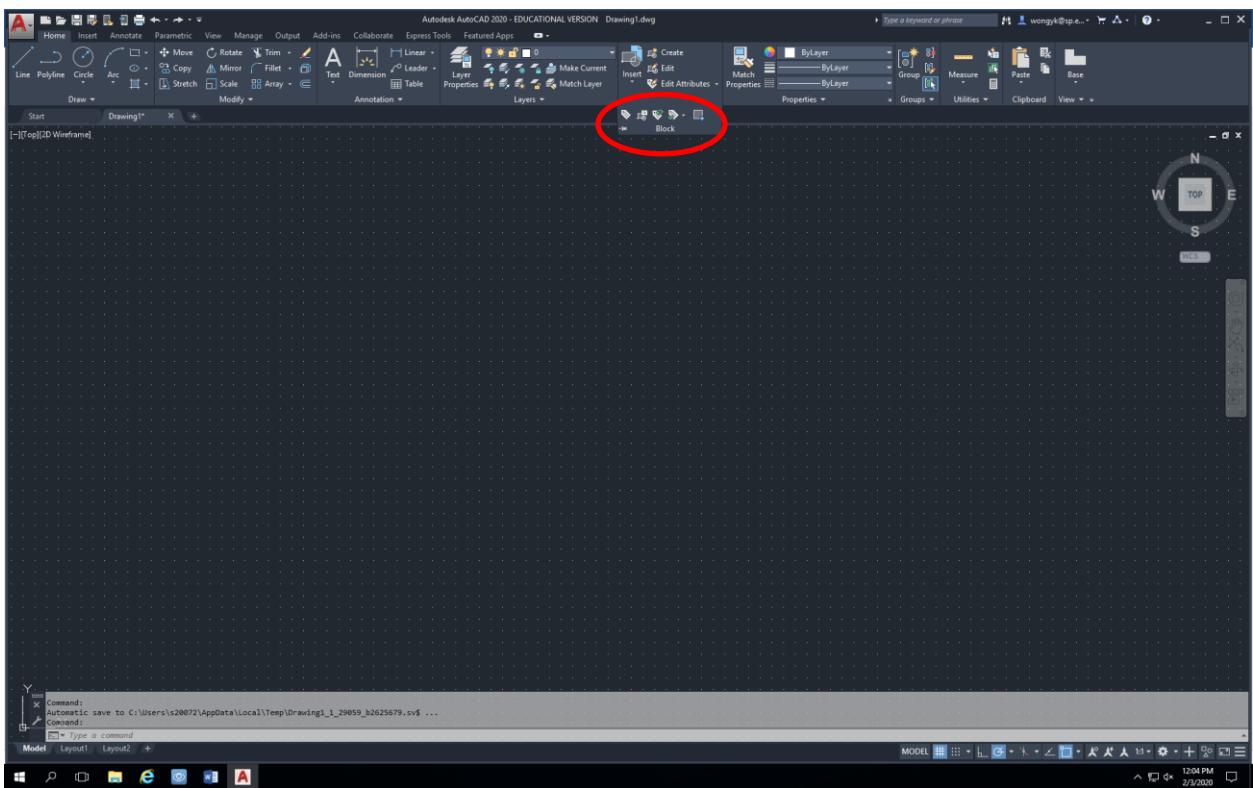
More **pull-down features** can be seen by **clicking the arrow down**.

Fig 1A – 8  
(Home Tab features)



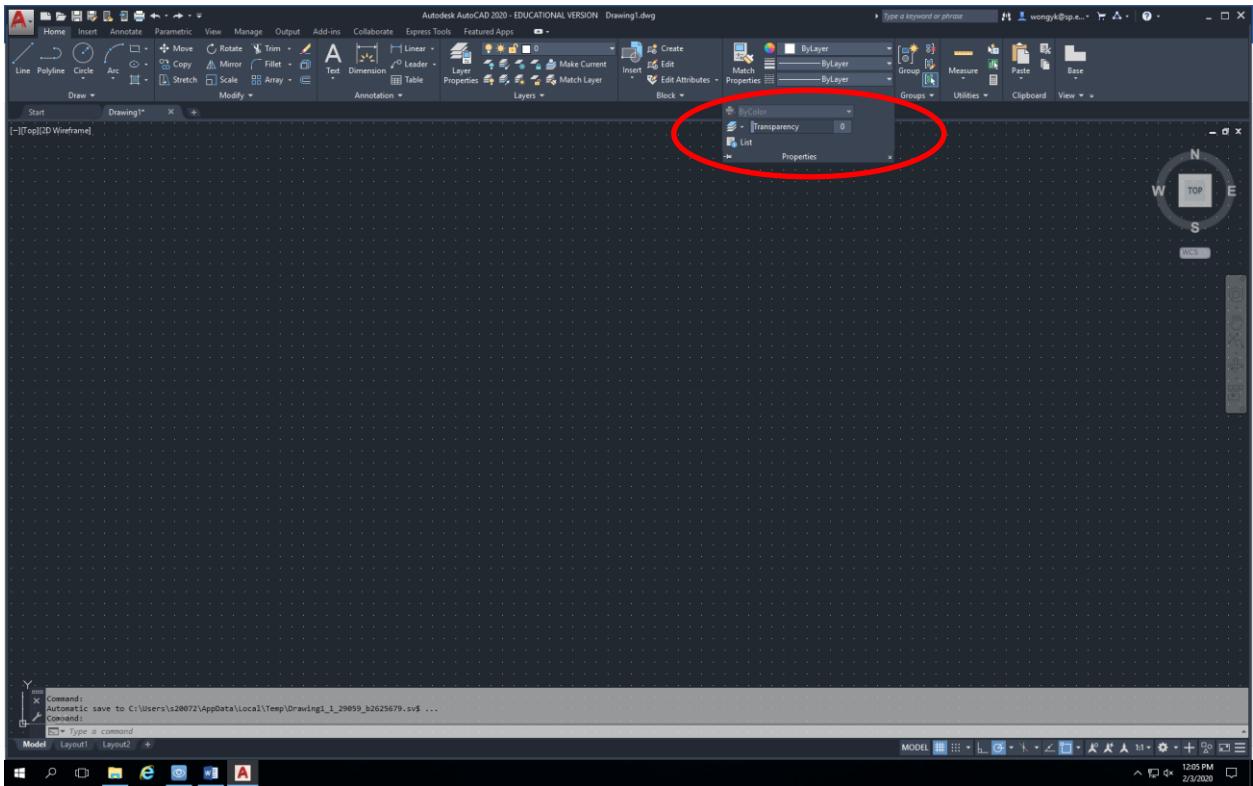
**E.g. 1: Under Home Tab, Layers pull-down features can be seen by clicking the arrow down.**

Fig 1A – 9  
(Layers features)



**E.g. 2: Under Home Tab, Block pull-down features can be seen by clicking the arrow down.**

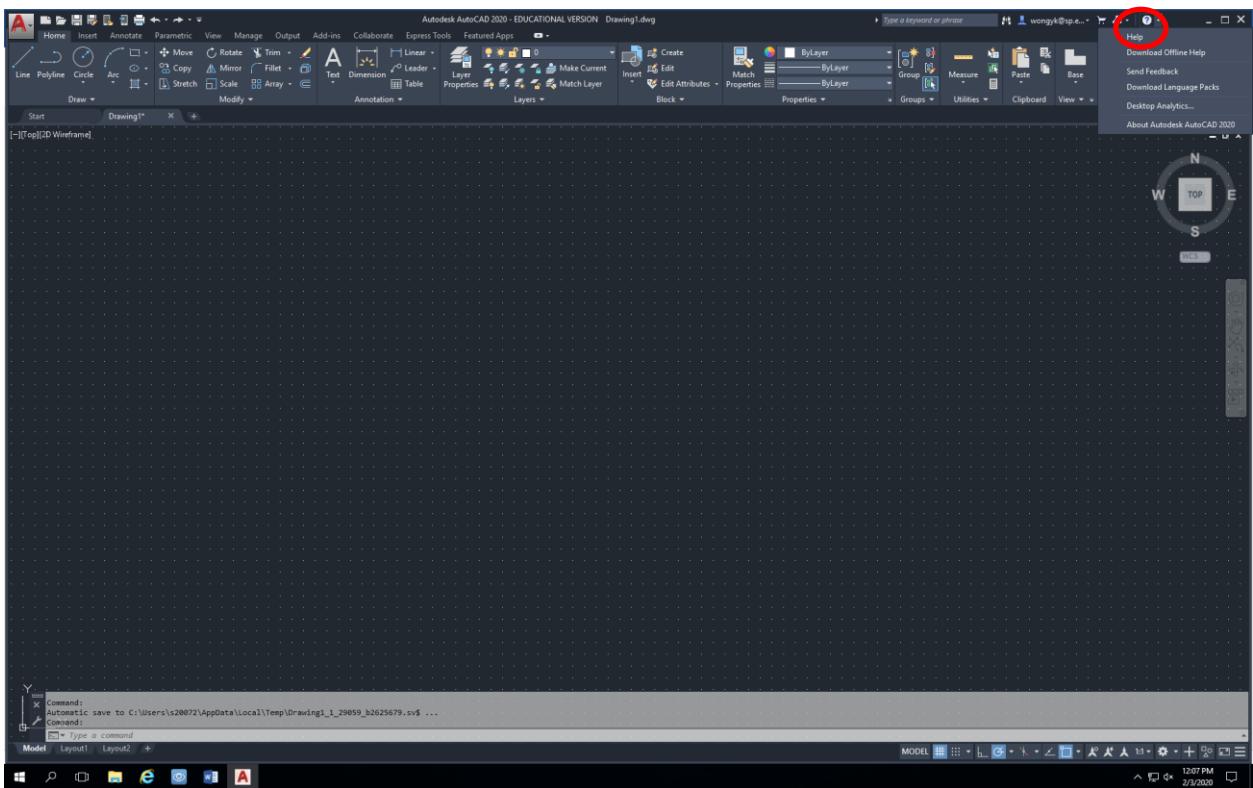
Fig 1A – 10  
(Block features)



**E.g. 3: Under Home Tab, Properties pull-down features can be seen by clicking the arrow down.**

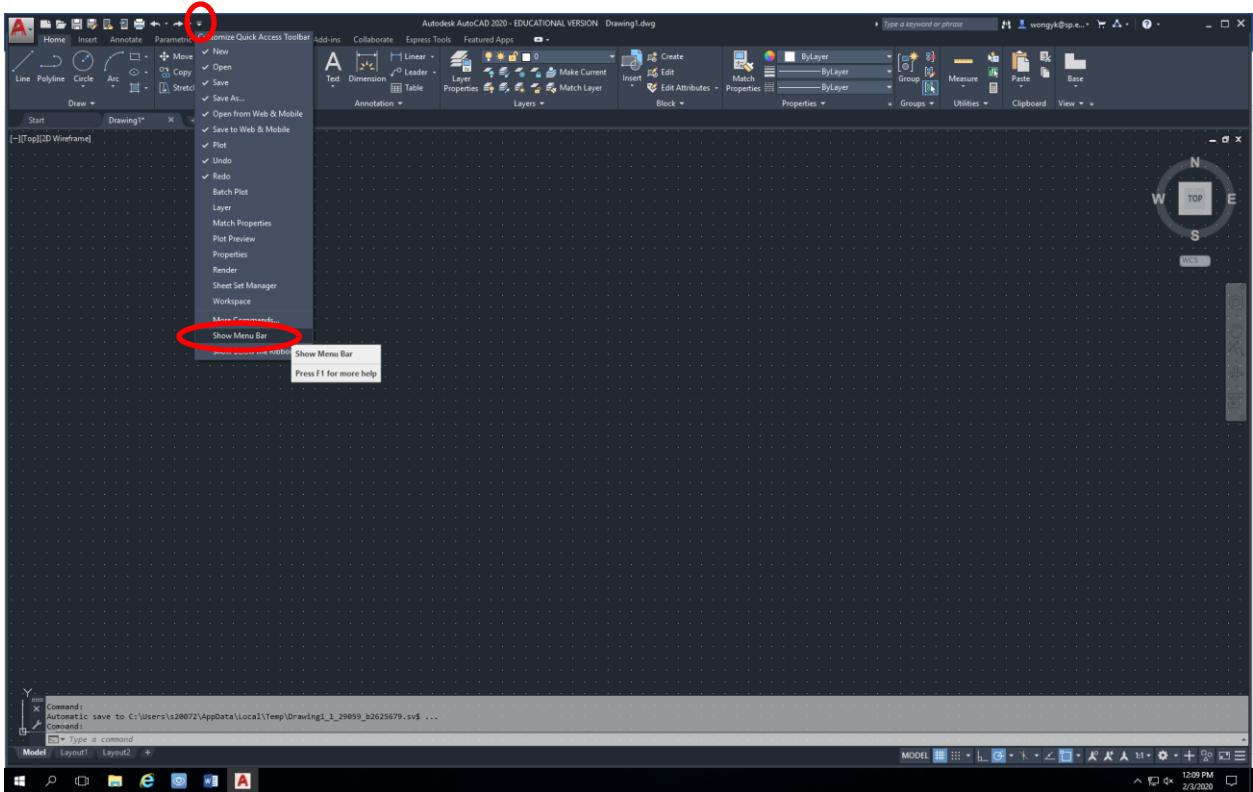
Similarly, one can further explore the features in **Insert** Tab, **Annotate** Tab, **Parametric** Tab, etc.

Fig 1A – 11  
(Properties features)



Help (?) Tab pull-down features.

Fig 1A – 12  
(Help features)



To **insert Menu Bar**, Click the pull-down arrow and click **Show Menu Bar**.

Fig 1A – 13  
(Create Menu Toolbar)

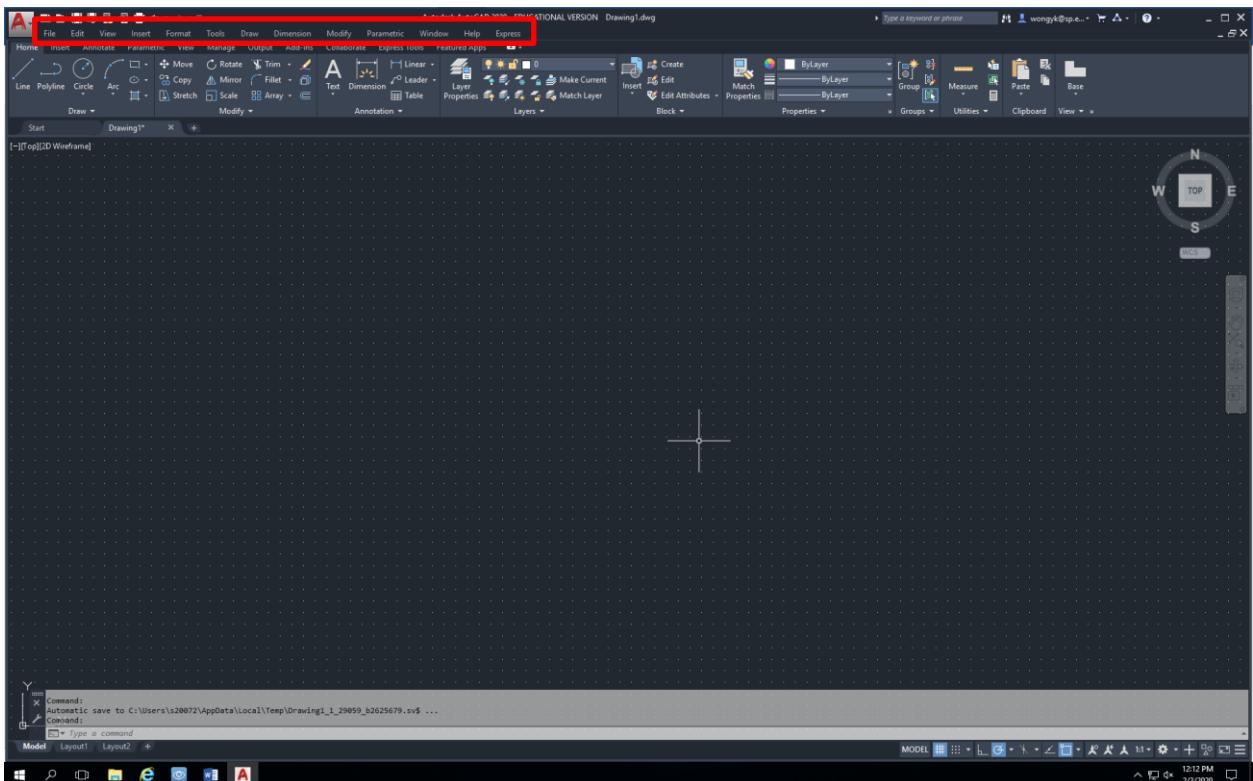


Fig 1A – 14  
(Menu Toolbar)

Menu Bar is as shown. This is another way where you can use various commands by clicking the Tabs instead of the Ribbon toolbars.  
Most commonly used tabs are **Format, Draw, Dimension, Modify & Help**.

An even better way of drawing is by showing icons in straight toolbar instead of Ribbon toolbar. How to insert these toolbars are shown in the next few figures.

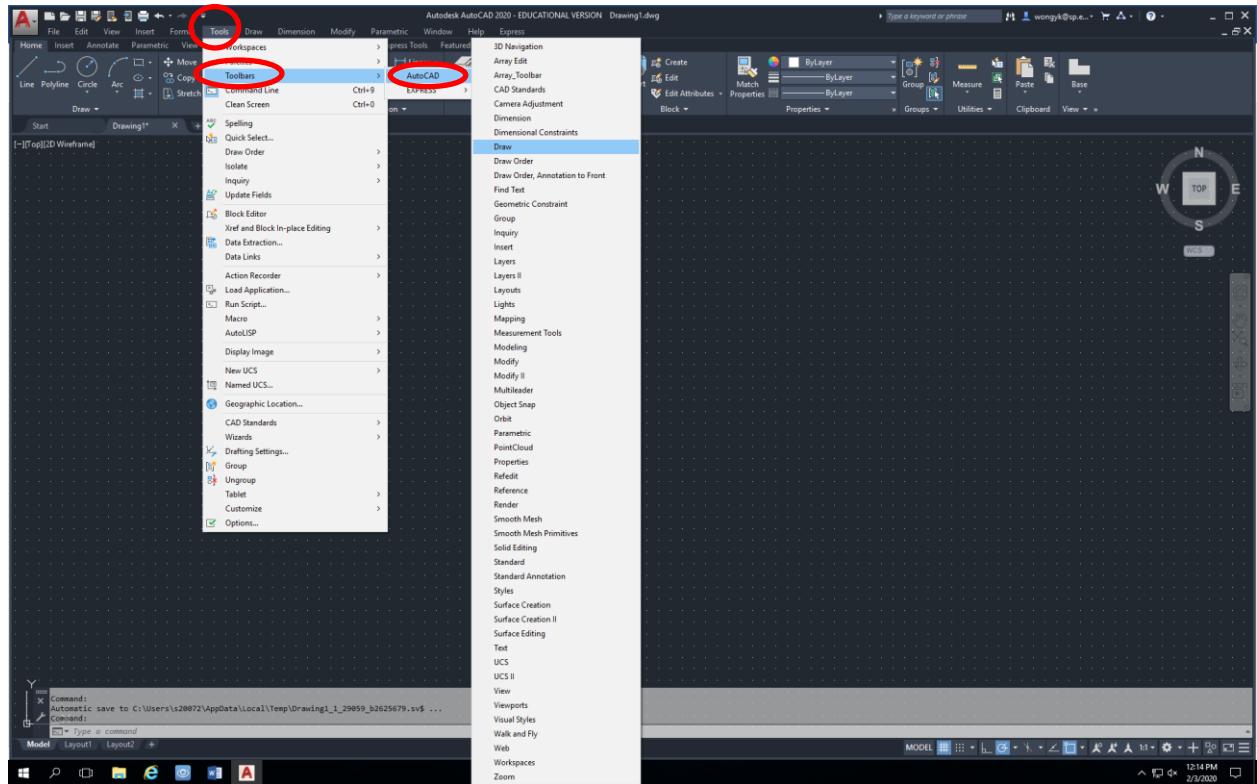


Fig 1A – 15  
(To insert Frequently used Straight Toolbar)

To insert a frequently used straight toolbar:  
Click Tools→Toolbars→AutoCAD→A list of toolbars is shown

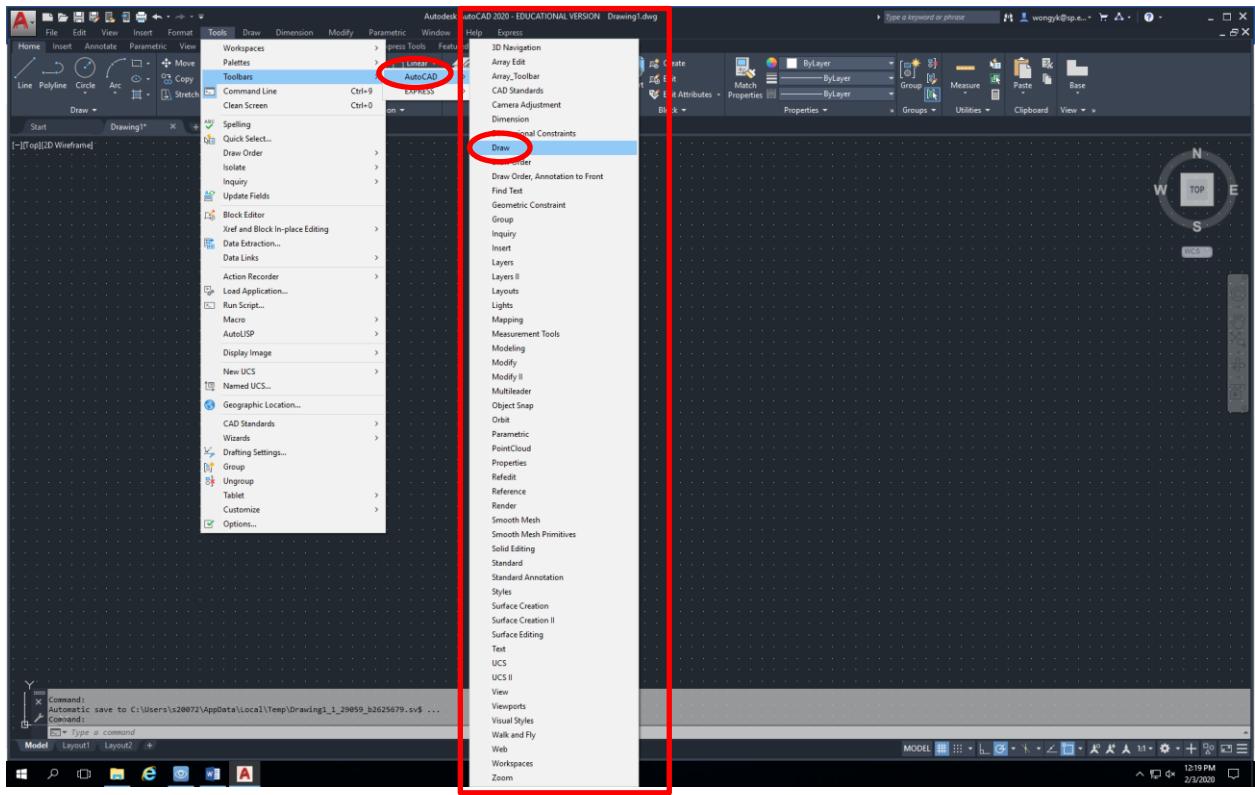


Fig 1A – 16  
(List of Straight Toolbar)

Click AutoCAD, a list of straight toolbars is shown.

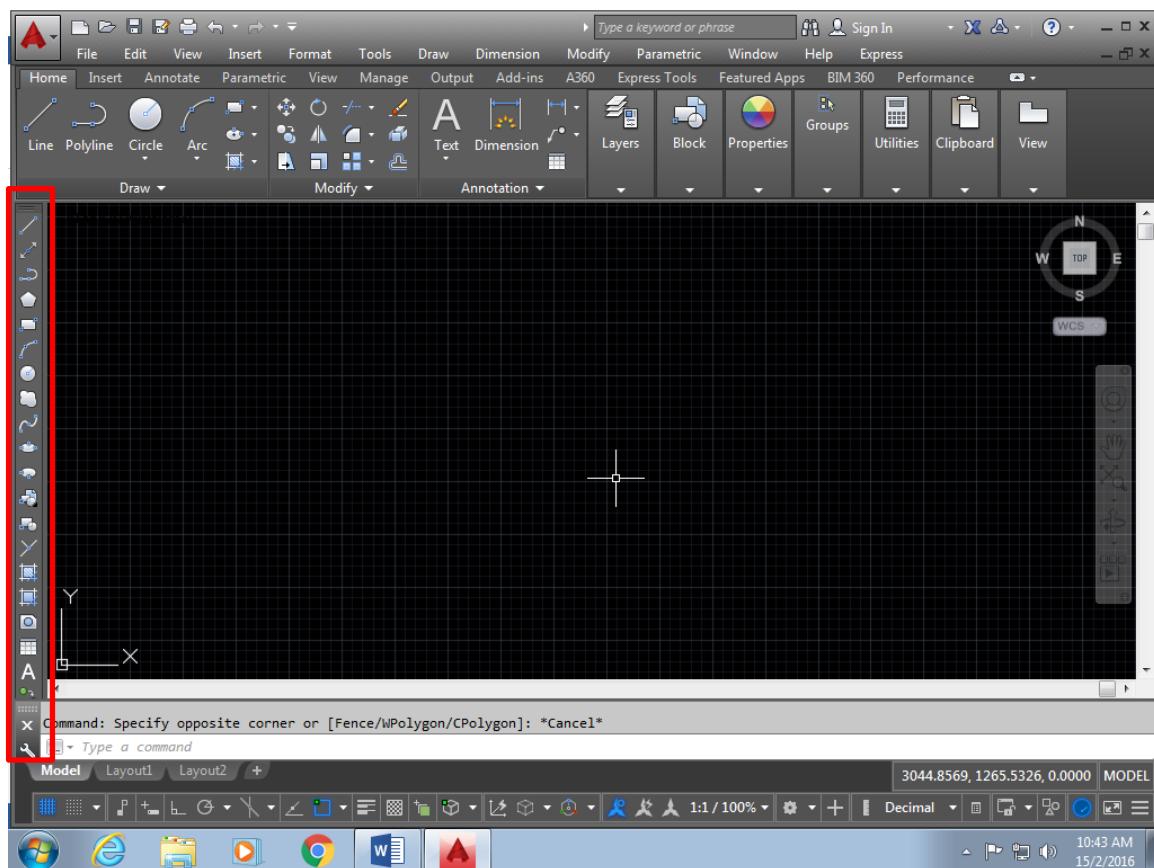


Fig 1A – 17  
(To create Draw Toolbar)

E.g. Click on Draw and a straight toolbar is created on drawing.

Similarly, do it one by one using the above method to create the frequently used toolbars like **Modify**, **Draw Order**, **Layers**, **Dimension & Properties** besides **Draw straight toolbar**.

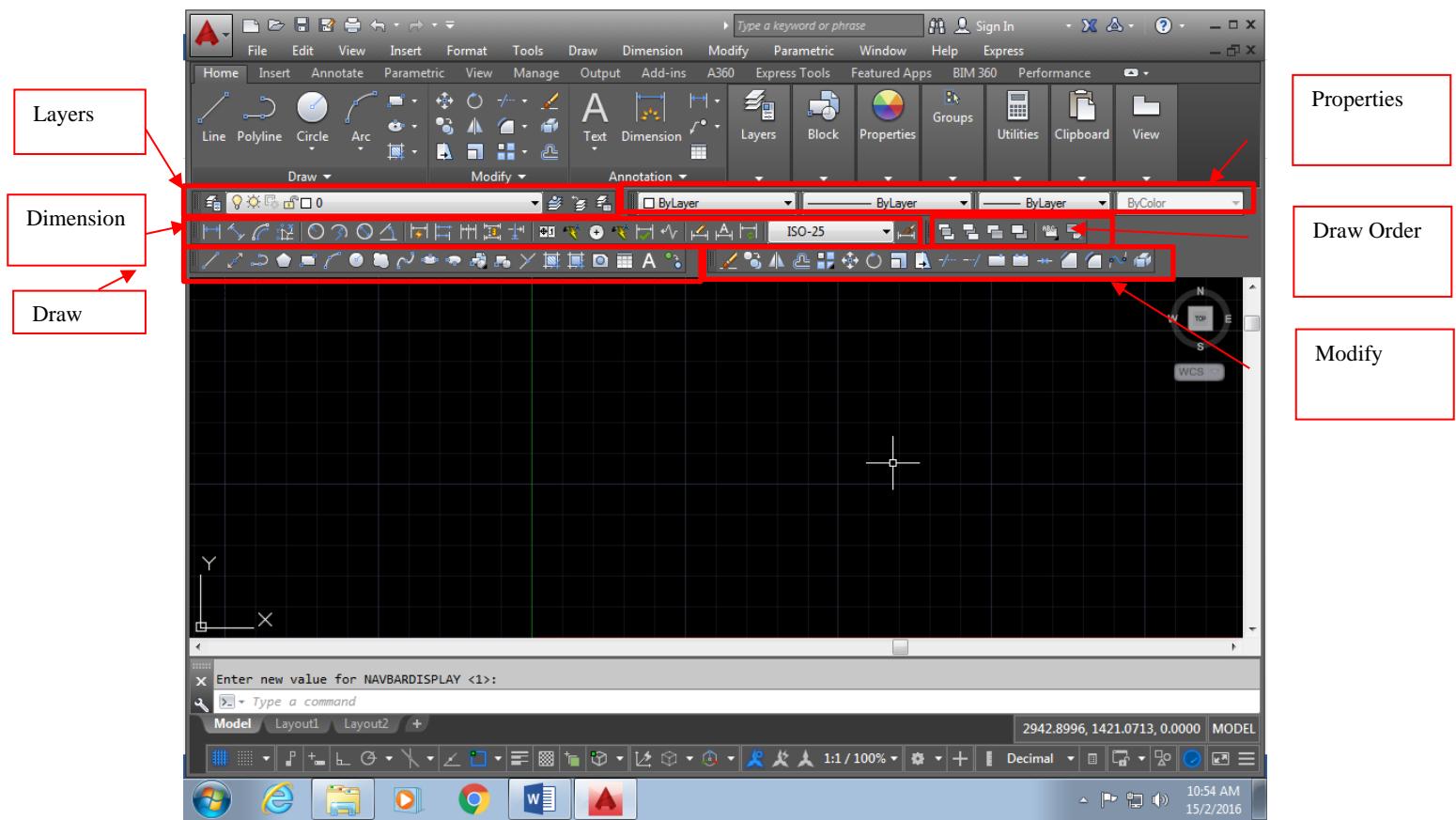


Fig 1A – 18  
 (6 Frequently Used Straight Toolbars created)  
 Straight Toolbars created for Layers, Dimension, Properties, Draw, Draw Order & Modify.

Reposition the toolbars by dragging & dropping to respective position shown below:

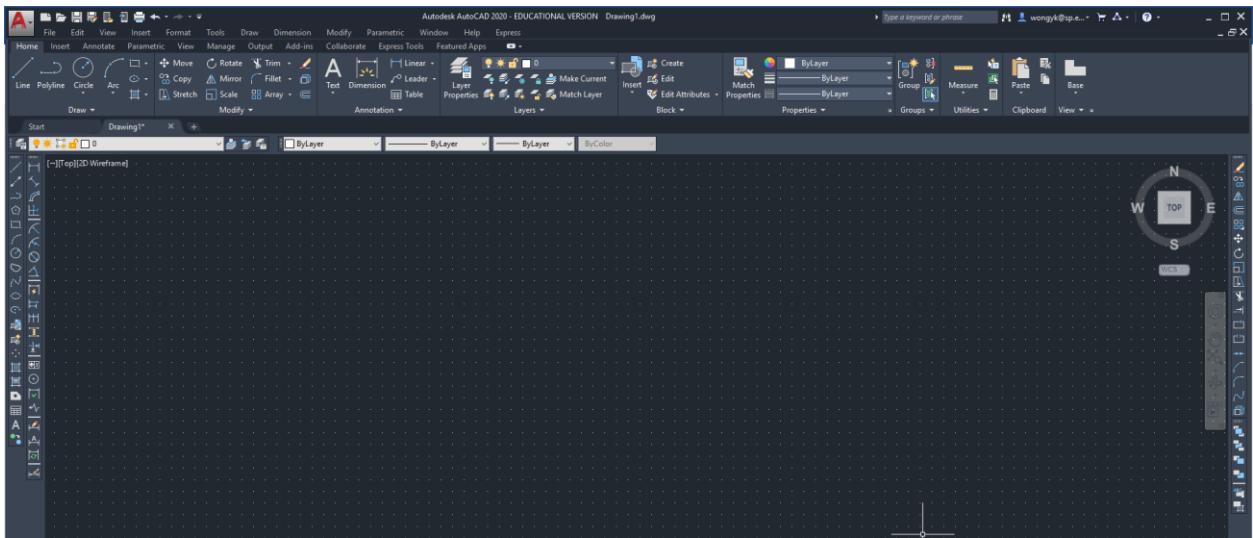


Fig 1A – 18A

(Frequently used Straight Toolbars repositioned with 2 on the left [Draw & Dimension], 2 on the right [Draw Order & Modify] and 2 at the top [Properties & Layers])

Next drawing space can be maximised by doing the following commands in the next Figure.

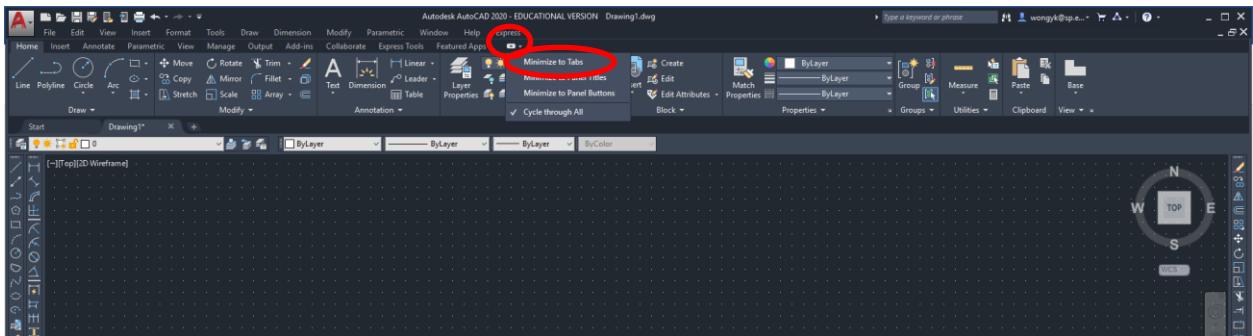


Fig 1A – 19  
(Minimise Ribbon Panel Tiles to Tabs)

Click the pull-down tab for **Ribbon toolbars** and click “Minimize to Tabs”.

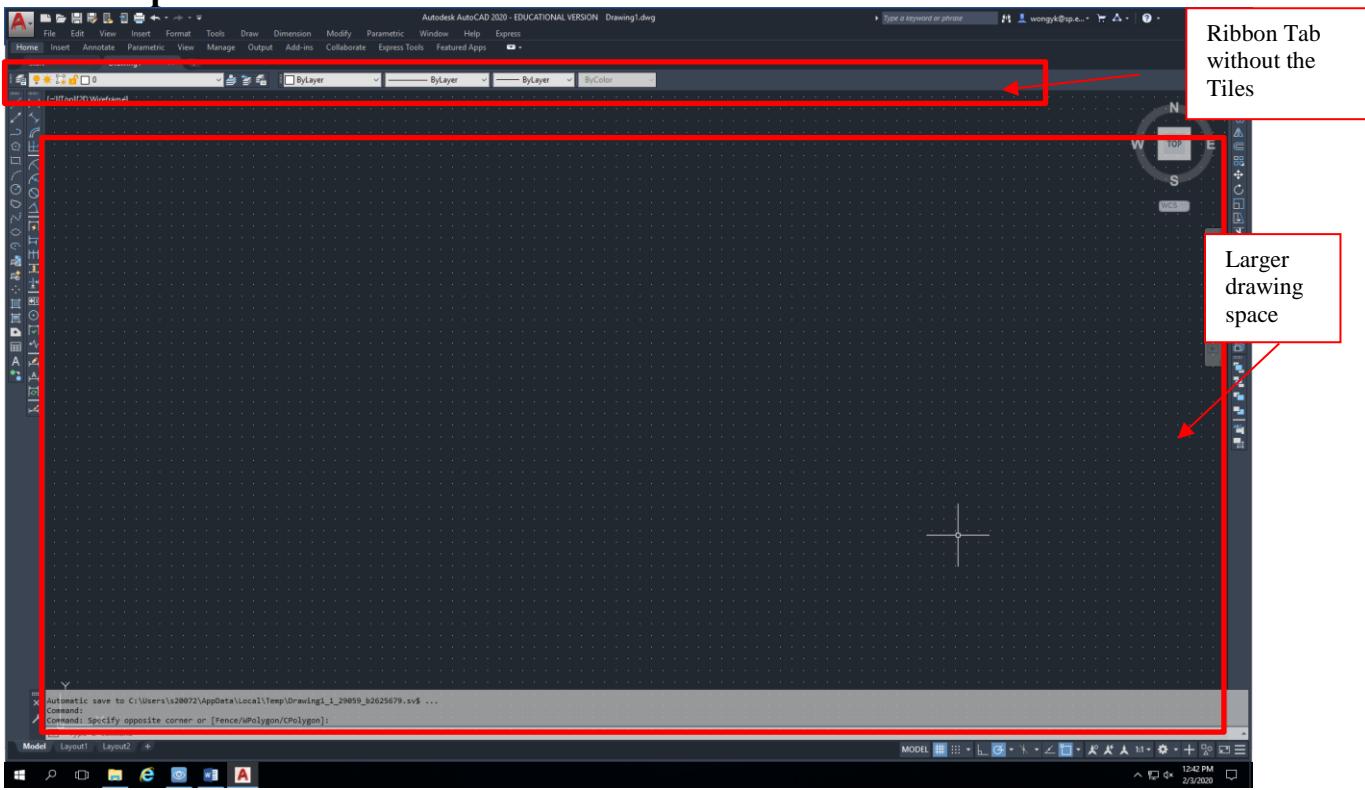


Fig 1A – 20  
(Ribbon Panel Tiles is reduced to Ribbon Tabs)

**larger drawing space** is now created which can produce a drawing more productively.

The **FILE** Tab Pull-down Menu drawing utilities features are shown in Fig 1A – 21:

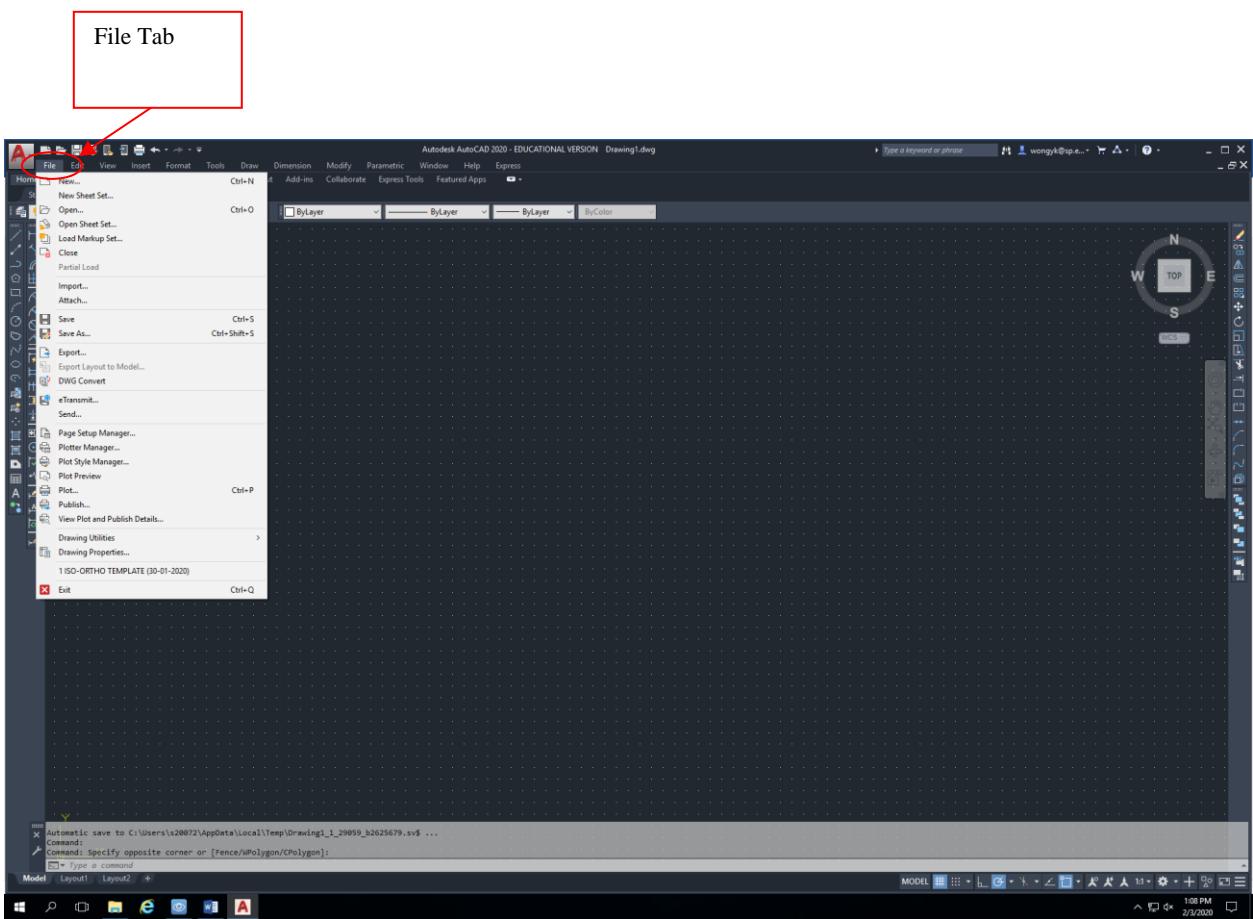


Fig 1A- 21  
(FILE Pull-down Menu)-To open new drawings, save functions, plot, export, page setup, etc.

The **EDIT Tab** pull-down features are shown in Fig 1A – 22:

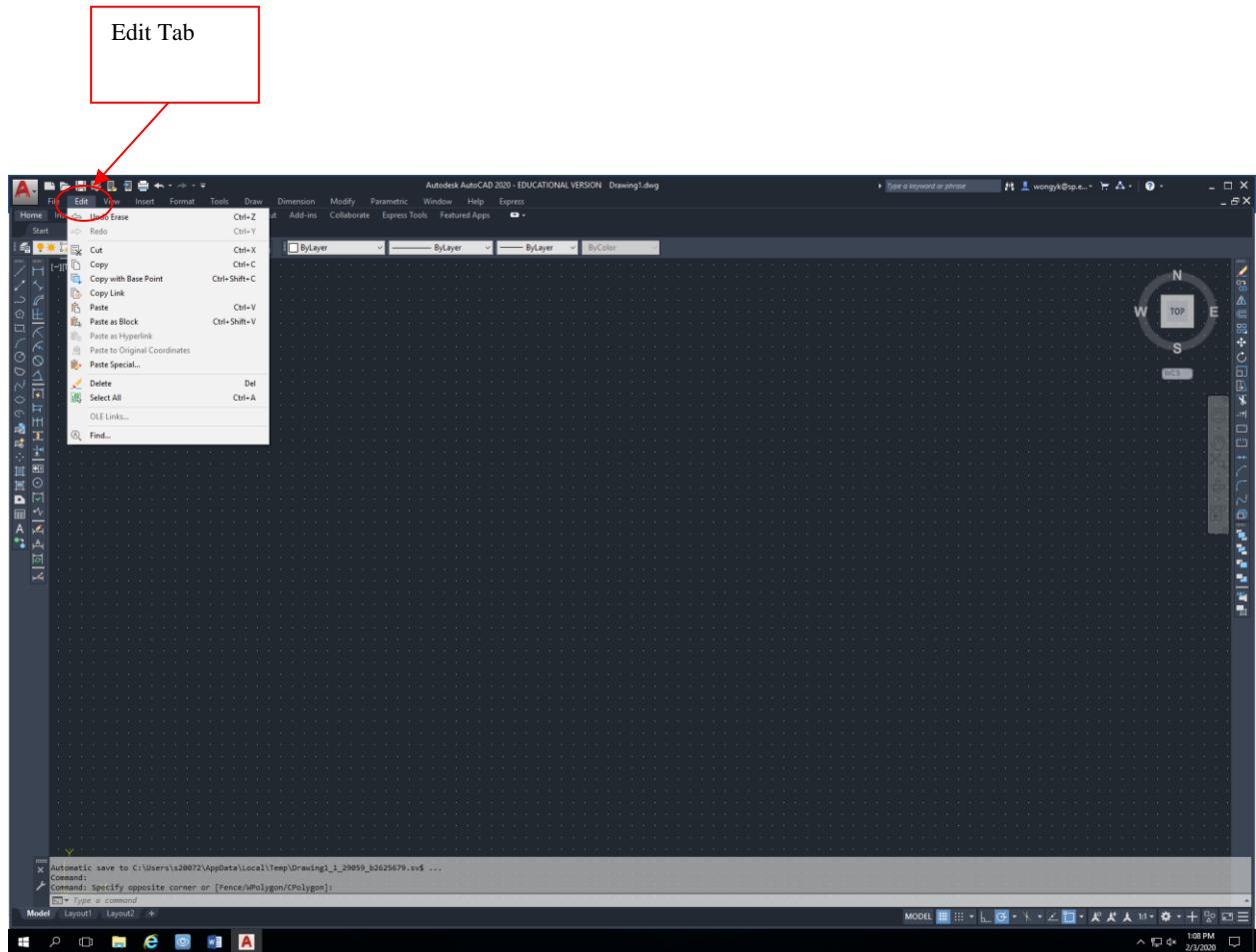


Fig 1A- 22  
(EDIT Pull-down Menu)- To edit such as cut, copy, undo, paste, delete, etc.

The **VIEW Tab** pull-down features are shown in Fig 1A – 23:

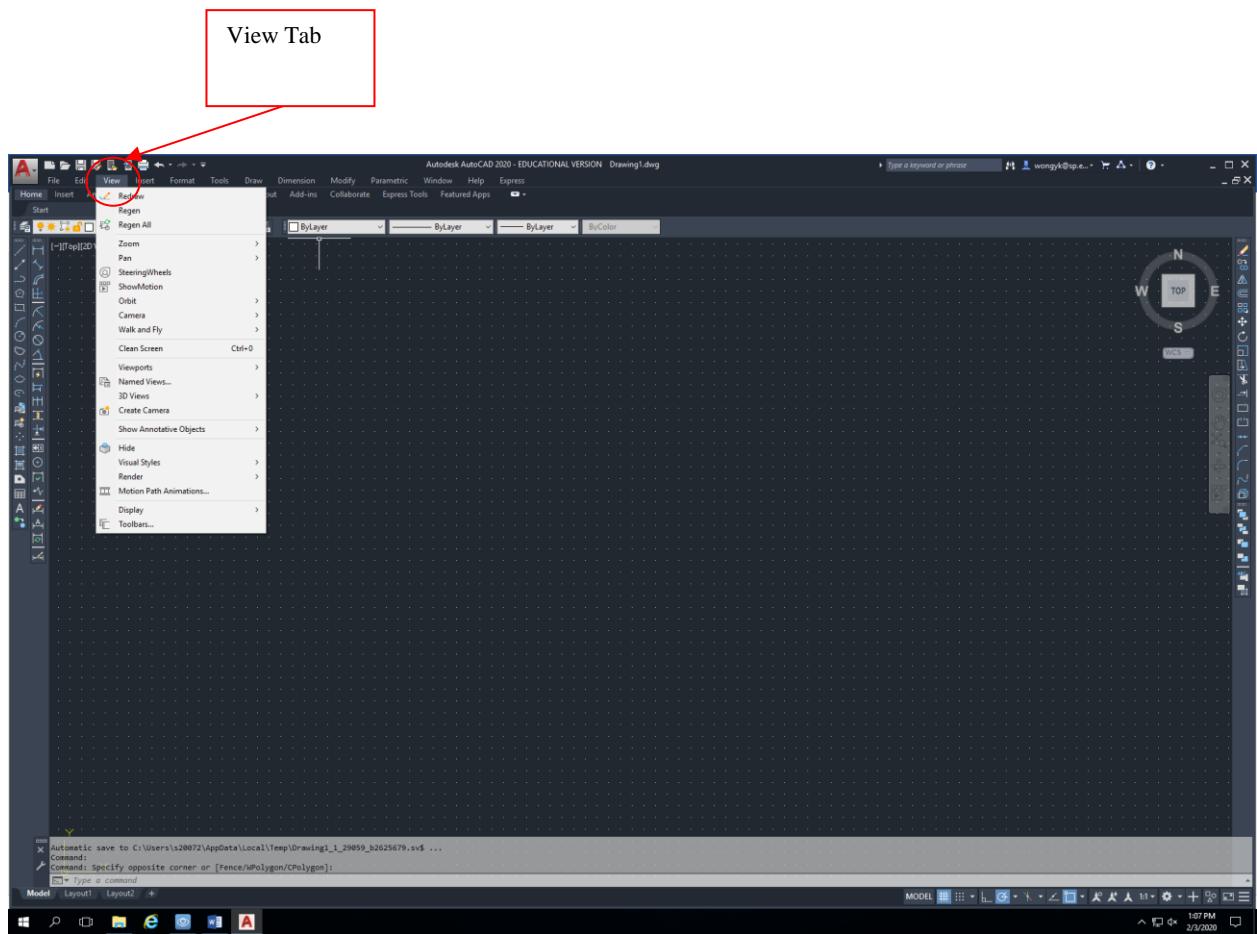


Fig 1A- 23  
(VIEW Pull-down Menu)- To regenerate, redraw, zoom, pan, camera, 3D views, Toolbars, etc.

The **INSERT Tab** pull-down features are shown in Fig 1A-24:

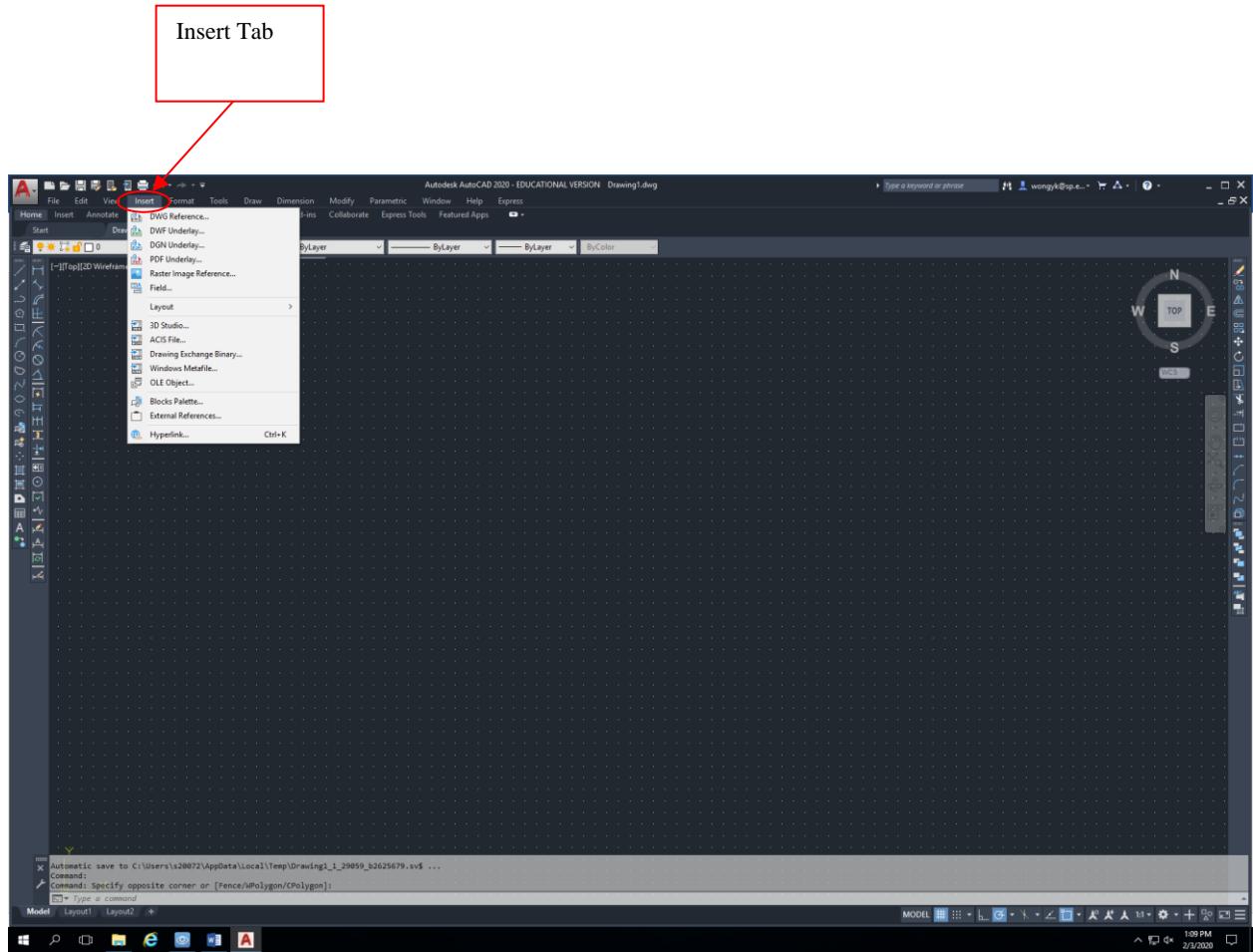


Fig 1A- 24  
(INSERT Pull-down Menu)- To insert DWG, DWF, PDF, Layout, Hyperlink,  
etc.

The **FORMAT Tab** pull-down features are as shown in Fig 1A – 25:

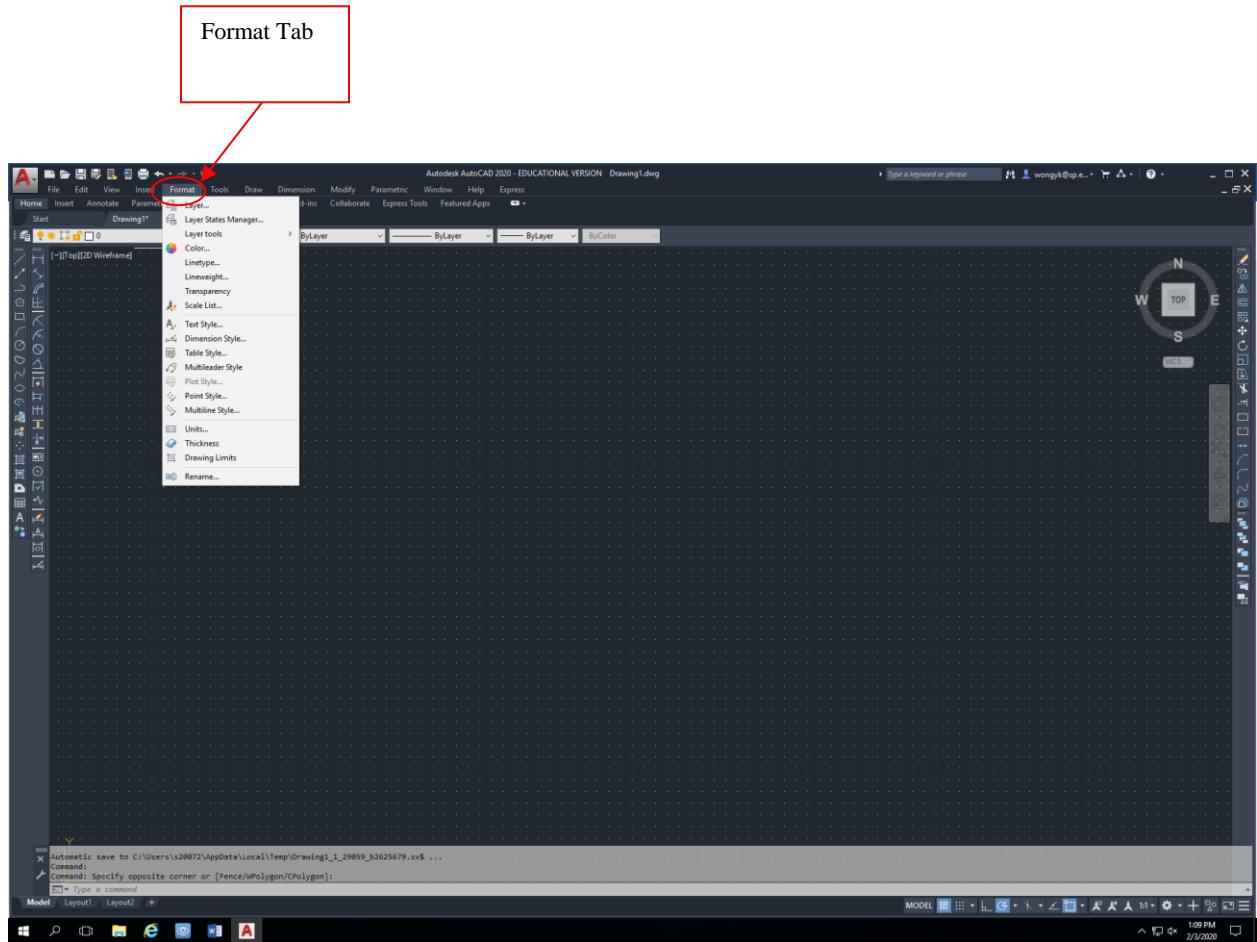


Fig 1A- 25  
(FORMAT Pull-down Menu)- To format Layers, linetypes, linewidths, units, rename, etc.

The **TOOLS** Tab pull-down features are shown in Fig 1A – 26:

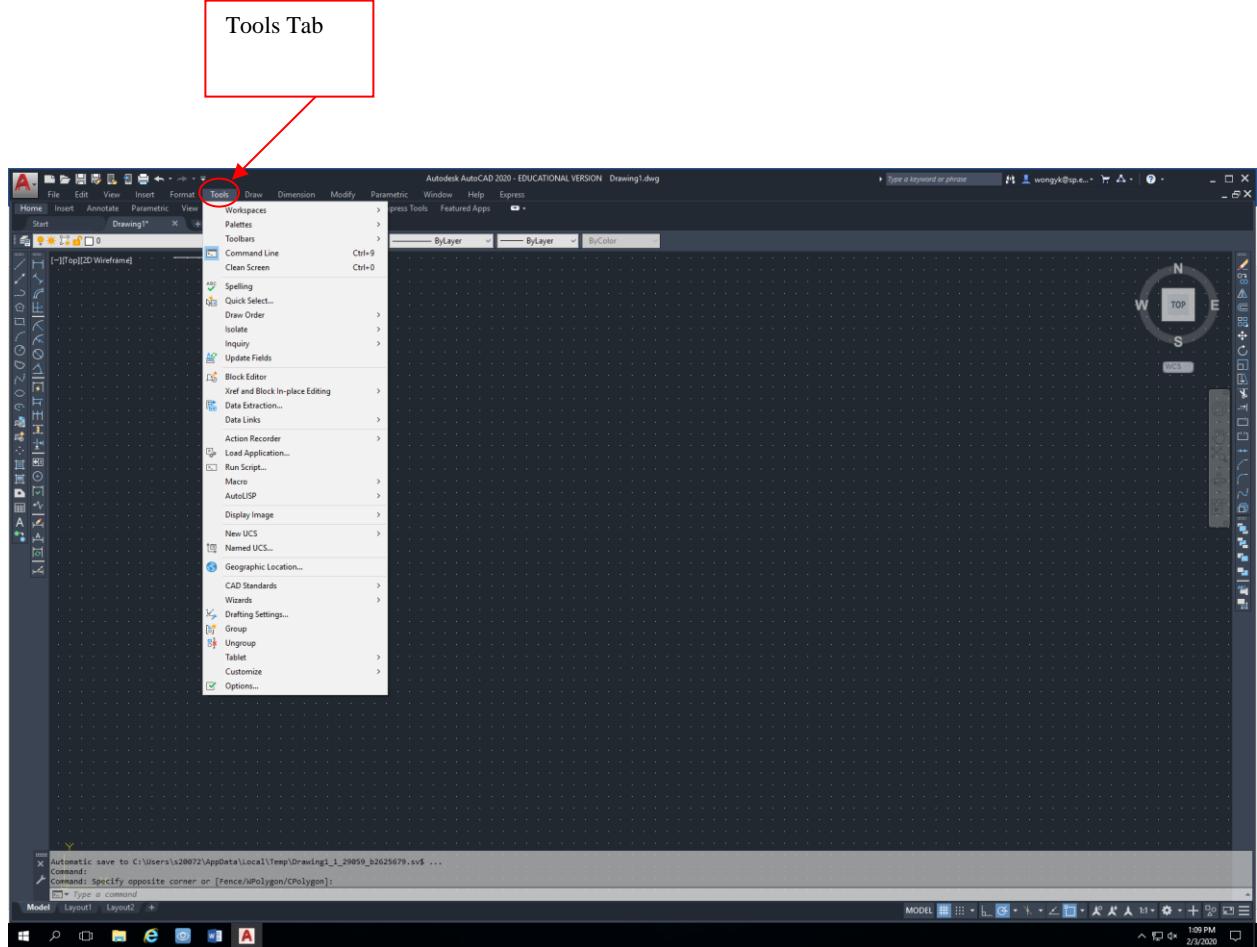


Fig 1A- 26  
(TOOLS Pull-down Menu) – To insert toolbars, action recorder, Drafting setting, Customise, Options setting, etc.

The **DRAW Tab** pull-down features are shown in Fig 1A – 27:

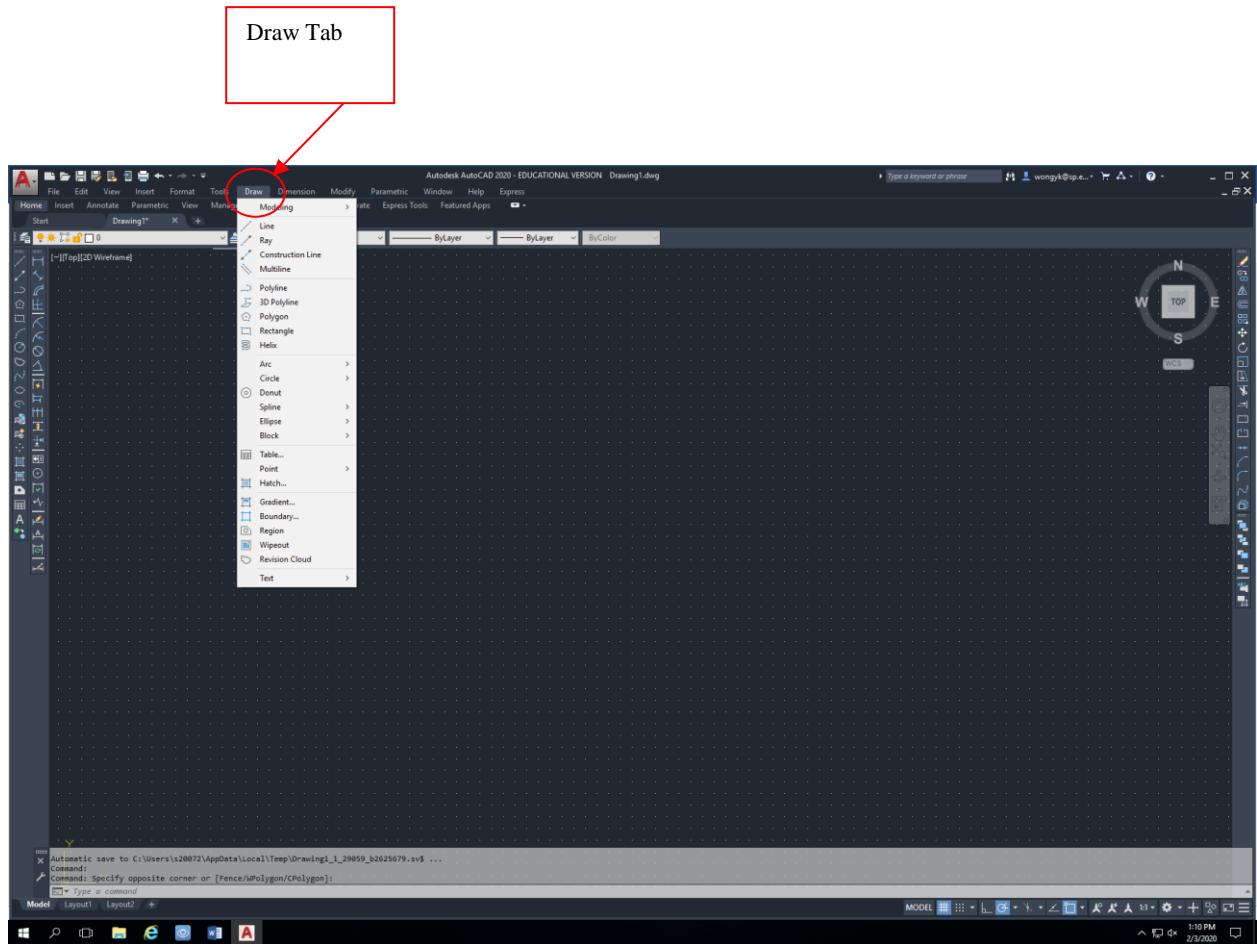


Fig 1A- 27  
(DRAW Pull-down Menu)- To draw Lines, Polyline, Circles, Polygon, Ellipse,  
Rectangle, Donut, Arc, Hatch-Solid, Block, etc.

The **DIMENSION Tab** pull-down features are shown in Fig 1A – 28:

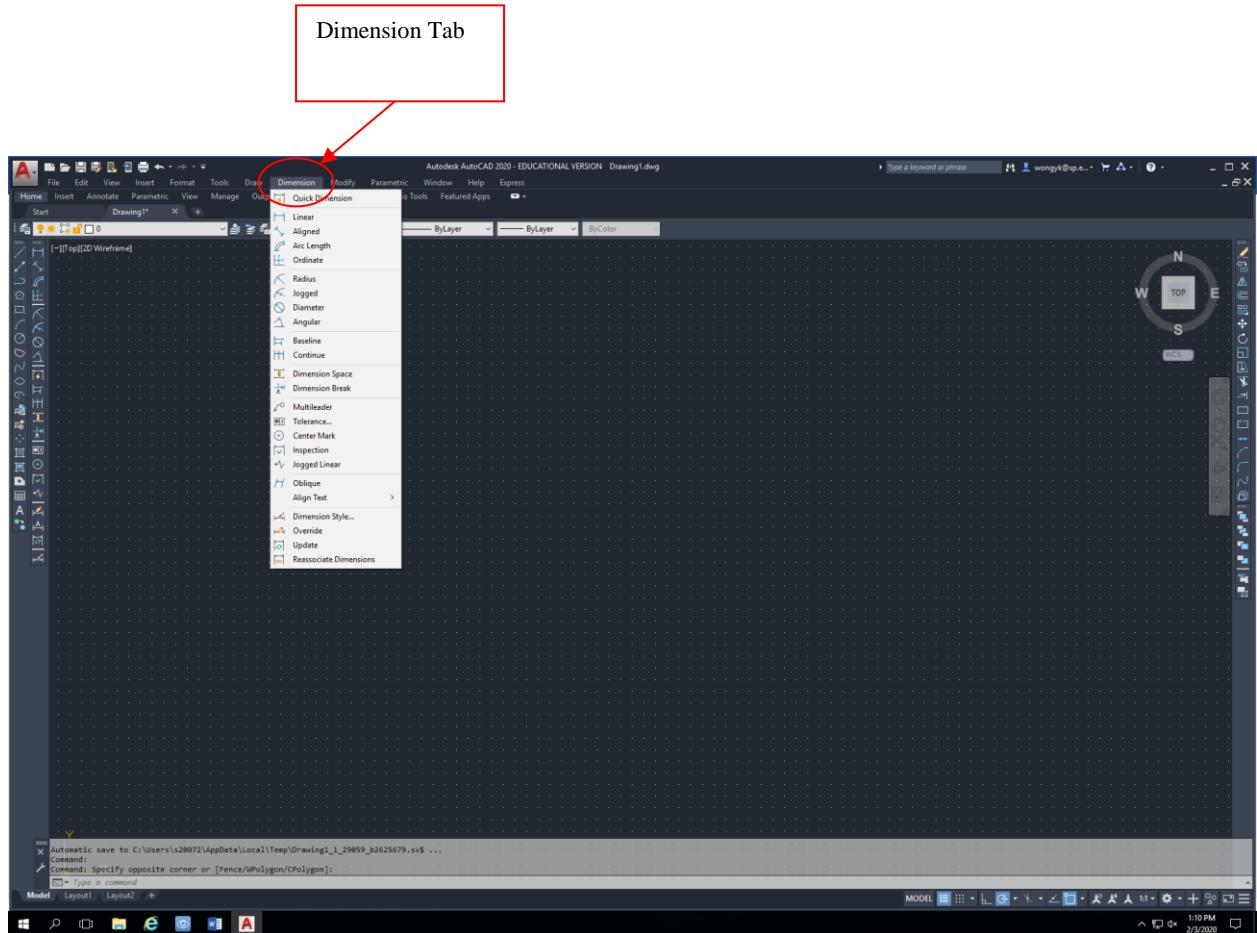


Fig 1A- 28

(DIMENSION Pull-down Menu)- To dimension, Linear, Baseline, Continuous, Aligned, Angular, Center Mark, Radius, Diameter, Leader, Update, etc.

The **MODIFY Tab** pull-down features are shown in Fig 1A – 29:

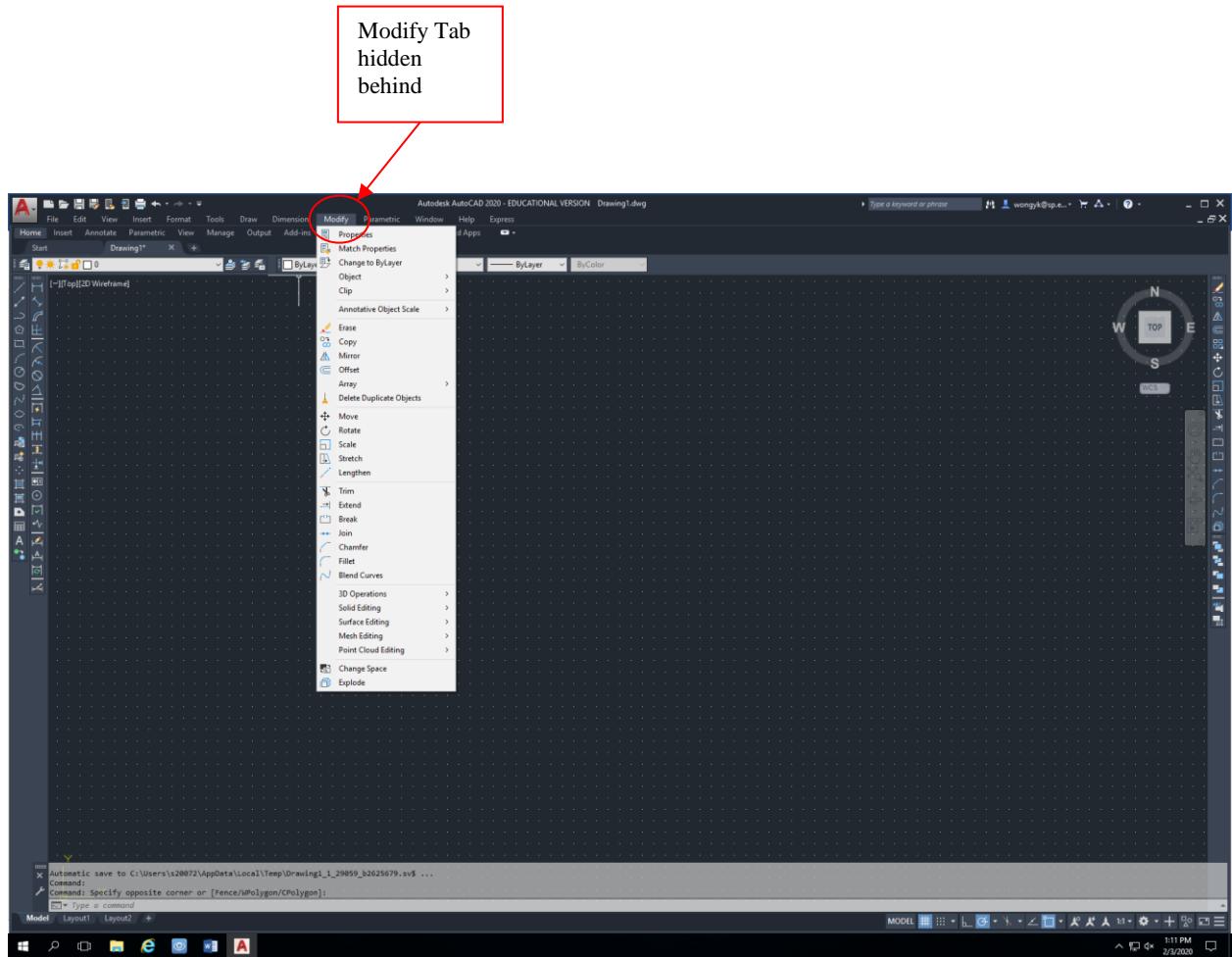


Fig 1A- 29  
(MODIFY Pull-down Menu) – To Modify such as commands Erase, Copy, Mirror, Offset, Array, Move, Rotate, scale, Stretch, Trim, Fillet, Chamfer, Explode, etc.

The **PARAMETRIC Tab** pull-down features are shown in Fig 1A – 30:

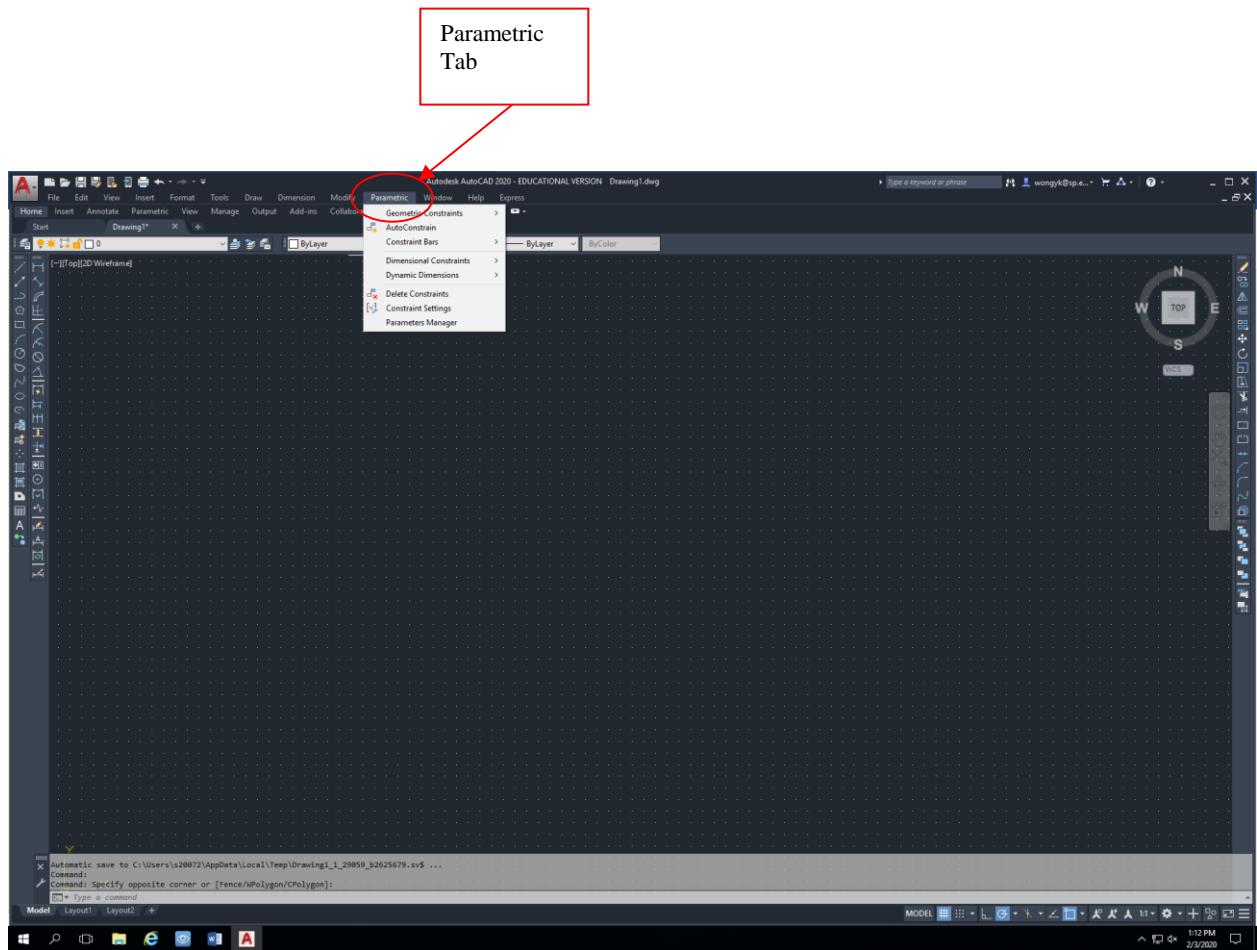


Fig 1A- 30  
(PARAMETRIC Pull-down Menu) – To add/delete constraint & dimensions parameters, etc.

The **WINDOW Tab** pull-down features are shown in Fig 1A – 31:

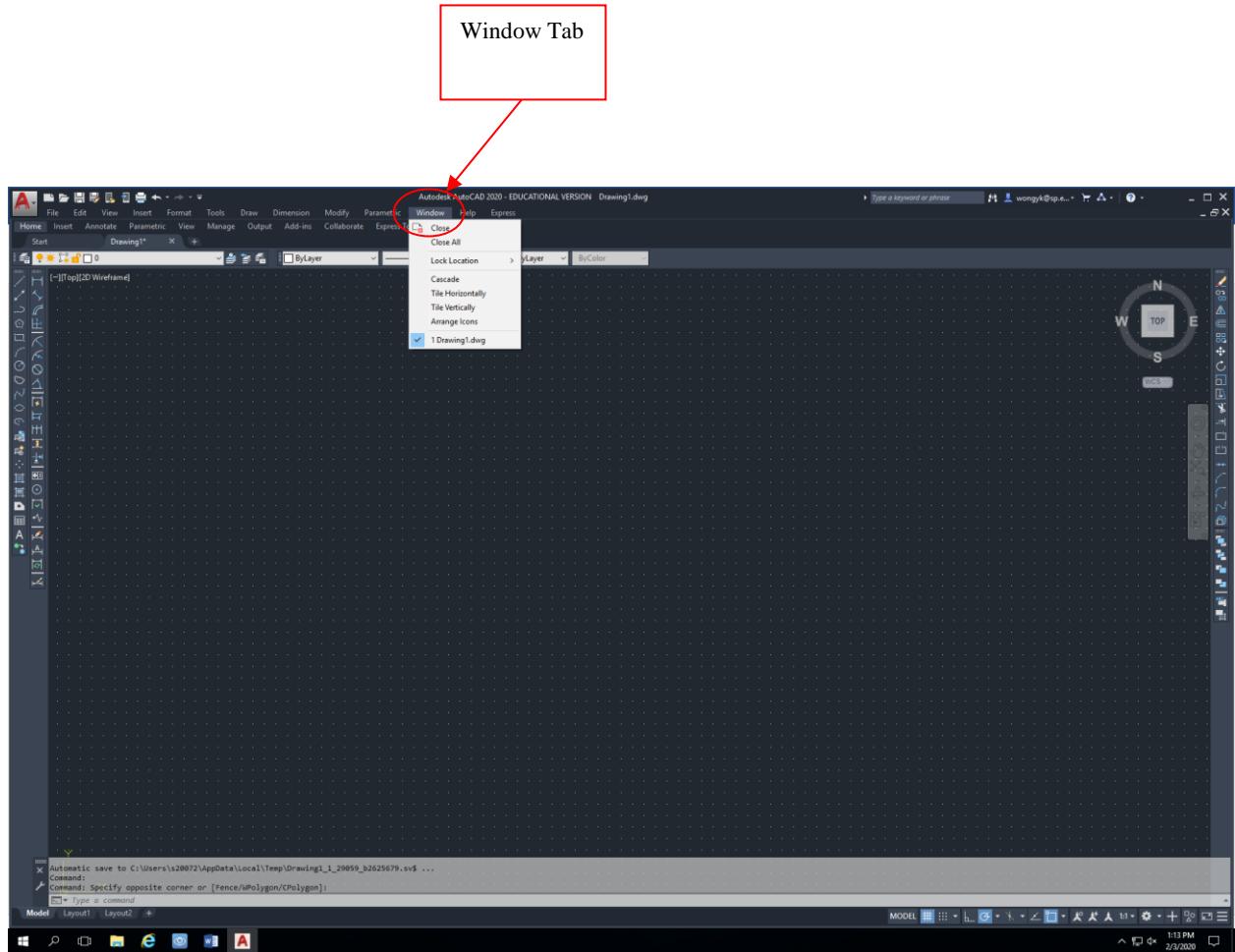


Fig 1A- 31  
(WINDOW Pull-down Menu) – To activate/close Windows commands, Lock floating windows & Toolbars, etc.

The **HELP Tab** pull-down features are shown in Fig 1A – 32:

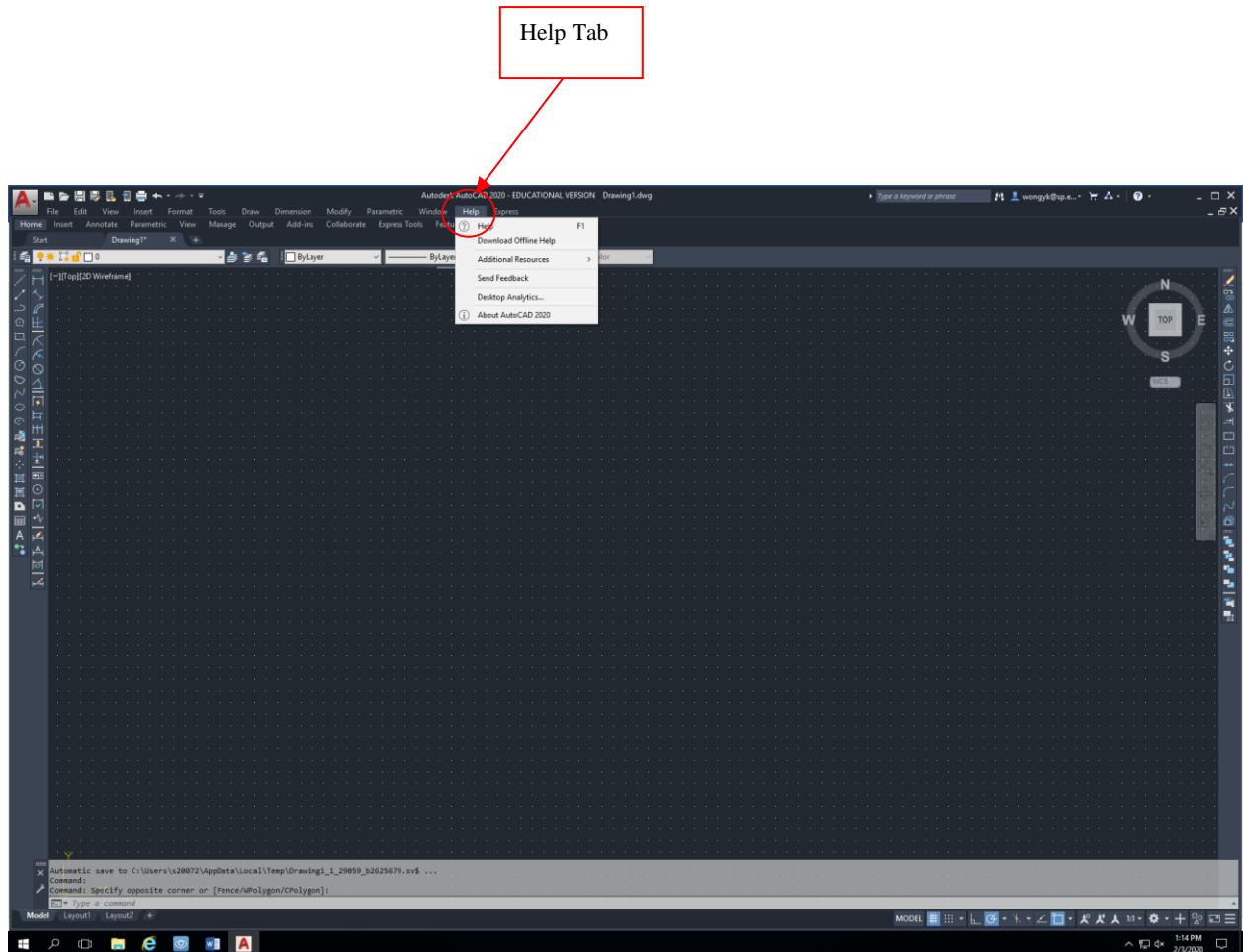


Fig 1A- 32  
(HELP Pull-down Menu) – To provide online /offline help to users, send feedback, etc.

The EXPRESS Tab pull-down features are shown in Fig 1A – 33:

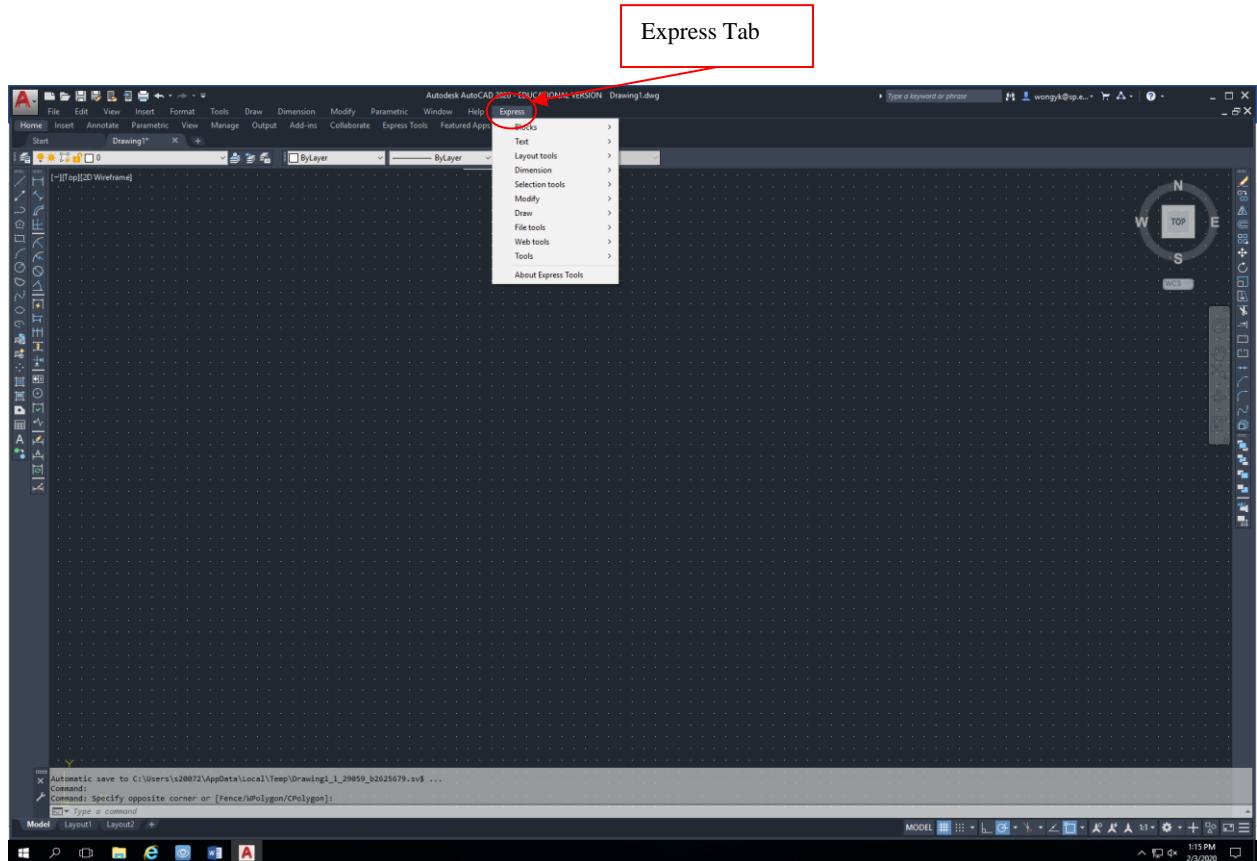


Fig 1A- 33  
(EXPRESS Pull-down Menu) – To provide simple frequently used shortcuts on commands Text, Dimensions, Modify, Draw, etc.

Students will learn to use the AutoCAD 2020 using the AutoCAD Ribbon workspace and/or Frequently Used Straight Toolbars in conjunction with the Unit 1A to 6 from next Chapter onwards since detail executable commands and shortcuts are the same for the basic & intermediate AutoCAD.

#### 4. Use of Keyboard shortcuts proficiently.

AutoCAD 2020 has various keyboards Function keys, Control Key Combinations and Letters short-cuts as shown in the tables below:

#### **FUNCTION KEYS**

<b>AutoCAD Function Keys</b>	
<b>Function Key</b>	<b>Description</b>
F1	AutoCAD Online Help system
F2	Text Screen Toggle
F3	Object Snap Toggle
F4	Tablet Mode Toggle
F5	Isoplane Toggle
F6	Coordinate Display Toggle
F7	Grid Mode Toggle
F8	Ortho Mode Toggle
F9	Snap Mode Toggle
F10	Polar Mode Toggle
F11	Object Snap Tracking Toggle
F12	Dynamic Input Toggle

**CONTROL KEY COMBINATIONS**

<b>AutoCAD Control Key Combinations</b>	
<b>Combination</b>	
<b>Description</b>	
Ctrl + A	Select All
Ctrl + B	Snap mode toggle
Ctrl + C	COPYCLIP command
Ctrl + D	Dynamic UCS command
Ctrl + E	Isoplane toggle
Ctrl + F	Osnap toggle
Ctrl + G	Grid mode toggle
Ctrl + I	Coordinate display toggle
Ctrl + K	HYPERLINK command
Ctrl + L	Ortho mode command
Ctrl + N	New command
Ctrl + O	OPEN command
Ctrl + P	PLOT command
Ctrl + Q	QUIT command
Ctrl + R	Viewport toggle
Ctrl + S	SAVE command
Ctrl + T	Tablet mode toggle
Ctrl + U	Polar mode toggle
Ctrl + V	PASTECLIP command
Ctrl + W	Object snap tracking toggle
Ctrl + X	CUTCLIP command
Ctrl + Y	REDO command
Ctrl + Z	UNDO command
Ctrl + 0	Clean Screen toggle
Ctrl + 1	Properties Manager toggle
Ctrl + 2	DesignCentre toggle
Ctrl + 3	Tool Palette toggle
Ctrl + 4	Sheet Set Manager toggle
Ctrl + 5	Not Used
Ctrl + 6	dbConnect Manager toggle
Ctrl + 7	Markup Set Manager
Ctrl + 8	Quick Calculator
Ctrl + 9	Command Line
Ctrl + Alt	Cycle through all open drawings & quickly switch to the required active drawing window

**KEYBOARD LETTER SHORTCUTS**

<b>AutoCAD Letter Shortcuts</b>	
<b>Letter + Enter</b>	<b>Draw Tab - Commands</b>
a	Arc
b	Block
c	Circle
do	Donut
dt	Dynamic Text
el	Ellipse
h	Hatch
l	Line
ml	Multi-Line
pl	Polyline
pol	Polygon
rec	Rectangle
so	Solid
w	Write Block

<b>AutoCAD Letter Shortcuts</b>	
<b>Letter + Enter</b>	<b>Modify Tab - Commands</b>
ar	Array
br	Break
ch	Change
cha	Chamfer
co or cp	Copy
e	Erase
ex	Extend
f	Fillet
m	Move
mi	Mirror
ml	Multi-Line
o	Offset
pe	Polyline Edit
ro	Rotate
s	Stretch
sc	Scale
tr	Trim
u	Undo
w	Write Block
x	Explode
<b>Letter + Enter</b>	<b>Format Tab - Commands</b>
st	Text Style
d	Dimension Style Manager
la	Layers Properties Manager
lt	Linetype Manager
lw	Lineweight Settings
limits	Drawing Limits
<b>Letter + Enter</b>	<b>Insert Tab - Commands</b>
i	Insert Block