

Lesson – Using Technology in the Workplace



Lesson Overview

In this lesson, participants will learn how technology has changed in the workplace over time. Students will practice using presentation software, creating spreadsheets, conducting online research and writing a business blog.

Lesson Objectives

After completing this lesson, participants will be able to:

- Understand how technology has changed on the job in the past century
- Successfully create a PowerPoint presentation, a basic Excel spreadsheet, and blog using online research
- Take a self-inventory of technical skills

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	<ul style="list-style-type: none"> • Schooltube video – Technology in the Workplace (11:31) OR • Schooltube video – Technology in the Industrial Revolution (7:56) 	<ol style="list-style-type: none"> 1. Prepare to show the Schooltube video clips 	15 – 20 minutes
LEARN	<ul style="list-style-type: none"> • Computer access for all students including Internet access • PowerPoint Tutorial access online • <i>Grading Rubric for PowerPoint Project</i> handout • Microsoft Excel access • <i>Data Collection Worksheet</i> handout • <i>Sample Completed Spreadsheet</i> handout • <i>Rubric for Internet Research Blog</i> handout 	<ol style="list-style-type: none"> 1. Ensure computer access for class period(s) 2. Access PowerPoint Tutorial website 3. Print/photocopy the <i>Grading Rubric</i> handout – one copy per student 4. Print/photocopy the <i>Data Collection Worksheet</i> – one copy per student 5. Print/photocopy the <i>Sample Completed Spreadsheet</i> handout – one copy per student 6. Print/photocopy the <i>Rubric for Internet Research Blog</i> – one copy per student 	Part 1 – 90-120 minutes Part 2 – 60 minutes Part 3 – 90-135 minutes
REVIEW	<ul style="list-style-type: none"> • Panel of employers (optional) 	<ol style="list-style-type: none"> 1. Contact local businesses to invite employers in for a panel discussion on 	10 minutes

		technology in the workplace. (optional)	Optional panel activity (30 minutes)
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Lesson – Using Technology in the Workplace

FOCUS: Technology Revolution

15 - 20 minutes

Purpose:

Technology is being used in almost every occupation in some way. Technology has changed the way we work. The ongoing development of new technologies makes it difficult to keep up sometimes. 21st Century workers have to be flexible and learn to quickly adapt on the job. This kick-off activity will show students just how much technology has changed in a relatively short amount of time and the impact it has had in the workplace.

Materials:

- Schooltube video Technology in the Workplace <http://www.schooltube.com/video/a8a9f28ae62f454bb9ff/Technology%20in%20the%20Workplace> 11:31
- Schooltube video Technology in the Industrial Revolution <http://www.schooltube.com/video/63046f6e438b4ed79caa/Technology%20in%20the%20Industrial%20Revolution%201> 7:56

Facilitation Steps:

1. Employers today are looking for skill sets that are quite different than those needed 10, 20 or 100 years ago. Ask students what they think are among the top 10 skills employers are looking for when they hire today. Write the suggestions on a white board.
2. Here is a list of the top 10 skills employers are looking for according to one Internet source - <http://www.kavaliro.com/top-10-skills-employers-are-looking-for/>

There are many lists out there if you search

- Communication skills
- Analytical and research skills
- Self-motivation
- Teamwork
- Technical skills
- Strength of character
- Interpersonal skills
- Flexibility/adaptability
- Planning/organizing
- Problem solving skills

3. You can see from the list above the technical skills and flexibility/adaptability are on the list. We will be focusing on these skills in this lesson.
4. Show a short video clip that gives students an idea of how technology has changed the way we work in the last century. There are many examples that can be viewed on Schooltube. There are two clips referenced in the “Materials” section. The first one discusses the impact of more recent technology and the second one shows the impact of technology changes during the Industrial Revolution.
5. Explain to students that the technology skills that you need to have vary depending on the job that you have. In the next part of the lesson, students will actively practice using several different types of technology needed in business – word processing, spreadsheets, presentation software skills and Internet research.

Lesson – Using Technology in the Workplace

LEARN: Active Practice

120 minutes

Purpose:

Technology has changed the way we do business. Nearly every job in the business world requires some sort of proficiency and technical ability. Business technologies such as computers, tablets, social networking sites, business software and much more have increased efficiency and access to information. This lesson will give you the chance to practice a few of these.

Materials:

- Computers for all students including Internet access
- PowerPoint Tutorial website
- *Grading Rubric for PowerPoint Project* handout
- Microsoft Excel access
- *Data Collection Worksheet* handout
- *Sample Completed Spreadsheet* handout
- *Rubric for Internet Research Blog* handout

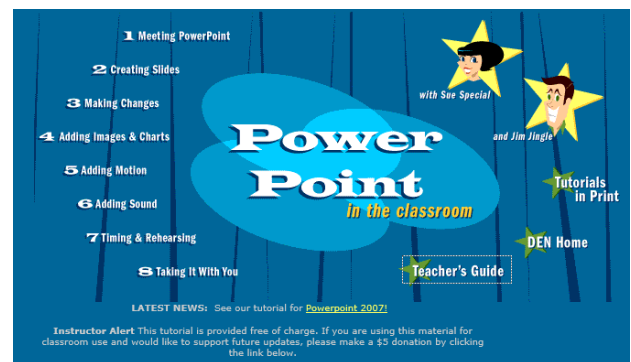
Facilitation Steps:

Activity 1 – Creating a PowerPoint Presentation (90-120 minutes)

1. Divide the class into small groups of four to six students. Ask them to answer two questions. First, have them brainstorm all of the different presentation software that they are aware of, if any. And second, ask them to come up with a list of five reasons a person may use PowerPoint or similar presentation software in a work situation.
2. Bring the class back together and write a master list of all presentation software programs that students identified on their lists. Some could be Prezi, Google Docs, Slidrocket, Goanimate, 280 Slides Powtoon etc. Also ask each group to share their five reasons for using presentation software in a work situation. Are there many that more than one group had on their list?

3. Students will learn how to create a slide presentation in this activity. Click on the link provided and have students follow the free tutorial. There are eight sections to work through. This will require access to computers in a lab setting or bringing a laptop cart into the classroom. Or this tutorial could be assigned as homework off site.

<http://www.actden.com/pp/index.htm>



4. Share the *Grading Rubric for PowerPoint Project* handout with the students so they know what to include in their presentation.
5. Tell students that for the content of the presentation, they are each to choose one occupation that interests them. They are to prepare a presentation that has a minimum of 10 slides that explains what the job is, typical duties, work environment, the type(s) of technology used in that job, required education or credentials, average starting salary and job outlook. The presentation to the class should last no more than five minutes.
6. When students have their PowerPoint projects ready, have each one do the presentation for the class. This provides students an opportunity work on presentation skills. It also will give students a chance for career exploration and exposure to a wide variety of occupations.

Grading Rubric for PowerPoint Project

	5	4	3	2	1
Content	Content is accurate and information is presented in a logical order.	Content is accurate but some information is not presented in a logical order, but is still generally easy to follow.	Content is accurate but information is not presented in a logical order, making it difficult to follow.	Content is questionable and information is not presented in a logical order, making it difficult to follow.	Content is inaccurate and information is not presented in a logical order, making it difficult to follow.
Slide Creation	Presentation flows well and logically. Presentation reflects extensive use of tools in a creative way. Correct number of slides.	Presentation flows well. Tools used correctly. Correct number of slides. Overall presentation is interesting	Presentation flows well. Some tools used to show acceptable understanding. Correct number of slides.	Presentation is unorganized. Tools are not used in a relevant manner. Lacking in number of slides.	Presentation has no flow. No tools used. Insufficient number of slides.
Slide Transitions	Transitions are smooth and interesting. Transitions enhance the presentation.	Smooth transitions are used on most slides.	Smooth transitions are used on some slides.	Very few transitions are used and/or they distract from the presentation.	No transitions used.
Pictures, Clip Art & Background	Images are appropriate. Layout of images is pleasing to the eye.	Images are appropriate. Layout is cluttered.	Most images are appropriate.	Images are inappropriate.	No images.
Mechanics	No spelling errors. No grammar errors. Text is in authors' own words.	Few spelling errors. Few grammar errors. Text is in authors' own words.	Some spelling errors. Some grammar errors. Text is in authors' own words.	Some spelling errors. Some grammar errors. Most of text is in authors' own words.	Many spelling errors and/or text is copied.
Technology Connection	Comprehensive use of technology is apparent.	General understanding of technology.	Acceptable understanding of technology.	Little understanding of technology.	No understanding of technology

Activity 2 – Creating a Basic Spreadsheet using Excel (60 minutes)

1. Introduce Spreadsheets: A spreadsheet, also known as a worksheet, contains rows and columns and is used to record and compare numerical or financial data. Originally, they only existed in paper format, but now they are most likely created and maintained through a software program that displays the numerical information in rows and columns. Spreadsheets can be used in any area or field that works with numbers and are commonly found in the accounting, budgeting, sales forecasting, financial analysis, and scientific fields.

Tell students today they are going to use Microsoft Excel to create a very basic spreadsheet.

2. For this part of the lesson you will need access to computers in a lab setting or have a laptop cart brought into your classroom. Computers will need to have Excel on them to complete this exercise. It will also require Internet access.
3. Students are going to create a one day menu. It will include identifying food and beverage choices for three meals and two snacks. For each food and beverage in their spreadsheet, students will need to record the calorie count.
4. Give students the *Data Collection Worksheet* to complete prior to creating their spreadsheet. Show them the sample completed *Data Collection Worksheet* either as an overhead or on a document projector. Give students 10 minutes to plan what they would wish to eat for one day.
5. Have students access calorie counting websites for each item on their data collection worksheet. If they cannot find the exact number of calories, they should estimate as close as possible.
6. Now that students have the data collected, they are going to turn this into a spreadsheet. Have all of the students access Excel and talk them through how to set up a basic spreadsheet. Give each student a copy of the *Sample Completed Spreadsheet* so they can follow along as they create their own.
7. Open Excel. Click and leave the cursor in the first cell on the spreadsheet called A1. Type in your title “Daily Calories Spreadsheet.”
8. Skip one line and in cell A3 type “Breakfast.” In cell A4, type “Item”. In the cells below starting in A5, type in each breakfast item until all have been entered.
9. In cell B4 type “Calories.” In the cells below starting at B5, type in the correct number of calories for each breakfast item.
10. In cell C3 type “Lunch.” In cell C4 type “Item” and beginning in C5, type in each lunch item.
11. In cell D4 type “Calories.” In cell D5 start typing in the correct number of calories for each lunch item.
12. In cell E3 type “Supper.” In cell E4 type “Item.” In the cells below starting in E5, type in each supper item until all have been entered.
13. In cell F4 type “Calories.” In the cells below starting at F5, type in the correct number of calories for each supper item.
14. In cell G3 type “Snacks.” In cell G4 type “Item.” In the cells below starting in G5, type each snack item until all have been entered.
15. In cell H4 type “Calories.” In the cells below starting in H5, type in the correct number of calories for each snack item.
16. In cells A12, C12, E12 and G12 type “Total.”
17. Now you will use the AutoSum function to add up the total calories in each section. Click in cell B5 and hold your mouse down and drag it until B5 through B12 are highlighted gray. Release the mouse so that the cells stay highlighted and find the AutoSum button on the

top of the Excel home page. Click on AutoSum and watch the calories automatically add up and fill in cell B12.

18. Follow the same process for cells D12, F12 and H12.
19. In Cell A14 type, "Total Calories for the Day."
To add up the totals in all 4 columns above,

click in B14 and in the box at the top where you put formulas, type in:
`=+SUM(B12+D12+F12+H12)` The total should fill in cell B14.



Data Collection Worksheet

Breakfast	
Item	Calories
Total	

Lunch	
Item	Calories
Total	

Supper	
Item	Calories
Total	

Snacks	
Item	Calories
Total	

Total Calories for the Day	
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Data Collection Worksheet Sample

Breakfast	
Item	Calories
1 scrambled egg	23
1 medium banana	105
1 cup orange juice	110
1 piece wheat toast	65
1 tablespoon butter	102
Total	405

Lunch	
Item	Calories
1 hamburger	275
1 wheat hamburger bun	113
1 Tablespoon ketchup	15
Small side salad	50
1 Tablespoon ranch dressing	135
1 apple	55
1 glass of milk	86
Total	729

Supper	
Item	Calories
1 grilled chicken breast	30
1 cup of mashed potatoes	237
1 Tablespoon butter	102
1 cup applesauce	105
1 serving cooked carrots ½ cup	27
1 glass of water	0
Total	501

Snacks	
Item	Calories
Small bag of Doritos	150
1 chocolate chip cookie	136
Total	286

Total Calories for the Day	1921
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Sample Completed Spreadsheet



Sample spreadsheet lesson - Excel

E32 : [X] [✓] [fx]

	A	B	C	D	E	F	G	H
1	Daily Calories Spreadsheet							
2								
3	Breakfast		Lunch		Supper		Snacks	
4	Item	Calories	Item	Calories	Item	Calories	Item	Calories
5	1 scrambled egg	23	1 hamburger	275	1 grilled chicken breast	30	Small bag of Doritos	150
6	1 medium banana	105	1 wheat hamburger bun	113	1 cup of mashed potatoes	237	1 chocolate chip cookie	136
7	1 cup orange juice	110	1 Tablespoon ketchup	15	1 Tablespoon butter	102		
8	1 piece wheat toast	65	Small side salad	50	1 cup applesauce	105		
9	1 tablespoon butter	102	1Tablespoon ranch dressing	135	1 serving cooked carrots ½ cup	27		
10			1 apple	55	1 glass of water	0		
11			1 glass of milk	86				
12	Total	405	Total	729	Total	501	Total	286
13								
14	Total Calories for the Day	1921						
15								
16								
17								
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23								
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26								
27								



Activity 3 – Using Internet Research to Write a Blog (90-135 minutes)

1. Introduce students to the concept of blogging. What is a blog? How is blog writing different from other forms of writing? A blog (short for “Web log”) is simply a Web publishing platform that presents the most recently published content at the top of a Web site, followed, chronologically, by older content vertically down the page. Blog entries (much like mini journal entries) tend to be fairly short but sometimes are as long as several thousands of words

Blog styles usually fall somewhere on a continuum between traditional journalism and a personal diary. The purpose of blogs also varies widely. Blogs are used in business as a

marketing tool. Blogs may also be used by companies for facilitating discussion between customers and the company.

2. In this activity, students are going to use their skills in online research and find information from which to create a blog. The topic of the research will be “The 21st Century Employee – What Employers are Looking for In Today’s Workforce.”
3. Give students a copy of the *Rubric for Internet Research Blog* so they are see what you are looking for in the final product. Some of the information students should be searching for are lists of skills employers are looking for and value; quotes and statistics, predictions, changes over time etc.



Rubric for Internet Research Blog

The 21 st Century Employee – What Employers are Looking for In Today’s Workforce					
Criteria	weight	Exemplary	Admirable	Acceptable	Attempted
Research of Topic	40%	<input type="checkbox"/> Use of more than two search engines and 6 sites <input type="checkbox"/> Factual information is accurate <input type="checkbox"/> Narrow focus of topic	<input type="checkbox"/> Use of two search engines and 5 sites <input type="checkbox"/> Most information can be confirmed <input type="checkbox"/> Topic needs narrower focus	<input type="checkbox"/> Use of one search engine and 3 sites <input type="checkbox"/> Some errors in information <input type="checkbox"/> Topic somewhat broad	<input type="checkbox"/> Use only one source <input type="checkbox"/> Errors in information <input type="checkbox"/> Topic too general
Product	40%	<input type="checkbox"/> Logical, intuitive sequence <input type="checkbox"/> Consistent menus; paths are clear <input type="checkbox"/> Original, inventive, creative <input type="checkbox"/> Correct grammar, usage, mechanics, spelling <input type="checkbox"/> Visuals effectively entice audience	<input type="checkbox"/> Logical <input type="checkbox"/> Generally consistent menus; clear paths <input type="checkbox"/> Original <input type="checkbox"/> Mostly correct grammar, usage, mechanics, spelling <input type="checkbox"/> Visuals and images convey message	<input type="checkbox"/> Some logic <input type="checkbox"/> Somewhat consistent menus; somewhat clear paths <input type="checkbox"/> Some originality <input type="checkbox"/> Several grammar, usage, mechanics, spelling errors <input type="checkbox"/> Use of visuals and images is limited	<input type="checkbox"/> Information confusing <input type="checkbox"/> Inconsistent menus and paths <input type="checkbox"/> Rehash of other people’s ideas <input type="checkbox"/> Obvious grammar, usage, mechanics, spelling errors <input type="checkbox"/> Use of visuals and images is confusing or absent
Evaluation of Reliable Sources	20%	<input type="checkbox"/> Sources used are accurate and reliable <input type="checkbox"/> Variety of domain name suffix (.com, .edu, .net, .gov)	<input type="checkbox"/> Most sources used are accurate and reliable <input type="checkbox"/> Some variety of domain name suffix (.com, .edu, .net, .gov)	<input type="checkbox"/> Some sources used are inaccurate and unreliable <input type="checkbox"/> Little variety of domain name suffix	<input type="checkbox"/> Sources are inaccurate and unreliable <input type="checkbox"/> Use of only one domain name suffix

Lesson – Using Technology in the Workplace

Review: Self-Reflection

10 minutes

Purpose:

The purpose of this activity is to have students reflect on their own technology skills.

Materials:

- Paper and writing utensil

Facilitation Steps:

1. Ask participants to consider their own technology skills and answer the following questions as if they were writing in a journal.
 - What types of technology skills do they have right now?
 - What technology do they like best and why?
 - What technology do they like least and why?
 - How could technology help them achieve their goals?
2. Have students turn in this journal entry for grading.

Extension Activity (30 minutes):

Bring in employers from a variety of businesses and occupations for a panel discussion on technology in the workplace. Ask employers how technology has changed in the past 10 years. What types of technical skills do they need in employees that they hire? What can students be doing now to prepare themselves for jobs in the future? Ask students to prepare additional questions relating to technology to ask of employers.

