

Technology Literacy

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Unit 1

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Application and Extension of Knowledge

1. Phones, televisions, cameras, washing machines, dishwashers, cars, and microwaves.
2. Gene editing (CRISPR) - This technology has been used in both the modification of plants and humans. It allows the user to modify/rewrite the genetic code for organisms. Recently Scientists have used it to modify crops to make them resistant to drought and disease, a huge positive considering that no traces of foreign DNA have been found meaning that these will not fall under the category of GMO foods. A big negative, however, is the fact that scientists can literally rewrite genetic code for a human being, giving them whatever traits they want.

Tesla Autopilot – This electric car has the ability to make driving a nearly completely autonomous activity. Using tens of thousands of sensors on the bumper and sides, the car is able to detect its surroundings, control speed, and park, steer and change lanes by itself. Obviously this can have major setbacks such as malfunctions with the sensors or “autopilot”. But, this could be a step in the right direction to helping reduce accidents by eliminating the mistake factors that humans have.

Reusable Rockets- Technology such as this is pretty straight forward. Most rockets can only survive one voyage. Reusable rockets now allow certain vessels to take off, land straight up, and be refueled for another use. This is incredible considering that enterprises can now focus on other investments rather than building and rebuilding rockets. A setback to this, however, is that as these rockets are used more and more, they will begin to breakdown and the possibility of failure during a mission will increase.

3. 5 new IT careers created as a result of social media: blogger, YouTube Gamer, Musicians starting their careers, sports resume, and online newscaster.

4. Data mining, the collection and analyzation of data from different perspectives of users to summarize into useful information, is a widely practiced trend in the new age of internet and social media. Advertisers frequently use data mining in order to target a specific audience. That may perhaps be accomplished through collecting information from social media pages; using keywords and searches to advertise. This is generally done in an attempt to increase revenue. While many feel that this practice may be an invasion of personal privacy, they are only fooling themselves.

By choosing to be a part of social media, people are already exposed to potential threats. While data mining, in and of itself, is not necessarily a threat, it shows people that their activity is, in fact, being monitored. This can be a scary thought. However, if someone is willing to put themselves out on social media or the internet for literally anyone in the world to see, it should not come as any surprise that they will be targeted for any number of things, in this case data mining. At the end of the day, this practice is key to those who own and manage websites, for it allows them to advertise and increase revenue.

Increased revenue or profits for companies, both advertisers and producers, is a pretty clear advantage of data mining. In addition, this can benefit consumers. Perhaps a product will be advertised that they would take interest in that they may not have seen otherwise. On the other hand, this does come with a cost. Anyone who is able to mine and see what a person's interests are could put out "advertisements" that end up being

viruses or they may be able to hack computers. People must decide for themselves whether or not this cost is worth it for them to give up a little personal privacy.

5. Information technology work is an ever-increasing field of employment today. As such, it is also ever-progressing as far as advances in the field. Those employed under this area of expertise must keep up his or her skills in order to meet the demands of the day. More and more people today are using the internet than ever before, so information technology workers have to find ways to be better than their competition. In fact, information technology occupations are projected to grow by around 12% from 2014 to 2024.

Especially in business, the ability to store, receive, distribute and transmit data is becoming more and more crucial in order to stay ahead. As more and more business, companies, and enterprises move to online databases, the greater need for employees of the field to be the most informed and up to date they can. This is especially true when considering the increasing number of people who are learning about technology to target its weak points. Cybersecurity is a prime example of an occupation where workers must always be alert to new technologies and threats and ways to counteract them or use them for good.

Imagine if someone in a company was working on Windows 95 was immediately thrown into the present-day to work on one of the latest systems. Their work would be almost worthless and of no good to anyone. For information technology workers to keep up to date is one of the most critical and important skills of today in keeping everything moving forward.

Reading:

In the online article, *The Importance of Communication Skills for Teenagers*, the author lays out step-by-step the proper skill sets for teens to become better and more confident communicators. The first step that is laid out by the author is the importance of first listening to others. This will allow the other party of the conversation to know that the listener cares. Second, the author claims, is body language. Learning how to properly sit and stand as well as making eye contact are vitally important to having constructive conversations and communication. The author lastly states that speech expressive skills will help them develop into better communicators. This is a broad point, but in short the author describes how tones of speech, rhythm, and clear, concise language all make for more effective means of communication.

Writing:

Writers may choose from a wide variety of rhetorical techniques in order to persuade an audience of something. Three of the most popular are ethos, pathos, and logos, with pathos being perhaps the most powerful. Pathos involves the use of emotion in order to persuade. A prime example of this would be the ASPCA videos of abused animals that ask you to donate money. Another example is from the movie *Rocky Balboa*: “The world ain’t all sunshine and rainbows. It’s a very mean and nasty place and it will beat you to your knees and keep you there permanently if you let it, and you or me or nobody is gonna hit as hard as life. But it ain’t about how hard you can hit, it’s about how hard you can get hit and keep moving forward; how much you can take and keep moving forward. That’s how winning is done!”

Speaking:

Act I, Scene I

Two coworkers, Joe and Bob, were assigned to prepare the monthly budget meeting for Energizer Inc. Joe decided to take charge of planning the monthly revenue portion of the meeting while Bob would explain the monthly expenditures. Bob was on top of his portion of the meeting, but Joe had shirked his responsibilities. Bob, while mildly stressed out from work, tries to maintain a positive attitude.

Bob: *(Smiling and a wave)* Hey Joe! You ready for that meeting today?

Joe: *(Scratching head while nervously avoiding eye contact)* Yeah, so, about that... I kind of don't have anything ready to present. Sorry.

Bob: *(Puzzled look on face)* Wait, what? What do you mean nothing to present? *(Begins raising voice)* Joe, you had a week to prep for this!

Joe: I know, man. I just got busy with watching my kids and... well I've been catching up on the last season of Lost. It's fantastic! You should check it out if you haven't already.

Bob: *(Yelling)* Joe! I can't believe you! We were both responsible for this, that means that I'm going to get blamed for you not doing what you should have done! *(Partial turn of the body and raises hands in a "why" manner with an exasperated look on the face)*

Joe: You're right; I should have gotten it done. I'm really, really sorry, Bob.

Bob: Well, sorry won't keep our jobs now, will it? *(Storms off)*

Act 1, Scene 2

The same scenario, although this time, Bob will react in a more positive manner than before.

Bob: *(Smiling and a wave)* Hey Joe! You ready for that meeting today?

Joe: *(Scratching head while nervously avoiding eye contact)* Yeah, so, about that... I kind of don't have anything ready to present. Sorry.

Bob: *(Puzzled look on face)* Wait, what? What do you mean nothing to present? *(Begins raising voice)* Joe, you had a week to prep for this!

Joe: I know man, I'm really sorry. I've just been really busy lately with my kids and all. *(Shyly takes a step back)*

Bob: *(sighs)* I know you've been going through a lot lately, Joe. Don't stress about it too much. *(Lowers voice)* We still have a couple hours before the meeting right?

Joe: *(Begins to open up a little to Bob looks him in the face)* Yeah, we have some time.

Bob: *(Begins to smile)* Well hey, if you can pull up the figures real quick, then I bet we can get it done together!

Joe: *(Questioningly)* Are you sure? *(Perks up and opens up to Bob, showing his confidence in his coworker)*

Bob: *(Excited)* Absolutely! Come on, let's get started! *(Slaps Joe on the back, both walk out together)*

The essential difference between the two interactions was the reaction of Bob to his coworker's mistake. In the first, Bob reacted rather harshly and was unwilling to do anymore work for the project. In the second attempt, Bob was more understanding and was constructive of the situation. The body language that Bob displayed the second time around helped reassure Joe that he was being genuine, and he was able to trust that he and his coworker could accomplish a task together. By Bob relaxing and opening up to Joe, Joe was able to do the same.

Body language is easily one of the most important forms of communication. Unfortunately, it is also one of the most neglected. People will read body language cues before

they can even comprehend what is being said. For example if someone is interviewing for a job and they slump lazily in their chair, don't act as though they are being attentive to the interviewer, and appear distracted, it is unlikely that they will get the job. Body language is so vital to the workplace environment. Say that in a meeting, all those who are in the audience are falling asleep. It is unlikely that they, or the presenter for that matter, will get anything out of it and no one will benefit. Closing oneself off and avoiding serious, professional interactions with others in the workplace will inhibit the progress in the workplace.

On the other hand, when employees display positive body language, it is more likely that a better work environment may be fostered. As employees show interest and are attentive to the work of others and how to better themselves, far more may be accomplished as opposed to when workers refuse to give ear to others. Reusing the example from above, say, for instance, that an interviewer sat upright and relaxed while looking attentively at the interviewers. By doing this, this interviewer has displayed exceptional body language and is memorable for that fact. Body language is essential in creating an environment where employees can more efficiently work and thrive with one another.

It is amazing how much a little lean and maintaining eye contact while having a conversation can impact the situation. By being open, comfortable, and confident with others, a person automatically makes themselves someone who is easier to work with. This allows for a more positive work environment where more can be accomplished.

Digital Citizenship:

Digital citizenship can be defined as the norms of appropriate, responsible behavior with regard to technology use, or more simply, appropriate technology use. There are a number of elements included in digital citizenship. Among these are digital access, commerce, communication, literacy, etiquette, law, rules and responsibilities, health and wellness, and security. Digital access refers to the full electronic participation of society and working towards supporting equal access to electronics. Digital commerce describes the purchase and sale of electronic goods and services. By the legal and legitimate exchange of these goods, more efficient consuming takes place for all users. Communication involves the electronic exchange of information which, when used wisely, allows for growth in society. Literacy most simply means knowing how technology works and what it is. Being digitally literate is increasingly important nowadays, which is why information technology jobs are also increasing in demand. Having digital etiquette sets certain standards or conducts for all users to abide by and is an attempt to reduce, or halt completely, inappropriate conduct. Digital law extends the etiquette portion to taking legitimate responsibilities for one's actions involving electronics. It is the promotion of ethical use of technology. Rights and responsibilities are similar to digital access in that when a person is able to be a part of the electronic world, they are allowed the same based rights as all other users such as privacy and freedom of expression. Health and wellness is the physical portion of electronics, namely sound practices when using technology; this extends to psychological well-being as well. Lastly is security. Individuals and users of technology must put up protections within systems in order to protect themselves electronically, just as they would their home from intruders.