

Globalization and Information Technology

What is globalization?

Did you know?

The average person will change careers three times over the course of his/her lifetime and have seven to nine different jobs. (*The End of Work: The Decline of the Global Labor Force and the Dawn of the Post-Market Era*, Jeremy Rifkin and Robert L. Heilbroner.)

For the modern citizen _____ is the single most important skill to carry into the new century. The first job you obtain may become obsolete or change so much that you will either have to find a new job or re-train to upgrade your experience. So you must learn to accept change and adapt to the ever-increasing world of technology.

The attached articles give you some ideas on the "hot jobs" of the future.

The Effects of Globalization

As stated in the article that you just read, one of the effects of Globalization has been the _____ and the rise of the _____. Companies who decide to take part in the emerging global economy must establish themselves in foreign markets. To do this, these companies must adapt their products or services to various _____. One example would be a company that establishes itself on the international marketplace by creating a multilingual corporate web site.

Citizens and companies who possess knowledge of various cultures (customs, languages) are better positioned to find opportunities in the changing global market.

_____ plays a big role in globalization. Technology has changed the way in which we communicate, work, play and even the way in which we take and teach classes. Technology has made it easier to see your relatives in Saskatchewan or to talk to friends in Italy. Technology has made it easier to find information and gain knowledge about a variety of places. If one were to think about life in Canada at the beginning of the 20th century in comparison to life at the beginning of the 21st century, one would be amazed by the progress we have made through technology.

Changing Demographics

_____ is the study of human populations. Demographic trends can help predict what our society will be like and how this will affect the world of work. Some of the things to consider would be:

- Size of the Population: birth rate, number of people between 20-30 years, immigration patterns

- _____: where do most people in Canada live? Urban or rural - How has it changed?

In Canada the aging _____ population and the increasing shift towards an urbanized population will influence the changing work place.

Emerging Jobs

When considering future careers it is important to understand how modern trends have shaped and will continue to shape the work place. As proof that the world of tomorrow that lies before you will radically change consider the shifting nature of occupations in the chart below:

The Shifting Nature of Occupations				
Jobs That Disappeared	Disappearing Jobs	Jobs That Changed A Little	Jobs That Changed A Lot	New Jobs
	secretary		printer computer	programmer
long distance operator	car assembly workers	teacher		computerized high tech security
key punch operator		pharmacist	nurse	
encyclopedia salesperson	door to door salesperson		clerk	computer graphic artist
Telegraph operator		carpenter	veterinarian	software engineer
	Coal miner	firefighter		
		lawyer	bank manager	club disc jockey

Article 1

Engineer gets \$400,000 from the National Science Foundation to improve reliability of nano-sized microchip behavior

Dr. Michael Orshansky, assistant professor of electrical engineering at The University of Texas at Austin, has received a \$400,000, five-year National Science Foundation Early Career Development (CAREER) award, among the most prestigious given to young faculty.

He will develop software that accurately describes the microchip behavior, as well as software for designing more reliable microchips.

"As the trend towards smaller and smaller transistors continues, it's becoming more difficult to design circuits and systems that reliably operate," says Orshansky.

The tiny size of these nano-scale chips (it takes one million nanometers to equal a millimeter) makes it difficult for engineers to precisely control the transistor size. As a result, they can't figure out how the transistors will actually look once manufactured.

"We are reaching the era in which uncertainties about chip electrical properties are governed by fundamental physical laws, since we're operating on such a minute scale," says Orshansky. "Things we didn't have to worry about with relatively bigger chips become very significant at about 60 nanometers."

Orshansky has proposed to develop models and algorithms explicitly describing the electrical behavior of transistors inside the chip using the theory of probability, and creating computer-aided design software that is based on the new approaches. The software will permit describing the true electrical behavior of nano-scale chips more accurately, and will lead to the creation of faster and more reliable chips, from microprocessors for personal computers to communication devices, such as cell phones.

For the educational component of the grant, Orshansky plans to create new courses that will expose a new generation of engineering students to the emerging problems in nanoscale chip design. The courses will emphasize both the semiconductor physics and technology and the algorithmic circuit design techniques. He will also hold an open lab session during Explore UT, the university's annual open house, to inform grade-school visitors about his research.

Article 2

Economic & Societal Trends and the Workplace

Trends in Technology

Technology is advancing at a very rapid rate. It has led to automation, which in turn has led to reduced human labour. These technology trends also affect how we work, no matter what we do. Think of all the different ways we can communicate with each other that would have been so futuristic as to be unrecognizable at the beginning of the 20th century; cell phone, fax, e-mail, video conferencing, etc. People do not have to be in the same building or office to be part of a team. They can travel and still be in contact with one another.

Success in business is dependent upon technology. Technology know-how is now a requirement when competing for jobs. The information age is here and the impact of emerging technologies has revolutionized the modern work place.

Globalization

Globalization is the process of denationalization of markets, politics and legal systems, and the rise of the so-called global economy. As companies decide to take part in the emerging global economy and establish themselves in foreign markets they will have to adapt their products or services to the final user's linguistic and cultural requirements. They will also have to take advantage of the Internet revolution and establish a virtual presence on the international marketplace with a multilingual corporate web site or even as an e-business. Canada is unique in its first world modernity and rich multi-cultural character, and citizens who possess knowledge of modern technologies and also different cultures are better positioned to find opportunities in the changing global market.

Assignment

The following assignment is a sort of practice for your culminating assignment, which is studying and presenting a career of your choice. Your choice of career for this assignment is a bit more limited – we'll be sticking just with technology and information jobs – but the premise will help give you some practice for the big project coming due soon.

One of the most important trends today is the increasing use of technology. Technology is changing our personal lives and our work.

Task: You are to write a report paper (150-200 words in length) in which you identify a modern career and explain how it has been influenced by modern trends. Be sure to:

1. Explain how the modern career you choose has been changed by new economic and social trends.
2. Explain how it can provide additional opportunities to people who possess knowledge of modern technologies and of different cultures (think of globalization and increasing accessibility to foreign markets).
3. Identify and provide information about one college or university program in Canada that provides an academic program preparing young people for your chosen career. Ontario Prospects 2010 (http://www.edu.gov.on.ca/brochures/OP2010_english.pdf). You can find information on the post-secondary programs if you click on the Labour Market Information section of the brochure.

DUE DATE: _____

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Categories	Level 1 (50 - 59%)	Level 2 (60 - 69%)	Level 3 (70 - 79%)	Level 4 (80 - 100%)
Knowledge and Understanding Of social and economic trends and how they influence job opportunities. ____/10	Information is limited in accuracy, content and scope.	Information demonstrates some effectiveness in accuracy, content and scope.	Information demonstrates considerable effectiveness in accuracy, content and scope.	Information is extremely thorough in accuracy, content and scope.
Thinking Organizing and conducting research (quality of work in essay). ____/10	Written work demonstrates an inquiry process of limited effectiveness.	Written work demonstrates an inquiry process of some effectiveness.	Written work demonstrates an inquiry process of considerable effectiveness.	Written work demonstrates an inquiry process with a high degree of effectiveness.
Communication Logical organization of facts and ideas. Choice of language and style appropriate to purpose and audience. ____/10	Limited sense of overall organization. Style reflects limited appropriateness to purpose and audience.	Logical organization of facts and ideas. Choice of language and style appropriate to purpose and audience.	Considerable sense of overall organization. Style reflects considerable appropriateness to purpose and audience.	Thorough sense of overall organization. Style reflects a high degree of appropriateness to purpose and audience.
Application Drawing logical conclusions (demonstrating an understanding of the significance of events and trends upon the modern work place). ____/10	Conclusions drawn demonstrate limited depth of understanding.	Conclusions drawn demonstrate some depth of understanding.	Conclusions drawn demonstrate considerable depth of understanding.	Conclusions drawn demonstrate thorough depth of understanding.

COMMENTS