Lesson 7 Learning Module

Science, Technology, and Society Ms. Vanesa Mae O. Bacolot

COURSE LEARNING OUTCOME

Analyze the human condition in order to deeply reflect and express philosophical ramifications that are meaningful to the student as part of the society.

STUDENT LEARNING OUTCOME

- Evaluate contemporary human experience to strengthen the human person functioning in society;
- > Discuss the importance of human rights in the face of changing social conditions and technological development;
- ➤ Identify William Nelson Joy's arguments as to why the future does not need us;; and
- Write an essay that emphasizes the importance of humankind in visualizing the future.

LEARNING CONTENT: WHEN HUMANITY AND TECHNOLOGY CROSS

I. INTRODUCTION

The good life entails living in a just and progressive society whose citizens have the freedom to flourish. The human person has the autonomy to make choices which may enable the flourishing of his/her self and society. The United Nations General Assembly proclaimed the Universal Declaration of Human Rights (UDHR) on December 10, 1948 as the global standard of fundamental human rights for universal recognition and protection. The UDHR begins, "Whereas recognition of the inherent dignity and of the equal and inalienable rights of all members of human family is the foundation of freedom, justice and peace in the world" (UDHR Preamble). As implied, everyone has absolute moral worth by virtue of being human.

II. LESSON CONTENT

Human dignity is an ultimate core value of our existence. When we fully recognize and appreciate this truth in ourselves and in all the persons around us, regardless of their status in life, then we pave the way for a just and progressive society. It is in this kind of society that we are able to become fully human--- more free, more rational, and more loving. Human beings become more free when we are empowered to make choices for our flourishing. We become more rational when we are able to value and apply the principles of logic and science in our lives. We become more loving when we ensure that human dignity lies at the foundation of our endeavors, whether scientific or not. It entails knowing one's fundamental human rights that must always be protected in the face of changing conditions.

UNIVERSAL DECLARATION OF HUMAN RIGHTS

The UDHR explicates the fundamental human rights in 30 articles. It outlines inalienable human rights that are vital and necessary in the pursuit of the good life. These are the freedoms everyone is entitled to and guaranteed by virtue of being human. The first articles states the essential principle of being human in a just, free, and rational society. Everyone is born free and equal in dignity and rights. The common experience, however, does not always manifest such truth. More often than not, those who have more to offer are given special treatment. The good life, nevertheless, as a life of justice, demands not just equal treatment of human beings but also

preferential treatment to those who have less or are dis advantaged. The first seven articles of the UDHR encapsulate the spirit of this so-called "milestone document in the history of human rights." They are as follows:

- **Article 1 -** All human being are born free and equal in dignity and rights. They are endowed with reason and conscience and should at towards one another in a spirit of brotherhood.
- Article 2 Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.
- **Article 3 -** Everyone has the right to life, liberty and security of person.
- Article 4 No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.
- Article 5 No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment.
- Article 6 Everyone has the right to recognition everywhere as a person before the law.
- Article 7 All are equal before the law and are entitled without any discrimination to equal protection of the law. All the entitled

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to equal protection against any discrimination in violation of this Declaration and against any incitement to such

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The Universal Declaration of Human Rights has a long, bloody history. Crafted in 1948, after World War II, the UDHR now serves as a common understanding of what each person's fundamental rights are. These rights apply to everyone, everywhere. It is imperative that we all know and live these rights to prevent injustice and oppression.

HUMAN VS. ROBOTS

The rise of the machines accompanying the progress in science and technology may render humans useless. Manual labor is gradually being replaced by machinery. Computers become more and more sophisticated. Robots, usually designed like human beings, are created to perform complex, repetitive, or dangerous tasks. With the development of artificial intelligence

(AI), robots may also eventually act and decide like humans. In the possibility that machines adopt the nature of humans, there is a need to reflect on the ethical problems posed by such development.

Through the Philippines has not yet reached the point of producing robots on a commercial scale for

household use, it still behooves us to ponder the ramifications of replacing persons with machinery. Much as the BBC News has reported that experts in South Korea are crafting ethical guidelines to pervert humans from exploiting robots and vice versa (Evans, 2007), and that roboticists in Europe are lobbying for government legislation, such reality is generally unheard of in the Philippines. To Filipinos, artificial intelligence seems like the stuff of science fiction movies. Be that as it may, its use in the country is surely gaining ground, especially I the business process outsourcing (BPO) industry. Technology enables the growth of the BPO industry but it seems that it is also technology that will kill the industry as we know it. Investors and business people find as a sure return of investment the use of business analytics provided by artificial intelligence. Business analytics is a means by which consumer and industry data are used to come up with better decisionmaking, with the help of AI, decisions now arise from sophisticated statistical analyses made from massive data. As of August 2017, it is estimated that a million Filipino BPO workers may be affected and lose their jobs with the adoption of artificial intelligence (Santos, 2017).

Unemployment is only one of the many ethical considerations in the widespread use of AI. What does this mean for human beings who can be replaced by machines? Is the value of the person inversely proportional to that of a machine exhibiting artificial intelligence? How do we guard against mistakes committed by machines? These points are but a sample of the questions that should be resolved when faced with technology that may become a threat to human dignity and security. In the future, when machines and robots become more human-like, with all the attendant feelings and thoughts, people may also have to consider the ethical treatment for AI.

It is also interesting to note that as machines and robots approach having a human-like nature, humans may also have the tendency to become machine-like. Since many of the things people need, from conveniences to information, are available with just the touch and swipe of the fingertips, humans begin to function more like automatons. The internet has become an instant go-to tool for answers to questions. More often than not, people accept what the search engine, like Google, spews out in byte sizes and forget how to process, read, think further, or put things in context. As the internet gets more intelligence, we are in danger of becoming less so. In the article, "Is Google making us stupid?" Nicolas Carr (2008) asserted that "as we come to rely on computers to mediate our understanding of the world, it is our own intelligence that flattens into artificial intelligence."

The development of society along with science and technology gives rise to more and more complex issue. What is vital is that, at the very least, we are able to protect and exercise human rights for everyone in our pursuit of the good life. It is important that amid these developments, human beings become more free, more rational, and more loving in our practice of science and technology.

As we examine contemporary issues in science and technology-information, genetically modified organisms, nanotechnology, and climate change-we keep in mind that the building of a just and progressive society entails the constant practice of the good. It may be exhibited in exceptional scientific methodologies, personal virtue, social responsibility, and global concern.

WHY THE FUTURE DOES NOT NEED US

Can you imagine a future without the human race? Do you think that robots and machines can replace humans? Do you believe that there will come a time when human existence will be at the mercy of robots and machines? Is it also possible that medical breakthroughs in the future may go terribly wrong that a strain of drug-resistant viruses could wipe out the entire human race?

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For some, imagining a future without humans is nearly synonymous to the end of world. Many choose not to speculate about a future where humans cease to exist while the world remains. However, a dystopian society void of human presence is the subject of many works in literature and film. The possibility of such society is also a constant topic of debates.

In April 2000, William Nelson Joy, an American computer scientist and chief scientist of Sun Microsystems, wrote an article for Wired magazine entitled *Why the future doesn't need us?* In his article, Joy warned against the rapid rise of new technologies. He explained that 21st-century technologies—genetics, nanotechnology, and robotics (GNR)—are becoming very powerful that they can potentially bring about new classes of accidents, threats, and abuses. He further warned that these dangers are even more pressing because they do not require large facilities or even rare raw materials—knowledge alone will make them potentially harmful to humans.



Joy argued that robotics, genetic engineering, and nanotechnology pose much greater threats than technological developments that have come before. He particularly cited the ability of nanobots to self-replicate, which could quickly get out of control. In the article, he cautioned humans against overdependence on machines. He also stated that if machines are given the capacity to decide on their own, it will be impossible to predict how they might behave in the future. In this case, the fate of the human race would be at the mercy of machines.

Joy also voiced out his apprehension about the rapid increase of computer power. He was also concerned that computers will eventually become more intelligent than humans, thus ushering societies into dystopian visions, such as robot rebellions. To illuminate his concern, Joy drew from **Theodore Kaczynski's** book, *Unabomber Manifesto*, where Kaczynski described that the unintended consequences of the design and use of technology are clearly related to Murphy's Law: "Anything that can go wrong, will go wrong." Kaczynski argued further that overreliance on antibiotics led to the great paradox of emerging antibiotic-resistant strains of dangerous bacteria. The introduction of *Dichlorodiphenyltrichloroethane* (DDT) to combat malarial mosquitoes, for instance, only gave rise to malarial parasites with multi-drug-resistant genes.

Since the publication of the article, Joy's arguments against 21st-century technologies have received both criticisms and expression of shared concern. Critics dismissed Joy's article for deliberately presenting information in an imprecise manner that obscures the larger picture or state of things. For one, John Seely Brown and Paul Duguid (2001), in their article *A Response to Bill Joy and the Doom-and-Gloom Technofuturists*, criticized Joy's failure to consider social factors and only deliberately focused on one part of the larger picture. Others go as far as accusing Joy of being a *neo-Luddite*, someone who rejects new technologies and shows technophobic leanings.

As a material, Joy's article tackles the unpleasant and uncomfortable possibilities that a senseless approach to scientific and technological advancement may bring. Whether Joy's propositions are a real possibility or an absolute moonshot, it is unavoidable to think of a future that will no longer need the human race. It makes thinking about the roles and obligations of every stakeholder a necessary component of scientific and technological advancement. It this case, it is preeminently necessary that the scientific community, governments, and business engage in a discussion to determine the safeguards of humans against the potential dangers of science and technology.

III. PERFORMANCE TASK/ASSESSMENT

Questions for Reflection:

- 1. Do you believe that Google makes people stupid? Cite at least three examples to support your assertion.
- 2. How do science and technology affect contemporary life and vice versa?
- Read the entirety of William Nelson Joy's article. Why doesn't the future need us?

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