



After the first case of viral pneumonia of unknown origin was confirmed in Wuhan in the Chinese province of Hubei on November 22, 2019, the COVID-19 infection spread outside of China to other countries and territories. On January 31, 2020, the World Health Organization (WHO) declared a public health emergency of international concern. Then, on February 28, the WHO raised the threat assessment of global spread to its highest level, and WHO Director-General Tedros Adhanom declared the COVID-19 outbreak a global pandemic on March 11. The media covered the subsequent spread of the virus daily, and many countries around the world took drastic steps, including locking down entire cities. As of today, on June 12, there are about 76,304 thousand infected individuals worldwide, and more than 425 thousand deaths (according to Johns Hopkins University). In Japan, the numbers are 17,382 and 924, respectively (as reported by the national government).

China, South Korea and some European countries have recently greatly relaxed restrictions on leaving home and economic activity, and allowed stores to resume business as the spread of COVID-19 there has peaked and is coming under control. Since May 25, the state of emergency declaration has been lifted in Japan. However, the WHO called on each country to exercise "extreme caution" when relaxing restrictions on movement. In Japan, even though the number of new infections is on the decline and the medical care system remains intact, the number of deaths continues to rise. According to data announced by the Sapporo Medical University School of Medicine's Department of Medical Genome Sciences, Research Institute for Frontier Medicine, the death rate per a million of the population in Japan is 7.29 which exceeds that of South Korea (4.50) and China (3.22) as of today (June 12).

The economic impact has been equally significant. On April 14, the International Monetary Fund (IMF) announced that global GDP growth was predicted to be minus 3.0 percent in 2020. This growth rate is substantially lower than the minus 0.1 percent at the time of the 2008 global financial crisis, and is the worst slump since the Great Depression of 1929, which saw global GDP growth of minus 15.0 percent. GDP growth in 2020 in major countries has fallen significantly below the previous year. Overall, in developed countries, GDP growth was minus 6.1 percent (down 7.8 points). It was minus 5.9 percent in the United States (down 8.2 points), minus 7.5 percent in the Eurozone (down 9.8 points), minus 5.2 percent in Japan (down 5.9 points), plus 1.2 percent in China (down 4.9 points), plus 1.9 percent in India (down 2.3 points), minus 0.6 percent in ASEAN (down 5.4 points), and minus 6.5 percent in the UK (down 7.9 points).

On June 8, the World Bank said in its June 2020 Global Economic Prospects, that the global economy would shrink by 5.2% this year and that would represent the deepest recession since the Second World War. Japan's economy would be anticipated to shrink 6.1%. Furthermore, on June 10, the Organisation for Economic Co-operation and Development (OECD) has warned in its economic outlook report, the world would see a 7.6 percent contraction in 2020 in a worst-case scenario in which a second wave of infections rapidly occurs later this year. The OECD forecast that Japan's economy would contract 7.3 percent in 2020 and 0.5 percent in 2021. The projections compared with growth of 2.2 percent estimated by the IMF in April. There is no end to the COVID-19 pandemic in sight, so countries have no choice but to implement symptomatic therapies in response to their economic situations. What's more, due to the phenomenon known as the "shut-in economy" resulting from stay-at-home orders and appeals for social distancing, consumption has already changed drastically around the world. As such, it is believed that the economic situation will be significantly different post-COVID-19.

When will the COVID-19 pandemic come to an end? There are various opinions on that, but unless this virus has the same characteristic as a seasonal flu virus and dies out on its own in the summer when temperatures rise and the amount of saturated water vapor increase in the air, it will be necessary to develop an effective vaccine or enough people contracting and recovering from it?including those who are asymptomatic?to achieve herd immunity before we will see it come to an end.

That requires a great deal of time, however, and reportedly it will be at least a year and a half before the general public has access to a vaccine. If a drug that is truly effective for treating the infection is developed or discovered prior to a viable vaccine appearing, it might eliminate the fears and concerns over social activities. However, with nothing currently on the horizon, some experts predict that it will take three or more years to eliminate COVID-19 as the number of infections rises and falls repeatedly, following the pattern of the global Spanish flu pandemic.

The Spanish flu pandemic from a century ago has been mentioned here and there recently as a lesson from the past in how to respond to COVID-19. The Spanish flu pandemic started at the end of World War I and claimed many victims because (1) there was no vaccine or effective drug, (2) infections spread globally due to the movement of troops, and (3) medical care systems collapsed, among other factors. Around 500 million people contracted the virus, which was around a quarter of the world's population at the time. Estimates of the number of deaths range from 17 million to 50 million or even as many as 100 million. The three factors above also apply to COVID-19, but I believe there is an even greater problem behind why there is such a broad range for the number of deaths. Namely, because the Spanish flu started right near the end of World War I, countries were hiding information on the number of infections and deaths and even intentionally distributing incorrect information. Since Spain remained neutral, however, they reported their numbers freely, which led to the virus being named the "Spanish flu," although it is thought that the first infections were in the United States and many countries had more victims than Spain.

I believe this is an example of the importance of information and knowledge. With our focus on ensuring the safety of our students, their families and our faculty, the Chiba Institute of Technology cancelled the 2020 degree awards ceremony and entrance ceremony. On March 22, of the graduation day, as a message for graduates, I told CIT students about a famous quote by Albert Camus from *La Peste*, which I read about forty years ago in my French class at university. The novel contains the following passage: "Le mal qui est dans le monde vient presque toujours de l'ignorance, et la bonne volonté peut faire autant de dégats que la méchanceté, si elle n'est pas éclairée," and I told students that I translated it as follows: "Evil in the world comes almost always from ignorance. Without knowing the true meaning of something, goodwill can do as much harm as evil." I used this to communicate the importance of knowledge and learning. On April 1, I sent my message to new students about the importance of acquiring a wealth of knowledge as well as the understanding and judgment for making sure it is correct, and having the ability to properly communicate it.

I believe the purpose of international exchange lies in humankind coming together regardless of country or region as well as individuals taking a global perspective to solve problems that are impossible for any country to solve on its own, such as environmental destruction, infectious disease and economic disparity. Through these challenges, we strive to build a sustainable, truly global society in which every individual on the planet can enjoy the benefits the Earth provides to us. To achieve such a society, it is essential above all else that people around the world know, understand and respect each other. In turn, students must be equipped with the necessary skills to make that happen. I believe that in trying times such as these, people must come to understand that cooperation is of more value than competition.

This worldwide crisis being experienced for the first time by humans in a global society and the changing times it has brought about are unfolding before our very eyes. I believe a time of major reform awaits after the world overcomes this challenge, which is one of those rare struggles in human history. No one knows what kind of era will emerge. When will the COVID-19 pandemic end? When will things get back to normal? What will happen to the economy? What will remain, and what will disappear? Each of us must think about and decide what actions he or she will take. Whether humankind is able to pioneer a new era depends a great deal on the younger generation. It is important right now to focus on what is truly necessary and make the most of us. That is, we must take actions that benefit the next generation!