University Education in the Era of Artificial Intelligence

Just over two years ago, I published an opinion article on my blog discussing the transformation of university education due to the accelerated process of digitalization brought about by the COVID-19 pandemic. At that time, I was referring to virtual instruction on digital platforms that had emerged as a response to quarantines and mobility restrictions imposed by the pandemic.

Two years after that article, we are now witnessing the rise of ChatGPT, an innovative artificial intelligence tool that is revolutionizing not only the way we learn but also the way we work everywhere. Furthermore, there is a legitimate concern about the impact of ChatGPT on the transformation or potential obsolescence of numerous professions.

Because universities bear the significant responsibility of preparing individuals for their future careers, the appearance of chatbots necessitates an urgent overhaul of the teaching-learning process. This calls for a shift towards practical learning that equips citizens with the essential skills required to navigate the new digital landscape effectively.

Until now, the education system has primarily focused on the memorization and analysis of information across various subjects, placing considerable emphasis on theory and limited emphasis on practical real-world application.

In this regard, the late Konosuke Matsushita, founder of Panasonic, criticized traditional university education for its excessive emphasis on theoretical and academic learning, as opposed to fostering practical skills and the entrepreneurial mindset essential for addressing real-world challenges. He believed this academic approach stifled graduates' creativity and problem-solving abilities.

Rather than solely valuing academic degrees, Matsushita advocated for an education that promoted practical learning and the acquisition of useful life and work skills. He believed that learning could take various forms, including hands-on experience in the workplace and self-directed learning.

Matsushita argued that direct engagement with the business world and industry was crucial for a comprehensive understanding of how things function and how to effectively tackle problems. He also underscored the importance of instilling ethical and moral values in education, with a focus on social responsibility and contributing to the greater welfare of society. He believed that education should produce not just competent professionals but also conscientious citizens committed to social progress.

In summary, Konosuke Matsushita contended that universities needed to evolve to provide a more balanced education, centered on developing practical skills, fostering creativity, problem-solving, and instilling ethical values. This approach aimed to prepare individuals not only for career success but also for a meaningful and contributory life within society.

Due to the prevailing traditional education system, most individuals lack the practical skills necessary for immediate job performance. Consequently, companies are compelled to invest time and human resources in training individuals in basic functions that ideally should be taught within educational institutions.

Not without reason, companies often offer lower salaries, arguing that university graduates lack experience. However, if a person possesses specific skills acquired during their university studies despite lacking experience, they can certainly negotiate better compensation.

Given the aforementioned, it is imperative that university educational programs align with the needs of society, preparing citizens for life rather than solely for an academic degree, as Matsushita pointed out. I cite as an example the class of my Criminal Procedural Law professor, who, during my second year of university, not only taught the theoretical principles of the course but also demonstrated the practical application of these principles to specific cases. Moreover, he provided us with fundamental tools for drafting legal pleadings using real-life examples.

This professor not only possessed mastery of theory but also had experience as a judge in a criminal court. Undoubtedly, the students in his class acquired crucial procedural skills that positioned them to successfully perform in law firms or courtrooms.

It is important to point out that universities fulfill two fundamental roles: 1) disseminating knowledge and 2) advancing knowledge. The former involves preparing the general population for tasks essential to societal functioning, while the latter aims to propel scientific research in diverse domains and resolve issues arising from social evolution and the natural environment.

In this context, universities must restructure their educational programs to disseminate practical knowledge concerning artificial intelligence, with the goal of instructing citizens in the foundational skills necessary for effective participation in the emerging digital economy. These competencies encompass acquiring digital literacy, proficient use of digital tools, and nurturing critical thinking.

Digital literacy pertains to familiarity with computer programs (software) and algorithms designed to perform specific tasks. Digital literacy should be introduced from primary school, in a similar way to the teaching of natural languages and mathematics. Universities must take the lead in imparting digital literacy from primary education through university education, enabling individuals to comprehend the behavior of autonomous machines and devices that are becoming increasingly prevalent.

Furthermore, technical skills for utilizing digital tools, such as designing and managing web pages and blogs, mastering communication platforms, and effectively employing applications for creating textual content, images, videos, audios, and three-dimensional spaces, need to be cultivated. These technical competencies enable students to efficiently learn the content of various academic disciplines and subsequently excel in their professional domains.

It is worth noting that many individuals graduate from universities without acquiring proficiency in three basic and foundational technical skills: Word, Excel, and PowerPoint. It is highly likely that while most are able to use the Word program (text), they may lack proficiency in Excel program (calculations) or PowerPoint program (presentations), or both. A well-designed university education should empower students to acquire and master fundamental technical skills, thus enhancing their readiness for the job market.

The third essential component that warrants comprehensive coverage across all university disciplines is critical thinking. This skill develops from a young age as individuals learn to navigate their surroundings. I had the privilege of growing up in a self-taught family where I witnessed my uncles engaging in discussions on politics, religion, history, philosophy, and other disciplines at my grandmother's house. This exposure to debates, coupled with my studies in logic and philosophy during high school, enabled me to cultivate rational thinking and comprehend the influence of emotions and sentiments that can sometimes cloud our reasoning and predispose us to biased judgments.

Critical thinking stands as a core differentiator between human intelligence and artificial intelligence. It is the capacity inherent in every human being to question the reality of their environment through logical reasoning, free from personal and cultural biases, and to contrast their ideas against objective evidence.

This skill is the culmination of humanity's collective experience, dating back to the ancient Greek philosophers such as Socrates, Plato, and Aristotle. It gained prominence during the transition from the Middle Ages to Modernity with philosophers like Francis Bacon (England), René Descartes (France), John Locke (England), and Immanuel Kant (Germany), and has been woven into the fabric of Western education from the 19th century to the present day.

However, paradoxically, critical thinking has been challenged by the rise of social media, where mediocrity and superficiality often dominate human interactions. This trend has the potential to intensify with the advent of AI-driven tools such as ChatGPT. We find ourselves in an era where, despite the wealth of information, people tend to engage in less critical thinking and often accept messages from social media without scrutinizing their merit or authenticity.

Given the prevalence of mediocrity and superficiality in the age of artificial intelligence, universities must dedicate themselves to deepening and expanding the teaching of logic and philosophy. These disciplines should regain prominence within high school curricula as well.

Logic and philosophy bestow upon individuals the intellectual insight necessary to understand the purpose and context of their lives, especially within the era of artificial intelligence. Moreover, these disciplines underscore that science does not hold the final say; instead, it represents another phase in the evolution of human thinking.

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Notes

I would like to express my gratitude to Mrs. Ayana Díaz Hatada for translating this article into Japanese.

My opinion articles are food for thought and are intended for family, friends, acquaintances, and ordinary citizens. The goal is to encourage reflection and stimulate discussion on current topics.