

Society 5.0 and the Future of Education

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Education is one of the foundational pillars of society. Technological innovation and human advancement are founded on learning and experimenting with new concepts. It is no wonder that the sector of education is particularly important to any society—from cavemen children learning how to hunt with a spear to the modern concepts of universities. Governments and institutions are constantly finding new ways to innovate in education, lest they be left behind by rival nations. In today's era of rapid technological advancements, education is yet again being revolutionized. In 2016, Japanese scientists and researchers coined the term "Society 5.0". It's defined as a developmental vision for society to increasingly integrate cyberspace and physical space. Furthermore, Japanese scientists also determined 5 stages of human development. It categorizes human society from the most primitive hunter-gatherers—Society 1.0—to the future of Society 5.0. At its core, it aims to push technology to its limits for the betterment of society. Sustainability, inclusivity, and a human-centered society are the foundation of Society 5.0. Technology applications at the forefront of Society 5.0 are AI, robotics, big data, next-gen manufacturing, and Cyber-Physical Systems (CPS). These technologies—applied to a wide variety of sectors in society such as healthcare, education, transportation, agriculture, and others—would fundamentally transform society completely. In the context of education, Society 5.0 envisions a learning environment that goes beyond traditional classrooms. It integrates digital technologies such as AI, virtual reality, and data-driven learning systems to create personalized education experiences. Students would learn through adaptive platforms that analyze their strengths and weaknesses, while educators would use data to design more effective teaching methods. Moreover, the goal is not only to make education more efficient, but also to foster creativity, critical thinking, and social values that align with a human-centered society. By combining technological advancement with inclusive and lifelong learning opportunities, education in Society 5.0 aims to empower individuals to adapt, innovate, and contribute meaningfully to a rapidly changing world.

At first glance, Society 5.0 seems to be a continuation of Industrial Revolution 4.0. This is untrue, however, as Societies and Industries are both distinct concepts of anthropological analysis. The Industrial Revolutions view human history purely from a technological viewpoint—starting from the 18th century and continuing to the present day. In comparison, Societies are a more holistic analysis of how human societies transform based on ways of living, social institutions, values, etc—starting from primitive hunter-gatherer societies to the advent of the merging of the digital and physical world. The scope of Industrial Revolution 4.0 is mainly in manufacturing and automation systems. It aims to increase efficiency and productivity of work—primarily driven by private manufacturers, tech companies, and engineering groups. This is in stark contrast with Society 5.0, which encompasses society as a whole with the integration of technology. It focuses on how technology may be used to solve both economic and social

issues. Society 5.0 is a national policy supported by cross-sector collaboration to push for a better society. While both concepts do oftentimes focus on the same technologies such as AI, robotics, big data, and more. They differentiate based on the goal and area of their application. Education is one of the key pillars in this transformation. Within the framework of Society 5.0, education is not just a sector to be digitized, but a foundation for developing adaptable, creative, and technologically literate citizens. Smart education systems powered by AI, big data, and online learning platforms can personalize the learning experience for each student, ensuring equal access to quality education regardless of background. Teachers would act as facilitators and mentors, guiding students to think critically and ethically in an increasingly digital world. This approach aligns perfectly with Society 5.0's human-centered philosophy—where technology enhances human potential rather than replacing it.

As stated before, the impacts of Society 5.0 are wide-ranging and cover all aspects of society. In the context of education, it has the potential to revolutionize the accessibility and capability of education. First, AI can tailor lessons to each student's personality, strengths, weaknesses, and pace. While—indeed—human teachers are able to do this, it takes a special mix of patience and education in children's psychology to execute it effectively and for every student. A specially trained AI is able to modify its teaching style, wording, and pace on a whim based on student needs. Second, digital learning tools and online platforms allow education to be accessible regardless of physical limitations or socio-economic backgrounds. Teachers will no longer be required to teach face-to-face. Instead, each material and schoolwork is able to be stored online, allowing students to access education regardless of condition. Third, students gain valuable future oriented-skills. As digital technology is being increasingly integrated into modern society, allowing students to have experience with said technologies at a young age is crucial. This promotes digital literacy, critical thinking, creativity, and problem solving skills. Fourth, teachers gain tools to increase the quality of classes. Analytics, virtual simulations, and interactive content allow teachers to engage students much more effectively compared to traditional teaching methods. While Society 5.0 can change education for the better, we must also grasp the costs that come along with it. First, massive investment in infrastructure is required to utilize the revolutions in education. Not all students have equal access to technology, internet connectivity, and digital devices. Without proper investment in easing access to these provisions, the gap between the have's and have not's will worsen. Second, excessive dependence on AI and digital tools may reduce human interaction significantly. This will cause the fall in social skills and emotional intelligence in students. Regardless of how digital the future will be, human interaction is still key. Third, the implementation of big data and AI in education requires the collection of large amounts of personal information from students. Without strong data security and encryption, breaches in databases can risk sensitive information falling into malignant hands. This is especially possible for schools that do not have the resources to invest in such protection measures. Fourth, many educators struggle to adapt to

technological change. Especially in older educators, continuous training to adapt to new technologies risk burnout and obsolescence.

The successful transition into Society 5.0 requires governments and the public to face unavoidable obstacles. In the context of education, these obstacles must be solved due to the importance of education in the development of the next generation. In essence, the solutions to these problems require wise implementation and avoiding excessive application of technology. Simply adopting AI and installing AI into every aspect of the education system is not the right solution. First a foundation must be built into students to ensure the smart use of technology. Digital literacy, social skills, and critical thinking must come before the use of AI—essential life skills must come before digital tools. Education must still be human-centered—as that is one of the central themes of Society 5.0. Not only is the intelligent use of technology, but the required effort must be ensured. Society 5.0 cannot thrive without the capital, investment, and infrastructure needed to run it. Government corruption and public uninvolvedness cannot be allowed. Everyone from the public and private sectors must collaborate in creating a world that is sustainable, inclusive, and human-centered.

From studying both the Industrial Revolution 4.0 and Society 5.0, several key lessons emerge about the relationship between technological progress and humanity's development. The Industrial Revolution 4.0 teaches us that while innovation can drive massive leaps in productivity and efficiency, it also brings disruption—demanding new skills, social adjustments, and ethical considerations. The focus on automation and industrial efficiency must always be balanced with human welfare, inclusivity, and sustainability. Society 5.0 builds upon this understanding by reorienting technology from being purely an economic tool into becoming a social instrument for the betterment of humanity. It envisions a future where technology is integrated into every part of life—not to replace humans, but to empower them. In the context of education, both eras emphasize the need to adapt learning systems to new realities. The Industrial Revolution 4.0 revealed how education must evolve to prepare workers for changing industries, while Society 5.0 shows that education must also nurture empathy, creativity, and ethical awareness alongside digital skills. The ultimate lesson is that technological progress should never outpace human progress. True advancement comes when innovation serves humanity's broader goals—creating a society that is not only intelligent and connected, but also compassionate, inclusive, and sustainable.

Sources

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