

Chapter 7

Education 5.0 Serving Future Skills for Industry 5.0 Era

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ABSTRACT

This chapter addresses the relationship between Industry 5.0 and Education 5.0, outlines the future skills required for Industry 5.0, and illustrates how these two sectors interact with the Sustainable Development Goals (SDG) for modernizing Society 5.0. It places a strong emphasis on high-quality education and uses tailored learning to help employees and companies optimize for Industry 5.0. Additionally, it discusses the OECD Learning Compass 2030 and Future of Education and Skills 2030 reports, as well as the International Organization for Standardization (ISO) 21001:2018-ISO standard utilized for future educational management. The chapter emphasizes the need to improve the educational system while presenting various options for adopting personalized education.

INTRODUCTION

Various disciplines are being explored by Industry 5.0 (I 5.0), including artificial intelligence-related areas and educational and social studies. Utilizing new technology in planning and designing highly customized and personalized education programs is the main goal of I 5.0 in education. This chapter will look at opportunities for Industry 5.0 tools in education. The chapter will examine topics from different educational

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and academic needs to reach that goal. It will start with humanizing the education needs, explaining the meaning of Society 4.0, presenting the educational skills needed for the Industry 5.0 era, and showcasing the standards by the International Organization for Standardization adapted to Education 5.0 explaining the strategic alignment between SDG (Sustainable Development Goals) and Education 5.0. The chapter will also, discuss the importance of personalized education design as a major concept in Industry 5.0.

In all aspects of our lives, including our educational journey, Industry 4.0 leads to more automation, sophisticated Robots, IoT solutions, and Artificial Intelligence (AI) solutions as we move forward. The question that arises is whether we are losing the human touch. This brings forward the I 5.0 concept. Societies that developed from Society 1.0 evolved on hunting to Society 2.0, dependent on agriculture and advanced to Society 3.0, dependent on the industry that grew from Industry 1.0, based on mechanization using steam, water, and fossil fuels (Cabinet Office, 2023). Industry 2.0 was about the mass production approach of electricity. Industry 3.0 was about automation and information technology, which evolved into Industry 4.0. Cyber-physical systems and technologies such as AI, IoT, machine learning and big data analytics emerged as the Industry 5.0 revolution focusing on human, personal design for massive customized productions and co-robot collaboration (Saxena et al., 2020). In the Industry 5.0 era, the focus is shifting from digitization to personalization. In parallel, the educational systems evolved from Education 1.0, which used to be normal classroom teaching using basic methodologies, moving to Education 2.0, which involved research contributions as an added component in teaching. After that, the educational systems emphasized community engagement by adding community services in its systems design. Success in Industrial 4.0 technology made innovation a key skill in Education 4.0. Then finally, Education 5.0 educational systems concern massive personalization leading to massive industrialization (Saxena et al., 2020). Everything is smart in this society, so it needs a smart educational approach. Education 5.0 in the Industry 5.0 era aims to have personalized human aspects considered in educational program design, development, delivery, and effectiveness measurement.

In 2016 according to Lynch (2018), the book *Humanizing the Education Machine* concerned how education machines can be humanized. This book was about instructional models that focussed on learning intrinsic humanized values. These models promoted design thinking by improving classroom teaching and having models centered on the student, giving an example of a school rated above the state average. According to Lynch (2018), schools adopted science, technology, engineering, and mathematics (STEM) classrooms, which improved communication, collaboration, creative thinking, and critical thinking. In addition, the classrooms were designed with six tables with flat screen monitors used by small groups of students.

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