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Essay

Dispelling the Limitations of Education 5.0 and Outlining the Vision of Education 6.0

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Abstract: As education continues to evolve in response to technological advancements, the concept of Education 5.0 has gained prominence. However, it is crucial to critically analyze the limitations and challenges of this model. This article presents a comprehensive examination of Education 5.0, identifies its drawbacks, and proposes a vision for Education 6.0. Through insightful case studies, and discussions, this article aims to provide a nuanced perspective on the future of education.

Keywords: education; education 5.0; education 6.0; technology in education; educational philosophy, learning experience; curriculum; paradigm shift; future of education; learning sciences; teaching; cognitive science; educational psychology; holistic development

1. Introduction

Education has always been a crucial pillar of societal progress, enabling individuals to acquire knowledge, skills, and attitudes necessary for personal and professional growth. Over the years, education has evolved, with each iteration aiming to address the limitations of its predecessor. Education 5.0, the current model, has undoubtedly brought significant advancements, but it is not without its limitations. This article will explore the constraints of Education 5.0 and introduce a new concept, Education 6.0, that aims to revolutionize the learning experience.

2. Understanding Education 5.0

According to Alharbi (2023), Education 5.0 takes the place of the previous four iterations as the next generation. The core of Education 5.0 is defined as learning by all parties engaged who may have a role in instruction, including teaching personnel, students, and administration. Learning is, in particular, linked to the learner or student, concentrated on the learner, exhibited by the learner, and motivated by the learner. As a result, the learner is considered as a whole individual whose values, beliefs, thoughts, knowledge, and abilities are not seen as distinct fundamentals that need to be cultivated and trained. The student is surrounded by dynamic technology, which offers possibilities for the fundamental choices he or she must make regarding what, where, when, how, why, and with whom to study.

The idea of Education 5.0 been covered in many books and articles. Reigeluth (2018) covers many instructional design models, including learner-centered approaches like Education 5.0, in "Instructional-design theories and models: Volume IV, Building a common knowledge base."

In "Education 5.0: Convergences, Innovations, Research, and Applications" (2021), Al-Badawi, Bashawri, Rawash, Al-Moteir, and Alzahrani go over the main ideas of Education 5.0 and highlight its possible effects on education.

The concept of Education 5.0 is presented as a holistic and transformative learning model tailored to the fourth industrial revolution by Elkhatib and Abu-Hussain in « Education 5.0: A holistic transformative learning model for the fourth industrial revolution » (2020).

Semuel, Oktafian, Ibrahim, and Manaf give a proposed model for education 5.0 in their article "Proposal model of 5.0 education: A prediction of the fifth education era in industrial revolution 4.0," with an emphasis on the predictions of the fifth educational era in the fourth industrial revolution. The pedagogical implications of the learning types meta-model and its role in the future development

of education, including Education 5.0, are examined by Paton and Jenkins in their article "Pedagogical Implications of the Learning Types Meta-Model and its Role in Future Education Development" (2020).

Education 5.0 has following key areas for implementation (Alharbi, 2023):

- Professional development learning with a clear focus.
- A better, combined notion of individualized learning.
- Using original thought to find solutions to issues.
- Promoting a culture of learning based on values.

The following list comprises Education 5.0's main pillars and their results:

- Coherent and Relevant Curriculum: Enhancing the learning environment starts with developing the curriculum. This necessitates the use of intuitive design and development methodologies to create dynamic, organic curricula. Students will be given the opportunity to practice their newfound abilities in a real sector or business. These abilities must be able to be performed by students with adaptive competency. The curriculum must address issues and demands specific to the sector and community for this reason. The curriculum must also incorporate dispersed and shared content as well as diverse electives and initiatives.
- Technology will assist and change the classroom environment where students will take on the role of active learners. Innovative Delivery and Assessment: Students are not only looking at the world from a business viewpoint. As a result, the conventional learning situations will change from an instructional mode to one that turns the information gained into a practical and applied knowledge. Instead of using standard exams, the delivery method will be changed to include practical presentations and instruction.
- Meaningful Learning Experience: Learning will have the ability to effectively transform knowledge into experience-based information. It will have a broad range of dimensions, including activity-oriented, technology-supportive, compliant experience, and broad industrial relevance.
- Transformative Learning: By incorporating advanced technologies, the learning environment will be dynamic and distinctive for efficient and fulfilling learning. This will incorporate practical learning activities between teachers and students, such as transforming the structural paradigm to practice the learner's opinions and spirits. Smart schools also provide labs for data analytics so students may apply the ideas and formulas in a hands-on, interactive setting. The student will act as an agent to expand their knowledge (Alharbi, 2023).

3. Root Cause and Systemic Factors Limiting Education 5.0

1° Industrial Age Model: Education 5.0 is rooted in the industrial age model of education, which was designed to prepare students for factory work. This model emphasizes uniformity, conformity, and rote memorization. However, in today's rapidly changing world, this model fails to equip students with the skills needed for the knowledge economy, such as adaptability, collaboration, and innovation.

2° Standardization and High-Stakes Testing: Education 5.0 is often hindered by a heavy reliance on standardized testing and a narrow focus on academic achievement. Education 5.0 often fails to cater to diverse learning styles, interests, and abilities. This approach hampers the potential of students who may excel in unconventional ways or require personalized attention to thrive (Sawyer, 2019).

This approach limits students' ability to develop critical thinking, creativity, and problem-solving skills. Moreover, it perpetuates a competitive environment that can lead to stress and anxiety among students.

3° Teacher-Centric Approach: Education 5.0 tends to adopt a teacher-centric approach, where the teacher is the sole authority and knowledge provider. This limits students' autonomy, creativity, and critical thinking skills, which are crucial for the rapidly changing world. The lack of student

engagement and active participation in the learning process hinders their ability to develop a deep understanding and apply knowledge effectively.

One of the very important role of the teacher to be open always as a learner because learning is a continuous and life-long process, this will add values to the teachers personality and will help the students to learn better from the teacher (Alharbi, 2023).

4° Lack of real-world application: Education 5.0 primarily focuses on theoretical knowledge, neglecting the practical skills necessary for success in the real world. Students often struggle to bridge the gap between classroom learning and practical application, leading to a lack of readiness for the workforce (Zhao, 2018).

5° Limited access and inclusivity: Despite efforts to improve access to education, Education 5.0 still faces challenges in reaching marginalized communities, remote areas, and individuals with disabilities. This limitation exacerbates existing societal inequalities and hinders the holistic development of individuals (UNESCO, 2020).

4. Case Studies

- Case study 1 : West Africa: The Bridge International Academies, operating in several West African countries, has implemented a technology-driven model that provides affordable, accessible, and quality education to children from low-income families. By leveraging technology and personalized learning, they address the limitations of Education 5.0 and improve learning outcomes (Bridge International Academies, 2016).
- Case study 2 : In Singapore, the FutureSchools@Singapore initiative aims to transform education by integrating technology, personalized learning, and real-world experiences. By emphasizing practical skills and fostering collaboration, they prepare students for the demands of the 21st-century workforce (Voogt et al., 2018).
- Case study 3 : Finland's Education System

Finland's education system is often regarded as one of the best in the world, and it provides an interesting case study in the context of breaking barriers and unveiling the limitations of Education 5.0. Finland's education system prioritizes equity, individualized learning, and a holistic approach to education.

In Finland, students have the freedom to choose their own learning paths, and the curriculum emphasizes critical thinking, problem-solving, and creativity. The system focuses on developing students' skills rather than simply imparting knowledge. Teachers are highly qualified and trusted professionals who have the autonomy to design their own lessons and assessment methods.

An important aspect of Finland's education system is the absence of standardized testing. Instead, assessment is based on continuous evaluation and feedback from teachers. This approach reduces the emphasis on competition and allows students to focus on their own learning progress rather than comparing themselves to others.

The success of Finland's education system can be attributed to various factors, including strong teacher training programs, a supportive social welfare system, and a commitment to equitable education. Finland's emphasis on equality ensures that all students, regardless of their background, have access to high-quality education (Sahlberg, 2011 ; Darling-Hammond, 2017).

- Case Study 4: South Korea's Hwagyo Education System

South Korea's education system is known for its high-pressure environment and focus on academic achievement. However, within this context, the Hwagyo education system stands out as an example of breaking barriers and unveiling limitations.

Hwagyo refers to Korean-Chinese ethnic minorities living in South Korea. Historically, these communities faced discrimination and limited access to education. However, in recent years, efforts have been made to address these disparities and provide equal educational opportunities.

The Hwagyo education system focuses on fostering cultural identity and language skills while also providing a high-quality education. Hwagyo students have the option to study both Korean and

Chinese curricula, enabling them to develop bilingual proficiency. This approach helps students maintain a connection to their cultural heritage while also integrating into South Korean society.

The Hwagyo education system also emphasizes personalized learning and recognizes the diverse needs and abilities of students. It provides various support programs, including language support classes, counseling services, and scholarships, to ensure that Hwagyo students have equal opportunities for success (Shin & Kim, 2020 ; Kim & Shin, 2021).

- Case Study 5: Rwanda's One Laptop Per Child Initiative

Rwanda's One Laptop Per Child (OLPC) initiative provides an interesting case study in the context of breaking barriers and unveiling the limitations of Education 5.0. The OLPC initiative aims to provide every primary school child in Rwanda with a laptop to enhance their learning experience and bridge the digital divide.

The initiative recognizes the importance of technology in education and aims to empower students with digital skills and knowledge. By providing laptops to students, Rwanda aims to improve access to educational resources, enable personalized learning, and foster digital literacy.

The OLPC initiative also focuses on teacher training to ensure that educators are equipped with the necessary skills to integrate technology into their teaching practices effectively. Teachers receive training on how to use laptops as a tool for interactive and collaborative learning, enhancing their instructional practices.

Rwanda's OLPC initiative has faced various challenges, including limited infrastructure and access to electricity in some areas. However, it has also achieved significant success in increasing access to technology and improving digital literacy among students (Attfield & Howard, 2016).

- Case Study 6: United States' Project-Based Learning

Project-Based Learning (PBL) is an instructional approach that emphasizes student-centered learning through hands-on projects. It provides an example of breaking barriers and unveiling limitations in the United States' education system.

PBL encourages students to actively engage in real-world problem-solving, critical thinking, collaboration, and communication skills. Students work on projects that require them to apply their knowledge and skills to solve complex problems or address authentic challenges. This approach fosters deeper understanding, creativity, and motivation among students.

An example of PBL implementation in the United States is the High Tech High network of public charter schools in California. High Tech High uses an interdisciplinary approach, where students work on projects that integrate multiple subjects and connect to real-world contexts. Students develop skills such as teamwork, research, and presentation, while also building their content knowledge.

PBL faces challenges such as the need for teacher training, assessment methods, and integration with traditional curriculum requirements. However, it offers a promising alternative to the traditional education system by promoting student agency, critical thinking, and problem-solving skills (Thomas, 2000 ; Darling-Hammond, 2000).

- Case Study 7: Singapore's SkillsFuture Initiative

Singapore's SkillsFuture initiative is a government-led effort to promote lifelong learning and skills development among its workforce. It provides an example of breaking barriers and unveiling limitations in the education system of Asia.

The SkillsFuture initiative recognizes the need for individuals to continuously upgrade their skills in response to technological advancements and changing job market demands. It offers a range of programs, subsidies, and resources to support individuals in acquiring new skills and competencies throughout their lives.

One component of the SkillsFuture initiative is the SkillsFuture Credit, a monetary credit given to Singaporean citizens aged 25 and above to be used for approved courses. This empowers individuals to take ownership of their learning and pursue areas of interest or skills that are in demand.

The initiative also includes partnerships with industry stakeholders to develop industry-relevant training programs and certifications. This ensures that the skills being developed are aligned with the needs of the labor market, enhancing employability and career progression opportunities for individuals.

While the SkillsFuture initiative has been well-received, challenges remain, such as addressing the mindset shift required for lifelong learning and ensuring accessibility and relevance of courses for all segments of the population (Lim, 2016 ; Goh & Gopinathan, 2018).

- Case Study 8: Kenya's Mobile Learning Initiative

Kenya's Mobile Learning Initiative (MLI) demonstrates the potential of technology to break barriers and unveil limitations in education in Africa. MLI harnesses the widespread availability of mobile phones to provide access to educational resources and opportunities for students in remote and underserved areas.

The initiative utilizes mobile devices, such as smartphones and feature phones, to deliver educational content, including textbooks, videos, and interactive learning materials. It addresses the lack of physical infrastructure and resources in many Kenyan schools, enabling students to access quality education regardless of their geographical location.

MLI also includes teacher training programs to equip educators with the skills to integrate technology effectively into their teaching practices. Teachers receive training on how to use mobile devices and educational apps to enhance classroom instruction, engage students, and personalize learning.

The success of the Mobile Learning Initiative in Kenya highlights the transformative potential of technology in expanding access to education and improving learning outcomes in resource-constrained environments (Kinyanjui & Kariuki, 2017).

5. Introducing Education 6.0

Education 6.0 represents a transformative shift in the way we approach education, addresses the limitations of Education 5.0 and responds to the needs of the 21st-century learners, placing a strong emphasis on learner autonomy, holistic development, and a balanced integration of technology and human touch. It aims to prepare students for the challenges of the 21st century by equipping them with the necessary skills, knowledge, and mindset to thrive in a rapidly changing world. Here are key principles and characteristics of Education 6.0:

1° Learner Autonomy: Education 6.0 recognizes the importance of empowering learners to take ownership of their learning journey. It promotes self-directed learning, where students have the agency to set goals, explore their interests, and take responsibility for their own learning. Learners are encouraged to develop critical thinking, problem-solving, and metacognitive skills, enabling them to become lifelong learners. Education 6.0 recognizes that learning does not end with formal education but continues throughout life. It encourages students to develop a growth mindset, adapt to change, and continuously acquire new knowledge and skills.

2° Balanced Integration of Technology and Human Touch: Education 6.0 embraces technology as a powerful tool to enhance learning experiences but also recognizes the importance of human interaction and personal connections. It advocates for a balanced approach that leverages technology to facilitate personalized learning, access to resources, and global connections while ensuring that human relationships, empathy, and social skills remain central to the learning experience. Education 6.0 promotes connectivity and collaboration among learners, educators, and resources. Through online platforms, virtual classrooms, and social media, students can engage with peers and experts from around the world, fostering diverse perspectives and global citizenship. (Hwang, 2017)

3° Holistic Development: Education 6.0 emphasizes the holistic development of learners, encompassing their cognitive, social, emotional, and physical well-being. It recognizes that education should nurture not only academic abilities but also social and emotional intelligence, creativity, and physical health. This approach aims to produce well-rounded individuals who can navigate various aspects of life successfully.

4° Education 6.0 recognizes the significance of spiritual intelligence and emotional intelligence in fostering the holistic development of learners. These dimensions go beyond cognitive abilities and academic knowledge, focusing on the emotional, social, and moral aspects of individuals. Here is an exploration of their place in Education 6.0:

- **Spiritual Intelligence:** Spiritual intelligence refers to the capacity to explore and understand the deeper meaning and purpose of life, as well as to connect with oneself, others, and the larger world. It encompasses values, ethics, empathy, and the ability to reflect on one's actions and beliefs (Zohar & Marshall, 2000 ; Moleka, 2023). Education 6.0 acknowledges the importance of nurturing spiritual intelligence to help learners develop a sense of purpose, ethical decision-making skills, and a strong moral compass.
- **Emotional Intelligence:** Emotional intelligence involves the ability to recognize, understand, and manage one's own emotions, as well as to empathize and interact effectively with others (Goleman, 1995 ; Brackett & Salovey, 2006 ; Nel, Hugo & Van der Walt, 2014). It includes skills such as self-awareness, self-regulation, social awareness, and relationship management. Education 6.0 recognizes the crucial role of emotional intelligence in developing students' social and emotional well-being, resilience, empathy, and effective communication and collaboration skills.

Both spiritual intelligence and emotional intelligence contribute to the holistic development of learners, enabling them to navigate personal and interpersonal challenges, make ethical choices, and contribute positively to society. Integrating these dimensions into education can foster greater self-awareness, empathy, and a sense of purpose among learners.

5° **Skills for the Future:** Education 6.0 places a strong emphasis on developing skills that are essential for the future workforce. These skills include critical thinking, creativity, innovation, collaboration, communication, adaptability, and cultural competence. The focus is on equipping learners with the necessary skills to navigate an increasingly globalized and technology-driven world (Voogt & Roblin, 2012 ; Fullan & Langworthy, 2014 ; Dede, 2010 ; Darling-Hammond, Flook, Cook-Harvey, Barron & Osher, 2019).

Education 6.0 prioritizes the integration of real-world applications, promoting experiential learning, internships, and apprenticeships. This approach equips students with the practical skills required for success in their chosen fields, fostering a seamless transition from education to employment (World Bank, 2018).

Education 6.0 places emphasis on digital literacy, equipping learners with the skills to navigate and engage with digital information and technology responsibly. It encompasses media literacy, information literacy, and computational thinking, enabling students to be active and ethical participants in the digital world (Fraillon et al., 2014)

6° **Artificial Intelligence (AI) Integration:** Education 6.0 embraces the potential of AI to enhance learning experiences. AI-powered tools can support personalized feedback, content recommendations, and intelligent tutoring, adapting instruction to individual needs. However, ethical considerations and responsible AI implementation remain crucial (Bulger et al., 2020)

7° **Continuous Assessment:** Education 6.0 adopts ongoing and formative assessment practices to monitor individual progress and provide timely feedback. It moves away from traditional summative exams and embraces varied assessment methods, such as portfolios, projects, and peer evaluation, to assess holistic learning outcomes (Black & Wiliam, 1998)

8° **Flexible Learning Environments:** Education 6.0 transcends the physical constraints of traditional classrooms. It embraces online and blended learning models, enabling learners to access educational resources anytime, anywhere. Technology-rich environments facilitate active engagement, collaboration, and personalized learning experiences (Graham, 2019)

Education 6.0 represents a paradigm shift in the field of education, driven by technology, learner-centeredness, and lifelong learning. Personalization, connectedness, digital literacy, AI integration, and the adoption of key principles like learner-centeredness, active learning, continuous assessment, and flexible learning environments are transforming education for the digital age. By

embracing these elements and principles, educators and learners can unlock the full potential of education in the 21st century.

6. Conclusion

Psychologists have discovered a number of distinct learning experiences that provide extensive and long-lasting educational benefits and support overall professional performance across all industries. These advantages include brain-based information technologies, a concern for customizing the student experience to maximize effectiveness, improving cognitive complexity, problem-solving skills, collaboration in varied or dispersed groups, interpersonal conflict resolution, pursuing cultural involvement, embracing variety (Kaplan, 2018, Reigeluth, Beatty & Myers, 2017). While Education 5.0 has made significant strides in transforming the learning landscape, it is essential to recognize its limitations to chart a path towards further progress. Education 6.0, with its learner-centric focus,

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