REDESIGNING EDUCATION

21st-CENTURY SKILLS

ISTANBUL EDUCATION CONFERENCE

İLKE
Foundation for science, culture and education

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RESEARCH CENTER FOR EDUCATION POLICY

BOĞAZİÇİ ÜNİVERSİTESİ 1863
Eğitim Fakültesi
Faculty of Education

REDESIGNING EDUCATION:
21st-CENTURY SKILLS

PARTICIPANTS 281

SCHOOL ADMINISTRTORS 38

EDUCATORS 86

STUDENTS 62

ACADEMICIANS 40

NGOS 9

OTHERS 46

PROGRAM

	Boğaziçi University, Albert Long Hall
	**September 28, 2024, Saturday	1:00 PM – 6:00 PM**
	Opening and Welcome Speeches

Atty. Ahmet Sait Öner, *Chairman of the Board, İLKE Foundation*

Prof. İrfan Erdoğan, *Dean of the Faculty of Education, Boğaziçi University*

Prof. Cihad Demirli, *President of the Board of Education, MoNE*

Ömer Faruk Yelkenci, *Deputy Minister of National Education*

SESSION I: SKILLS-BASED EDUCATION AND GLOBAL EXAMPLES (2:05 PM – 3:05 PM)

Transforming Education for All through Life Skills: A Humanistic Approach

Bassem Nasir *(UNICEF | Education Specialist)*

Different Models of Skills-Based Learning: Examples from the World

Andreas Schleicher *(OECD | Director for Education and Skills)*

SESSION II: THE TRANSFORMATIVE IMPACT OF 21st-CENTURY SKILLS ON EDUCATION (3:20 PM – 4:20 PM)

The Transformative Impact of 21st-Century Skills on Learning Domains and Assessment Processes
Prof. Mustafa Öztürk *(Boğaziçi University | Member of Faculty of Education)*

Rethinking the Relationship Between Education and Employment Within the Framework of the Higher Education Qualifications Framework and 21st-Century Skills
Prof. Orhan Uzun *(Bartın University | Rector, Founding President of the Higher Education Quality Council)*

SESSION III: SKILLS-BASED EDUCATION AND THE CENTURY OF TÜRKİYE EDUCATION MODEL (4:50 PM – 5:50 PM)

The Structure of Skills-Based Curricula According to the Century of Türkiye Education Model-
Prof. Mehmet Taşpınar *(Ministry of National Education | Member of the Board of Education)*

The 21st-Century Skills-Focused Educational Approach and Its Reflection on the Century of Türkiye Education Model: A Critical Perspective
Prof. İbrahim Aşlamacı *(İnönü University | Member of Faculty of Theology)*

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RESEARCH CENTER FOR EDUCATION POLICY

The Research Center for Education Policy (EPAM) undertakes the core mission of observing, understanding, interpreting, explaining, and developing policies for the future of Türkiye in the field of education with a sense of social responsibility.

EPAM focuses on gathering, interpreting, and energizing Türkiye's experience, knowledge, and opportunities in the field of education without sacrificing these to artificial debates and agendas in order to produce solutions to the problems of today and the future. The ultimate goal is to strengthen the educational field in Türkiye by promoting equal opportunities and fairness in education.

EPAM continues its efforts for monitoring and analyzing transformations in Türkiye's education sector and for developing concrete, actionable policies for the future of Türkiye. EPAM uses its annual Education Monitoring Reports, policy notes, analysis reports, and opinion pieces for guiding education policies. Additionally, EPAM aims to enhance field expertise and strengthen collaboration among stakeholders through field research, educational programs, workshops, and conferences. The aim of these activities is to contribute to a more inclusive, effective, and innovative education system in Türkiye.

■ ISTANBUL ■ EDUCATION ■ CONFERENCE ■

The İstanbul Education Conference (IEC) is an annual event dedicated to fostering innovation and collaboration in the field of education. By bringing together educators, researchers, policy makers, and industry professionals, IEC serves as a platform for focused discussions, inspiring presentations, and networking opportunities.

IEC aims to address the challenges and explore the opportunities of the ever-evolving education landscape with a commitment to promoting excellence in education. Participants from Türkiye come together at this prestigious conference to exchange ideas, share best practices, and engage in meaningful dialogues on a wide range of topics such as curriculum development, pedagogical approaches, educational technology, and inclusive education.

Fostering an inclusive and dynamic environment, IEC empowers participants to shape the future of education, drive innovation, and transform the way we teach and learn.

The 4th İstanbul Education Conference was held on September 28, 2024, at Boğaziçi University's Albert Long Hall in collaboration with the İLKE Foundation's Research Center for Education Policy and the Boğaziçi University Faculty of Education. The conference was organized to examine 21st-century skills as one of the most critical contemporary topics in education, to discuss the scope of skills-based education, and to evaluate the transformation of educational curricula. The event aimed to deeply analyze curriculum reforms by focusing on skills-based education models globally, with a particular emphasis on Türkiye.

A Tradition:
A Quick Overview of the
İstanbul Education Conference

1st İstanbul Education Conference

Skill Acquisition in the Digital Age

The first conference brought together leading stakeholders in Türkiye's education sector to discuss emerging new skills in the digital age and how to integrate them into education.

https://iek.ilke.org.tr/i-istanbul-egitim-konferansi

2nd İstanbul Education Conference

Mass Education: The Search for a Way Out

Dr. Saeeda Shah from Leicester University served as the keynote speaker at the second conference, in which prominent figures from Türkiye's leading universities and civil society organizations discussed the future of mass education in Türkiye and around the world.

https://iek.ilke.org.tr/ii-istanbul-egitim-konferansi

October 10, 2023

3rd İstanbul Education Conference

New Horizons in Vocational and Technical Education

The third conference addressed the significance of vocational and technical education, its current status in Türkiye and around the world, and pressing contemporary issues. The event aimed to bring together educational stakeholders and sector representatives to delve deeply into the latest debates on vocational and technical education.

https://iek.ilke.org.tr/III-istanbul-egitim-konferansi-

September 28, 2024

4th İstanbul Education Conference

Redesigning Education: 21st-Century Skills

The fourth conference provided a critical platform for a comprehensive discussion on the effects of transformation in education, with a focus on skills-based education models in Türkiye and around the world. The event evaluated the theoretical foundations of skills-based education, its reflections on learning and assessment processes, and its integration into educational curricula within the framework of the Century of Türkiye Education Model.

https://iek.ilke.org.tr/IV-istanbul-egitim-konferansi-

4ᵗʰ İstanbul Education Conference

21st-Century Skills and the Transformation of Education in Türkiye

Zeynep Yalçıntaş

İLKE Foundation | Researcher

21st-century skills are competencies shaped by factors such as globalization, digitalization, and the rapid development of information and communication technologies (ICT) and tailored to meet the needs and demands of our era. These competencies include critical thinking, problem-solving, digital literacy, collaboration, communication, creative thinking, ethical decision-making, relationship management, and leadership and are essential for individuals to participate effectively and productively in various aspects of life (Figure 1). These skills first came to prominence with the development of the post-industrial knowledge economy and the rise of digitalization, highlighting the necessity for individuals not only to possess knowledge but also to be able to apply it functionally (UNICEF, 2019).

The rapid changes in society, the economy, and various aspects of life have necessitated individuals to acquire different skills in the 21st century, prompting a profound transformation in education as well (Voogt & Roblin, 2012). According to PISA evaluations from the perspective of Türkiye, students in the country have made progress accessing knowledge, particularly in science and mathematics. Compared to other countries, however, they struggle with using analytical and critical thinking to make this knowledge functional. Additionally, while students in

Türkiye demonstrate strong entrepreneurial potential, they rank low in social-emotional skills and psychological well-being, similar to countries such as Japan and the United Kingdom. In contrast to Türkiye, however, these two countries have achieved academic success well above the OECD average. Meanwhile, Denmark has exemplified the possibility of developing a balance of both academic success and social-emotional skills (OECD, 2023). Consequently, Türkiye needs to complement its progress accessing knowledge with more comprehensive and strategic approaches that support analytical thinking and social-emotional skills. Effective and balanced development in these two key areas (academic and social-emotional growth) depends on having diverse, holistic priorities in education policies.

Unlike the classical educational approaches of the 20th century, today's emphasis is on individuals' ability to access and analyze information, produce creative solutions to problems, and adapt to constantly changing conditions. Digital literacy, critical thinking, and social skills have become core objectives of modern education systems, with their acquisition recognized as a form of development independent of academic achievement. For instance, a comprehensive study conducted in 2006 (Casner-Lotto & Barrington; see Trilling & Fadel, 2009)
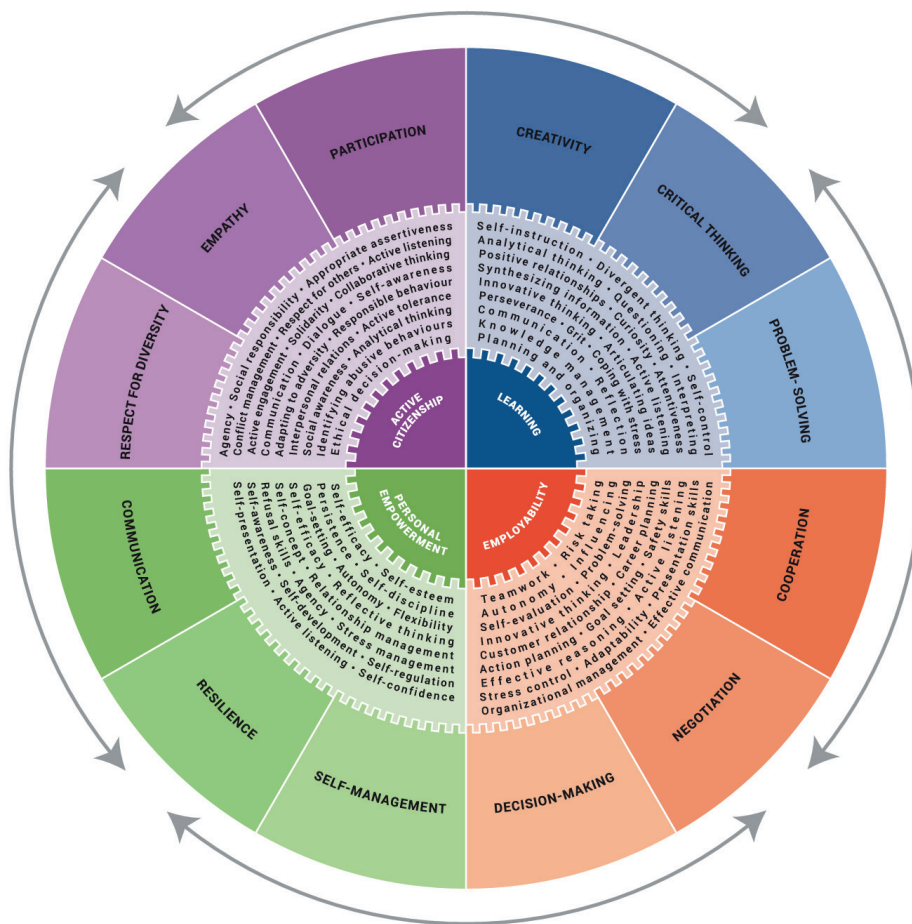
Figure 1. Global Conceptual Framework of Life Skills

Source: UNICEF, 2019

highlighted the importance of equipping students not only with traditional academic knowledge but also with a range of essential 21st-century skills. These include communication, critical thinking, problem-solving, professionalism and work ethics, teamwork and collaboration, technology application, leadership, and project management—skills crucial for navigating the complex challenges of the workplace and daily life. That study concluded that deficiencies in these skills result in significant costs and broader negative consequences.

Meanwhile, evaluating 21st-century skills solely based on the needs of the business world would be an inadequate approach. Framing an evaluation of these skills primarily in terms of individual success and contri-

butions to the workforce risks overlooking social and human values. While economic prosperity and advancements are undeniably critical for a country's development, individuals' multifaceted growth should be approached comprehensively. Assessing 21st-century skills with this broader outlook —one that prioritizes societal progress— is essential for fostering harmony and well-being within communities and cultivating healthier individuals and generations in spiritual, emotional, and cultural dimensions.

The role of these skills in education has led to the restructuring of education systems worldwide. Curricula centered around 21st-century skills aim not only to equip students with knowledge but also to develop them as individuals who embrace social,

> *Meanwhile, evaluating 21st-century skills solely based on the needs of the business world would be an inadequate approach. Framing an evaluation of these skills primarily in terms of individual success and contributions to the workforce risks overlooking social and human values.*

emotional, and environmental responsibilities. As part of this global transformation, Türkiye has also begun revising its education system with the goal of nurturing individuals who are not only knowledgeable and skilled but also socially conscious citizens. In this context, the Ministry of National Education (MoNE), in collaboration with international organizations such as UNICEF, initiated the "K12 Skills Framework: Türkiye Education Model" in 2022, which forms the foundation of the Century of Türkiye Education Model (MoNE, 2022).

As a tangible outcome of these efforts, the Century of Türkiye Education Model (*Türkiye Yüzyılı Maarif Modeli*), implemented in 2024, aims to integrate societal values with 21st-century skills, fostering individuals who are not only economic contributors but also equipped to assume social and cultural responsibilities (MoNE, 2024). This model emphasizes that 21st-century skills must go beyond individual success and be intertwined with such values as solidarity, social welfare, and ethical responsibility. Consequently, the program places a strong focus on raising virtuous and competent individuals.

In essence, the Century of Türkiye Education Model represents an educational vision developed with Türkiye's unique social, cultural, and economic needs in mind. While rooted in Türkiye's distinctive values, the model also seeks to develop an educational approach that aligns with global advancements and demands. It aims to equip students not only with critical thinking, social-emotional development, and creative problem-solving skills but also with a strong foundation in national and spiritual values. Beyond acquiring knowledge, the model aspires to prepare students to contribute to society, act with environmental consciousness, and embody ethical responsibility as individuals (MoNE, 2024).

The core components of the Century of Türkiye Education Model include the Virtue-Value-Action Framework, which emphasizes equipping individuals with moral values while acquiring knowledge, thus fostering an ethical sense of responsibility and encouraging them to apply of what they've learned for the benefit of society. Another significant feature of this model is its focus on not only academic success but also on fostering social-emotional development in a supportive educational environment (Figure 2). By harmonizing values with knowledge, the Century of Türkiye Education Model seeks to raise individuals who are deeply integrated into their communities. Emphasizing the importance of values in education is expected to nurture individuals who can thrive as active citizens both on a national and global scale.
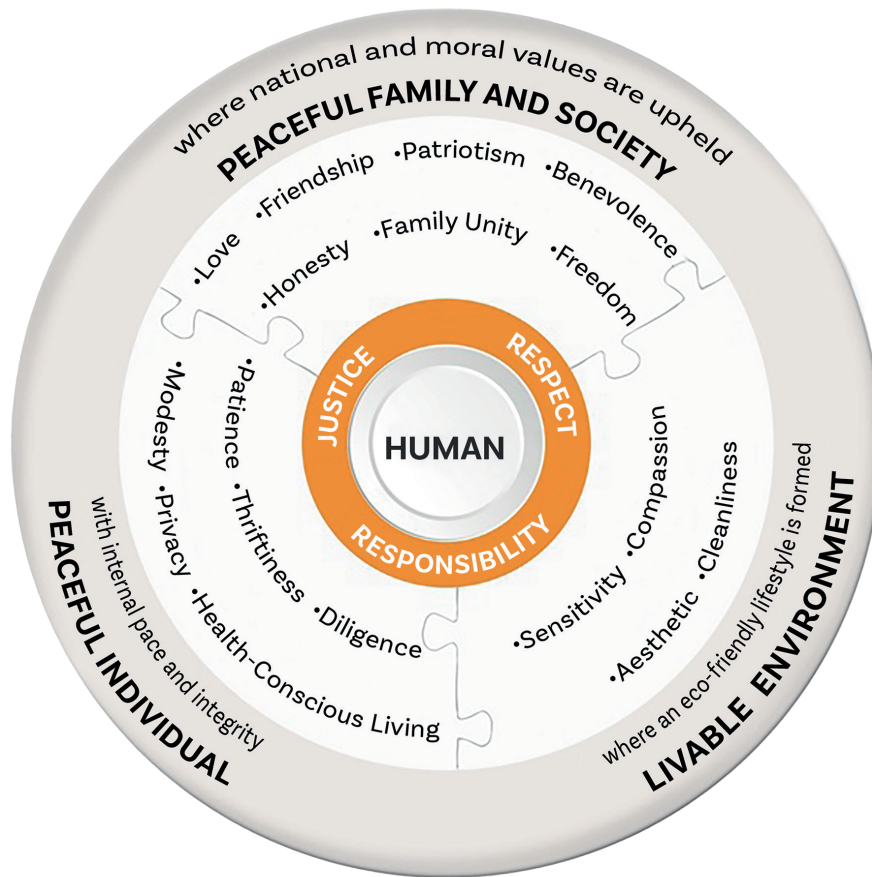
Figure 2. Virtue-Value-Action Framework

Source: MoNE, 2024

The 4th İstanbul Education Conference, held this year under the theme "Redesigning Education: 21st-Century Skills" offered critical insights into the scope of 21st-century skills and the initial implementation processes of the Century of Türkiye Education Model. The conference provided a platform for discussing how Türkiye is addressing a fundamental transformation in its education system. Topics were thoroughly explored, such as education policies, curriculum development, the role of social and emotional skills in education, alignment with the business world, and raising individuals for the benefit of society. Expert educators, academicians, and policymakers shared their views on how to integrate new skill sets into the education system and provided strategic recommendations on how Türkiye can adapt to global education trends.

Based on the outcomes of the 4th İstanbul Education Conference, this insights report includes strategies, suggestions, and evaluations aimed at shedding light on Türkiye's journey toward educational transformation. The report is aligned with the topics discussed at the conference and is expected to offer a roadmap to support the implementation of 21st-century skills in Türkiye. National-level events such as the 4th İstanbul Education Conference, as well as the outputs derived from them, clearly serve as guiding tools for achieving the goals of the Century of Türkiye Education Model. We hope this report will serve as a valuable resource for policymakers, educators, researchers, and decision-makers in shaping the future of education.

Opening and Welcome Speeches

Atty. Ahmet Sait Öner | *Chairman of the Board, İLKE Foundation*

Prof. İrfan Erdoğan | *Faculty of Education Dean, Boğaziçi University*

Prof. Cihad Demirli | *Board of Education Chairman, Ministry of National Education*

Dr. Ömer Faruk Yelkenci | *Deputy Minister, Ministry of National Education*

Atty. Ahmet Sait Öner

İLKE Foundation | Chairman of the Board

The İLKE Foundation carries out its mission of addressing societal needs and placing intellectual engagement at its core through its affiliated associations and research centers, all while upholding the ideals of the waqf tradition. The foundation oversees three associations: the Association for Nonformal Education and Culture (YEKDER), the Association for Scientific Studies (İLEM), and the Turkish Association for Economic Enterprise and Business Ethics (İGİAD). While YEKDER focuses on women, family, and children, İLEM organizes undergraduate- and graduate-level academic activities, and İGİAD develops projects regarding business ethics, entrepreneurship, and commerce. Each association conducts meaningful and pioneering works in their respective field.

The foundation manages four active research centers: the Research Center for Social Thought and Policy (TODAM), the Civil Society Academy (STA), the Research Center for Islamic Economics (İKAM), and the Research Center for Education Policy (EPAM). While TODAM conducts in-depth analyses of societal issues, STA promotes knowledge and experience sharing to support the institutional development of civil society organizations, İKAM carries out research in the field of Islamic economics, and EPAM provides comprehensive research and analyses on education policies.

Additionally, we continue our publishing activities through the Nokta Publishing Group and its four publishing houses. The Platform magazine, published in both Turkish and English, addresses the agenda of the Muslim world and serves as a platform for various academic discussions.

The Research Center for Education Policy (EPAM) analyzes the current state of the education system and develops policy proposals

for promoting equal opportunity, quality, and accessibility in education. EPAM monitors local, national, and global educational developments; proposes solutions to challenges; and evaluates and reports on the effectiveness of education policies. Through monitoring reports, analysis reports, research reports, policy notes, and opinion pieces in this context, EPAM aims to contribute to shaping a new perspective on education.

The İstanbul Education Conference focuses on the significant educational issues shaping the agenda, with the aim of raising public awareness; facilitating interactions among experts, policymakers, and stakeholders; and fostering collaborations. Organized annually since 2021, this year's conference is held under the theme "Redesigning Education: 21st-Century Skills". Within the scope of the conference, valuable academicians will address such topics as global skills-based education models, their impact on higher education, the implications of 21st-century skills for education and employment, and the Century of Türkiye Education Model.

In today's world, globalization and digitalization have led to a process of homogenization that weakens local cultures and traditions while threatening cultural diversity. In this sense, we strive to uphold our values and contribute to the development of a unique education model tailored to society's needs. Discussing Türkiye's position in this process and how it can contribute through an original educational model has emerged as a key agenda item. The Century of Türkiye Education Model has the potential to be a distinctive and successful framework by fostering the growth of virtuous and value-oriented individuals. However, monitoring and evaluating the outcomes of this model are critically important for its success.

We can exemplify this uniqueness by comparing it to a Spanish speaker maintaining

The Century of Türkiye Education Model has the potential to be a unique and successful model by providing a foundation for the development of virtuous and values-oriented individuals.

their native language while speaking English, to a Turk considering critical thinking without solely centering reason, or to a Palestinian acting with active citizenship or global citizenship awareness without submitting to imperialist powers. For instance, who will benefit from 21st-century skills such as entrepreneurship if these are not grounded in moral principles?

This model's unique approach will raise free-thinking, wise, and conscientious individuals as opposed to having them merely adapt to existing systems. This ensures that skills are not reduced to mere tools, and only under such conditions can we achieve resilient individuals and a resilient society. As İLKE, we adopt and prioritize this perspective with great care. All these discussions and deliberations aim to contribute to the building of a just and prosperous society.

I hope this report EPAM has prepared will provide a valuable contribution to solving the challenges in the field of education and serve as a crucial resource for decision-makers, policymakers, researchers, and the intellectual community.

Prof. İrfan Erdoğan

Boğaziçi University | Dean of Faculty of Education

When examining the Century of Türkiye Education Model, one of the aspects I find most appealing is its modest and straightforward approach. Significant features stand out, such as the absence of marginalization among pedagogical theories and the deliberate avoidance of slogans such as "The old education is over; we have transitioned to a new education" or "We have shifted from teacher- to student-centered education." Expressions such as these have been present in many of the curricula developed since 1913, with the rhetoric of "student-centered education" being frequently emphasized, especially between 2003-2004. Over time, these slogans have caused anxiety among teachers. However, to see that the Century of Türkiye Education Model has been prepared within a framework that carefully evaluates the last twenty, twenty-five, and even thirty years of educational experience is reassuring.

This model presents a program that is straightforward and easy to comprehend for any teacher, student, or individual interested in education. Contrary to public criticisms, the presentation of the curricula and model has been written in a highly clear and objective manner. As a term, the Century of Türkiye signifies a pivotal turning point our state conceptualized in 2024. This concept continues to resonate in various fields such as the arts, sports, economy, and politics, and the strong ideas of this concept are also reflected in the details of the curriculum. For instance, innovative terms such as Blue Homeland and Turkistan Geography stand out as new expressions encountered for the first time in this curriculum.

As a personal critique, I believe that having the presentation section of the curriculum place greater emphasis on the meaning of the Century of Türkiye would be beneficial. Delving deeper into the educational interpretation of this powerful concept could provide participants with a better understanding and sense of purpose.

By avoiding slogans, this curriculum offers a program every teacher and student can understand and grasp without difficulty. Contrary to public criticisms, the presentation of the curriculum and the model's introduction in particular have been written with highly clear and objective language. I hope the outcomes of the conference will prove beneficial.

Prof. Cihad Demirli

Ministry of National Education | Chairman of the Board of Education

The Board of Education serves as the Ministry's body for scientific review and advisory functions. The fact that the Century of Türkiye Education Model adopts an approach that harmoniously integrates 21st-century skills and values through curriculum updates and material preparation is important to highlight.

This model has been structured with a perspective that both considers global developments and reflects Türkiye's unique cultural heritage. Currently, the plan is to progressively expand curricula developed for 23 subjects to cover additional courses and implement them across all educational levels from preschool to grade 12.

Literacy, social-emotional skills, language development, and employability skills are among the key elements the global literature commonly identifies as 21st-century skills. As highlighted in studies such as the "*Eğitimde Geleceğe Bakış Raporu* [Future of Education Report]" and "*21. Yüzyıl Becerileri ve Değerlere Yönelik Araştırma Raporu* [Research Report on 21st-Century Skills and Values]" prepared by the Board of Education, a global consensus exists on the significance of these skills. While social-emotional skills are frequently emphasized, however, the dimension of values often receives insufficient attention in international frameworks. The Century of Türkiye Education Model addresses this gap by placing a greater emphasis on values alongside skills.

This model follows a phased implementation process and is planned to be integrated across the entire education system within four years. Upon completion, the model is anticipated to serve as an original and exemplary one, both nationally and internationally.

Dr. Ömer Faruk Yelkenci

Ministry of National Education | Deputy Minister

The directives and support our Minister of National Education, Mr. Yusuf Tekin, has provided regarding the efforts for the Century of Türkiye Education Model have played a critical role in implementing this model. His contributions have been instrumental in shaping and realizing this vision. With the additional contributions of educational units such as the Directorate General for Secondary Education, the Directorate General for Basic Education, the Directorate General for Religious Teaching, and the Board of Education, as well as the intensive work of approximately 1,200 academicians, expert teachers, and Ministry personnel, the Century of Türkiye Education Model has been implemented this year in preschool classes, as well as in the first, fifth, and ninth grades. Over the next four years, this model will gradually be extended to all grade levels.

Monitoring the implementation has been as important in this process as preparing the curriculum itself. Every aspect of the model will be closely observed through the monitoring system of the Board of Education, the monitoring model the Directorate General for Secondary Education has developed in collaboration with other units, the evaluation mechanisms of the Board of Inspectors, and the monitoring studies the Directorate General for Measurement and Evaluation has conducted. Necessary adjustments will be made based on the evaluation results. Thanks to the flexible structure of the curriculum, any required changes can be implemented swiftly.

The process of structuring this model also has great importance. The contributions of all units within the Ministry of National Education, particularly the monitoring and inspection departments, have laid the groundwork for the developed policies. The data obtained from these monitoring processes form the basis for shaping educational policies, identifying shortcomings, and taking the necessary measures. Being shaped by field data, the policy-making process thus operates as a continuous feedback mechanism based on the monitoring results and progressing dynamically.

The councils the Board of Education has analyzed, as well as the analyses of past council results, constitute an essential component

of this process. Furthermore, international research, published reports, and literature reviews are meticulously evaluated to provide data for the Ministry of National Education, guiding policy and implementation efforts accordingly. In this context, I would like to share one of the reports that have been presented during the process.

The UNESCO EU report, prepared in 2017 and titled "Future Competencies and the Future of Curriculum", is an important study that serves as a global reference for curriculum transformation. This report has identified seven key competencies:

1. **Lifelong learning:** A competency supported by curiosity, critical thinking, and ever-seeking.

2. **Self-agency:** A skill set underpinned by entrepreneurship, responsibility, self-worth, creativity, and grit.

3. **Interacting with others:** This includes social-emotional skills, respect, open-mindedness, sensitivity, and leadership qualities.

4. **Interacting with the world:** Emphasizes environmental custodianship and being glocal.

5. **Interacting with diverse tools and resources:** Draws attention to the ethical dimensions of this interaction.

6. **Trans-disciplinarity:** The ability to bring together different disciplines.

7. **Multi-literateness:** The ability to understand and utilize various types of information.

The report suggests that future curriculum development efforts should take these competencies into account.

The COVID-19 pandemic necessitated a critical reassessment of numerous aspects of education, revealing how educational prior-

A human-centered approach to education enhances individuals' creativity and strengthens their critical thinking abilities.

ities have shifted and that the system must evolve in response to emerging demands. However, these transformations have not been confined to the pandemic era alone. Indeed, the Fourth Industrial Revolution, also known as Industry 4.0, began influencing discourse in the early 2000s and even the late 20th century, increasingly impacting education and shaping its structure and expectations.

To contextualize this dynamic relationship, one might employ a metaphor borrowed from the discipline of biology, which suggests that education and technology exhibit a symbiotic interaction. As the quality of education improves, both the caliber and quantity of the technology it produces similarly advance. Subsequently, the effective integration of this technology into educational practices enhances the quality of education in a mutually reinforcing cycle. Nonetheless, this relationship should not be examined solely through a technological lens; it demands a broader perspective.

Because concepts such as 21st-century skills are frequently used in education these days, taking a broad perspective and examining their origins, intended purposes, and the long-term impacts they may generate are essential.

> *The Century of Türkiye Education Model emphasizes the necessity of incorporating not only an interdisciplinary approach but also transdisciplinary and cross-disciplinary perspectives.*

The skills defined as 21st-century skills are actually qualities that have existed throughout history. Skills such as critical thinking, decision-making, and problem-solving, which our educational curricula currently include, were present in the works of Aristotle, Plato, al-Farabi, al-Ghazali, and Ali Kuşçu, and just as they existed in the past, they will continue to exist in the future. When presenting 21st-century skills as a specific package, however, the tendency often occurs to perceive them as a homogeneous whole and accept their content without subjecting them to critical scrutiny. For example, critical thinking is frequently listed among 21st-century skills, but this creates the misconception that critical thinking did not exist in the past. Such an approach is flawed because it disregards the historical perspective and neglects the continuity of critical thinking throughout different eras.

When evaluating 21st-century skills from a critical perspective, problem-solving skills can also be examined. Particularly within the context of global capitalism, one may question which skill is more cost-effective: the ability to solve problems or the ability to avoid creating problems in the first place? For example, skills such as environmental awareness embody an approach aimed at preventing problems from the outset, and the cost of not creating problems is undoubtedly lower than the cost of devising solutions. On the global stage, however, solving problems is also seen as an inevitable necessity. In this regard, having our children merely acquire problem-solving skills is not enough; educating them as individuals who do not generate problems is equally important.

Of course, despite all the precautions, problems will inevitably emerge. No matter how careful one may be, problems may occur due to factors beyond one's control. For this reason, new generations need to also possess problem-solving skills. For example, proper urban planning can prevent potential natural disasters from escalating into major catastrophes; this exemplifies the ability of avoiding creating problems. However, regardless of how well a city is planned, problem-solving skills must come into play when a problem arises. These two skills are complementary elements that work in tandem.

In an era where Industry 4.0's impact on education has become increasingly evident, numerous international reports and assessments have emphasized the necessity of considering skills. UNESCO reports, PISA results, and Türkiye's own monitoring and evaluation studies support this view. Indeed, 21st-century skills were first incorporated into the official documents of the Republic of Türkiye Ministry of National Education in 2014. These skills were referenced in the quality framework published that year, with subsequent curricula having included competencies and values as fundamental components. However, as our Head of the Board of Education has stated, these skills clearly need to be integrated into the curriculum

more organically and effectively. Additionally, significant feedback has been gathered from interviews conducted with teachers and students. For instance, interviews with 17,000 students have revealed two key findings: first, students stated the curriculum to be excessively intense; second, students have little opportunity to participate in extracurricular activities due to this intensity. In light of this feedback, we must evidently strive to better understand younger generations and reshape our education system accordingly.

We often struggle to understand young people, despite once being young ourselves. And while we should be striving to understand their emotional world, we often expect them to understand us instead, an unrealistic and unattainable expectation. Understanding younger generations is of great importance; our efforts to survey 17,000 students and conduct one-on-one interviews with them stem from this necessity. Addressing existing weaknesses and challenges is crucial when developing a new curriculum. Moreover, fostering strong interaction and mutual understanding between schools and families is essential, and considering local and national values must also be an integral part of this process. Reports, including those from UNESCO, deliver a similar message: A human-centered approach needs to be adopted.

UNESCO reports emphasize the need for incorporating values and strategic relationships into educational programs. Their reports highlight the liberating power of education, asserting that individuals' creativity increases as they gain greater freedom. As Muhammad Iqbal expressed in this context, "Creative thinking liberates a person", and as individuals' capacity for creative thought strengthens as they become freer. The more one thinks, the more one becomes liberated, and one's ability to think critically and cre-

atively continues to develop as one gains freedom.

The pandemic has taught us many valuable lessons. Hybrid education was implemented during COVID-19, and teacher motivation significantly declined throughout this transition. Although a shift has occurred toward student-centered education, the role of the teacher was overshadowed in this process. While education should truly be human-centered, having teachers design and guide this approach is essential. Education cannot function without teachers. Therefore, the value of teachers is of utmost importance, and they must be aware of their significance. Only with this awareness can they develop the sense of responsibility and dedication needed to provide meaningful service.

The Harezmi Education Model was developed in 2016 with an integrated approach to incorporating social sciences and interdisciplinary methods. UNESCO's 2017 report also emphasized the importance of flexible, student-centered curricula. The Century of Türkiye Education Model has been designed with a flexible structure that places interdisciplinary approaches at its core. This model not only utilizes interdisciplinary approaches but also benefits from transdisciplinary and multidisciplinary methods. Another key aspect the UNESCO reports highlight is providing personalized learning opportunities and methods.

Our curriculum effectively addresses these needs through differentiated instructional programs. Enrichment programs have been designed for fast learners, while supportive structures have been developed for those who learn at a slower pace. Additionally, environmental awareness and the concept of the twin transition are among the critical elements our model considers.

> *Along with problem-solving skills, the ability to prevent problems is among the new priorities of education policies.*

The assessments and evaluations have adopted process-oriented, developmental approaches. In UNESCO reports, the approach referred to as performative assessment has been more appropriately translated and utilized as developmental assessment in our context. This approach is based on continuously monitoring students and implementing interventions aimed at supporting their progress in the areas requiring improvement.

In line with these studies and reports, the Century of Türkiye Education Model has been developed through a comprehensive, interactive process. Following the directive our Minister gave in June 2023, we began work on the model in July, with significant efforts dedicated to its development. The curricula framework was designed first, followed by the preparation of textbooks, with the model being officially implemented by September.

Highlighting three key dimensions of this curriculum is essential. While it contains some unique philosophical elements, I prefer to focus here on its practical innovations. The first of these is the Virtue-Value-Action Framework (Figure 2). As the Ministry of National Education, we no longer use the term "values education" because values cannot be taught as a separate subject such as mathematics or Turkish. Instead, values are naturally acquired through family and society in every aspect of life. Due to the evolving social dynamics in Türkiye, however, certain gaps can emerge in this process. Therefore, schools play a role in filling these gaps. While

predicting with certainty how successful schools will be in this endeavor is difficult, we believe that every gain achieved in this process is valuable. For this reason, values have been organically integrated throughout the entire curriculum. They have been naturally embedded in all subjects and across every aspect of school life without any form of imposition.

The second dimension is literacy skills. Under this category, we have redefined the concept of literacy within the framework of systems thinking. While preparing the curriculum, I posed a question to my colleagues about literacy skills: "How many types of literacy skills exist?" Their response was approximately 120, and this number continues to be updated. For instance, a decade ago, media literacy was a widely recognized concept, whereas today, social media literacy has gained prominence. Therefore, literacy is no longer confined to reading and writing, instead being approached from a broader perspective. These approaches form the foundational pillars of the unique and flexible structure of the Century of Türkiye Education Model.

One of the distinctive aspects of this curriculum is its approach to literacy skills. In today's world, concepts such as artificial intelligence literacy, financial literacy, and digital literacy have emerged as significant areas. However, introducing each literacy domain as a separate subject is neither feasible nor necessary. In essence, literacy refers to the ability to comprehend and analyze

surrounding systems and events. A student who gains system literacy will be able to analyze and understand any system they encounter and apply this skill across various fields. Criteria have been established within this framework under three main categories: awareness, functionality, and actionability, ultimately shaping the curriculum's structure. The skills framework our curriculum uses is also uniquely structured. Rather than isolating skills into a single domain, we consider them holistically across six categories: conceptual skills, social-emotional learning skills, disciplinary skills, physical skills, literacy skills, and dispositions. These skills function in an integrated manner, equipping students with a wide range of competencies. For example, high-order thinking skills such as decision-making and problem-solving are competencies students repeatedly apply and develop, often without being consciously aware of it. This process occurs naturally, without any external pressure or enforcement. Such an approach constitutes one of the distinctive structural elements of the curriculum.

Finally, I would like to emphasize that our curriculum has been developed with careful consideration of Türkiye's educational experiences. Drawing on the accumulated knowledge and expertise from past to present, we have successfully completed this comprehensive initiative, albeit with some delays. Following the approval of our Minister, we immediately proceeded with writing textbooks and training teachers. By managing this process meticulously, we developed a flexible and applicable curriculum for the field. In a short period, we trained approximately 11,000 teachers to become trainers, who then, at the beginning of September, conducted training sessions for their colleagues. However, perhaps the most critical aspect is the implicit guidelines provided to teachers regarding the textbooks and the

Interdisciplinary thinking skills aim to enhance students' ability to solve complex problems.

curriculum itself. Acknowledging the challenge of completing all teacher training sessions in a short time, we integrated implicit guidance into the curriculum and textbooks. This approach enables teachers to conduct their lessons effectively without requiring additional support. We are closely monitoring field applications. Throughout this process, we have followed a path that incorporates both recommendations from reports and direct input from students during the textbook development phases. Author committees have shaped the content based on students' perspectives. We strongly believe that this approach will contribute significantly to the successful implementation of the Century of Türkiye Education Model. Lastly, I sincerely hope that this model will bring great benefits to our country, our nation, and our children.

SESSION I:
SKILLS-BASED EDUCATION AND GLOBAL EXAMPLES

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Transforming Education for All through Life Skills: A Humanistic Approach

21st-century skills are life competencies that enable individuals to actively contribute to society and continuously develop themselves through social, emotional, and cognitive abilities such as problem-solving, critical thinking, empathy, communication, and self-regulation in a rapidly evolving world.

Recognizing the evolving landscape of challenges and opportunities faced by today's children and youth is essential for addressing our topic. Across the globe, young people today are growing up amid rapid technological advances, changing labor markets, increased migration, conflicts, and environmental and political changes, all of which shape their lives in unique and complex ways. To navigate this complex landscape, achieve lifelong learning, secure employment, make informed decisions, and contribute actively within their communities, young individuals must access quality education and develop a robust set of diverse skills. Therefore, the need exists to support lifelong skills development through both formal and non-formal education with a holistic approach accessible to all learners, especially disadvantaged groups. This necessitates the strengthening of education and training systems.

In this presentation, I will outline a vision of quality education for children and youths that is both skills-based and holistic, highlighting its contribution to social and economic development. This vision currently underpins UNICEF's global initiatives in this field, which we will discuss in detail.

To begin, I would like to share with you some statistics that reflect how children and young people around the globe are not developing the full range of skills they need for school, work, and life, starting from early years into adolescence and youth. Some of this data may also resonate with those in Türkiye. At age 5, one in four children are developmentally off track. By age 10, significant disparities in literacy development become evident, with about 50% of children worldwide struggling to read and comprehend basic texts. At age 15, approximately 70% of young

people are unable to demonstrate the required secondary-level skills. Finally, by age 18, about 75% of youth do not possess the skills needed for meaningful participation in society and employability.

Many of you may be familiar with the concept of NEET (Not in Education, Employment, or Training), which refers to youth who are disengaged from educational and occupational pathways. On a global scale, one-fifth of youths aged 15-24 fall into this category, with young women being twice as likely as young men to be classified as NEET. This disengagement not only hinders their personal development but also poses broader societal implications concerning urgent issues such as the climate crisis, for example.

In this regard, recent statistics from UNICEF's largest-ever U-Report poll, which gathered insights from over 771,000 participants, revealed 70% of young people to have indicated not learning much about the climate crisis in school, and 65% to believe their futures to be at risk by lacking climate-related knowledge and skills.

Given these challenges of the 21st century, a broad, skills-based approach to education is evidently essential. Multiple organizations worldwide, including UNICEF, have responded by developing comprehensive frameworks that define and categorize the full range of skills required to help children and youths not only adapt but also excel in this rapidly changing environment. For today's presentation, I would like to focus on one such framework UNICEF has developed that categorizes these competencies into five distinct areas essential for holistic development (Figure 3).

The first category in this framework is what we call foundational skills, which include literacy and numeracy as the core compe-
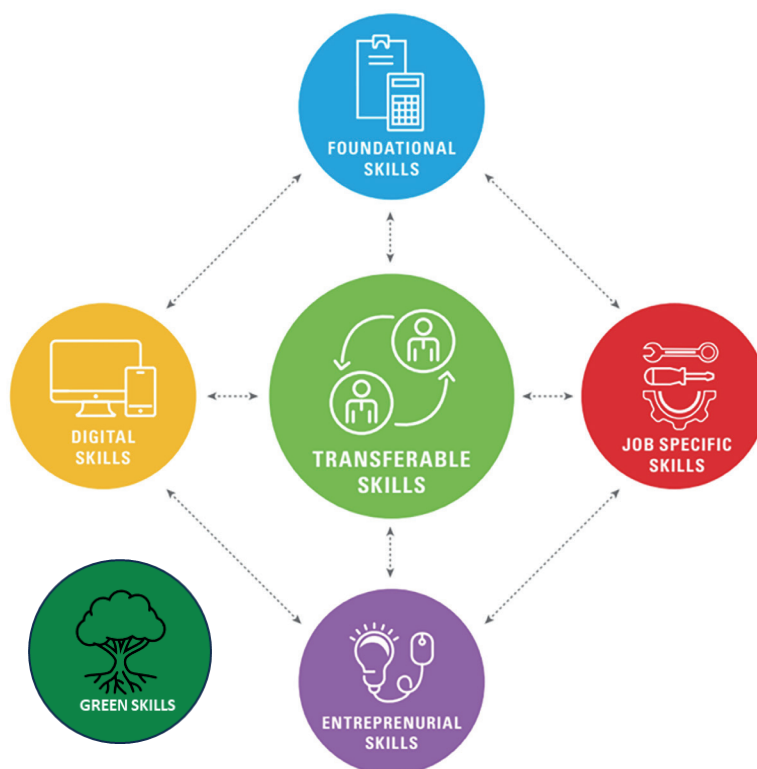

Figure 3. UNICEF's Skills Typology

Source: UNICEF, 2019

tencies. This category is currently evolving to encompass digital skills and digital literacy, thus reflecting the need for adaptability in an increasingly digital world. The second category addresses job-specific (i.e., technical and vocational) skills, including entrepreneurial skills. These are some of the skills that help one become more of an entrepreneur, such as time management, goal setting, and financial literacy.

Central to this framework, however, are transferable skills, often referred to as life skills, 21st-century skills, soft skills, or social-emotional competencies. This core set encompasses a range of skills that include problem-solving, negotiation, emotional regulation, empathy, and communication and that link and reinforce all other competencies. Additionally, emerging green skills reflect growing priorities, though they may not yet have been fully incorporated into this framework.

Life skills occupy a central position in this framework because they do not operate in isolation; rather, they serve as the cohesive elements that bind, strengthen, and enhance all other skills, along with their associated knowledge and values. Essentially, life skills are the key factor that enables all skills to work together effectively, thereby contributing to meaningful outcomes.

When defining life skills more precisely, they can be grouped into three core categories: cognitive, social, and emotional skills.

1. **Cognitive Skills:** These pertain to the mental processes involved in thinking, such as problem-solving and critical thinking.

2. **Social Skills:** These focus on interactions with others, including collaboration and negotiation, emphasizing the importance of teamwork and effective communication in social contexts.

3. **Emotional Skills:** Perhaps the most critical component of life skills is emotional skills, which involve managing one's own emotions, such as self-management.

Naturally, categorizing skills is not as simple as placing each one in a bucket, as all these skills have different multiple, intersecting dimensions. For instance, when solving a difficult problem in a group, one needs cognitive skills to think critically, social skills to work effectively within a team, and emotional skills to manage any frustration or stress in order to solve the problem effectively. This illustrates the interconnected nature of these three dimensions of life skills.

Recognizing that skills develop progressively from early childhood into adulthood is also essential; this differs significantly from traditional subject knowledge, such as facts in history or science. These skills are often much more challenging to assess than subject knowledge. The only authentic way to evaluate a skill is to observe it in action to identify whether the individual can effectively demonstrate the skill. This is a field where UNICEF and many organizations have been actively engaged, and we are making progress toward measuring skills. However, various technical difficulties still arise in the assessment process. Given all this, fostering these skills requires a shift in teaching approaches, which involves encouraging teachers to implement learner-centered pedagogies and move beyond traditional rote memorization methods that focus mainly on knowledge development.

Moving on to the next topic, importance is had in acknowledging that many governments articulate the development of skills as an integral component of their national vision, policies, curricular frameworks, and learning objectives. Despite these declarations, however, effectively cultivating and developing these skills among young people

remains inadequate, as mentioned earlier. This observation raises an important question: What are the underlying reasons for this phenomenon?

Several factors contribute to this phenomenon. Globally, inconsistent terminologies and frameworks related to skills create confusion among policymakers and practitioners involved in skills development initiatives. Furthermore, a notable lack of comprehensive research regarding how skills evolve and interact across various life stages impedes their effective integration into curricula and assessment practices. Additionally, many skills development curricula lack robust, evidence-based methodologies, particularly in low-resource settings and humanitarian contexts. This challenge is further compounded by the difficulties with measuring learning outcomes. Another significant concern is how the absence of system-wide coordination leads to fragmented and unsustainable approaches to skills development. For instance, one may encounter multiple curricula, often numbering five to ten, within a single city or neighborhood, and these curricula teach life skills disconnectedly and uncoordinatedly.

To address the challenges the differing terminologies pose, I propose a practical strategy for enhancing communication in the discussions surrounding skills. When an individual references a skill such as problem-solving, avoiding assumptions regarding a shared understanding is essential. Instead, one should seek clarification: Be clear in asking what is meant, strive to understand, and make sure you are communicating your own meaning as well. This approach can significantly reduce misunderstandings and enhance the effectiveness of discussions in the field of skills development.

UNICEF aims to develop a vision that conceptualizes life skills in a way that reflects their contribution to different outcomes and that serves as a guiding framework for governments and other stakeholders to adopt. This conceptual framework is underpinned by the seminal UNESCO (1996) report known as the Delors Report, which outlines four dimensions of learning: *learning to know, learning to be, learning to do,* and *learning to live together.* In collaboration with other partners and entities, we have expanded these dimensions into four outcome areas related to academic learning: *employability, entrepreneurship, self-empowerment,* and *active citizenship* (Figure 4). These outcomes represent the strategic key areas where life skills can make a meaningful impact.

As such, the way we've developed this conceptual framework has been based on an extensive stakeholder engagement process

The assessment of 21st-century skills is more challenging than evaluating academic subjects. The only way to accurately measure a skill is to observe it in practice and determine how effectively an individual uses that skills.
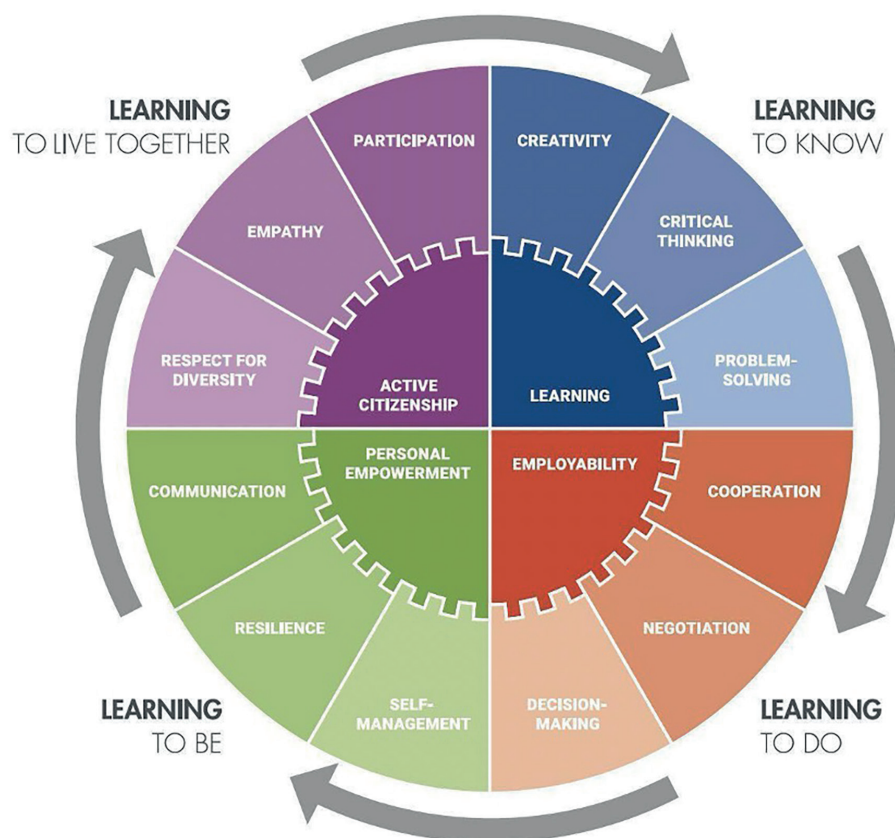
Figure 4. Global Conceptual Framework on Life Skills

Source: UNICEF, 2019

and a thorough review of evidence. Initiated in the Middle East and North African (MENA) region, this process was later expanded globally. This approach has been used to distill over 200 skills into 12 core competencies that form the foundation of the framework. Each of these skills contributes to the four targeted outcomes of employability, entrepreneurship, self-empowerment, and active citizenship (Figure 4).

One of the critical considerations in developing this framework, as well as in any initiative focused on defining essential skills, is the need to limit the number of skills to a manageable count. Therefore, we identified 12 essential skills, as this manageable number facilitates their integration into curricula, teaching pedagogy, and assessment practices. As a result, the skills included in this framework are: creativity, critical thinking, problem-solving, cooperation, negotiation, decision-making, self-management, resilience, communication, respect for diversity, empathy, and participation. As previously mentioned, all these skills contribute to the four outcomes represented at the center of the circle (Figure 4).

Once these essential skills were defined, establishing guiding principles for their implementation became crucial. While I will not cover each principle in detail, I will highlight a few that are particularly important.

The first principle I wish to address is the lifelong learning cycle, which states that skills development should be considered as a dynamic, progressive, and cumulative process
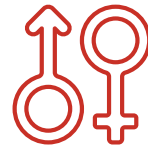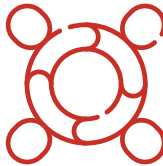
Holistic	Life Cycle	Rights-Based	Gender Responsive

Inclusive	Relevant	Evidence Based	Youth-Voice

Figure 5. Global Framework for Life Skills: Key Principles

Source: UNICEF, 2019

from early childhood through adolescence and adulthood. Often, organizations focus solely on life skills development for young people, particularly during adolescence; while crucial, this is not the most effective approach. Instead, the optimal strategy is to begin in early childhood and build skills progressively over time.

The second is the rights-based approach. Skills development is inherently not a value-neutral process; it must actively promote human rights-based values for all learners. For example, when discussing problem-solving skills, one could potentially apply these skills in ways that yield negative outcomes, such as engaging in theft. In this scenario, problem-solving could lead to and facilitate unethical outcomes. However, when applying the rights-based principle, problem-solving becomes a tool for advancing human rights, fostering respect, and promoting diversity for all.

The third principle I would like to emphasize is inclusivity. This is often a challenge in curricula, especially in lower-middle income countries where skills development should consider all learners regardless of their background, abilities, or needs (Figure 5).

Having discussed the skills themselves, the conceptual framework underpinning these skills, and the guiding principles, we now turn to the practical implications: What steps must countries take to effectively develop these skills at scale? In this context, the concept of multiple and flexible pathways for skills development becomes crucial.

As illustrated in Figure 6, a high-quality *multiple pathways approach* effectively addresses the diverse needs of learners and promotes equity and inclusivity by offering more opportunities to reconcile and balance social norms and expectations, household responsibilities, work commitments, and learning prospects. The basic core idea here is that not just one singular pathway exists for skill development. Providing multiple education and training alternatives improves the chances for success and facilitates transitions between training and employment for youths all over the world.

In Figure 6, we can categorize pathways into those with primarily academic outcomes, which include both formal and non-formal education starting from age 3 onward, and those aimed at non-academic outcomes.

Figure 6. Multiple and Flexible Pathways Approach for Skills Development

Source: UNICEF, 2019

Thus, programs are found for non-academic outcomes, such as employability programs, child protection efforts, girl empowerment programs, and sports for developmental activities. All these kinds of non-formal education programs are also integral to cultivating essential life skills and contribute to the four key outcomes mentioned earlier: employability, entrepreneurship, self-empowerment, and active citizenship (Figure 4). The underlying principle is that greater equity is achieved the more pathways that are available, as these provide opportunities for individuals who may have been excluded.

To implement this approach effectively at scale and enhance the impact of skills development programs, several key actions must be considered, beginning with foundational aspects and moving toward broader systemic alignment, as shown in Figure 7. The first one is to optimize *teaching and learning*, which involves aligning the curricula, pedagogy, and assessment practices to address learners' diverse needs. This requires focused efforts on curriculum development, teacher training, and preparation, as well as skill assessment, with each playing a critical role in supporting skill acquisition.

Another important aspect of developing skills at scale to establish *environments that are enabling*. Even with a well-designed curriculum, the absence of a supportive and enabling environment can hinder skills development. Key elements of such an environment include safe learning spaces, mental health resources for students, support for teachers' well-being, and active community engagement in skill development initiatives. Given that these skills encompass both social and emotional dimensions, creating a comprehensive and nurturing environment that fosters their growth and application is important.

Lastly, one crucial element to consider is what is referred to as *systems strengthening*. Teaching these skills in the classroom is not enough; addressing the broader system-level components of education is also essential. This includes national policies, interministerial coordination frameworks, partnerships,
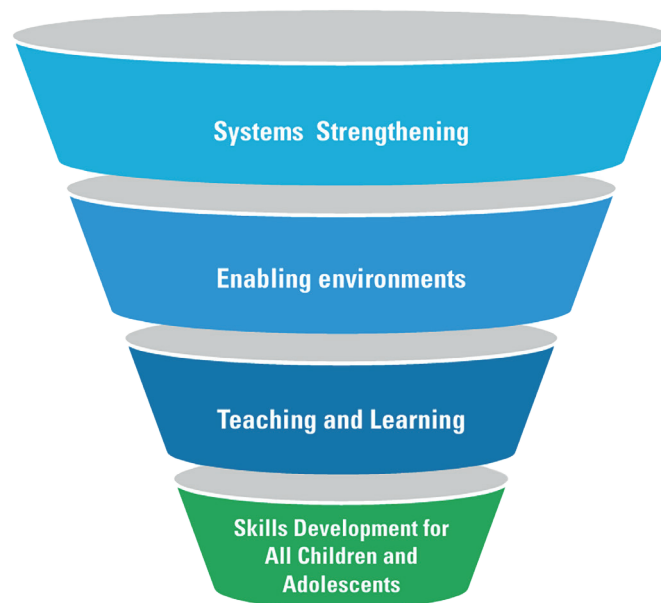
Figure 7. Programmatic Intervention Areas through Multiple Pathways

Source: UNICEF, 2019

budget allocations, and future capacity building initiatives. The objective here is to ensure that these skills are integrated into national systems. Addressing these three interconnected levels enhances the likelihood of achieving comprehensive skills development for all children and adolescents (Figure 7).

I would like to share some examples of our global initiatives, beginning with Türkiye. UNICEF's efforts in Türkiye have focused on building a skilled workforce for the future by emphasizing life skills that enhance employability. This includes supporting the development of a skills framework and promoting the acquisition of life skills among students aged 19 and older. For example, UNICEF facilitates access to vocational education through the Schooling Adolescents through Vocational Education (SAVE) project. Significant work is also being done in the areas of green competence and digital transformation programs, which aim to empower adolescents with the life skills needed to change their communities and apply them within the green skills agenda. Furthermore, UNICEF is collaborating with the Ministry of National Education (MoNE) to measure social-emotional learning outcomes using a tool that has been developed for this purpose.

Another example can be drawn from Egypt, where UNICEF has been supporting the Ministry of Education in reforming the curriculum to effectively integrate life skills. This initiative, called the Education 2.0 Curriculum Reform, includes preparing teachers and conducting assessments to ensure successful implementation. The fact that integrating these skills aligns with what is referred to as a competency-based curriculum (CBC) is important to note. However, the evidence regarding the effectiveness of CBC is somewhat mixed. Key strategies are found that can improve the chances of success with such curricula. For example, efforts in Türkiye are happening in collaboration with government systems to strengthen these approaches.

UNICEF's focus on skill development has expanded to other regions as well. For example, UNICEF has developed a significant alternative learning program in Bangladesh for out-of-school adolescents that is conducted through non-formal education channels in collaboration with the Bangladesh Rural Advancement Committee (BRAC). This program provides a six-month course combining certified life-skills training with on-the-job experience, followed by apprenticeships that help young people transition into the workforce. Notably, over half of the participants in this program are adolescent girls, and at least 10% have disabilities. To date, more than 95% of these learners have graduated and successfully moved on to paid employment, highlighting the program's effectiveness at enhancing employability. This initiative has been carefully designed to integrate both technical-vocational and soft skills, with the support of mentorship further aiding in skill acquisition.

Similarly, UNICEF is implementing robust volunteer programs in Jordan aimed at providing young people with valuable life experiences and skills. These programs support youths in actively engaging with the community, helping them enhance their social participation and develop essential life skills.

Lastly, I'd like to address the growing focus on green transitions and green skills. UNICEF has recently published a comprehensive document detailing the different facets of the green skills needed for transitioning to a green economy. As seen in Figure 8, the green skills framework outlines conceptual approaches to the green skills that are essential as we look toward building sustainable and resilient communities for the future (UNICEF, 2024).
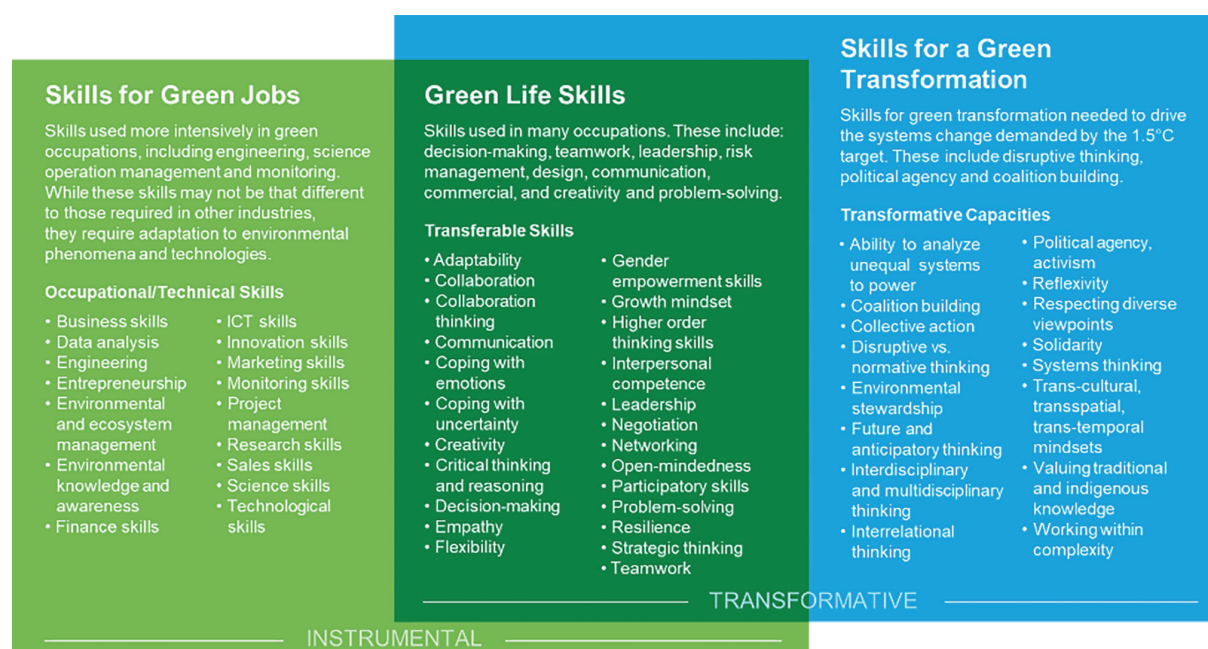

Figure 8. Green Skills Framework

Source: UNICEF, 2024

In conclusion, life skills are essential not only for individuals to succeed in their personal and professional lives but also for them to make meaningful contributions to their communities. In this regard, the necessary steps involve developing more inclusive, innovative, and practice-based pedagogies within the education system, training teachers to support these skills, and providing students with multiple learning pathways. Moreover, increasing national-level coordination, effectively integrating life skills into both school curricula and non-formal education programs, and regularly evaluating these processes are crucial for sustainable success. Implementing educational policies that prepare Türkiye's youth for the challenges of today and the future can be seen as a significant step toward both individual and societal development. In this context, recognizing life skills as a fundamental right within the education system and strengthening the related practices have the potential to support the country's goal of building a more resilient, productive, and innovative social structure.

The lack of a consistent terminology and framework in skills development programs creates confusion in practice, thereby reducing the effectiveness of education policies in this area.

Recommendations

Child development in education should be approached holistically. A comprehensive set of skills that can be supported at every age level should be developed starting from early childhood. These skills should be addressed in terms of their cognitive, social, and emotional aspects in order to create a holistic learning process.

Skills development requires teachers to adopt student-centered pedagogies and move beyond traditional rote-learning methods based on knowledge transmission. Experience-based methods should be encouraged that allow students to learn by applying their skills in practice.

For skills-based education to be effective, a structured curriculum should be implemented nationwide. When considering regional differences, however, additional support programs tailored to local needs should also be developed.

When determining the skills to be imparted to students, these should be structured within a reasonable, easily understandable, and clear framework. For instance, comprehensive yet practical frameworks such as UNICEF's 12 Core Skills Model can serve as good references for such a structure. However, establishing a flexible framework that is sensitive to local conditions and aligned with the needs of each country and region is essential.

At the global level, inconsistent terminology and frameworks related to skills pose a significant barrier to effective implementation. Therefore, frameworks should be established in which terminology is clearly defined and a common language is agreed upon by all stakeholders.

Comprehensive research should be conducted on how skills develop at different stages of life and how they interact with each other. This knowledge will facilitate effectively integrating skills into curricula and assessment processes.

Skills development should be supported by flexible and inclusive learning pathways that can respond to students' diverse needs. Equal opportunities for all should be ensured by diversifying formal and non-formal education pathways, and financial and social support mechanisms should be established, particularly for disadvantaged groups.

The success of skills development programs should be monitored through comprehensive assessment and evaluation processes. Improvements based on data obtained from these processes should be made, and implementations should remain open to continuous development.

To enhance the success of skills programs, the following fundamental principles should be adopted: Programs should be progressively structured to support lifelong learning, they should be shaped based on human rights and ethical values, an inclusive approach should be adopted to address the needs of every individual, and evidence-based methods should be used for continuous monitoring and development. For the success of these programs, equipping teachers with pedagogical skills that are aligned with these principles is crucial.

Andreas Schleicher

OECD | Director for Education and Skills

Different Models of Skills-Based Learning: Examples from the World

The topic of 21st-century skills has gained considerable relevance as society progresses further into this century. Discussions around these skills have focused not only on preparing for distant futures but also on responding to the immediate needs of educational systems to equip learners with the capabilities required today. The contemporary world presents complex challenges and constant unpredictability. Events such as the COVID-19 pandemic have highlighted the volatility of foundational aspects in education that were previously considered stable. Similarly, climate change and advances in artificial intelligence (AI) are projected to reshape our lives, challenging established educational assumptions and practices.

Current educational practices often lead to the development of individuals who can be described as second-class robots, characterized by their proficiency in rote memorization and the ability to replicate information as instructed. While this process is straightforward and easily achievable, it raises an important question: What distinguishes human beings in an era when tasks that are simple

to teach and assess are increasingly susceptible to digitization and automation? Many such tasks are disappearing from our labor markets, compelling us to consider how we can enhance sustainability and empower the next generation to maintain a more balanced world.

We face the dual challenge of making informed choices between the present and the future while equipping individuals to navigate a structurally imbalanced world that evolves daily. Reflecting on my own schooling, the future was once able to be anticipated by analyzing past professions. Today, however, young people are preparing for roles that have yet to be created. They are learning to engage with technologies that are still under development, and they must confront social issues that we can scarcely imagine. This is indeed a different time that raises fundamental questions central to skills-based learning in the 21st century.

As routine tasks diminish in our labor markets, technology-intensive roles are on the rise. The interplay between these two trends reveals the evolving demands the future will

can expect AI to improve its understanding of human queries, and as the training data for these systems expands, so too will their ability to grasp a broader view of our world.

The fact that our society no longer rewards individuals merely for what they know is becoming increasingly evident, what with platforms such as Google providing vast amounts of information. Instead, the emphasis is shifting toward the ability to effectively apply that knowledge in real-world contexts. As a result, skills-based learning has emerged as a crucial educational approach in the 21st century, highlighting the need for individuals to develop practical skills that enable them to navigate complex challenges and make meaningful contributions.
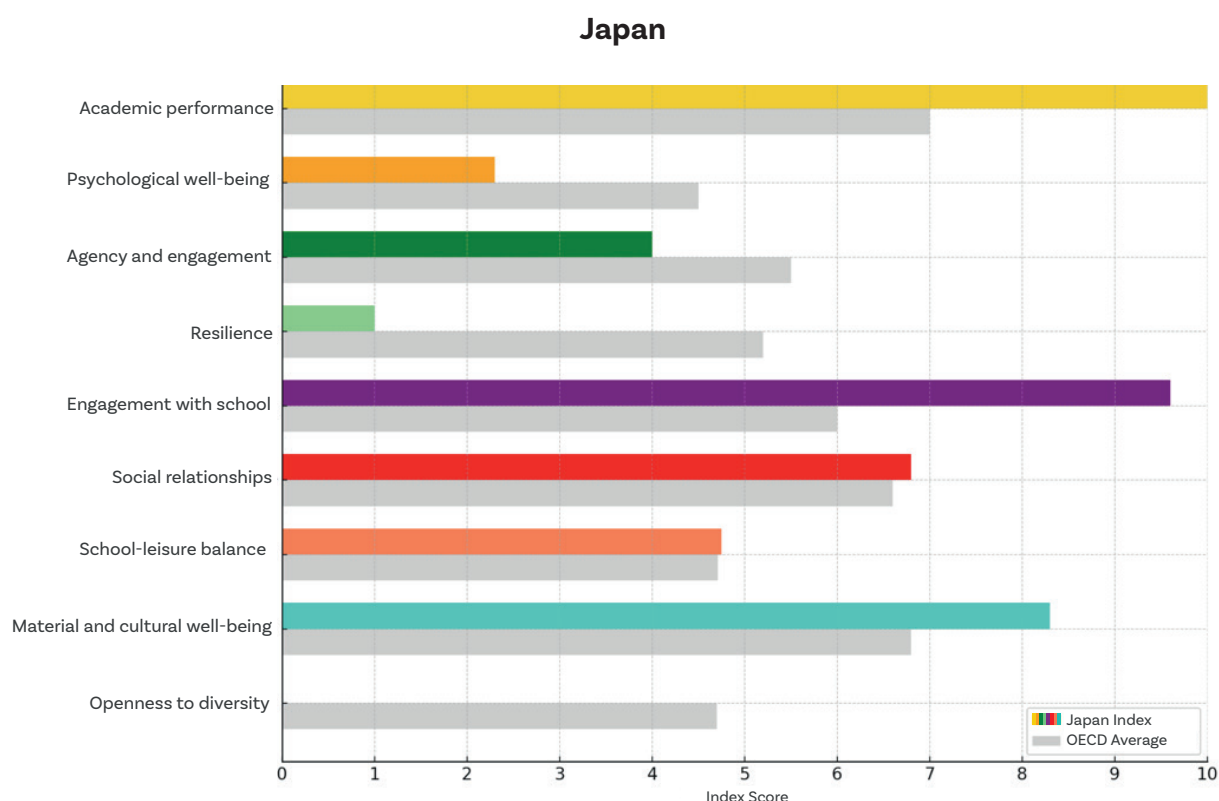
This transition in education raises a critical question: Can individuals mobilize their cognitive and social-emotional resources to tackle these challenges? Looking ahead, especially in the context of AI, anticipating how these developments may reshape our understanding of what skills are necessary is essential. AI has the potential to address biases that currently exist within our systems in the coming years. However, we must acknowledge that AI often amplifies rather than mitigates human biases, underscoring the need to evolve our educational practices to prepare young people for this reality.

For instance, global PISA assessments aim to make these skills more visible. When discussing mathematics within the framework of PISA, the focus is not on whether students can memorize formulas and equations. Instead, we assess whether they can think like mathematicians: Do they grasp mathematical concepts? Can they translate real-world problems into mathematical terms? Are they able to utilize mathematical tools to solve these problems and interpret their solutions within real-world contexts? What matters today is not merely the retention of math-

> *21st-century education should focus on equipping individuals with the ability to adapt to change, while preparing them for professions that do not yet exist.*

place on our youth. Furthermore, the advent of AI adds another layer of complexity to the discussion. Despite ongoing criticisms of AI, for example the limitations of such systems as ChatGPT that provide answers without sufficient context or explanation and that fail to clarify the sources of information or the reasoning behind their conclusions, recognizing that these shortcomings stem from the specific applications rather than from AI itself is essential. In the medium term, we

ematical knowledge but also the ability to use mathematics as a language for understanding structures and making predictions. Similarly, the emphasis in the realm of science has shifted from recalling the results of experiments to designing and conducting experiments, drawing evidence-based conclusions, and distinguishing scientifically investigable questions from those that are not. Thinking like a scientist is far more valuable than simply accumulating knowledge about physics and chemistry. In history also, just remembering names and dates is no longer sufficient; instead, understanding how human nature has evolved and how it can accelerate or unravel in changing contexts; engaging critically with historical events; and shifting away from simply accumulating content are essential. This analytical approach to history represents critical skills in today's world.

In brief, science today is unfortunately often taught as a set of dogmatic beliefs, where students are encouraged to accept established ideas without question. True science is not about reproducing accepted wisdom but about questioning it. In the 21st century, we are rewarded not just for producing answers but for asking the right questions.

Examining data from PISA assessments illustrates this point well. Japan consistently ranks among the top-performing countries in mathematics, science, and reading (Graph 1). Yet, in the 21st century, academic excellence alone is no longer sufficient. For example, data indicates that Japanese children report low levels of happiness which is a major indicator of psychological well-being. This metric reflects essential aspects such as a sense of identity, belonging, and psychological well-being. In today's world, these are not mere luxuries, but essential foundations.

Japan

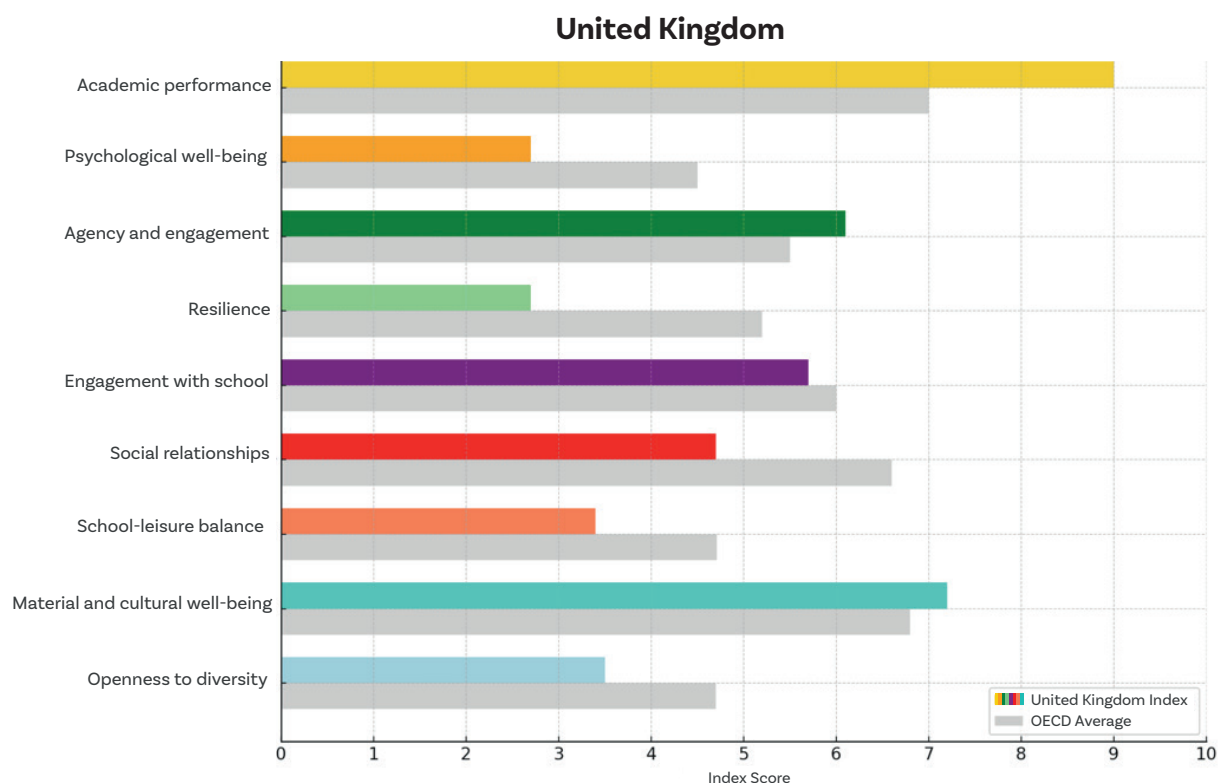Graph 1. Japan's PISA 2022 Strengths and Areas for Improvement

Source: OECD, PISA 2018 Database, PISA 2022 Database

Without a strong sense of security and connection, individuals often struggle to engage meaningfully in society. Thus, fostering a sense of belonging is critical; it plays a vital role in the overall well-being and resilience of young people.

Japan also scores lower than the OECD average in measures of agency (Graph 1). Agency here refers to our capacity for innovative problem-solving and the ability to take initiative—essentially, an entrepreneurial approach to action. In schools, students may become passive consumers of prefabricated content. However, their success hinges on their ability to take initiative and explore new ideas through experimentation. Also, in the case of Japan, the data indicates that students score significantly low in emotional resilience, which is well below the OECD average (Graph 1). In the 21st century, the ability to adapt and reinvent oneself daily is crucial,

as each day brings new challenges. Success requires not only the capacity to learn, which is often the more straightforward aspect, but also the ability to unlearn and relearn as circumstances evolve. This skill set is essential in the 21st century. Unfortunately, the Japanese educational system may not be adequately fostering these capabilities. Often, we focus solely on the impressive scores in academic performance in mathematics, science, and reading while neglecting to examine other critical factors. By measuring a broader range of outcomes, we can better understand the varying strengths and weaknesses of different educational systems.

Upon examining the United Kingdom as another example, its educational outcomes exhibit similarities with those of Japan. Although a common perception exists that Asian countries primarily emphasize rote learning and knowledge acquisition, this ap-

United Kingdom

Graph 2. United Kingdom's PISA 2022 Strengths and Areas for Improvement

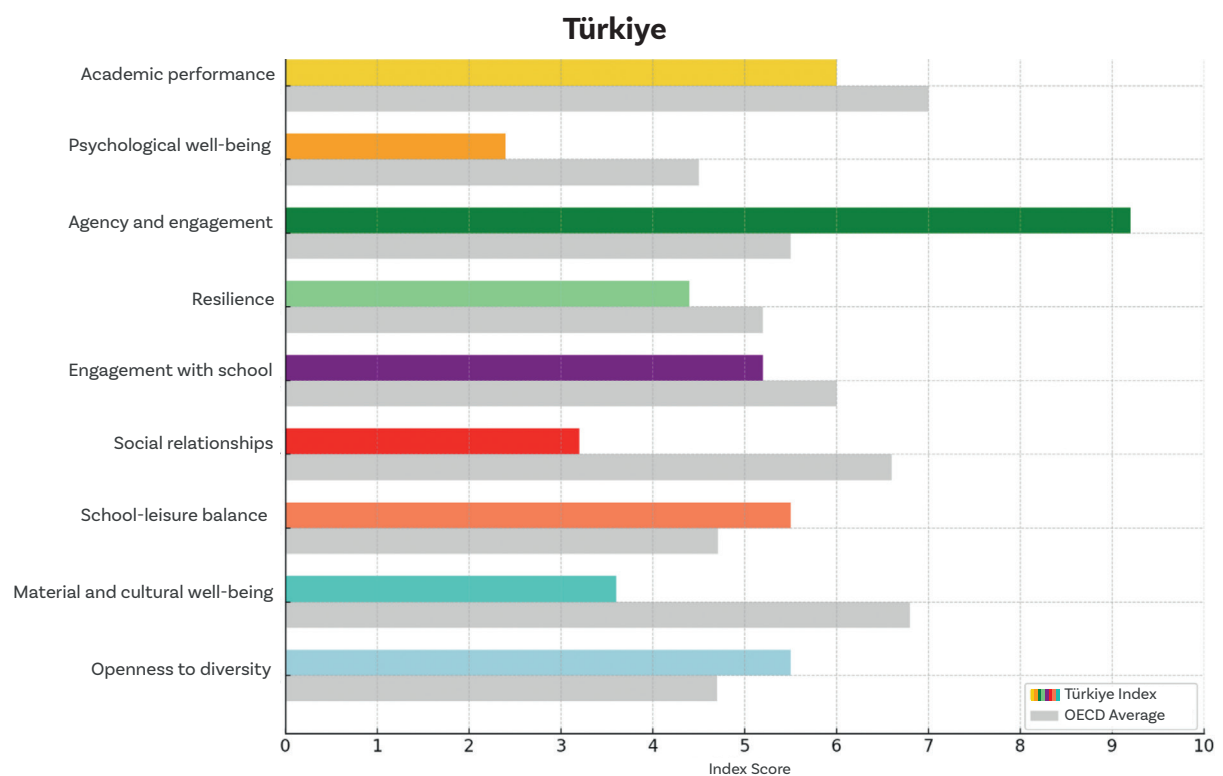Source: OECD, PISA 2018 Database, PISA 2022 Database

proach is also prevalent in the United Kingdom. In terms of overall academic performance, however, the United Kingdom tends to lag behind Japan. Additionally, British children noteworthily demonstrate relatively low levels of emotional resilience, which signals challenges related to well-being. Just as in Japan, the primary focus in the United Kingdom remains academic achievement (Graph 2), with limited attention given to other essential skills. However, recognizing that meaningful reform in education systems cannot be achieved without measuring these additional competencies is crucial. This fundamental requirement constitutes one of the key motivations behind our PISA assessments.

The next example is Türkiye. As illustrated in Graph 3, the yellow bar indicates significant room for improvement to exist regarding the country's academic performance in mathe-matics and science. While Turkish students possess considerable knowledge in these subjects, they often struggle to apply this knowledge effectively. The challenges arise when they are tested on their ability to conduct experiments or solve practical scientific and mathematical problems, which explains why the yellow bar is not as long as those seen in Japan or the UK.

Meanwhile, Turkish students show great strength in agency and engagement. They take initiatives that require action and mobilize their cognitive, social, and emotional resources. This is a significant asset within the educational system. Unfortunately, traditional assessments do not account for agency. In the context of the 21st century, however, we should prioritize and make these skills explicit in our evaluations.

The bar representing the level of psychological well-being in Graph 3 indicates Turkish

Türkiye

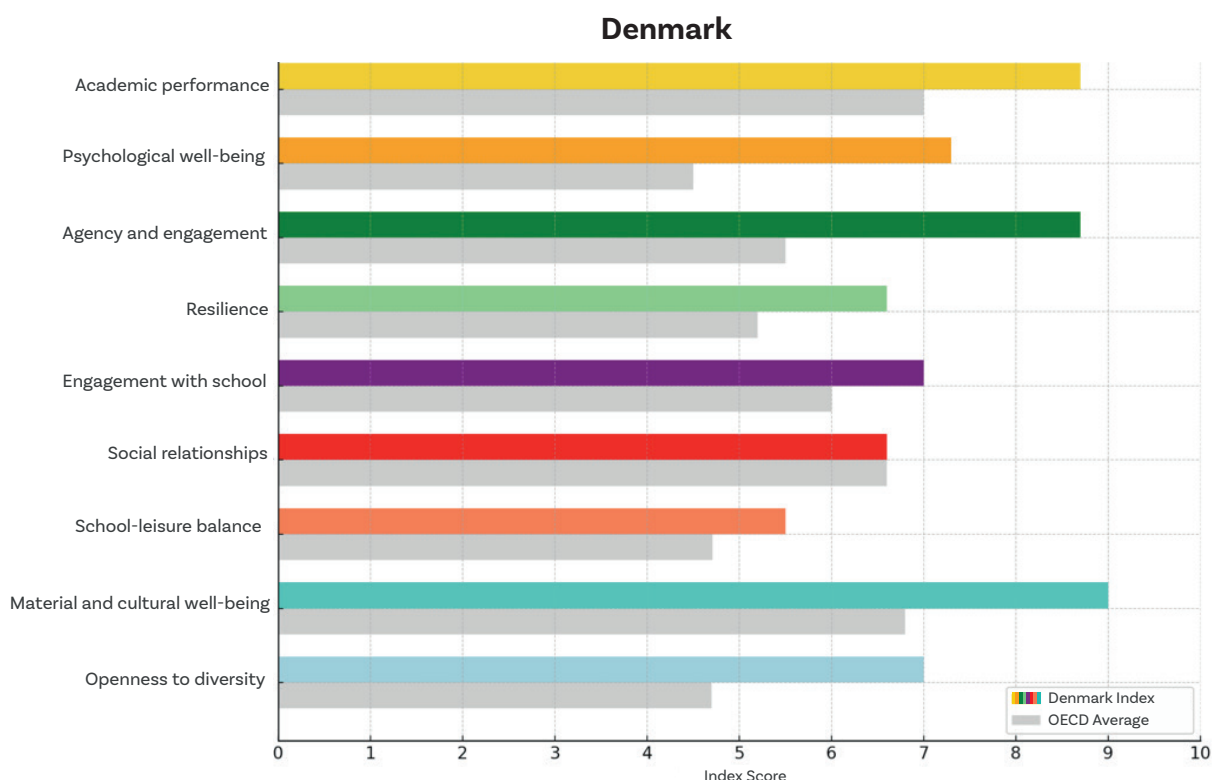Graph 3. Türkiye's PISA 2022 Strengths and Areas for Improvement

Source: OECD, PISA 2018 Database and PISA 2022 Database

students to not be particularly happy and to lack a strong sense of belonging and identity, which are foundational aspects in this century. For them to find direction becomes challenging without a clear understanding of who they are or where they belong.

In terms of the quality of social relationships, students in Türkiye often express sentiments such as, "My teacher teaches me well but does not understand me." This reflects a prevalent perception that teachers primarily act as instructors rather than as coaches, mentors, or facilitators of learning. According to student feedback, the need exists for innovative learning practices that better address students' emotional and social needs. These insights suggest that the quality of social relationships within the educational environment is an area for potential improvement. In the 21st century, fostering such social capital is crucial, as education transcends mere transactions and embodies a social and relational experience. Consequently, the fact that each educational system possesses distinct strengths and weaknesses that must be acknowledged and addressed for effective development has become evident.

The final example is Denmark, which stands out due to its generally high scores across various metrics (Graph 4). This implies no need to exist for contrasting knowledge with skills or cognitive skills with social-emotional competencies. Frequently, the misconception is found that prioritizing social-emotional development compromises academic performance, or that an academic focus detracts from social-emotional growth. In the case of Denmark, however, students perform exceptionally well across the board. Academic outcomes are exceptionally strong, and Danish students report high levels of happiness along with a robust sense of belonging. They exhibit significant agency, emotional resilience, and strong social relationships.

Denmark

Graph 4. Denmark's PISA 2022 Strengths and Areas for Improvement

Source: OECD, PISA 2018 Database and PISA 2022 Database

Moreover, openness to diverse ideas and cultures is crucial. Can students appreciate different perspectives? Are they receptive to and interested in other cultures? Danish students excel in this area as well.
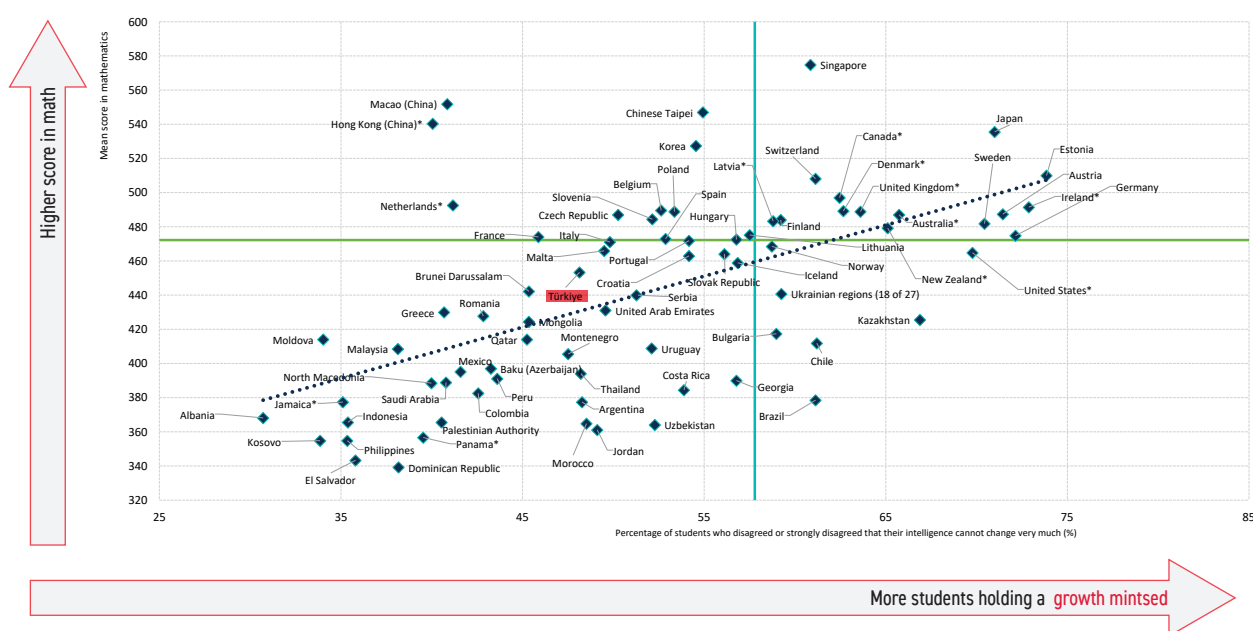
Denmark exemplifies how the demands of the 21st century can be reconciled while achieving balanced outcomes across various domains. The key takeaway is the need to make these skills visible; namely, focusing solely on academic knowledge is no longer viable. Developing metrics that encompass the broader range of competencies assessed in PISA and moving beyond mere academic skills are essential.

A crucial component that plays a role in students' educational development is their mindset, specifically the growth mindset, which refers to the belief that abilities can be developed through effort and learning. This is in contrast to a fixed mindset, which sees abilities as unchangeable traits. The data in Graph 5 illustrate the level of the growth mindset among students. Basically,

education systems that are positioned further to the right on the chart indicate having students who are more likely to believe that doing hard work and putting forth effort with teacher support will lead to success. These students adopt the perspective that their efforts can propel them forward and that they have limitless potential. Conversely, education systems on the left of the chart tend to attribute success solely to innate intelligence, leading to a diminished motivation to study hard. If one believes intelligence to be fixed, then little incentive exists to exert effort or strive for improvement.

A growth mindset flourishes in systems where teachers and parents believe that all children can learn and excel through effort. Encouraging students with constructive feedback (e.g., "Today was better than yesterday, and I'll help you keep improving") builds this mindset. On the other hand, feedback that implies limits can weaken this mindset.

Because much learning occurs outside of structured educational settings, the im-

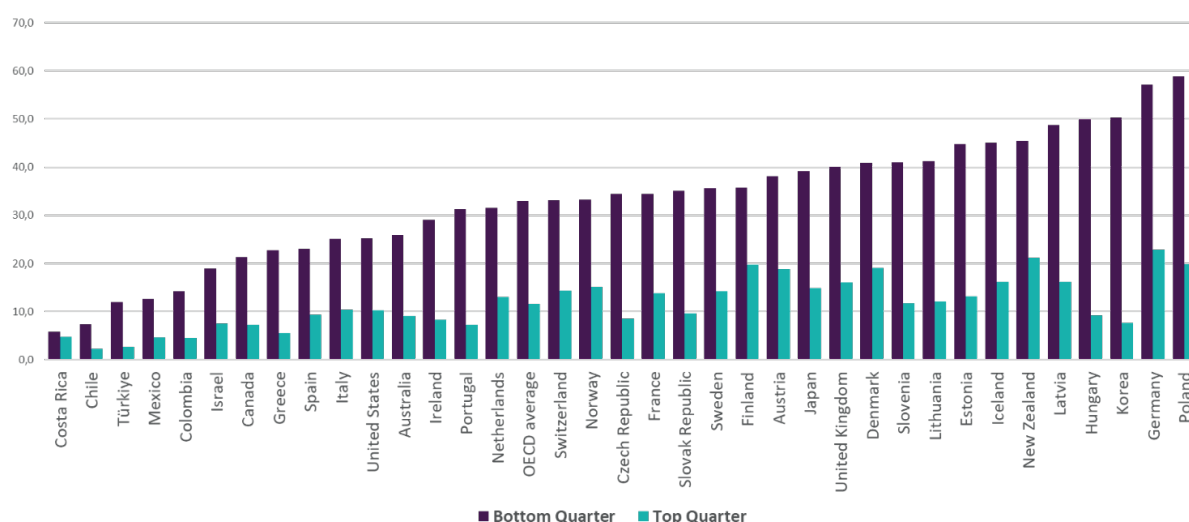Graph 5. Growth Mindset and Mathematics Performance

Source: OECD, PISA 2022 Results

portance of fostering a growth mindset extends beyond school. The real challenge lies in an individual's ability and motivation to engage in continuous learning throughout their lives. This process, commonly referred to as upskilling or reskilling, necessitates a willingness to adapt and reinvent oneself for the future. A growth mindset is essential for sustaining this process of ongoing learning. Without a belief in one's capacity for change, individuals may be less inclined to dedicate the time and effort required for meaningful growth. For example, many disadvantaged students may lack the confidence to envision themselves in careers that demand advanced skills, leading to a reluctance to invest in developing those skills. Consequently, nurturing a growth-oriented mindset is vital for empowering individuals to realize their full potential and actively pursue opportunities for advancement.

Education systems should support individuals' growth mindset while also ensuring that this mindset aligns with their career goals and the pathways to achieving them. As depicted in Graph 6, a significant proportion of disadvantaged students in many countries, particularly Germany and Poland, exhibit unrealistic aspirations regarding their career goals. While they express desires to attain prestigious positions, they often fail to demonstrate the requisite effort necessary to achieve these goals. Furthermore, they tend not to pursue the educational pathways essential for qualifying for these roles. This lack of alignment between aspirations and actions can result in significant dissatisfaction later in life. Individuals' inability to realize their ambitions due to insufficient effort reflects not only personal choices but also the shortcomings within an educational system that fails to adequately support their aspirations. Additionally, this inability is influenced by societal factors, particularly the way education and career opportunities are structured and presented.

These societal factors are particularly evident in the gender disparities observed in career aspirations, especially in technology-related fields. Careers in technology are often considered jobs of the future and are highly sought after. While many young men—

Graph 6. Percentages by Socioeconomic Status of Students with Unaligned Education and Career Expectations
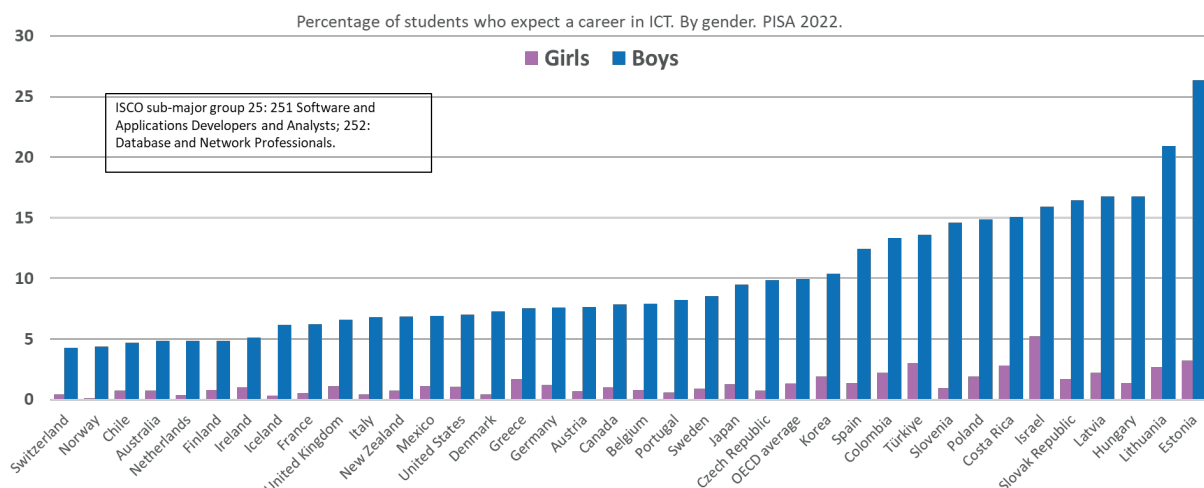
Source: OECD, PISA 2022 Results

including those in Türkiye—aspire to enter these fields, the number of women sharing the same interest remains significantly lower (Graph 7). This discrepancy is not due to a lack of scientific talent among females. In fact, data from the PISA science test shows minimal gender differences in performance, with girls scoring on par with boys. Thus, this gap in interest is more about aspirations and societal role models than ability. The act of perceiving science merely as a subject for securing good grades rather than as a gateway to meaningful career opportunities does nothing to inspire students. Therefore, aspirations are as crucial as skills. However, education should not only focus on helping individuals achieve personal goals but also support students in acquiring the diverse skills that enable them to actively participate in both social and professional life.

This need necessitates having schools go beyond their traditional boundaries and provide students with broader and more enriching learning opportunities. While schools are often considered the primary setting for skill acquisition, some of the most essential skills (e.g., curiosity, courage, leadership, and social skills) are better cultivated in real-world environments where students engage with real problems and people, as mentioned before. For instance, while vocational and technical education in Türkiye can provide such opportunities, they are frequently perceived as a last resort rather than a first choice, which reflects a limiting viewpoint toward its potential.

In brief, many of the skills that matter most in our surroundings are best developed when we engage with real-world challenges alongside people who are creating meaningful outcomes. Building bridges between schools and the real world could enhance learning experiences, particularly for developing essential 21st-century skills. However, such integration remains uncommon in many countries and deserves greater attention. In this context, the learning process should not be confined to a specific location or age group but evidently should be approached as a phenomenon that encompasses all stages of life.

Graph 7. Percentages by Gender of Students Who Expect a Career in ICT

Source: OECD, PISA 2022 Results

Lifelong learning has become essential for individuals to adapt to evolving technological and societal demands.

While we once viewed learning as a preliminary step to entering the workforce, learning itself is the core of work these days. Traditionally, life followed a linear path, where individuals attended school, pursued higher education, entered the workforce, and eventually retired. However, the demands of the 21st century have reshaped this trajectory, especially with the emphasis on having skills-based learning start in early childhood. Many of the skills critical for success in the 21st century are best developed in the earliest years of life. For instance, curiosity and empathy are skills that can be actively nurtured in a three-year-old. For adults, however, these often becomes fixed personality traits that are difficult to change. This reality highlights how many of the foundational skills we need in today's world are formed in early childhood. As a result, early childhood education and care should no longer be considered supplementary or optional. Instead, these must be seen as the central, skills-based foundations of learning, emphasizing their critical role in setting the stage for lifelong learning.

As a result, the emphasis in higher education has shifted from specialization to adaptability and cross-disciplinary skills. Employers today prioritize individuals with the capacity to learn and adapt over those trained narrowly in specific fields. Questions such as "How do you learn?" and "How do you acquire new skills?" are now central to hiring processes. The capacity to extrapolate knowledge and apply it in new, unfamiliar contexts is increasingly vital in today's dynamic world, illustrating how work and learning are indeed two sides of the same coin. The most progressive workplaces today double as dynamic learning environments, just as the best educational institutions more and more prepare individuals to adapt to the work demands of this century. In the past, work and learning were treated as separate domains, but integrating them has now become essential for enhancing skills-based learning across sectors. This integration should not just be confined to vocational training but extend to universities and advanced education as well.

Continuous learning has never been more important. However, OECD statistics have revealed a concerning trend: When one asks, "Who in the adult labor force is investing in continued learning?", the data indicate that only four out of ten adults in OECD countries return to learning later in life after graduating from university. Namely, 60% of adults do not reengage with education once they are established in the workforce. This prompts the question "Why do adults not continue their education?" When surveyed, the primary reason is not financial constraints or lack of accessible opportunities, as is often presumed. Instead, a majority respond, "I don't need it," suggesting a deeper issue rooted in perceived relevance and personal motivation.

Individuals with higher levels of education generally recognize the long-term benefits of continuous learning, whereas those with lower educational attainment may struggle to see a clear reason for reinvesting in education. For example, a truck driver facing

the impact of automation (i.e., the reduced demand for human labor due to technological advancements) may have difficulty envisioning a future role for themselves in the workforce. In turn, this can make recognizing the value of updating their skills harder for them. This trend highlights the need to redefine lifelong learning not as an optional choice but as an essential component of career resilience (i.e., the ability to remain adaptable and flexible in the face of changing labor market conditions). However, societal investments in educational resources and financial support on their own are not enough to address this issue. Transforming attitudes toward lifelong learning, particularly among individuals with limited education, is crucial for building a workforce capable of adapting to evolving conditions.

Data further reveal individuals with lower skill levels to be far less likely to engage in lifelong learning compared to their more highly skilled counterparts, a trend consistent across OECD nations. Bridging this divide necessitates policies that prioritize upskilling and reskilling opportunities for those most at risk of being left behind. By fostering greater accessibility and targeting underserved demographics, education systems can better support adults at all stages.

The final point I wish to emphasize is critical but can be challenging to convey within an academic context: The distinction between degrees and skills is paramount. At the OECD, we prioritize assessing actual competencies over formal qualifications, as we do not inquire about individuals' degrees or institutions of study. Instead, we implement real-world assessments such as the PISA test in order to evaluate the skills individuals in the workforce possess. This approach often reveals that some individuals with university degrees may possess outdated skills due to a lack of ongoing learning. Conversely, those

In Türkiye's PISA science test results, while male and female students perform similarly, female students have significantly lower expectations of pursuing careers in technology-related fields, which are considered the professions of the future.

who did not attend university may have acquired valuable skills through practical workplace experience. Adopting a more nuanced perspective regarding the skills individuals possess rather than solely concentrating on how these skills are acquired is essential.

Focusing exclusively on qualifications may lead to the view that a university degree is merely an expensive acknowledgment of tuition fees rather than a true reflection of one's capabilities. Importance is had in recognizing that the value attributed to different qualifications can vary significantly across coun-

tries. This variability underscores the need for a more comprehensive understanding of the diverse talents present within populations. A holistic approach to assessment could involve examining not only what individuals know and can do but also how they apply their skills and contribute to their communities, thereby establishing a more robust foundation for future growth.

When considering the skills needed for success in the 21st century, four fundamental expectations from educational institutions emerge. First, having individuals explore their sense of purpose and understand their role in the world is important. Engaging students in discussions about what is significant to them and where they can make a difference may enhance their educational experience. Students are often presented with a broad curriculum encompassing subjects such as geography, history, mathematics, and science, yet the opportunity for self-reflection regarding their personal aspirations is frequently neglected.

Second, schools might consider actively assisting students in identifying their hidden talents. The assumption that students can discover their strengths simply by choosing subjects may overlook the need for supportive educators who understand their aspirations and can guide them on their journeys. Fostering relationships between teachers and students in informal settings could facilitate individual growth and self-discovery.

Third, having educational institutions help students comprehend the needs of the world around them may be beneficial. True fulfillment can often stem from making a positive impact on others, and schools have a vital role in guiding students to understand

how they can contribute meaningfully to their communities, countries, and the planet, thereby fostering a sense of responsibility and purpose.

Lastly, emphasizing the connection between skills and meaningful employment is crucial for enhancing the quality of life. Addressing the economic implications of education in relation to societal needs is an important endeavor. Thoughtfully prioritizing these elements creates the potential to work toward a shared vision of a brighter future through education, thus ensuring that individuals are equipped with the knowledge and skills necessary to navigate an ever-changing world effectively.

Learning methods that are disconnected from the real world limit individuals' capacity to generate both personal and societal benefits.

Recommendations

Education systems should shift their focus from rote learning approaches to fostering 21st-century skills such as critical thinking, problem-solving, and creativity. Students should not only acquire knowledge but also develop the ability to apply it to real-world contexts. They should be encouraged to question established knowledge, ask the right questions, and enhance their critical thinking skills.

In addition to academic success, social-emotional skills such as happiness, a sense of belonging, psychological resilience, and quality of social relationships should be at the core of educational curricula. In Türkiye, school environments should be designed to support social interactions, to enhance students' sense of belonging and identity, and to develop their psychological resilience and self-efficacy.

A growth mindset should be encouraged that strengthens students' belief in their ability to develop their talents through effort and learning.

Role models, awareness programs, and incentive mechanisms should be implemented to increase female students' involvement in STEM (Science, Technology, Engineering, and Mathematics) and ICT (Information and Communication Technologies) fields. Conducting research on the reasons behind the gender gap in these fields is essential for designing effective interventions.

University education and advanced learning programs should be structured to help students develop the ability to adapt and apply knowledge in different contexts.

Providing students with real-world problem-solving experiences and opportunities to generate meaningful outcomes enables them to acquire the essential skills required in the job market. Vocational and technical education should be supported within this framework and approached with a broader vision.

Assessment methods in education should go beyond simply measuring academic success. They should focus on evaluating how individuals apply their skills and contribute to society.

Education should not be confined to school years alone but should be seen as a lifelong process. Updating and relearning skills are crucial for individuals to adapt to the changing job market. Education policies should prioritize integrating individuals with low skill levels into continuous learning processes.

Schools should help students discover their purpose in life, uncover their hidden talents, and select the necessary educational pathways to achieve their personal goals. In this regard, curricula should be emphasized that aim to develop students' social, creative, and leadership skills.

Strengthening the connection between the skills acquired in education and meaningful, socially valuable employment is essential for guiding students toward career paths that contribute to both their personal growth and society.

SESSION II:
THE TRANSFORMATIVE IMPACT OF 21ˢᵗ-CENTURY-SKILLS IN EDUCATION

Prof. Orhan Uzun, *Bartın University | Rector, Founding President of the Higher Education Quality Council (YÖKAK)*

Prof. Mustafa Öztürk, *Boğaziçi University | Faculty Member, Faculty of Education*

Prof. Orhan Uzun

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Higher Education Qualifications Framework: Rethinking the Relationship Between Education and Employment in the Context of 21st-Century Skills

The European Qualifications Framework (EQF) is the result of efforts to harmonize the education and qualification systems of European countries. This framework has been in effect since being adopted in 2008 and aims to make qualifications across different countries and systems more understandable and comparable. Additionally, the EQF serves as a common European reference framework that links national qualification frameworks, promoting lifelong learning and facilitating the free movement of individuals across countries.

The Türkiye Qualifications Framework (TQF, Figure 9) was developed by a committee under the Vocational Qualifications Authority and came into effect in 2016. The TQF defines education levels across eight tiers, ranging from early childhood education to the doctoral level. These levels are categorized into three main components: knowledge, skills, and competence.

Knowledge refers to the understanding and application of theoretical or factual information within a specific field. Skills represent the capacity to apply knowledge and solve problems and encompass logical and creative thinking, manual dexterity, and the ability to use tools and equipment. Competence involves an individual's ability to apply one's knowledge and skills autonomously and responsibly, to identify learning needs, and to be aware of ethical responsibilities. These three components are interconnected, and the TQF has now been integrated into the EQF.

In an environment of change and competition, with what knowledge, skills, and competencies should we equip our students to
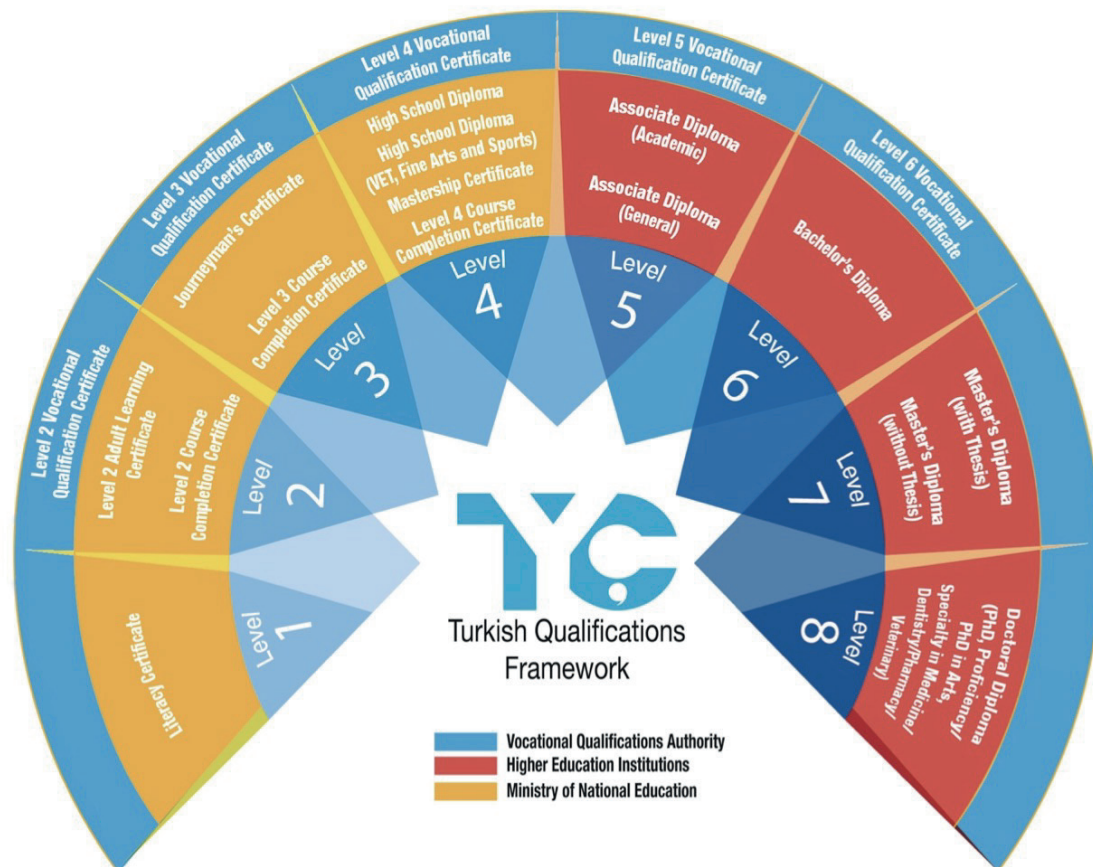
Figure 9. Turkish Qualifications Framework (TQF)

Source: Türkiye Qualifications Database

ensure their success in the face of future uncertainties? This is one of the fundamental questions we seek to answer in the field of education. A graduate of a bachelor's program should be able to answer the questions "What do I know?" and "What can I do?" These questions are shaped by qualification frameworks that provide concrete definitions of knowledge, skills, and competencies.

21st-century skills emerge as answers to these questions. These skills require adaptability to dynamic, constantly evolving needs. Research conducted in collaboration with the business sector has identified the skills that employers expect from graduates, leading to various classifications. However, such studies remain limited in Türkiye.

The world is facing global challenges such as climate change, food crises, and biodiversity loss. These issues are interconnected and have widespread global consequences. For instance, climate change is a significant factor driving migration movements. Therefore, we are no longer just talking about problem-solving but rather complex problem-solving. Skills such as creativity, critical thinking, collaboration, and communication are indispensable elements of the 21st century. Developing these skills requires extending learning beyond the classroom, as well as informal learning and peer learning, with peer learning being widely recognized as one of the most effective learning methods.

In summary, equipping our students not only with academic knowledge but also with innovative and critical thinking skills is crucial in this new world shaped by global agendas such as sustainable development goals and the climate crisis.

Recommendations

An educational approach should be adopted that aims to equip students not only with academic knowledge but also with innovative and critical thinking skills.

Comprehensive studies should be conducted to identify the skills and competencies required by the business sector, and these findings should be considered when designing educational curricula.

Models and approaches such as out-of-class learning, informal learning, and peer learning should be emphasized more in skill development processes.

Prof. Mustafa Öztürk

Boğaziçi University | Faculty Member, Faculty of Education

The Transformative Impact of 21st-Century Skills on Learning Domains and Assessment Processes

From the perspective of educational curricula, 21st-century skills can be stated to have undergone a transformation across six fundamental domains. In this context, when considering the current state and requirements of these skills in this transformation, factors such as whether these skills have undergone a transformation or whether the transformation is still ongoing become increasingly significant.

Based on learning experiences, recognizing that 21st-century skills are not entirely new concepts is important. These skills are part of an existing set, which makes questioning how much has transformed so far and what remains unchanged essential.

First, the transformation should be emphasized as not being confined to a single learning domain. Given the diversity of learning areas, many national and international studies have primarily focused on the cognitive aspects of 21st-century skills while often neglecting other domains. Therefore, how these other areas can be effectively transformed needs to be considered.

A second key dimension is the need for an approach that includes all educational levels and age groups, with PISA serving as a relevant example in the context of comparative education. PISA Babies is one of its latest initiatives and highlights the significance these skills have in early childhood education. This initiative underscores how 21st-century skills are not only crucial for 13- to 14-year-old, higher education, and primary school students but are also actually essential across all levels of education.

Another critical question is whether this transformation is truly being achieved across all levels of education. Emphasizing that this transformation should not be confined to a specific subject area is essential as a third dimension. Should clear distinctions occur among the skills associated with subjects
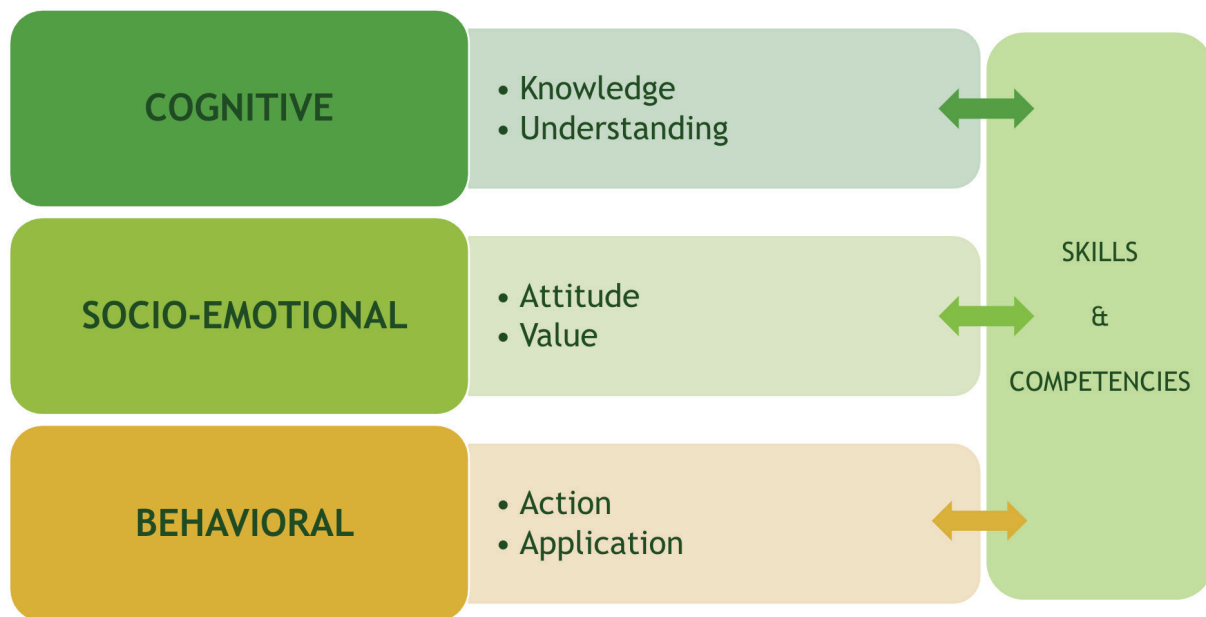
Figure 10. Learning Domains

Source: Öztürk, 2023a

such as science, mathematics, and literacy, or should an interdisciplinary or even transdisciplinary approach be adopted? Priority should be given to transforming courses using a transdisciplinary approach, rather than confining them to a specific subject area. For example, having mathematics be integrated with the arts rather than being strictly separated allows for designing cities and regions with a vision that merges artistic and mathematical thinking, ultimately leading to more effective, future-oriented services.

Another dimension to consider is learning environments. When examining examples from around the world and Türkiye, skills-based learning environments evidently vary greatly; however, this diversity remains insufficient. In some contexts, no transformation has taken place at all while overly idealized models have been presented in others. Striking a balance between unrealistic ideals and practical realities is crucial.

Emphasizing how the process itself is also a significant dimension is essential. The methods teachers use to cultivate these

skills have undergone a partial transformation. However, numerous challenges remain when dealing with assessment. Due to Türkiye's multiple-choice exam-oriented system, sufficient transformation is not observed to have been achieved for assessing these skills. For instance, even if a learning experience designed to develop critical thinking has been successfully implemented in the classroom, the fact that students are ultimately assessed through multiple-choice exams that primarily serve cognitive skills indicates the evaluation methods to have not been adequately transformed.

Learning processes are examined across three fundamental domains: cognitive, social-emotional, and behavioral (Figure 10). From the perspective of the curriculum, the skills related to the cognitive domain are expected to enhance both knowledge acquisition and deep understanding. However, the mere development of knowledge and comprehension is insufficient for mastering these skills. A meaningful transformation only occurs when a shift in students' atti-

Systems Thinking	Strategic Thinking	Critical Thinking
Self-awareness	Flexibility, Adaptation, Resilience	Normative Competency
Anticipatory Competency	Communication, Collaboration	Problem Solving

Figure 11. Key Skills and Competencies

Source: UNESCO, 2017

tudes and values related to these skills has occurred that makes their acquired knowledge more relevant and impactful.

Integrating values into the education process is of critical importance. However, if values are included in the system without being reinforced through action and practice, the process remains incomplete. For example, no lack of knowledge is found regarding the act of not discarding cigarette butts on the ground. When conducting a survey on attitudes towards this issue, almost everyone appears to have a positive stance toward this. Yet, we still see cigarette butts scattered on lawns. This indicates learning domains to have not been fully transformed, as the transition to action and implementation has not yet been achieved.

When examined from a competency- and skills-based perspective, the skills that support these three domains (i.e., cognitive, social-emotional, and behavioral) demonstrate transitions from knowledge to understand-

ing, attitudes, values, action, and application. Emphasizing that these transitions should not occur solely within the cognitive or social-emotional domains but should function holistically across all domains is important. One frequently emphasized aspect of the Century of Türkiye Education Model is the need to address these skills and competencies within a symbiotic relationship across all domains.

An extensive body of documentation exists regarding skill sets. National and international studies have categorized these skills into such areas as core skills, integrated skills, digital skills, and literacy skills. For instance, a study conducted in collaboration with UNESCO identified nine key skill sets (Figure 11). These skill sets are related to the previously mentioned learning domains and serve to enrich those areas. Additionally, they are expected to support learning experiences and assessment processes.

There is a direct relationship between students' level of curiosity and their performance in mathematics and science.

These skills should be widely introduced at all educational levels and across different age groups. To ensure that they are not confined to a specific subject area, they should instead be embedded in broader learning domains such as systems thinking, strategic thinking, and critical thinking and should be instilled in students from an early age. When discussing problem-solving skills, the first association is often with mathematics. In its most fundamental sense, however, problem-solving is not merely a subject-specific skill but also a conceptual and integrated skill that transcends disciplinary boundar-

ies. Therefore, each aspect of these skill sets can and should be evaluated from multiple perspectives.

Among other skill domains, self-awareness, flexibility, adaptability, and resilience stand out as crucial competencies. The normative competency and anticipatory competency are also significant skills, and teaching students how to design the future and navigate current global and regional challenges is essential. In addition, communication and collaboration are also indispensable skills that must be developed.

The social-emotional learning domain has been incorporated into the new curricula under the category of social-emotional skills. Within this domain, however, self-identity also plays a critical role. Questions such as "Who am I?", "Where do I belong?", and "What is my purpose in this world?" reflect an individual's internal inquiries. Beyond these personal reflections, the way individuals interact with their environment and the self-perception that emerges from these interactions are equally significant.

While these skills have been observed with the potential to transform learning experiences, the fact that this transformation has not yet been fully realized must also be acknowledged. If a true transformation had occurred, the skills that were discussed in 2014, many of which had existed even earlier, would not still be under debate in 2024 as if they were a new set of competencies.

Various approaches to learning experiences exist, including active learning, context-based experiential learning, interdisciplinary learning, and situated learning, and these approaches share several commonalities. Another valuable learning method is participatory/engaged learning and is widely practiced, particularly in Northern European and Scandinavian countries.

Project-based learning is often perceived as an experience confined to the fields of science and mathematics, but the fact that this is not the case is important to emphasize. Social-emotional learning is a frequently highlighted topic in the Century of Türkiye Education Model, with the concept of curiosity standing out among social-emotional skills. According to PISA data, when applying an attitude scale related to curiosity, a one-unit increase in the curiosity dimension corresponds to approximately a 12-point increase in PISA scores, showing students' curiosity levels to be directly proportional to their performance in mathematics and science.

Addressing how these skills are transforming in terms of content and scope is also important. Many global themes and disciplines are found that need to be considered. How can issues such as climate change, urban and regional planning, earthquakes, global warming, and biodiversity be integrated with local realities? Taking local dynamics into account is essential while discussing global topics.

While addressing the problems of the world and humanity, both the expectations of the present and the future must essentially be considered without overlooking the socio-cultural dynamics and national and moral values of the target audience. For example, while biodiversity is a global issue, its integration into educational curricula can present a different perspective when viewed through local contexts. Let's consider an example: Imagine a father in Yemen, trying to provide for his family in the region of al Hudaydah. Living under a blockade, he faces threats to his safety each time he leaves his home in search of food. The only safe option for feeding his family is for him to catch fish from a nearby lake. In this situation, is discussing biodiversity conservation even feasibly without considering the local realities? Can the importance of biodiversity be meaningfully conveyed to this family without acknowl-
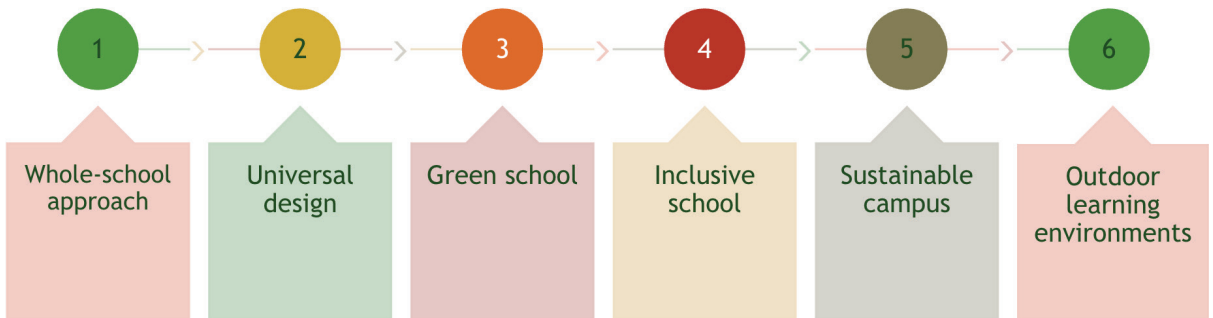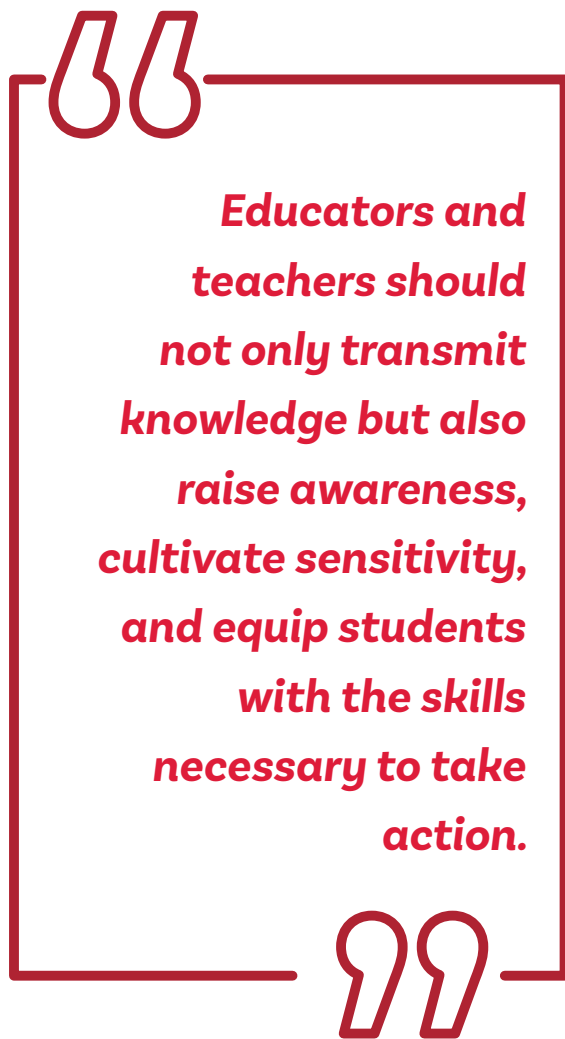

Figure 12. Learning Environments

Source: Öztürk, 2023b

> *Educators and teachers should not only transmit knowledge but also raise awareness, cultivate sensitivity, and equip students with the skills necessary to take action.*

edging their immediate concerns for survival? At this point, recognizing a fundamental misconception in how such global issues are approached in different socio-political contexts is crucial.

21st-century skills establish a connection between global issues and challenges; however, not disregarding local realities is essential. Therefore, drawing upon global issues would be an appropriate approach when determining subject areas and transforming content. These themes are being identified for each educational level through thematic approaches or the spiral model curriculum developers adopt, and the current model frequently incorporates such themes. Moreover, regional, national, and cultural conditions must be considered alongside these themes. Only by doing this can localization and contextualization be achieved. In brief,

localization and contextualization emerge as two important dimensions in content transformation.

From the perspective of student learning, mere knowledge acquisition is insufficient. For students to become competent with these skills, they must think, feel, and apply what they have learned. Educators and teachers are responsible not only for teaching but also for raising awareness, cultivating sensitivity, and encouraging students to take action. Without enabling action in the learning process, the objectives of 21st-century skills cannot be fully realized.

Another important dimension is learning environments (Figure 12). While partial transformations in learning environments can be observed, a more widespread transformation is evident in the foundation and private institutions that receive socioeconomic support.

The whole-school approach encompasses not only the physical infrastructure, technological capacity, and social space design of a school but also the climate and atmosphere that is created from the moment one enters the school corridors. In this context, a school should make the fact that all its dynamics, from human resources, technological infrastructure, and physical capacity to social spaces, play an active role in cultivating these skills be explicitly felt.

Universal design principles represent another key factor in supporting these skills within learning environments. One prominent concept in recent discussions has been the green school model, which refers to self-sustaining, sustainable schools. These schools generate their own energy and utilize rainwater through a recycling system to ensure a closed-loop water supply.

The inclusive school model is another important factor in transforming learning environments. Furthermore, out-of-school

learning environments also require transformation to support learning beyond the classroom. Ensuring that learning initiated in school continues outside the school is essential for reinforcing educational outcomes (Figure 12).

The final key dimension is the reflecting these essential skills and competencies into assessments and evaluations. Unfortunately, a rigid, exam-centric system leads to many of these skills being lost. During the transition to higher education in particular, we have observed students withdraw from social life and postpone developing these skills. In the final years of secondary education, students become overwhelmingly preoccupied with how to perform in a standardized multiple-choice exam that determines university admission, leaving little room for essential skills such as critical thinking and problem-solving. This postponement behavior results in the gradual loss of these skills. Because skill retention and mastery require continuous practice, the one-, two-, or even three-year-long exam preparation period causes students to fall behind in their skill development.

Moreover, even after transitioning to higher education, this disconnection will persist if university-level learning and assessment processes fail to incorporate these skills. The crucial question that needs to be addressed here is how can we ensure the development of these skills without relying on an exam-driven system.

For example, the 2006 PISA results showed that students were given a city map and asked, "How would you travel from point A to point B in the fastest, most sustainable, and most cost-effective way?" While this may seem like a simple question, answering it effectively requires activating almost all nine key skills (Figure 11). Students must decide where to transfer, whether to use public

The integration of values into educational processes requires not only theoretical knowledge but also the proper implementation of practice and actions; otherwise, the learning process remains incomplete and ineffective.

transportation, and how to reach their destination in the fastest, most environmentally friendly way. Open-ended questions such as this provide an important opportunity for developing critical thinking and inquiry skills.

Sustainability skills hold a significant place both globally and within the Century of Türkiye Education Model. However, I believe that the concept of sustainability has not yet been systematically integrated into education. Sustainability is often treated as a vision, but sustainability skills must be effectively utilized to truly instill this vision. At the same time, I do not find the current emphasis on sustainability skills entirely effective.

When examining this issue, we see that many products and services are presented to society as sustainable solutions, with some being claimed or even imposed as truly sustainable. However, these claims deserve careful

scrutiny. For instance, products marketed as healthy may not always be genuinely beneficial from a nutritional perspective. On this point, developing a method that enables children and young people to think critically about these issues, conduct research, and enhance these skills through contemporary learning experiences is crucial. For example, are electric vehicles truly a sustainable solution? Encouraging students to analyze this question using sustainability skills would enable them to form well-informed opinions based on evidence and research.

In summary, we observe from a curriculum development perspective that different dimensions of learning are undergoing transformation and will continue to evolve in the future, and this is an expected progression. However, assessment and evaluation pro-

cesses have not been transformed at the same pace, and no sufficient or systematic approach currently exists in this regard. As a result, a learning experience that cannot be properly assessed or measured loses its significance. For example, if we structure our lessons using critical thinking and continuous inquiry methods but then apply an assessment method that does not align with these skills, the learning process will be incomplete and disconnected.

For this reason, assessment and evaluation processes hold vital importance. Given that we live in an exam-driven society in Türkiye, exams must be designed in a way that does not negatively impact students' skill development.
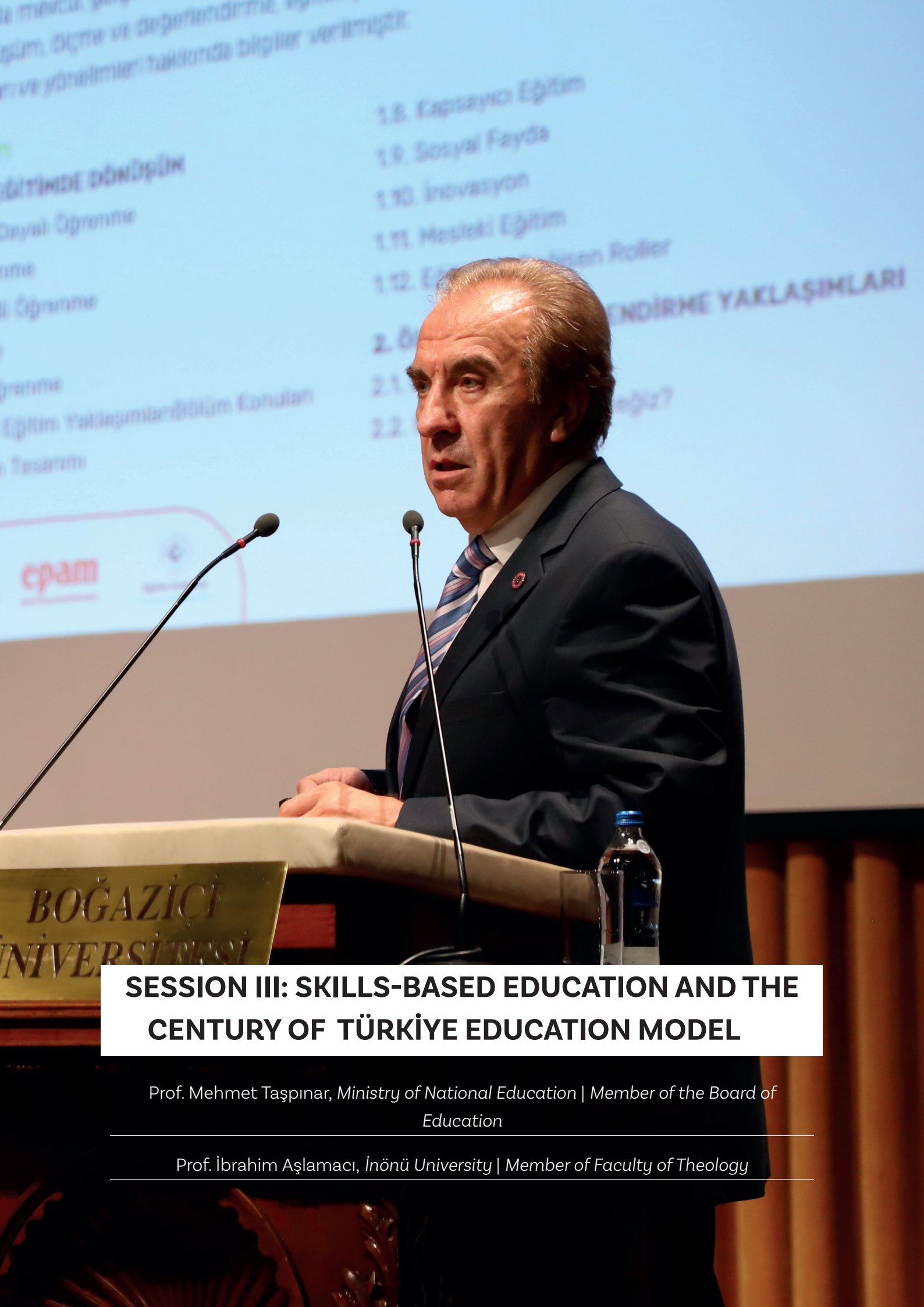
Recommendations

The harmonious transformation of learning and assessment processes requires a comprehensive education model that not only enhances students' theoretical knowledge but also develops their skills. The transformations in education based on 21st-century skills should not be confined to the cognitive domain alone but should adopt an approach that encompasses social, emotional, and behavioral dimensions as well.

Open-ended questions, performance tasks, and process-based approaches should be adopted in place of exam-oriented assessment systems. Skills such as critical thinking and problem-solving should be integrated into the assessment and evaluation system, enriched with content that fosters students' curiosity, and supported with more practice-based and continuous learning opportunities to enhance skill development.

Educators should not only transmit knowledge but also embrace a values-driven learning approach that encourages students to take action.

While raising awareness of global issues, education curricula should present concepts and values in alignment with local dynamics by considering the sociocultural context and real-life conditions of the target audience.

Students should be introduced to key competencies and skills from an early age, along with broader learning domains such as systemic, strategic, and critical thinking. These competencies should be integrated across all educational levels to ensure they are not confined to specific subject areas but widely applied throughout the curriculum.

SESSION III: SKILLS-BASED EDUCATION AND THE CENTURY OF TÜRKİYE EDUCATION MODEL

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The Structure of Skills-Based Curriculum Programs According to the Century of Türkiye Education Model

The role of the teacher has utmost importance in the success of an educational curriculum. Even if a curriculum is designed with systematic excellence, it is likely to fail if sufficient attention is not given to the responsibilities and roles of the teacher who will adopt and implement it. Therefore, the extent to which teachers embrace and adopt the curriculum constitutes a critical dimension of its overall effectiveness.

In this context, attention should be given to the teacher training process and to how the structure of the curriculum reflects the prominent values emphasized in the public sphere. Various policy departments and directorates operate within the Board of Education, conducting studies on different aspects of education. Among the reference sources the Board has utilized during the curriculum design process, two significant studies stand out.

The "*Eğitimde Geleceğe Bakış Raporu* [Future Outlook in Education Report]", published in 2023, provided key references regarding the elements included in the Century of Türki-

ye Education Model. The report highlighted the curriculum's philosophy, sustainability, and new educational approaches and includes conceptual analyses on teaching and learning methodologies that teachers can utilize, such as inquiry-based learning, context-based learning, problem-solving, and project-based learning. Prepared through an extensive literature review, this report has served as a critical document in shaping the curriculum's conceptual framework.

In terms of its structure, the report presented a conceptual framework under four main themes and incorporated a SWOT analysis approach to identify risks before implementation. This structure demonstrates the subject to have not merely been addressed through descriptive narration or theoretical explanations but to have also been supported by a systematic, analytical approach. This document provided significant insights into the philosophy of education and the methods for teaching ethics and values and also encompassed various dimensions related to values.
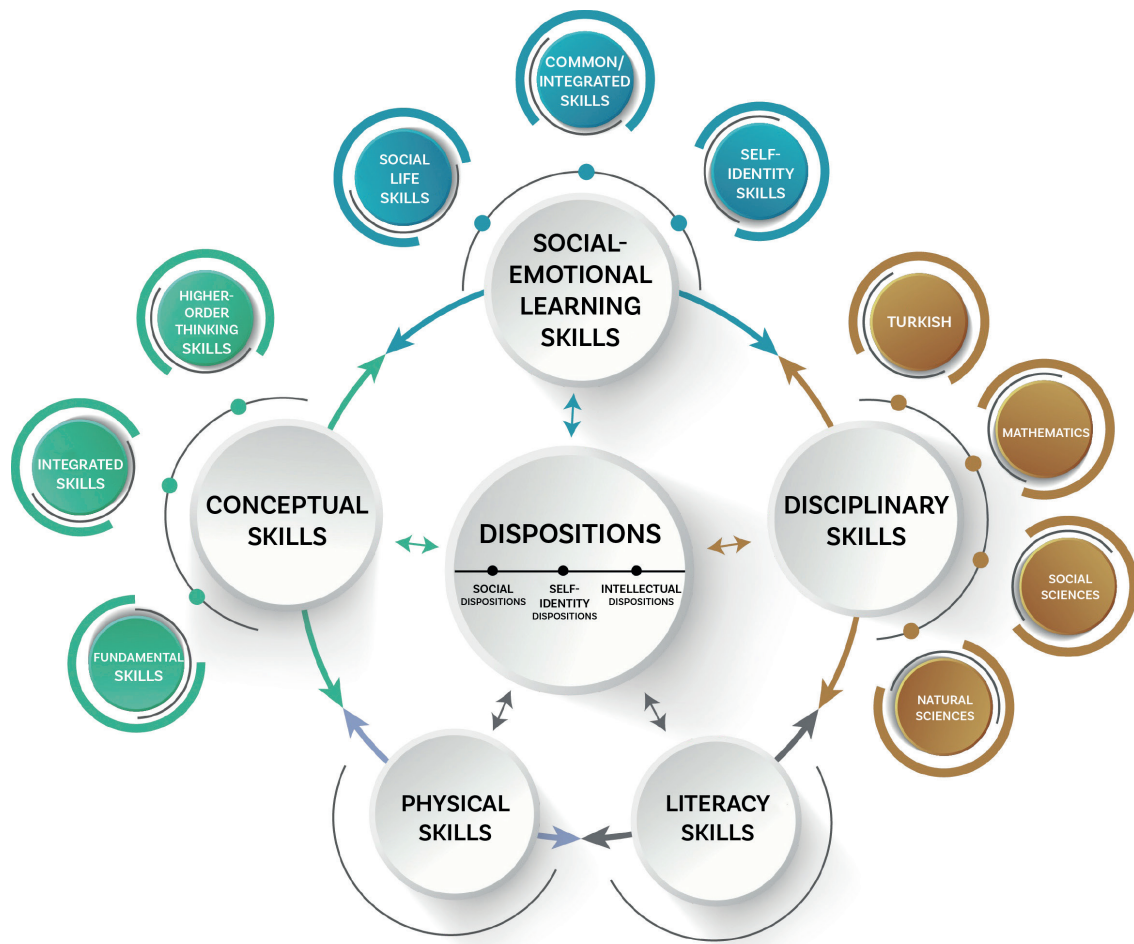
Figure 13. The Century of Türkiye Education Model Skills Framework

Source: MoNE, 2024

When examining other dimensions, the curriculum outlines a framework for new approaches such as context-based learning, active learning, and inclusive education, emphasizing their role as emerging educational approaches. Additionally, the Board of Education has used regional studies to conduct qualitative research for understanding teachers' perspectives on how to integrate technology into education. These studies have provided important insights into how educational environments should evolve within the digital transformation process.

The report also provided an extensive focus on sustainability, addressing various aspects such as environment, food security, and migration. Beyond these conceptual

discussions, it also offered insights into the risks Türkiye faces and the necessary measures that should be reflected in educational curricula. In this context, the document has also made significant contributions to other initiatives undertaken by the Ministry of National Education.

Another key study focused on the 21st-century skills and values that are frequently emphasized in the curriculum. This study was shaped through expert meetings and workshops and supported by a comprehensive literature review. In different classifications of 21st-century skills, approximately 500 to 600 sources were examined, and these skills were categorized into six main groups: social-emotional learning skills, conceptual
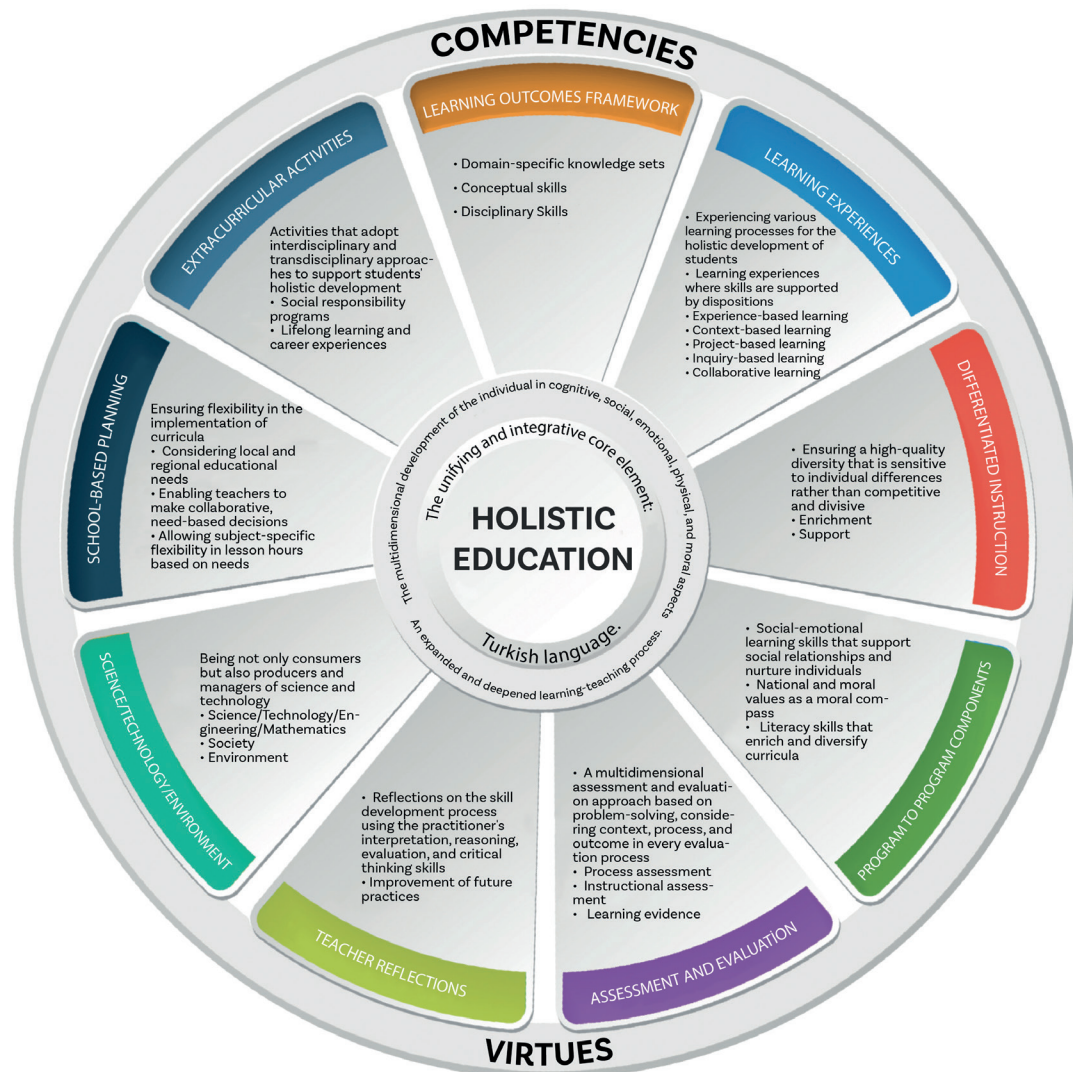
Figure 14. Education Model: Holistic Education Approach

Source: MoNE, 2024

skills, disciplinary skills, literacy skills, physical skills, and dispositions (Figure 13). By establishing a relationship between these skills and values, the study made a significant contribution to our education system. Notably, the fact that these structures align significantly became evident when analyzing the common text of the Century of Türkiye Education Model. Values such as thriftiness, respect, love, honesty, justice, friendship, and kindness have been explicitly incorporated into the new curriculum under the Virtue-Value-Action Framework (Figure 2).

The new curriculum establishes a framework focused on 20 core values. The way the Century of Türkiye Education Model's framework has been shaped is particularly important. The phrase "from roots to the future" in the document reflects the idea that an education system should be built upon its historical traditions, cultures, and accumulated knowledge while being enriched with universal principles. This principle is also emphasized in the "Common Text," which serves as the primary reference for all curricula developed within the Century of Türkiye Education Model. Additionally, this framework

provides clear guidelines on fundamental approaches and student profiles. At its core, the Virtue-Value-Action Framework defines the structure of skills, including conceptual skills, disciplinary skills, the dispositions that activate these skills, social-emotional learning skills, and systems thinking.

The core approach of the curriculum consists of statements that reflect its educational philosophy. The model emphasizes the competent and virtuous individual, with the aim of cultivating morally upright, virtuous individuals who strive to act in ways that are good, right, and beneficial for society. While this understanding is rooted in traditional values, it also incorporates a framework that includes universal skills and competencies.

Defining the student profile is essential, as learning outcomes should be assessed by observing students' demonstrated behaviors. Therefore, outlining this profile represents the starting point of the process. A key aspect of this definition is the skills framework, which shapes learning outcomes. Adopting a skills-based approach in designing these outcomes is one of the curriculum's distinguishing features.

Unlike previous educational approaches that relied on behaviorist models or predefined behavioral objectives, this model builds a structure centered on skills. Following this integrated structure without separately designing knowledge, skills, personality, and character will be able to effectively establish the foundations for a skills-based curriculum. Efforts have been made to implement this approach accordingly.

Similarly, learning outcomes and assessment processes must align with the skills-based approach. If this approach is not reflected in assessment methods, then separating knowledge, skills, and character development would distance the model from its philosophical foundations even if a skills-

The Türkiye Education Model's fundamental approach is based on statements reflecting its core philosophy, emphasizing the "competent and virtuous individual" model, with the primary objective of cultivating individuals who are moral, virtuous, and dedicated to actions that are good, right, and beneficial for society.

based curriculum is designed. The curriculum's design may be qualitatively strong in both structure and content, but the true impact of its implementation will only become clear over time. Emphasizing the significant efforts that have been made to ensure success is important in this process.

The experiential aspect of learning has great significance. While these experiences take place in the classroom, they are not limited to it. While the curriculum does incorporate various learning environments, because the classroom remains the most structured and

> *The real challenge in education is not a lack of knowledge but the failure to cultivate morally upright individuals.*

familiar setting, benefit is had in emphasizing its role. Students' readiness levels, prior knowledge, and previous learning experiences should be taken into account when designing learning experiences within this environment. New knowledge should be built upon existing knowledge, thus allowing students to make interdisciplinary connections such as applying mathematical concepts in physics or relating the concepts acquired in science classes to chemistry.

One aspect that was present in previous curricula but did not yield the desired outcomes was differentiation. Differentiation aims to organize learning experiences in a way that considers individual student differences. The

goal is to use structured educational strategies that help each student reach their full potential in order to effectively implement differentiation processes.

What is teacher reflection? When I was teaching, we used to write down our reflections regarding the lesson delivery after each class. At the end of the term, these reflections were compiled during subject committee meetings into a departmental report, which was then submitted to the school administration before being forwarded to the relevant units within the Ministry. With the current digital transformation, teachers are now able to instantly share their reflections, and these data will be collected in a database managed by the Board of Education. However, analyzing such a large volume of data is challenging. For instance, how can we effectively process reflections from approximately 1.2 million teachers? To address this challenge, we plan to utilize artificial intelligence to analyze and interpret these data.

All these values and skills, which are referred to as interdisciplinary curriculum components, will be effectively integrated into the educational process. The targeted learning outcomes have a particular focus on developing 21st-century skills, social-emotional learning skills, and literacy skills. As a result, no need exists for a separate values education curriculum. One key distinction from the 2018 curriculum is that these values and competencies have since been embedded within teaching and learning practices through systematic coding.

While general competencies and values were outlined under key themes in the 2018 curriculum, it lacked guidance for teachers on how to integrate these values into learning outcomes and instructional content. Research indicates this approach to have not been very successful. However, a well-designed mechanism has been developed within the

current curriculum for establishing these connections, thus ensuring that values and skills are effectively embedded within the learning process.

The question of whether the Virtue-Value-Action Framework represents universal values has sparked public debate. In the mid-1990s, the President of the American Psychological Association (APA) and a research team examined various belief systems and identified six core virtues deemed fundamental. The process primarily focused on the question, "Which virtues should be universally accepted?" The six identified virtues were wisdom, courage, justice, temperance, humanity, and belief in a higher power. The virtue of belief in a higher power was defined according to an individual's own belief system, with its content considered a personal choice. However, the nature and validity of these virtues remain a subject of debate. The current education curriculum incorporates values recognized at both the national and universal levels. In response to public criticism, little clarity is found regarding which values are being rejected or why some values should not be considered national or universal. This is because fundamental human values inherently exist on both levels. To oppose values such as love, respect, thrift, compassion, justice, kindness, and showing respect to elders would be irrational, as these values are widely regarded as essential for both social life and personal development. Therefore, all these values have been integrated into the curriculum as essential components that contribute to both individual growth and societal cohesion.

In conclusion, a structured model has been developed for integrating all these values into education in a way that supports the practical application of skills and guides teaching and learning processes. In this context, values provide an action-oriented

The persistence of the system within a framework characterized by test and examination-oriented objectives risks the success of the curriculum. Relevant units are redesigning the evaluation processes and implementing pilot applications to address this issue.

framework for individual development. This framework can be summarized as follows: A holistic structure has been established to ensure the practical application and effective implementation of all skills into the teaching and learning processes, as well as the integration of learning dispositions. Key components of this structure include the differentiation of learning experiences and the necessity of process-based assessments and evaluations. Ensuring the successful implementation of the program depends significantly on these aspects. The continuation of a test- and exam-focused system poses a serious risk to the program's success. Relevant departments within the Ministry are actively addressing this issue and implementing assessment-related pilot practices. The success of this model depends on how effectively these components are integrated into educational practices. School-based planning is also directly linked to the flexibility of the program. To maintain

> *Faculties of education must design a learning process in which teachers internalize values.*

this flexibility, schools must establish adaptable learning environments within their own organizational structures. This remains one of the program's most distinctive features.

The core structure of the program follows a traditional unit-based approach, while some subjects are designed within a spiral thematic framework. The general purpose of each unit is to define specific learning hours, disciplinary skills, and conceptual skills, as well as the learning dispositions that activate these skills. Additionally, identifying social-emotional learning skills and the values associated with these skills is a crucial stage in the process. The learning outcomes are then determined following these stages.

In terms of teaching and learning practices, notable differences can be observed between the current and previous curricula. The new curriculum introduces a semi-structured scenario guiding lesson design, whereas the 2018 curriculum only included learning outcomes and explanations. The explanations in the 2018 curriculum provided teachers with general guidance for structuring the teaching process. However, the current curriculum structures the teaching and learning applications section as a semi-structured scenario that is intended to serve as a guide for teachers. This approach aims to support teachers' professional development and enhance their instructional practices.

One of the key aspects emphasized in teacher training is how to integrate values into instruction. For example, a teacher in a

chemistry lesson may introduce the İstanbul Chemistry Technology Center while discussing the real-life applications of chemistry and connect the topic to values such as patriotism.

How can a teacher convey values to students? Several methods can be employed, such as delivering values-oriented discussions, organizing field trips to relevant locations, inviting a guest speaker for a discussion, or utilizing classroom technology to display visual content. The teaching guide provides key instructional cues to help teachers emphasize important points during the lesson. Additionally, the Virtue-Value-Action Framework includes specific approaches and methods for integrating values into the learning process, providing teachers with answers to instructional questions and guiding them in selecting effective strategies. By following the recommended methods within the program, teachers gain the opportunity to enhance their instructional designs, ensuring that learning experiences are holistic, meaningful, and values-oriented.

The Virtue-Value-Action Framework highlights the fact that, while knowledge and intelligence are abundant in today's world, the fundamental issue lies in the inability to cultivate morally upright individuals. Although values are often thought to be acquired informally through the family and social environment, removing values education from school-centered settings does not appear to be a rational approach. Schools remain a crucial component of the education system. Additionally, we have observed those who argue that values education should take place within families rather than in schools to also be involved in regional projects aimed at reducing issues such as substance abuse, crime, and exploitation. Efforts to eliminate the corruption of values within schools continue, reinforcing the need for values education in school settings. While discussions

persist on the declining influence schools have on students, some have claimed social media and perception management tools to have become more dominant. Therefore, the importance of values education in the school context remains indispensable.

Values education remains a crucial responsibility for teachers, despite the potential negative influence social media and similar platforms have on patriotism, love, and respect. Turkish scholar Mehmet Akif Ersoy's words, "What a lesson it is, your face never blushes; Forget about education, my brother; first, learn decency and modesty" emphasize the importance of raising virtuous individuals. If not combined with human qualities and moral values, technological, military, economic, and political power can lead to a loss of ethical integrity.

Values education follows an implicit curricular approach in the program, as role modeling is one of the most effective methods for teaching values. Thus, an indirect rather than a direct approach has been preferred in values education. Subtle role modeling integrated into the lesson flow enhances the chances of success. Education applies intentional and unintentional implicit strategies within this framework. Intentional implicit strategies involve pre-planned methods designed by curriculum developers for instilling specific values. In this case, the implicit aspect ensures that students implicitly learn values through the content. Meanwhile, unintentional implicit strategies outline general values frameworks in the curriculum while leaving the actual implementation to the teacher's discretion. The effectiveness of this approach depends on certain conditions being met.

For example, an unintentional implicit strategy was adopted in the 2018 curriculum. In this context, teachers and school administrators did not need to explicitly emphasize values such as patriotism when designing lessons,

as teachers were assumed to already possess an understanding of these values. However, in cases where teachers lack sufficient competence in this area, challenges arose in effectively teaching values. Indeed, research has suggested that the 2018 curriculum did not achieve the desired results in transmitting values. Therefore, the new curriculum has adopted an intentional implicit strategy that incorporates a semi-structured guide within the teaching and learning practices to support teachers in integrating values effectively. For instance, values such as patriotism are subtly embedded in the background while students in a chemistry lesson learn how the İstanbul Chemistry Technology Center contributes to the national economy. This approach ensures quality assurance within the system, creating a sustainable structure. However, the impact of this method in practice can only be assessed through monitoring and evaluations.

This framework expects teachers to incorporate diverse perspectives within a flexible curriculum. Examples from other subjects can be integrated into the process. For instance, teachers can guide students to translate their ideas into action in order to introduce children's rights while also reinforcing values such as diligence, patience, and responsibility in the learning outcomes.

What is the role of the teacher in values education? Various challenges may arise in this regard. A review of the literature suggests that teachers may develop resistance to teaching certain values or virtues, particularly if they do not personally embrace them. This reluctance could impact their willingness to effectively convey these values to students. However, resistance is not expected toward the 20 values included in the Virtue-Value-Action Framework, as these virtues and values have been designed with both national and universal principles in mind, thus ensuring broad consensus among educators. In

this context, teachers' commitment to these values will play a crucial role in enhancing the overall success of the curriculum.

The role that faculties of education have in adapting the curriculum is also critically important. Faculties of education must integrate the new teaching and learning curricula developed within the Century of Türkiye Education Model into their teacher training progam. This integration should go beyond the cognitive level to ensure that teachers internalize these values meaningfully. Otherwise, not adequately training teachers in this framework will significantly reduce the chances of success.

Recommendations

The success of the Century of Türkiye Education Model is directly linked to the skills and competencies of the teachers who will implement it. Considering this, training programs should be provided to introduce the new curriculum to teachers and support their professional development.

One of the key pillars of the new skills-based curriculum is assessment and evaluation. The assessment processes related to learning outcomes and the process components must be aligned with the skills-based approach.

To ensure the successful implementation of the curriculum, learning experiences should be diversified, and assessments and evaluations should be structured in a process-based manner.

New assessment tools should be developed to effectively integrate 21st-century skills and social-emotional learning skills into evaluations.

Differentiated learning experiences that support students' individual differences should be expanded, and teachers should be provided with guidance in this area.

To support digital transformation in schools, teachers should receive training in technology use and instructional design with digital tools.

The effective use of implicit teaching strategies should be encouraged over direct instruction with regard to values education.

Flexibility should be incorporated into school-based planning to allow schools to create thematic and interdisciplinary learning environments that cater to their specific needs.

The role that faculties of education have in adapting the curriculum is also crucial. The content and approach of the Century of Türkiye Education Model should be integrated into teacher training programs to ensure that future educators are well-prepared to implement the new model effectively.

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The 21st-Century Skills-Oriented Educational Approach and Its Reflection in the Century of Türkiye Education Model: A Critical Perspective

21st-century skills have emerged as a key conceptual framework in contemporary education policies. Many studies are increasingly accepting without question the need to integrate these skills into education. Just as with any discourse, however, this framework must be critically examined in terms of its actors, objectives, and historical context. Aside from digital and technology-related skills, a significant portion of 21st-century skills are not entirely new but have existed throughout history in response to societal needs. Education has always functioned as a means of equipping individuals with the necessary knowledge, skills, and values society requires. Therefore, determining the original contributions and innovations of the 21st-century skills framework is crucial.

Considering the historical context of how skills have been integrated into education helps to understand the foundation on which this discourse has been built. The competency-based and outcome-oriented approach to education emerged in the post-World War II era, particularly as a response to the Cold War rivalry between the USA and USSR. The launch of Sputnik by the USSR in 1956 sparked concerns in the USA about falling behind in military and scientific competition, leading to education reform efforts in the 1960s. In this context, the USA shifted from an input-based education model to an outcome-oriented approach, linking school performance to measurable standards and funding.

This experience, particularly from the 1990s onward, evolved into a global education reform movement, which Sahlberg called the Global Education Reform Movement (GERM), with the OECD leading the process. How did the OECD assume this role? Gaining dominance in international education policies was not an easy process for the OECD. Its primary competitor was UNESCO, the United Nations authority responsible for education. An ongoing rivalry has existed between these

Global Education Reform Movement (GERM) is a term that describes the reform process shaping education policies in many countries since the 2000s. This movement aims to implement a performance-driven transformation in education systems, typically emphasizing the intensive application of testing and assessment systems, standardization, the evaluation of teacher performance, and the promotion of competition.

two institutions. While UNESCO has adopted a more humanist approach, the OECD has prioritized economic development, anchoring its policies in human capital theory and positioning education as a key driver of economic growth.

The OECD's economy-focused approach positions human resource development as a fundamental component of economic growth, framing education as a tool to achieve this objective. One of the key factors that have enabled the OECD to gain prominence in this competition was the decision of the United States and the United Kingdom to suspend their UNESCO memberships and withdraw financial support in the 1980s and 1990s. This weakened UNESCO's influence and credibility, allowing the OECD to establish itself as a dominant actor in shaping international education policies.

The effects of this institutional rivalry became evident in the impact of reports published by both organizations. While UNESCO's human-centered Delors Report on Education for the 21st Century did not generate the expected impact, the OECD's Definition and Selection of Key Competencies (DeSeCo) Project, launched in 1997, gained greater prominence. While UNESCO, in collaboration with the European Union and the European Commission, has maintained a humanist and learner-centered perspective, institutions such as the World Bank, the World Economic Forum (DAVOS), and major global corporations aligned with the OECD's

market-oriented agenda have advocated for the economic integration of education. Since 2015, reports have increasingly indicated the competition between UNESCO and the OECD to have been gradually replaced by the OECD's dominant role in shaping global education policies. Recent analyses have highlighted how the OECD's economy-driven education policies have become more explicit and directive in shaping global education trends.

Within the framework of 21st-century skills, one of the most notable initiatives has been the establishment of the Partnership for 21st Century Learning (P21) in the USA in the early 2000s. Major technology corporations, including Adobe, Apple, Dell, HP, Intel, and Microsoft, backed this initiative, during which international consultancy firms such as McKinsey Education and Pearson Education, both of which collaborate with the OECD, also emerged as key actors.

Understanding the motivations for these corporations to engage in education reform is crucial. The OECD's primary mechanism for consolidating its influence in education policymaking has been the Programme for International Student Assessment (PISA). Initiated in 1997 and implemented in 2000, PISA assesses the competencies of 15-year-old students in science, mathematics, and reading. By providing comparative analyses of student performances across countries, PISA fosters a sense of competition among education systems. The results, along with

country-specific reports and policy recommendations, have strengthened the OECD's role as a leading actor in international educational governance. Through these mechanisms, the OECD has reinforced the economic dimension of education, promoting an economy-centered educational model. The discourse surrounding 21st-century skills is largely seen as a reflection of this approach.

Other international assessments are found similar to PISA. For instance, the Trends in International Mathematics and Science Study (TIMSS) determines its assessment content based on the existing curricula of participating countries. Rather than aligning with national curricula, PISA instead takes a different approach by assessing the skills it defines or considers necessary.

This approach has led countries to adjust their education policies based on PISA rankings, often driven by concerns around global competitiveness rather than their specific educational needs.

The increasing dominance of an education model that defines individuals as "homo economicus" and evaluates them solely based on economic motives raises significant concerns.

National governments often use PISA results as a reference point for curriculum reforms, which in turn contributes to the global dissemination of the OECD's education agenda and approach. However, the reliance on PISA scores for shaping education policies has been met with criticism from various perspectives. In particular, concerns have been raised regarding PISA's sampling methodology and the interpretation of its results. For example, China consistently ranks among the top-performing countries yet has been criticized for selectively including only its highest-achieving regions in the assessment, leading to manipulated, unrepresentative outcomes. Similarly, Vietnam's fluctuating rankings in PISA have drawn attention. Despite a 15-year-old school enrollment rate of only 56%, the country has achieved remarkably high performance in PISA rankings (Dang et al., 2023). These cases raise questions about the reliability of PISA results for cross-country comparisons, highlighting the need for caution in interpreting and applying these rankings to education policy decisions.

At the same time, education researchers around the world have widely analyzed PISA's negative impacts on national education systems and have raised several concerns regarding its influence.

Initially, PISA focused solely on assessing academic skills but over time expanded its scope to include other dimensions, thereby reinforcing standardization in education. Notably, PISA has started measuring social-emotional skills, with Türkiye being among the first nine countries to participate in this assessment in 2019. Given that social-emotional skills are deeply tied to sociocultural contexts, their measurement is inherently more complex than that of academic skills. Thus, considering these factors is crucial when interpreting results.

Furthermore, the OECD's 2019 "Future of Education and Skills 2030" report included values for the first time, which sparked debates on whether this signaled a long-term intention to standardize values in education. This move appeared to align with efforts toward global curriculum development and to conceptualize a common framework, suggesting that this issue has a broader global dimension.

Examining the 21st-century skills-oriented education model and the objectives pursued by economically driven organizations is essential through this framework. The increasing alignment of education policies with market demands has led to a redefinition of the fundamental purposes of education. According to 2009 data, skill gaps were estimated to cost global businesses $200 billion, and this cost is expected to have risen significantly today. Rather than have global corporations cover the costs through their own resources, a more preferable approach for these institutions has been to shift the financial burden onto public education systems through state budgets. In this context, training individuals who meet the qualifications the labor market demands is more profitable for multinational corporations, effectively transferring the responsibility of workforce preparation to public education systems.

This process has contributed to education being increasingly aligned with market-driven demands, reshaping education through an economic perspective. The structuring of education policies within this framework has profound implications for the fundamental functions and scope of education, raising concerns about the increasing commodification of learning.

One of the fundamental reasons for this transformation has been the effort to prepare individuals for the new work environ-

ment and social life shaped by Industry 4.0 and Society 5.0. Industry 4.0, introduced in 2011, and Society 5.0, emphasized since 2017, have profoundly impacted labor markets and everyday life, requiring individuals to acquire 21st-century skills and the specific character traits deemed necessary for this new era. Before Industry 4.0, the labor market had been primarily structured around specialization, homogeneity, and hierarchical organization. However, the workplace in the current era is transitioning to a structure that requires multidisciplinary collaboration, interactive communication, and teamwork across different fields. This shift has made cooperation an essential aspect and created an increased emphasis on skills and character development.

The fact that curricula worldwide are increasingly incorporating the skills and character traits the labor market demands has become evident. Additionally, major international organizations have been aligning their educational policies with these workforce needs since 2015. Reports on education trends indicate a growing standardization of the human profile, wherein individuals are increasingly evaluated based on their economic productivity and performance. This perspective reinforces the homo economicus model, which defines humans as beings primarily driven by economic motives. Within this context, social-emotional learning skills are gaining prominence as a means for fostering the specific character traits deemed necessary for individuals. An important initiative in this field is the Collaborative for Academic, Social, and Emotional Learning (CASEL), established in 1995 in the United States to promote social-emotional skills development. CASEL emerged partly in response to the exclusion of religious and moral education from public schools due to secular principles, thereby serving as a secular alternative to traditional character edu-

The shaping of education policies in line with market demands redefines the basic functions of education.

cation. Its efforts have focused on integrating social-emotional learning into education while maintaining a non-religious framework.

From an economic perspective, today's world is often described using the Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) framework, which regards preparing individuals for these conditions as a key priority. In this context, resilience and adaptability are emphasized as critical attributes for individuals facing unexpected challenges. With the rise of artificial intelligence and rapid technological advancements, concerns about increased unemployment and growing economic inequalities have intensified. These changes are expected to reshape labor markets and may contribute to social unrest and instability, making implementing strategic measures crucial for mitigating potential disruptions.

Global issues such as global warming, climate change, economic injustice, and inequalities are largely defined as crises stemming from human-induced activities. Within this framework, international reports have increasingly emphasized the need for individuals to develop resilience in response to these crises. Resilience and sustainability have become central themes in these reports. However, these approaches also raise critical questions regarding the context and objectives

of resilience-building. One key concern is whether this focus primarily serves to cultivate a generation that is resilient to crises without necessarily questioning or addressing their political and systemic roots. While international organizations in the field of education advocate for fostering individual awareness of global challenges, they have simultaneously promoted an individualized character development approach that has attracted criticism. Critics argue that, instead of tackling the underlying systemic causes of these crises, current educational frameworks primarily focus on equipping individuals with the ability to adapt to existing conditions. This raises important concerns regarding the extent to which individual-focused solutions contribute to addressing structural issues. Evaluating this aspect is crucial for designing more effective and transformative policies in the future.

The epistemological approach of 21st-century skills-oriented education presents certain limitations. OECD's knowledge economy framework prioritizes skill development and process-oriented knowledge (e.g., epistemic and procedural knowledge) while placing less emphasis on discipline-based and content-focused knowledge. However, knowledge should not be confined to functional skills alone but should also include wisdom, philosophical inquiry, and the exploration of existential meaning.

Interestingly, OECD's 2019 report titled "OECD Education and Skills 2030" highlighted the potential value of interdisciplinary knowledge, signaling a partial shift in OECD's stance on knowledge. What prompted this shift? It could be interpreted as an adjustment to strike a more balanced approach to skills-based education. UNESCO reports suggest some countries that had previously adopted a skills-based education model to have recently made partial reversals. For

example, Sweden, which implemented this model in the 1990s, revised its approach in 2011, with the UK making curricular adjustments in 2014.

The economic focus these international organizations have makes understandable the fact that economic demands shape education policies. However, reducing education solely to an economic framework runs the risk of overshadowing its broader functions. One of education's fundamental roles is to equip individuals with skills relevant to the labor market, but this should not be its sole or overarching purpose. Education should be a holistic process that fosters individual development while addressing broader social and cultural needs.

As a founding member of the OECD and a member of the G20, Türkiye has long been embedded in Western-led global economic structures. The OECD has strategically integrated skills-based education into global mechanisms such as the G7 and G20. For example, the issue was introduced to the G7 agenda in 2011, and the 2015 G20 summit in Türkiye emphasized skills-development strategies. The 2018 G20 meeting in Argentina used agreements with education ministers to further reinforce commitments to implementing these policies. Shaped by the European Qualifications Framework (EQF), Türkiye's 2017-2018 curriculum reforms reflected a shift toward the economic-centered discourse of 21st-century skills. Following the 2018 G20 decisions, Türkiye's education policies have become more and more aligned with this skills-based, economy-driven educational paradigm.

Prepared in 2024, the Century of Türkiye Education Model can be described as a hybrid curriculum structure based on an eclectic approach. The blueprint for this structure is shaped by the document titled "K12 Skills Framework Türkiye Holistic Model," which

has been developing in collaboration with UNICEF since 2022. Later, the Virtue-Value-Action model was incorporated into this framework. The Virtue-Value-Action Framework is considered significant for how it localizes the curriculum despite its global orientation. An additional important aspect of the Century of Türkiye Education Model's "Common Text" is its novel conceptual depiction of humans, something that was seen previously in the 2023 Vision Document prepared in 2018. While the definition of a human being had previously been outlined in legal articles, the Ministry of National Education is now attempting to conceptualize it both in the vision document and in the Century of Türkiye Education Model. Although certain deficiencies are present, systematic analyses are required to determine the extent to which the human conception presented in the model's "Common Text" is reflected in the curricula designed using algorithmic frameworks. Similarly, the extent to which the curriculum is able to nurture this conceptualization can only be assessed over time. Nevertheless, the skills-based approach the Century of Türkiye Education Model adopts may serve a functional purpose for a certain period by shifting the focus away from a knowledge transfer-centered education approach. However, a holistic approach to education should crucially not be overlooked.

The localization of decision-making mechanisms and school autonomy in implementing the curriculum is seen as a crucial aspect of the proposed educational reforms. However, the Turkish National Education System maintains a highly centralized structure in this regard. Therefore, questions exist as to whether initiatives such as school activities and school planning, which are placed in the final week of the curriculum within the Century of Türkiye Education Model, will be sufficient. As the Turkish poet Necip Fazıl wrote,

> *The skills-based approach adopted by the Century of Türkiye Education Model may serve as a functional tool for refining the traditionally knowledge-transfer-oriented education system for a certain period; however, it is crucial not to overlook a holistic approach to education.*

"Every incomplete formation prevents full formation." To not become alienated from both humanity and the era we live in is essential when shaping our educational vision. In this context, we must consider humanity's innate nature and essence when attributing qualities to humans. This perspective should be interpreted through our own civilizational and cultural lenses by incorporating the necessary adjustments based on the realities of the present age.

The presence of a trend that diminishes the role of local elements in education is noteworthy and requires careful examina-

tion. Just as in defense industries, I believe emphasizing a local and national approach in education to be equally important. The global system is currently facing an unprecedented crisis, as evidenced by the events in Gaza and their clear demonstration of the ineffectiveness of international organizations that consistently advocate for human rights, women's rights, and children's rights.

These circumstances underscore the need for educating individuals who are not only globally aware but also firmly rooted in local, cultural, national, and moral values. Developing curricula with a balanced integration of both global and local needs is crucial in this regard for ensuring that the demands of the modern age are addressed while maintaining a strong national and cultural identity.

Recommendations

The studies conducted by organizations such as the OECD and similar institutions that shape education policies should not be limited to economic development and meeting labor market expectations. Instead, they should shape a broader, human-centered perspective that prioritizes intellectual depth, sociocultural development, and human values in education.

The OECD and other global actors should adopt a more flexible, multidimensional approach when designing education policies and skill frameworks by taking into account the unique socioeconomic conditions of each country.

Education policies should ensure that comprehensive assessments of social and emotional skills are thoroughly incorporated into evaluations.

Although social and emotional skills hold a significant place in the 21st-century skills framework, the policies supporting their development should be more tailored to local and cultural contexts.

The concept of human development should be more clearly defined in Türkiye's education reforms, and a more human-centered approach that considers individual differences should be developed.

The education system should move beyond solely focusing on academic achievement and should also be structured in a way that enables individuals to develop identities integrated with local, cultural, and spiritual values.

Education curricula should be designed to be responsive to both global developments and local societal needs, thus ensuring that students acquire the skills necessary to succeed in both dimensions.

Conclusion and Evaluation

The 4th İstanbul Education Conference was held this year under the theme "Redesigning Education: 21st-Century Skills". The event has comprehensively addressed the significance of 21st-century skills in Türkiye's education system, emphasizing their individual and societal impact. The conference has examined the Century of Türkiye Education Model and its future vision in depth, highlighting that, while Türkiye has made progress regarding access to knowledge in education, it still lags behind global standards in areas such as analytical thinking, social-emotional skills, and lifelong learning approaches.

Among the key takeaways is the need for education to move beyond being solely focused on academic achievement. Instead, education should also be structured to support critical thinking, creative problem-solving, ethical decision-making, and social responsibility. Additionally, the educational impor-

tance of social-emotional skills, psychological well-being, a sense of belonging, and resilience was repeatedly emphasized. The discussions underscore the need for flexible and multifaceted learning pathways that allow students to explore their individual potential and for ensuring these pathways are designed to address diverse student needs. Moreover, the conference highlighted how vocational and technical education, which holds significant potential for equipping students with practical skills, must overcome negative perceptions and be restructured as a robust and innovative model for skill development and real-world preparedness.

The conference also emphasized how the Century of Türkiye Education Model offers a holistic approach that integrates values with knowledge with the aim of nurturing socially, culturally, and economically equipped individuals. At the core of this model lies the Vir-

> *Education should no longer focus solely on academic achievement; instead, it should provide a framework that enables students to develop knowledge-based critical thinking, creative problem-solving, ethical decision-making, and a sense of social responsibility.*

tue-Value-Action Framework, which seeks to go beyond simply transmitting knowledge to also cultivating ethical and morally responsible individuals. The conference also encouraged greater flexibility and student-centered approaches for educators regarding curriculum development and implementation.

Another critical point the conference raised was the need to redefine the role of education regarding economic, social, and individual development, urging Türkiye's education policies to be updated in alignment with global standards while considering local needs. The conference highlights the symbiotic relationship between education and technology in this regard, reinforcing the idea that enhancing the quality of education is directly linked to technological advancements.

In the end, the 4th İstanbul Education Conference has served as an important platform for discussing and exchanging ideas regarding Türkiye's efforts to restructure its education system in order to meet the demands of the 21st century. Based on the key recommendations that were presented, critical thinking, creative problem-solving, and lifelong learning skills should be actively promoted. Teachers' professional development should also be a priority, and education policies should uphold the principles of social justice. Moving forward, Türkiye's education system must be strengthened with inclusive and innovative policies that unleash individual potential, promote social justice, and adapt learners to the evolving needs of the 21st century.

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Speakers

Dr. Ömer Faruk Yelkenci

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Graduated from İstanbul University Faculty of Letters, Department of History in 1992. Completed his master's degree in Educational Administration and Supervision at Yeditepe University in 2008, and earned a PhD in History Teaching at Marmara University Institute of Educational Sciences. Served as the General Director of Private Educational Institutions at the Ministry of National Education (MoNE) from 2014-2016, as the İstanbul Provincial Director of National Education from 2016-2018, and as a Rector's Advisor at Ankara Hacı Bayram Veli University from 2018-2022. While serving as the General Director of Private Educational Institutions, he managed the transformation of private tutoring centers and oversaw private schools nationwide. Currently serves as Deputy Minister at MoNE.

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Graduated from Fırat University Faculty of Technical Education, Department of Computer Teaching in 2000. Completed his master's degree in Educational Technologies at Fırat University in 2003 and his PhD in Educational Sciences in 2007. Worked as an assistant professor at the Computer and Instructional Technologies Education Department at the same university from 2007-2010. Became an associate professor in Educational Programs and Teaching at İstanbul Ticaret University in 2014 and was appointed professor in 2020. Held various administrative positions at the university and contributed to commissions under the Scientific and Technological Research Council of Türkiye (TÜBİTAK) and the Council of Higher Education (YÖK). His expertise includes curriculum development, e-learning technologies, instructional material design, and distance learning. Appointed President of the Board of Education in 2021 and continues to serve in this role.

Prof. İrfan Erdoğan

(Boğaziçi University | Dean of the Faculty of Education)

Graduated from Gazi University, Department of Guidance and Psychological Counseling in 1985. Completed his master's degree in Philosophy and Social Sciences: Economics of Education at Columbia University Teachers College in 1989 and earned his PhD in International Development and Education at Columbia University in 1992. Served as President of the MoNE Board of Education from 2006-2008. His research focuses on the economics and planning of education, school administration, educational supervision, psychological foundations of education, and teacher education. After holding various administrative positions at İstanbul University Faculty of Education, he has served as the Dean of Boğaziçi University Faculty of Education since 2022.

Bassem Nasir

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Graduated from Purdue University in 1990. Earned his master's degree from Harvard University in 2012. Has over 25 years of leadership experience working with various organizations, corporations, NGOs, governments, and academic institutions in education, youth development, entrepreneurship, sustainability, and corporate responsibility. Served as Programs Director at the International Youth Foundation managing initiatives focused on youth empowerment, employability, and life skills. Worked as the MENA Regional Education Manager at Intel Corporation overseeing corporate responsibility programs and collaborating with Ministries of Education and Higher Education to enhance education quality through technology. Currently serves as an education specialist at UNICEF in New York, leading efforts on secondary education and skills development, supporting governments in integrating skills, including life skills, into curricula, teacher practices, and assessments, and strengthening alternative education pathways.

Andreas Schleicher

(OECD | Director for Education and Skills)

Graduated from the University of Hamburg with a degree in Physics. Earned his master's degree in Mathematics and Statistics from Deakin University in Australia. Has worked with education ministers and leaders in various countries for over 20 years. Before joining the OECD, served as the Director for Analysis at the International Association for the Evaluation of Educational Achievement (IEA). Recipient of numerous honors, including the Theodor Heuss Award for exemplary democratic participation. Holds an honorary professorship at the University of Heidelberg. Has been the Director for Education and Skills at the OECD since 2014, overseeing initiatives such as the Programme for International Student Assessment (PISA) and other international tools aimed at transforming education policies and practices.

Prof. Orhan Uzun

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Graduated from Karadeniz Technical University, Faculty of Education, Department of Physics Teaching. Completed his master's degree in Physics at Yüzüncü Yıl University and PhD in Physics Education at Gazi University. Began his academic career as a research assistant at Yüzüncü Yıl University in 1992. Became a professor at Gaziosman-paşa University in 2010. Conducted research at Sheffield University during his doctoral studies and later worked as a visiting researcher at Stanford University and Silicon Valley. Since 2012, he has held various positions at Bülent Ecevit University. Has served as coordinator, principal investigator, and researcher in 19 R&D projects funded by the EU, TÜBİTAK, State Planning Organization (DPT), and various universities. Published over 80 papers in international peer-reviewed journals and authored a book, with thousands of citations to his work. Served as the Founding President of the Higher Education Quality Council since 2015. Appointed Rector of Bartın University in 2017, a position he still holds.

Prof. Mustafa Öztürk

(Boğaziçi University | Member of Faculty of Education)

Graduated from Middle East Technical University Department of Foreign Languages. Earned his master's degree in Educational Sciences and PhD in Curriculum and Instruction from the same university. Completed a non-thesis master's program in Learning, Learning Environments, and Educational Systems at Turku University in Finland, and a postgraduate certificate program in Peace and Conflict Studies at Chulalongkorn University in Thailand. Conducted postdoctoral research on International and Comparative Education at Columbia University as a visiting scholar from 2015-2016. Continues his work as an International Researcher at Columbia University, a Board Member at UNESCO's Education Task Force and Greening Curriculum, and the Türkiye Representative for the Global Schools Program. His primary academic interests include curriculum development, teacher education, contemporary learning approaches, sustainability, and inclusive education. Currently serves as a faculty member at Boğaziçi University Faculty of Education, Department of Educational Sciences.

Prof. Mehmet Taşpınar

(MoNE Board of Education | Board Member)

Graduated from Gazi University Faculty of Technical Education. Began his career as a research assistant at Fırat University Faculty of Technical Education in 1992. Completed his master's degree in Educational Sciences at Fırat University in 1992 and PhD in 1997. Served as a visiting scholar at Ohio State University in 1994 and at Kyrgyzstan-Türkiye Manas University in 2003. Became a professor at Gazi University Faculty of Vocational Education in 2007. Participated as an expert, project manager, and beneficiary in World Bank, YÖK, Vocational and Technical Education (VET), UNICEF, and EU-focused projects. His primary research areas include curriculum development, vocational education, and teacher training. Currently serves as a faculty member at Gazi University Department of Curriculum and Instruction and was appointed Board Member of the MoNE Board of Education in 2023, a role he actively continues.
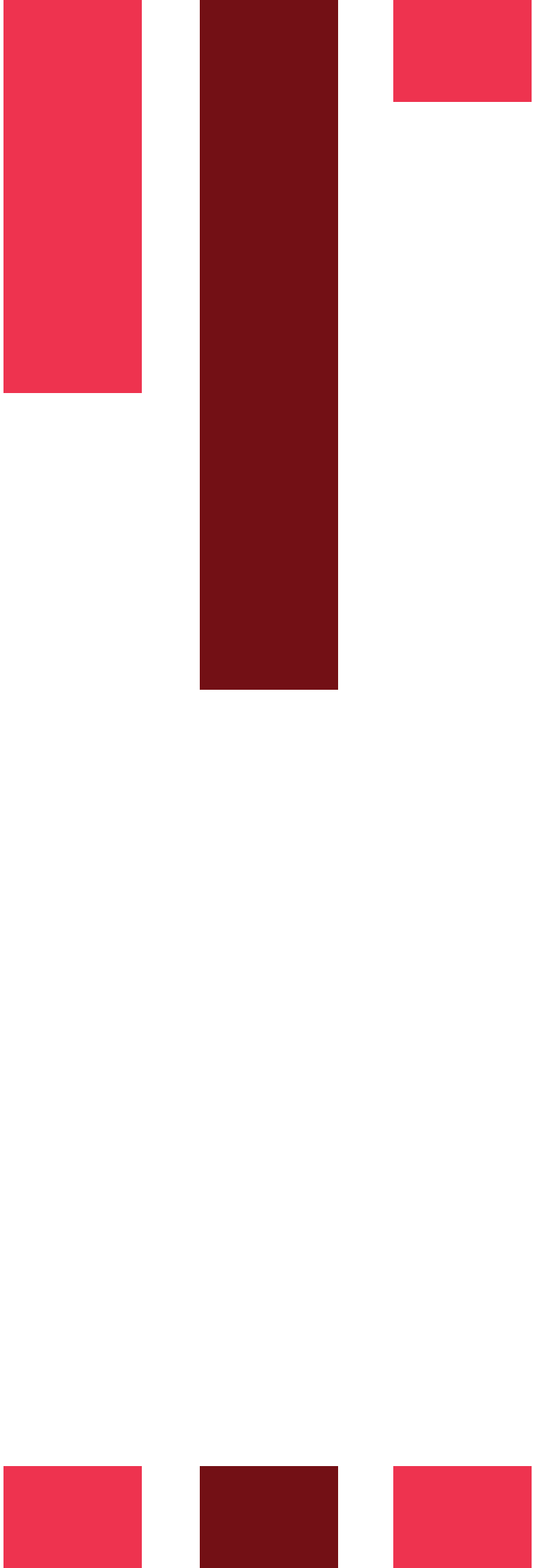
Prof. İbrahim Aşlamacı
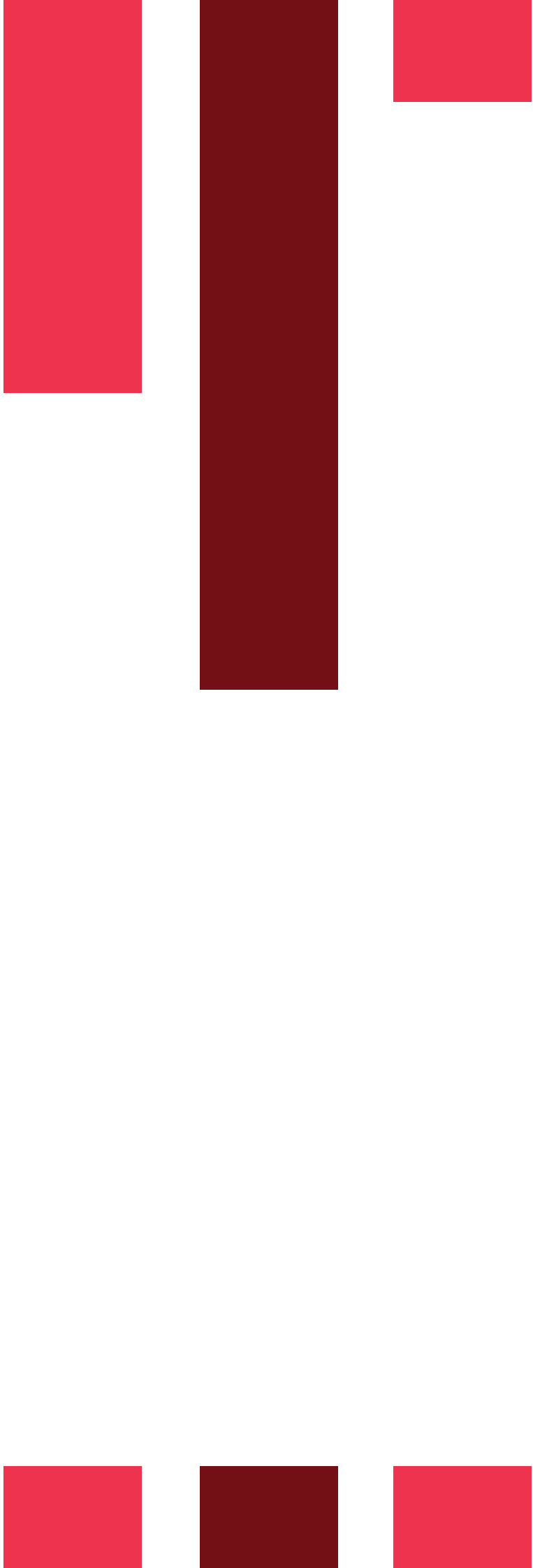
(İnönü University | Member of Faculty of Theology)

Graduated from Çukurova University Faculty of Theology, Department of Primary Education in Religious Culture and Moral Education in 2004. Completed his master's degree in Philosophy and Religious Studies at Sakarya University in 2008 and earned his PhD in 2013. Conducted research at the International Islamic University in Pakistan and at Columbia University in the USA. His primary research areas include educational methodology, comparative education models, religious education, and values education. He has reflected his expertise in these fields in his work "21st-Century Skills and Religious Education: A Critical Approach (21. Yüzyıl Becerileri ve Din Eğitimi: Eleştirel Bir Yaklaşım)". Currently serves as a faculty member at İnönü University Faculty of Theology.

Publications

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Education Monitoring Reports are annual publications that provide a comprehensive analysis of the state of education in Türkiye. Drawing on a wide range of national and international data sources, these reports critically examine trends, challenges, and policy developments in the education. Aimed at contributing to the improvement of education policies, they offer concrete recommendations for policymakers and all education stakeholders.

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