

Article

# Personalized Education for Sustainable Development

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**Abstract:** Progress in eradicating poverty, hunger and pollution by promoting better health, well-being and quality education has begun to weaken due to the pandemic, military conflicts and climate change. There is an urgent need to act decisively and efficiently in order to reduce the frightening dimension of the crisis and return sustainable development indicators to an upward trend. After examining sustainable development goals and indicators and their progress, this paper introduces four focal activity clusters. They can be fulfilled through effective learning, starting with local educational campaigns, well-designed educational initiatives, and even modifying curricula aimed at sustainable development. Several approaches can contribute to achieving the goals, primarily transformative and personalized learning. After comparing them in the light of sustainable development, preference is given to personalized learning. It faces many challenges related to the data collection and processing of, factionalism of, and impossibility of accessing differently abled people. These challenges are further amplified by remote teaching and learning. Recommendations on how to overcome them and how to organize educational interactions on a micro, mezzo and macro level are presented in the conclusion of the paper.

**Keywords:** technology-enhanced learning; personalized learning; sustainable development

## 1. Introduction

Rapid population growth [1], intensive deforestation [2], water pollution [3] and the use of fossil fuels [4], which have adversely affected the quality of air, water and soil, and consequently intensified global warming [5], have brought humanity to the edge of survival. In order to stop the rush to ruin, the United Nations (UN) adopted Agenda 21 in 1992 [6] and defined the Sustainable Development Goals (SDGs), which are the basis of the 2030 Agenda for Sustainable Development [7]. The agenda reaffirmed the slogan: “Think globally, act locally” [8–10], emphasizing the role of each individual and quality education for the achievement of set goals. Educational targets must be observed and shaped from a micro, mezzo and macro perspective, through individual, group and state counseling [11].

Until the beginning of the pandemic, the countries of the European Union, especially the Nordic ones, had progressed in reaching the achievement index of the Sustainable Development Goals (SDG-AI) [11]. Unfortunately, the latest report from July 2022 states that “the confluence of crises, dominated by COVID-19, climate change, and conflicts” are putting the 2030 Agenda “in grave danger, along with humanity’s very own survival” and that the goals of sustainable development are in jeopardy [12,13]. The UN suggests urgent and determined rescue efforts to enable recovery from the current state of uncertainty to a brighter future that the Earth and its inhabitants deserve [12]. These efforts are directed towards three key goals: a commitment to support the most vulnerable people, groups and nations; preserving the global economy by taking irrevocable action; and greater investment in data infrastructure. They will enable directing investments, anticipating short- and long-term requirements, avoiding crises that could escalate into large-scale conflicts, and planning the immediate steps necessary to achieve all 17 SDGs [12].

Success in achieving these goals depends on each person as an individual or as part of local and state institutions. After a thorough review of the latest global report [12], of



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all 17 goals and indicators of sustainable development, as well as the progress achieved, four clusters can be clearly distinguished from the perspective of education: institutional, educational, technological and financial. They combine into 12 different types of action that can be arranged as follows:

1. **Institutional:** data collection and statistical analysis; policy frameworks and legislation; promotion of local actions; social, economic and political inclusion;
2. **Educational:** awareness raising; education and education policies; training and re-training, including training of vulnerable persons;
3. **Technological:** scientific research and technology development; technology upgrade and innovation;
4. **Financial:** governmental and international support; financial support and flows.

The activities in the four clusters intertwine and complement each other. Local institutions are the first link in the chain of sustainable development and education. They include functions related to social welfare, education, urban planning and waste collection [14]. Local government is also important for mobilizing resources and encouraging people to take a long-term view and achieve common expectations through cooperation that transcends individual interests [15]. By ensuring the legislation and regulatory framework within which local institutions operate, they determine the framework for making decisions that are crucial for the functioning of society [16]. The design, provision and transformation of public services primarily depends on the quantity and quality of data that is collected, used and delivered to partners and the general public [17]. Permanent monitoring, proactive action and efficient communication enable the detection of current local conditions and key points of action in the easiest and fastest way [18]. In the section on prosperity [18], which includes 5 of the 17 SDGs, social, economic and political inclusion is one of the main goals. It largely depends on statistical measures that must be specific and precise [18]. The quality of implementation of all obligations and responsibilities of local institutions is primarily based on well-trained existing staff and volunteers. Quality education will play the key role in their production.

Learning about sustainable development has a decisive impact on social change [19]. Based on what is known in the present, it can facilitate the choice between alternative attitudes [19]. As the first step towards indicating which actions have a negative impact on economic development, social development and environmental protection, it is crucial to point out the consequences of existing behavior and influence it in order to transform it to become socially responsible [20]. Well-designed and implemented public awareness campaigns can be of crucial importance in achieving this task [20]. Although quality education is invaluable for development, welfare and progress [6,21], sustainable education was not initiated by educational communities [22]. The concept of sustainable education was introduced by Chapter 36 of Agenda 21 [6]. It was launched at the Earth Summit in Rio in 1992 and became part of Chapter 36 of Agenda 21 [23]. The main priorities of the chapter are improving basic education; reorganizing educational policies towards sustainable development; and improving public understanding and awareness through training and retraining [22–24]. Vulnerable people, primarily women, children, people with disabilities and the elderly, require special attention [25,26].

Sustainable development needs more appropriate technologies, particularly artificial intelligence, which can have a positive impact on global productivity, equality and inclusion, as well as environmental outcomes [27]. Therefore, it is important to stimulate scientific research [28], technology development and upgrading [29] and innovation [30].

The realization of all the aforementioned actions directly depends on the financial support that can be provided by local governments [31], international funds [32] and financial flows [33].

The distribution of the sustainable development goals in the proposed clusters and the defined types of action is presented in Table 1.

**Table 1.** Division of SDGs into four clusters depending on the type of activity.

<b>Cluster 1: Institutional</b>	<b>Goals (Part 1)</b>	<b>Goals (Part 2)</b>
Data collection and statistical analysis	No poverty Zero hunger Good health and well-being Clean water and sanitation Affordable and clean energy	Industry, innovation and infrastructure Sustainable cities and communities Responsible consumption and production Peace, justice and strong institutions Partnerships for the goals
Policy frameworks and legislation	No poverty Zero hunger Quality education Gender equality Clean water and sanitation	Decent work and economic growth Reduced inequalities Life below water Life on land Peace, justice and strong institutions
Promotion of local actions	Life on land	Peace, justice and strong institutions
Social, economic and political inclusion	Gender equality Reduced inequalities	Peace, justice and strong institutions Sustainable cities and communities
<b>Cluster 2: Educational</b>	<b>Goals (Part 1)</b>	<b>Goals (Part 2)</b>
Awareness raising	Good health and well-being Quality education Gender equality Clean water and sanitation Affordable and clean energy	Responsible consumption and production Climate action Life below water Life on land Peace, justice and strong institutions
Education and educational policies	Good health and well-being Quality education Decent work and economic growth	Responsible consumption and production Climate action
Training and retraining	No poverty	Quality education
<b>Cluster 3: Technological</b>	<b>Goals (Part 1)</b>	<b>Goals (Part 2)</b>
Scientific research and technology development	Zero hunger Good health and well-being Quality education Gender equality	Decent work and economic growth Industry, innovation and infrastructure Life below water Partnerships for the goals
Technology upgrade and innovation	Good health and well-being Quality education Gender equality Clean water and sanitation	Affordable and clean energy Decent work and economic growth Industry, innovation and infrastructure Life below water
<b>Cluster 4: Financial</b>	<b>Goals (Part 1)</b>	<b>Goals (Part 2)</b>
Governmental and international support	Gender equality Affordable and clean energy	Decent work and economic growth Partnerships for the goals
Financial support and flows	Reduced inequalities Sustainable cities and communities	Partnerships for the goals

The table is filled with data that are stated in the list of targets and indicators for each of the 17 goals [34]. It shows that the realization of the actions primarily depends on the simultaneous realization of several mutually interconnected goals. Campaigns that encourage local production and protect the local labor market [35], promotion of purchasing local food and products [36], wise urban planning [37] and investment in local renewable energy sources [38] shape the local ecology and economy, which is reflected over time on a global scale and contributes to the long-term sustainability of the environment. The use of protected areas and area-based conservation measures generate economic benefits [39] generating an annual boost to global economic output, which is expected to exceed one trillion US dollars [39]. Such a dramatic transformation of the economic system largely depends on technological upgrading [40] and financial support [41].

All four clusters are intertwined and even when they do not appear explicitly in the indicators of the 17 goals, none of them can be achieved independently of the others. This

fact triggers the first research question: Which of the clusters can contribute the most to the permanent improvement of the situation? Taking into account the fact that influencing self-consciousness about pressing problems can have an effect even in the short term, there is no doubt that investing in education can contribute to reaching the desired effect. This can be achieved by setting up well-designed educational initiatives and training the instructors who should implement them. It must be adapted to each person individually, regardless of their origin, status, abilities and background. Learning adapted to each individual is the basis of personalized learning, which is the main focus of this paper. Its quality design and implementation depend on a good alignment of sustainable development goals with educational interactions. The impact of personalized learning on SDGs' fulfilment within the defined actions is briefly explained in Section 2.

The second research question concerns the selection of the most effective educational approach. Considering the necessity of adapting educational interactions to each individual, priority is given to transformative and personalized learning. Section 3 compares them and gives preference to the second as more flexible and suitable for achieving sustainable development goals. New technology trends which have recently become the most important factor in quality education are explained in more detail.

The third research question refers to the practical realization of these educational interactions. In order to avoid potential challenges, it is necessary to predict them and bypass them by design. Section 4 presents the potential risks that may threaten personal knowledge development. With the goal of shaping educational interactions that can reach everyone, special attention is paid to obstacles, challenges and problems of social inclusion. They once again confirm that educational initiatives are directly connected with activities from the four clusters.

The last research question is related to practical implementation of personalized learning. It is covered in the concluding remarks of the paper. They start with the assessment of the achievability of personalized sustainable education and then suggest a strategy on a micro, mezzo and macro level that might contribute to the reduction of the reasons that at the moment imply that humanity is rushing towards its own destruction.

## **2. Realization of Sustainable Development Goals in the Context of Defined Clusters and Actions**

Local actions within the institutional cluster are needed to promote peace, justice and strong institutions. They are crucial for almost all SGD objectives, starting with the collection of data and their statistical processing. Without frequent renewal of information, any future activity loses its purpose. When the actual state of all parameters is known, the promotion of local actions helps not only the achievement of the two goals where this is explicitly stated, but also all the others. Therefore, the establishment of a sound political framework and legislation is invaluable. They will support the goals within the institutional cluster, including sustainable cities and communities, which are needed to achieve social, economic and political inclusion.

At first glance, the actions that are part of the educational cluster are less important than the institutional ones. They are not directly mentioned as a way to eliminate poverty and hunger. On the other hand, it is more than clear that a better education is the key advantage of an individual in the labor market, and therefore it can significantly improve the standard of living and eliminate the risk of hunger. Raising awareness of all forms of violence, including abuse, exploitation, trafficking, torture of children, illicit financial and arms flows, corruption and bribery will increase public access to information and protect human rights. At the moment, education and educational policies are not an instrument to achieve this goal. Effective, responsible and inclusive institutions are necessary for increasing human rights and freedoms. Therefore, it is necessary to carefully reconsider the indicators of this goal and teach children from the lowest levels of education how to recognize violence and learn how to avoid it.

Technological progress based on comprehensive scientific research and technology development and technological upgrading and innovation can significantly improve the quality of life, especially in developing countries. In the beginning, they can only consume the results. With a good education, over time they will begin to create technology that is specific to the world in which they live. This progress will have a positive impact on economic growth, industry, innovation and infrastructure. Partnerships for the goals will additionally contribute to the rapid development of technologies specific to the country's sustainable development.

Although governmental and international funding, as well as financial support and flows, are explicitly mentioned in only one-third of the goals, without them none of the goals of sustainable development can be fulfilled. It seems that they are listed only in those indicators in which strong financial support is the main prerequisite to realize it.

### 3. Personalized Learning Approaches for Sustainable Development

A high self-awareness of the consequences of irresponsible and socially unacceptable behavior is necessary for short-term and long-term overcoming of life-threatening situations and environmental threats [42,43]. The reduction of negative outcomes primarily depends on the assessment of the existing conditions [44,45]. Formal and informal education can significantly improve it by comparing the effects of socially responsible versus irresponsible behavior of every individual [46]. It should rely on improvisation, adaptation, innovation and creativity [47], which can be achieved through problem-based learning [47,48] and the transformation of pedagogy through critical thinking [47,49]. The analysis of learning processes, outcomes and circumstances is covered under the umbrella of two related approaches: transformative [50] and personalized learning [51]. They will be briefly presented in the following subsections.

#### 3.1. Transformative Learning and Sustainable Development

Transformative learning was conceived as the education of adults who already had rich life experience, and were therefore able to make critical judgments and decisions depending on their "habits of mind and a point of view" [52]. Mezirow suggested four processes of learning: the elaboration of an existing viewpoint; establishing new points of view; transformation of the existing point of view; and transforming habits of mind by increasing awareness and willingness to think critically to overcome generalized biases [52]. His theory had a huge impact on adult education [53]. The transformative learning theory enables the recognition and evaluation of diverse assumptions and expectations and, through examination and questioning, causes the revision of facts that people have taken for granted [54]. It can help in the design and implementation of educational interventions and learning evaluations towards sustainability by analyzing learning processes, outcomes and circumstances [51]. The success factor of this approach is the critical dimension of transformative learning [55,56]. It should be based on active engagement in a transdisciplinary, creative and open learning environment, such as the award-winning sustainable development practice [56].

Although the initial concept of transformative learning was criticized due to inadequate social understanding and the absence of theoretical elaboration of the theory of transformation, it was modified and perfected over time [57]. Recent systematic review concluded that it "can contribute to the design and implementation of educational interventions and the assessment of learning towards sustainability" [58]. New trends are based on social learning, the role of experience and the development of sustainability competencies [58].

Unfortunately, the lack of wisdom gained from experience and the inability to think critically are the main reasons why transformative learning is not fully applicable to young people, who are a leading force in changing the world [59,60].



### 3.2. Personalized Learning and Sustainable Development

The main assumption of transformative learning is that it takes place either through critical reflection and transformation of habits of mind or through accumulation of transformations in points of view [52]. If during this learning the emphasis is placed on the habits of mind, then it is necessary to design the learning for each student individually, whereby it becomes personalized [61]. Changing points of view and attitudes is also extremely important for sustainability [62]. According to Shen [63], this goal can be achieved through personalized learning only.

Although intuitively clear, there is a “myriad of definitions that describe its essential features” [64]. They encompass, among others, individualization by adjusting the pace to the individual needs of students; differentiation by adapting teaching according to students’ learning preferences; active participation and co-design of learning in a student-centered environment; adapting the learning task based on the student’s known characteristics or experience; and ownership, i.e., the degree to which the student is given control and choice of own learning [64].

Unleashing the power of technology is essential for all of the above-mentioned aspects [65]. It goes far beyond the educational technologies (Edtech) [66], such as e-learning [67], open educational resources (OERs) [68], massive open online courses MOOCs [69], Web 2.0 and social networks [70]. Many emerging technologies such as heavy metal ion removers for water purification [71], renewable energy sources, primarily solar photovoltaics [72] and hydrogen [73], chemical innovations such as nanopesticides, flow chemistry, selective enzymes and monomers [74] and industry 4.0 technologies [75] reinforce environmental protection.

Emerging digital technologies are transforming sustainable education [51]. Artificial intelligence with its power for prediction, decision-making, interactive communication and logical reasoning can influence global productivity, equity and inclusion, as well as environmental outcomes [76]. It facilitates access to information and easier acquisition of knowledge to people with disabilities, which is crucial for their daily activities and survival [77]. A group of experts from various engineering and scientific disciplines estimated that artificial intelligence enables the achievement of 134, but also inhibits 59 targets of 17 SDGs [27].

Big data can help people increase their awareness, find patterns to change and adapt their behavior by creating their own theories or perspectives [78]. They can contribute to the quality of smart cities [79] and sustainable urban development [80]. The implementation of Internet of Things (IoT) applications can improve the quality of life, public health, safety and security of homes, workplace, traffic, etc. within the context of smart cities [81].

The emerging technologies and social media have contributed to the spread of false information [82] and conspiracy theories [83], particularly in the area of health management [84]. These two problems can ruin all the efforts for positive transformation that are part of Agenda 2030 [7]. According to the findings of this section, transformative and personalized learning, which are influencing “habits of mind and a point of view” [60], can prevent their negative effects.

If all the challenges that come with education intended for sustainable development are foreseen, they can be overcome in time. The challenges of sustainable development and the potential contribution of personalized learning to their reduction are the subject of the next section. In order to follow up with the objectives from the four proposed clusters presented in Table 1, the critical review refers only to those activities that explicitly relate to personalized learning.

## 4. Challenges of Sustainable Development and Personalized Learning

Data collection should be in line with the Global Reporting Initiative (GRI), which is a “robust reporting process” that provides “accurate, comparable and high-quality information” [83]. By examining several case studies, Journeault, Levant, and Picard [83] demonstrate that the GRI “guidelines may contribute to the shadowing and silencing of certain aspects of reality”. This claim compromises the relevance of the data to be

processed. Sometimes, data are deliberately falsified [83], manipulated or can contain false information [84]. MacFeely [85] also reveals the existence of data vulnerability, lack of accuracy, and the risk of cyber-cascades, where some beliefs that spread rapidly on the web are taken as facts. The training of persons responsible for data collection should primarily be aimed at raising their personal ethical standards. The training must be very carefully organized and necessarily personalized on the basis of previously discovered habits, attitudes and beliefs of the trainees. It is an extremely complex and expensive feat that only the most socially responsible countries can afford.

Sustainability data are typically multi-type big data [86]. They can be incomplete, inconsistent, and even contradictory, which makes their further analysis difficult and compromises the generation of accurate results. For these reasons, experts who process them must have a good knowledge of data cleaning techniques, which will significantly improve the quality of the data [87]. There are several high-quality data cleaning and data analytics MOOCs through which the professionals responsible for statistical analysis can train themselves without the necessary formal education [88].

Local institutions sometimes deliberately obstruct sustainability [15]. By encouraging factionalism, local governments and their partners abuse it for personal gain [15]. While factionalism is associated with a lack of integrity, unacceptable behavior is often the result of their hopeless situations, which cause people to consciously cross the lines of what is socially acceptable. Local units have their own interests, programs and activities that may not be shared by their neighbors [89]. These problems can only be solved by raising awareness of the consequences of socially irresponsible behavior, increasing maturity, goodwill and willingness to compromise. If the problem is deeply rooted in society, it cannot be expected that mentality, attitudes and behavior can be changed overnight through personalized learning. Legislation must be adapted to sanction unacceptable actions of individuals, and non-compliance must be strictly and indiscriminately punished. In the long term, this could have a favorable effect on the sustainable development of local units.

Public authorities play a major role in providing inclusive growth [90], which, according to the 2030 Agenda [7], encompasses social, environmental and relational inclusion [91]. The World Bank defines social inclusion as “the process of improving the terms on which individuals and groups take part in society—improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity” [92]. Inclusiveness usually includes race, ethnicity, age, gender, religion, social status, disability, sexual orientation, gender identity, gender expression, disability, economic and legal status, linguistic diversity and diverse backgrounds [93,94].

All the above-mentioned challenges should be solved gradually, starting from the micro-level in which selected individuals, through coaching and counseling, will influence the behavior of those closest to them. Interactions should be extrapolated to the mezzo level by organizing group sessions for people from the immediate surroundings. This will ultimately contribute to the realization of educational interactions at the macro level.

A specific and unavoidable challenge of sustainable development is inclusion. Inclusion covers many topics, the most important of which are income, health, education, housing, demography and employment [95]. By examining Google Scholar with the keywords social inclusion + {barriers, challenges, obstructions, problems} and restricting the search to 2019 and beyond, the topics of the most frequently cited articles were:

- Barriers: educational setting, AI adoption, developmental disabilities, mobile payment services and student learning;
- Challenges: educational settings, digital inclusion, mental health, education and digital platforms;
- Obstructions: intellectual disabilities, social care, accessible transport, refugees and disabilities;
- Problems: educational settings, ageism and COVID-19, inclusion and special education, financial inclusion and digital transformation.

The common denominator or remedy for most of these challenges is a synergy between digital transformation, technology-enhanced education and assistive technologies powered by artificial intelligence. They overlap with the recommendations on e-learning personalization systems and personalized learning proposed by Klačnjak-Milićević and Ivanović [51].

After the experience with the pandemic, remote education has become an indispensable part of personalized teaching and learning. The high level of smartphone penetration offers the possibility of transferring remote learning to mobile learning. Unfortunately, digital inclusion is a major challenge for most countries, including the developed ones [96]. Although inclusion is increasing worldwide [97], the digital divide between the rich and the poor is still significant [96].

Remote learning itself faces many disadvantages and obstacles that have become more evident during the pandemic [98]. Poor or no Internet connections, affecting more than half of the population in West Africa, South Asia, and Central and East Africa [99]; technical problems during classes [100]; high price of Internet access and increased energy consumption [101]; lack of technical competency for electronic learning [102]; lack of social interaction and stewardship [103]; increased scope of obligations [104]; cheating on exams [105]; and even cybersecurity attacks [106] are some of the common problems that prevent electronic learning.

People with disabilities are even more sensitive due to insufficient, expensive and linguistically limited distance education accessibility platforms and add-ons [107]. Therefore, it is crucial to encourage research that has broader implications and to financially support the development and use of assistive and accessible technologies intended for everyone [108]. Scientific research and technology development, upgrading and innovation should primarily be directed towards artificial intelligence, which is the driving force of these technologies [109]. Financial support should be provided by government and international funds [110].

After laying the technological and financial foundations for the education of all, personalized sustainable education can begin. It should start with the retraining of existing educational staff aimed at using new technologies and applications. The role of young volunteers who were born with technologies will have a crucial importance in achieving the desired goals. In order to be able to help sustainable education, they must gain a high awareness of all the challenges that can negatively affect the goals of sustainable development. Therefore, it would be necessary to organize short campaigns to raise awareness of specific problems in society and the environment, and after their successful completion, recruit the best volunteers for teacher retraining.

In parallel with the training of personnel who are a pillar of sustainable education, it is necessary to redefine educational policies. If awareness of the consequences of one's own socially irresponsible behavior is started from an early age, the chances of achieving something positive are greater. Young people who have learned to be responsible and contribute to the reduction of poverty, hunger and pollution will also help their families to recognize wrong actions and to try to live more responsibly and with dignity. All of these recommendations look great on paper. As part of the conclusion, it will be assessed how achievable they are and recommendations will be offered that can contribute to their increase. Otherwise, the uncertain future of the Earth and the dignity of its inhabitants will be even more threatened [111].

## 5. Conclusions

Humanity is facing numerous problems that it has created for itself. Natural disasters like climate change, the disappearance of glaciers and the melting of the poles are direct consequences of industrial revolutions. Earthquakes of catastrophic proportions, rapid growth of the world's population, wars and the recent pandemic endanger sustainable development. Many decisive steps have already been taken, but it is necessary to do even more in order to save the Earth from destruction. Technically enhanced personalized



learning is one of the strategies of sustainable development. It has already proved its achievability in the most developed countries [11,112]. For example, East Asia shows that it has made a crucial step towards democratization, which is one of the prerequisites for a brighter future [112]. Unfortunately, the poorest nations lag even further behind in implementing sustainable development [113].

Personalized learning seems to be one of the best ways to overcome the problems of sustainable development. It must be based on pre-prepared and well-designed targeted instructions. The content must be highly adaptable so that minor changes can be applied in unforeseen situations. Decisions must be made on the basis of well-collected data. And finally, personalized learning must be two-way, from the teacher to the students and from the students to the teacher. It is best to start this strategy with short pilot programs that will be gradually upgraded from the micro to the macro level.

By selecting the best candidates who will undergo short trainings, it will be possible to create a nucleus that will successfully realize the desired goals. They will coach and counsel their own families, colleagues and close friends on how to handle delicate situations. If they conscientiously fulfill their obligations, other individuals will begin to imitate them and thereby contribute to the gradual overcoming of the problem.

Successful and experienced counselors from the micro level who have shown the ability to convince their families and mates to behave responsibly can upgrade their engagement to the mezzo level. As part of their community services, they will be suitable for group activities in which the habits and awareness of not only a larger group of residents, but also members of city and municipal councils, will gradually change.

If these activities prove to be successful, the moment will come for macro-level activities that will gradually involve the public administration, community organizations, administrations and finally, policy makers.

Personalized learning can contribute to improving the situation in the long term. The process should begin by raising awareness of sustainability problems, and end by changing educational policies. The target group is the youngest generation, which has been exposed to technology and social media from an early age. Well-designed awareness-raising campaigns, targeted involvement of young people in projects that contribute to improving the current situation and satisfaction with achieved successes will certainly contribute to their desire to overcome traditional behavior and become socially responsible. In time, their progress, prosperity and significance in society will encourage their families to improve their own futures by emulating their children.

Before teaching the youngest, teachers will undergo a dedicated training, so that they themselves understand the mistakes made in their environment and the activities that contribute to their elimination. This training will be designed by foreign and domestic experts who have experience with similar initiatives. Local institutions will be the first to undergo training in order to understand what the key problems in their close environment are and learn the strategies for overcoming them. After that, they will be convinced to logistically and financially support all activities. Without their support, the entire project is doomed from the start.

Special attention should be paid to removing stigma towards people with disabilities. Through specialized training, they should be helped to understand how they can improve their lives using AI-based assistive and accessible technologies. With proper training, they can become exceptional trainers. With their own experience in using new technologies, they can help other people with similar disabilities in using technology and adapting their behavior towards sustainable development goals. Young disabled persons will identify with them, and they will become their role models.

Each individual should be approached in a personalized way and the knowledge imparted adjusted according to their own condition, affinities, and capacity to change and outgrow the environment they come from. To achieve this goal, technology needs to be significantly improved and its price reduced so that it becomes accessible to everyone and becomes a part of everyday life. A key prerequisite for achieving this goal is the financial

support by the richest, who increased their wealth during the pandemic at the expense of the poorest, whose already hopeless situation has become even more hopeless. Without the joint effort of all countries with the desire to help each other, sustainable development will decline even more.

After all the disasters that humanity has experienced in the last few years, it is high time that empathy prevails. Teachers with high moral principles and experience know exactly how to teach their students humanity. Their mission must begin as soon as possible. The future will show whether and to what extent they succeeded in this.

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