ELEARNINGNEWS ARTICLE

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The benefits of e-learning for the environment: why online training is green

Reducing pollution, combating deforestation and saving energy are some of the environmental benefits of e-learning.

In recent years, the global temperature has risen significantly, bringing with it a host of environmental issues, which are reflected in the health of the population, the country's economy and natural systems. **Climate change** is an urgent issue, resulting from years of land use, unsustainable energy consumption and use, and the emission of greenhouse gases into the earth's atmosphere. Flood phenomena, periods of drought, hydrogeological disruption and the spread of diseases have joined the order of frequent events that affect the entire world every year.

Therefore, different countries are trying to run for cover by putting in place sustainable projects to retard global warming and try to reverse the trend of recent years. This includes the race for renewable sources, recycling of materials and reducing the use of fossil fuels. **E-learning**, in the race for **sustainability** also plays its part, representing a green method for school and job training. Indeed, there are several environmental benefits this mode offers, from the savings of reduced travel (and thus CO2 emissions) to the elimination of paper use (the use of which has a significant impact on deforestation).

The climate crisis: the effects

The fight against climate change is a challenge that concerns everyone, and in recent years, it has become firmly placed on the agendas of world politics. For some time, scientists' attention has focused on the rapid warming affecting the Earth's atmosphere due to increasing carbon dioxide concentrations. In fact, greenhouse gas emissions are able to trap the Earth's heat, causing the phenomenon of global warming, which brings with it a host of other environmental consequences that put humans and other life on Earth at risk. The effects of climate change, outlined by the United Nations, are:

- Increased Earth **temperature**, causing heat waves, fire hazards and dryness of soils;
- More intense and frequent **extreme weather events** in many geographical areas: increased temperature causes higher humidity, which exacerbates rainfall, causing more intense and devastating storms, which can cause flooding. Cyclones, hurricanes and storms are also becoming more frequent, with destructive potential.
- Increased **drought**, directly affecting the agricultural sector and desertification;
- **Warming and rising oceans**: waters absorb heat derived from global warming, which can affect the life of marine flora and fauna. As heat increases, so does water volume, with rising sea levels, thus threatening coastal cities and islands. Rising water levels are also due to melting ice caps.

These consequences of the climate crisis also have direct effects on humans and animal and plant species on the Planet. Indeed, the Earth's rising temperature, extreme weather events, droughts, and rising seas cause:

- Loss of **species**: numerous species are at risk of extinction in the coming decades, endangered by fires, pests, diseases and extreme weather conditions;
- **Food** shortages: fishing, farming and livestock are activities that are in danger of disappearing, due to climate change, which is changing sea and land conditions;
- Increased **health** risks: air pollution, disease, mental health problems, disastrous weather events and poor nutrition are already evident and cause the deaths of about 13 million people worldwide each year;
- **Poverty and migration**, following floods that can wipe out entire neighborhoods, forcing people to leave their land.

According to the United Nations, "over the past decade (2010-2019), climate-related events are estimated to have caused the migration of about 23.1 million people on average each year, leaving many more in poverty."

The climate crisis: the causes

But where does environmental change originate and what has generated it? Certainly, in addition to natural factors, humans have played a big part, as they are responsible for emissions of greenhouse gases that trap the sun's heat. These gases are the consequence of various human activities, such as:

- **Energy production**, burning fossil fuels, which produce carbon dioxide and other environmentally harmful gases. Even today, significantly less energy is derived from natural sources such as wind, water and the sun;
- **Industrial production**, which generates harmful emissions, again due to the use of fossil fuels;
- **Deforestation**, sometimes aimed at increasing intensive monocultures, which put a strain on the soil and increase greenhouse gas emissions. Deforestation is an alarming phenomenon, as it deprives the Earth of its own ability to cope with CO2 emissions naturally, through trees. WWF reveals that "the rate at which we are consuming the planet's forests is alarming," and the situation is becoming more worrisome as the years go by.
- The use of **transportation**, such as cars, trucks, ships and planes, which are fueled by petroleum-based fuels and generate various polluting emissions. They account for nearly a quarter of global carbon dioxide emissions;
- **Food production**, which makes use of environmentally harmful chemicals (such as insecticides, herbicides and fertilizers), and may be responsible for deforestation, as well as the emission of greenhouse gases into the atmosphere;
- The lifestyle characterized by excessive consumption, involving energy, transportation, food, waste generated and products bought determine the amount of CO2 emission.

The environmental situation is therefore increasingly alarming and it is essential to take corrective action as soon as possible before the situation becomes completely irreversible and disastrous. A number of simple and effective actions can be put into practice by every person to curb this run-up in global temperature rise, although global and drastic action would be needed to avoid the worst. The latest Report of the Intergovernmental Panel on Climate Change (IPCC), noted that "options are available in all sectors that can at least halve emissions by 2030."

From e-learning a help for the environment

Crucial help in this direction could also come from e-learning, which is a green system for learning in school and work environments and which, if applied consistently, would make learning much more sustainable. In recent years, digital learning has seen exponential development, both in work and school situations. Giving it a major boost was, in 2020, the Covid-19 pandemic and the subsequent lockdown, which necessitated the use of online, to avoid forcing students and workers to travel to places dedicated to their education, with the risk of spreading and contracting the disease.

Thus, online courses and classes have shown their full potential, highlighting their advantages, including:

- Ability to reach **more people**, at the same time and in any location, without forcing them to travel and without having to find physical places to gather class participants;
- **Cost-effective**, because it cuts down costs related to transportation, electricity, power, etc.; and
- **Accessibility**, because it allows people with difficulties to access dedicated pathways;
- **Flexibility** of training: in some cases, the course is recorded, so that the person can independently choose the most suitable time to attend it;
- Possibility of a **tailored training course**, with the possibility of reviewing past topics.

Among its advantages, the use of e-learning also boasts the environmental one, making it an "ecological choice" to be preferred, whenever possible, to face-to-face learning. Absence of travel and use of the web allow teachers and learners to reduce the environmental impact of training and make e-learning an ally in the fight against climate change.

Why is e-learning green?

Online training offers an environmental benefit. But what are the features that make this type of **learning green**? There are at least three environmental benefits related to e-learning:

1. **Reduction of pollution.** Online learning, in fact, allows people to avoid travel and carry out their learning without taking the car to the office or school, nor the plane to attend any conferences or foreign trips. Everything is completed

from one's home. In this way, CO2 emissions caused by transportation are significantly reduced. This was demonstrated by the lockdown imposed during the Covid-19 pandemic, which forced workers and students to stay in their homes and leave their cars in the garage. During those months, greenhouse gas emissions were significantly reduced and pollution decreased dramatically, especially in large cities.

2. **Energy savings:** a very large amount of energy is required to heat and light a school or facility where classes are taught in attendance. Globally, this translates into a very pronounced environmental impact, because energy production involves the use of fossil fuels, which are responsible for the emission of greenhouse gases. Not only that. Energy is also used to power the technologies in the training sites, so in the case of non-use, the savings become even greater.
3. **Reduction in paper consumption.** Online learning also means use of online materials, such as slides, videos, shared sheets and images. These media replace all printed materials, making a tangible contribution to the fight against deforestation. In recent decades, the expansion of human activities has contributed to continuous deforestation, which has put at risk the fundamental contribution of trees to cleaning the air by helping to absorb carbon dioxide, releasing oxygen.

   Choosing e-learning training has become a green choice for companies, strengthening their image and putting them in line with the contemporary trend of caring for the environment and combating climate change.