Educating in the age of AI

Challenges of technology. The need for critical education

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INTERVIEW WITH CARLOS MAGRO MAZO

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If we consider that educating means preparing a person for the world and the society in which they are going to live, what do you think are the key aspects of educating children and young people in the age of artificial intelligence?

From a very general standpoint, we could say that educating has to do with giving those we educate the words and ability to think in order to understand the world in which they are living. I would say that one of the main purposes of education is to help children, adolescents and young people to be able to read, interpret and act on the world in which they are living. What we have to ask ourselves is whether, as we are educating them, we are giving them that ability to understand the world in today's schools. This has to do with understanding the environmental crisis we are experiencing and the social injustices and inequalities that still surround us all. And we could also say that understanding the world today has a lot to do with what is happening with technology, for example.

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Therefore, the first question we should ask ourselves is whether at school, that is, the entire initial formative stage, which we could even extend to higher education, either vocational training or university, we are helping young people, children and adolescents and young adults and giving them the tools to understand this tech-related world.

There is a lot of talk about the importance of personalised, deep and lifelong learning, but the

complexity of school education makes this difficult. How can technology help to improve the quality of education?
Well, we don't really know. We're always trying to figure that out. Actually, there has always been a lot of technology at school. Schools are a technological device, perhaps not the way we view that term now as information technology or something that comes out of technical, technological or scientific advances. But if we think a little about the history of schools, they are full of technology, sometimes simply things that we take for granted and do not notice. Books are an incredible technology that have lasted a long time, yet they are still on students' desks and make a school a school. But the organisation of schools themselves, by age groups, levels and subjects, is basically a type of technology, a technology that seeks specific results.

Schools live with technology, but each innovation brings promises that are not always fulfilled

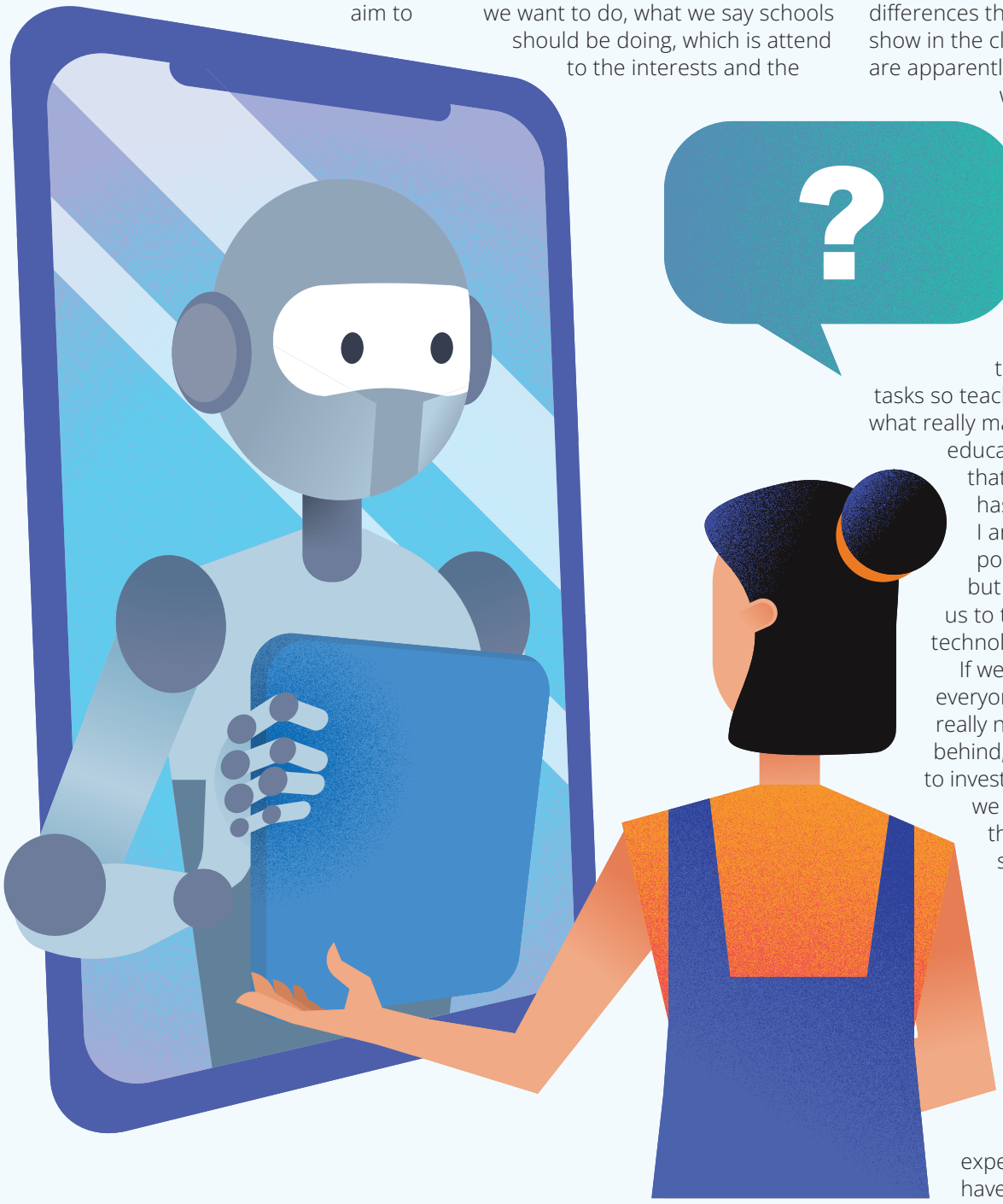
In the last 100 years, when we think about education and schools and their improvement, the kind of technologies that we think of are linked to information. And now, in the last year and a half, although we have been talking about it for a few years now, we keep talking about AI, artificial intelligence, especially generative artificial intelligence, and its impact on education, and whether it is going to help us or hinder us. Three years ago, we were talking about the metaverse. Five years ago, we were talking about the impact of online learning platforms; in the 1970s it was about video or computers; in the 1950s and 1960s we talked about television, about that whole movement, about educational

television and how it was going to transform schools. Even further back, we could see how when radio appeared and became widespread, we also immediately imagined whether this instrument was going to help us to improve education.

Universal schools, the schools we have today, the schools that educate everyone and that aim to educate everyone, live with these paradoxes, these tensions. It is very difficult to focus on the individual, on personalisation, and to attend to differences and diversities. And this has been the case for at least the last few decades.

Therefore, every time one of these technologies appears, we dream that it will help us to do what we want to do, what we say schools should be doing, which is attend to the interests and the differences that our students show in the classroom, which we are apparently unable to do. And we are once again pouring all our hopes into this technology that is going to help us personalise education, or save time, or help us, like helping to eliminate their bureaucratic tasks so teachers can focus on what really matters, which is educating. This is a promise that is floating around but has never been fulfilled. I am not saying it's not possible with technology, but it probably requires us to think a little bit beyond technology.

The biggest risk of AI is to think of it as a magical solution to complex social and educational problems



If we really want to serve everyone at school, if we really no one to be left behind, perhaps we need to invest more; perhaps we need to transform the way we organise schools; perhaps we need to invest more in transforming the curriculum; perhaps we need to invest more in teacher training in order to change the way we understand why it is important to educate, what expectations we should have of each student, what

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the main difficulties that teachers face every day when they have a classroom of 30 totally different people in front of them.

In other words, it seems that technology can help us. We are not going to squander this promise, but it is clear that we have to make interventions that have to do with social factors, and resources, with how we really take this promise of inclusion and diversity seriously. And on this path of taking this commitment to educating everyone based on personalisation seriously, we will probably be able to make much better use of this promise of technology.

Since the emergence of generative AI, there has been a lot of speculation on the risks and opportunities it brings. What do you think is the greatest risk and the greatest opportunity it could bring to the world of education?

The greatest risk with AI, or one of the greatest risks to not overstate it, is thinking of it as a solution, which is a bit like what I was saying before, that is, thinking that AI is going to solve the social-educational problems we have, which, I repeat, have more to do with people's living conditions, the resources we invest, teacher training, the structure of schools and families' expectations. Education is tremendously complex, and to think that AI or any other technology will solve these problems in and of themselves would be a great risk. It would be equally risky to not take AI or technology seriously, or to deny it, exclude it, take it out of education, think that we have to ban it, think that it is not worth incorporating it into school learning, that is, persisting in the idea of a school disconnected from life, which we like more because it is less technological.

Therefore, the first two risks are like twins but almost opposites. On the one hand, one risk would be thinking that everything will be solved with technology, in this case AI. And the other major risk would be thinking that AI is an evil thing that we have to exclude from the education of children, adolescents and young people, and from schools.

What might the greatest opportunity be? We have yet to see it, but for technology to be an opportunity and not a necessity, for it to really be a lever of transformation for schools, we probably have to ponder a lot more what artificial intelligence means for education. And pondering does not mean setting it aside but rather opening the black box, understanding what's behind it, what the interests are. Somehow, the opportunity will come if we are able to make AI truly educational, that is, if we are able to incorporate the values that we consider important in education, such as attending to everyone, attending to inclusion, attending to diversity, using certain pedagogies and not others. If we are able to make AI educational, it will probably be an opportunity for the education system, but that remains to be seen.

Technology is increasingly present and integrated in all areas of life. How does this omnipresence affect education and specifically a good education for children and young people?

Whether we like it or not, technology is part of our lives. It always has been, but these current technologies are more omnipresent than ever. They give us possibilities to do things we couldn't do before, but they also create complexities and difficulties that we still don't know how to handle.

It is essential to keep in mind that we are surrounded by technology. Human beings have advanced thanks to technology almost since we were carving flint. There have been different technologies in every era, and this includes not only tools but also the ecosystem in which we live, which affects how we understand, interact and work.

A few decades ago, we decided as a society that we educate for life, not just for work or basic literacy, but in a holistic way. We equip students with tools, critical thinking and words to understand and act in the world. And if life is full of technology, schools also have to educate in and with technology.

At school, technologies impose a pedagogy, often behaviourist, based on repetition, punishment and reward. However, classroom pedagogies tend to be more socio-constructivist, making knowledge and what we use it for meaningful.

A specific subject isn't needed; as we teach students to think historically or mathematically, we should also teach them to think digitally and to be critical of technology.

The Internet and social media have a huge influence on shaping people's thinking and ways of life. Many people fear that AI is a new tool for manipulating and

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shaping the way people think and act. How can we empower children and young people at school to grow up to be free and socially engaged citizens?
By taking artificial intelligence seriously at school, that is, not by leaving it out but by using it as a learning object in the classroom environment, just as we have done with other fields and other forces that shape our way of thinking. And it is important that we do this. Taking artificial intelligence seriously means educating in technology first and foremost, but also with technology. This means using technology to understand how we can do it. I think that's the way forward.

Of course technology can manipulate us and shape the way we think. Moreover, it is the perfect economic ally of the society in which we are living. You don't have to think about these things separately.

In the last 30 or 40 years, we have been living in what some call a period of absolute economic neoliberalism, based fundamentally on consumption, spending, the increase in the consumption of goods that perhaps we don't need, the increase in constantly fulfilling the urge that we want something so we get it now. And technology is the perfect ally in this society that we have created, which is growing.

So, part of what we have to do is at least make this evident, make it clear that there is a kind of alliance between this way of understanding the world, which is a predatory, consumerist world that generates inequality, and the way technology drives us to spend more, to have more and as soon as possible, and not to stop and control our desires, which are always here, now and quickly.

Asking schools to fight this is very difficult, and it is asking too much, but it is certainly a place where

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if we educate in justice, equality, democracy, understanding that not everyone has everything, if we instil these types of fundamental values and human rights, this will come out as a contradiction with our way of life and we will probably train people who are at least capable of questioning this way of life, where the economy and technology are very closely linked.

Sometimes there is speculation about a not-too-distant future when machines will play an increasingly prominent role while human beings will gradually recede. Do you think it is reasonable to think that this might happen, and how could schools provide a kind a preventive education given this possibility?
This question also has to do with what some call the myth of artificial intelligence. It's nothing new. Since the 1950s, we, or some of us, have built a myth around artificial intelligence, either warning us or promising us that a time is going to come when machines, robots and technology are going to be more capable and intelligent than us and are somehow going be able to totally replace us. This is what some call the Technological Singularity, that is, the moment when we lose control over the technology we ourselves have created. This kind of threat has been with us since the 1940s and 1950s. Science fiction has fleshed it out, and now we get these devices that we casually call artificial intelligence, even though they are neither intelligent in human terms - they have nothing to do with our intelligence - nor are they artificial, because they actually consume resources and are physical artefacts. Artificial intelligence reappears, and we're told that in a few years these machines will think for themselves, learn for themselves and somehow surpass us, and we will be controlled by robots that will be smarter than us, almost like in 'Planet of the Apes'.

In fact, nothing we have right now seems to be going in that direction. After all, calling artificial intelligence intelligent, when it is a device that is fundamentally a question of statistics or probability, is stretching the concepts too far.

On the other hand, what this does require of us as a society is to take technology and artificial intelligence seriously. And that means taking it seriously at school, among other things. So we don't need a kind of education that protects us. Instead, we need a kind of education that allows us to understand and question what is happening, understand and question many of the difficulties we have. But we also need schools that allow us to make better use of technologies and artificial intelligence, to figure out what their limits are, to know how to use them for what we need, not the other way around.

In short, we need to educate. It is very important to educate, not so much with but especially in technology. The goal is less how to use it, because that can be learned, but more to understand the implications that these technologies have in our lives and the world in general, for better or for worse.