Highlights from Manos' presentation – GEM Report event 26 September 2023

- The report contains a paragraph which is the monitor of progress towards goals and this year we have a short section where we discuss segregation of education indicators by disability, and this is a way to introduce quietly the addition of the disability mentioned in our world in a quality database for quality education, which we announced other time when we were working on the inclusion report. It has not been straightforward analysis, more complicated than we would like, but now it calls for debate and discussion on how to do that better.

- Technology leads people to take extreme positions with optimism and pessimism. With many of us we are behind that, but it is quite interesting to pose some of the questions, one is it democratises knowledge. Some worries that it threatens choice and democracy by allowing a select few to control that information. Some people see that it offers boundless opportunities, but others worry that it may be leading guests towards a technology dependent future in which it might be difficult to return. Some say that it leads towards levelling the playing field, the opportunities of people to access education, others point out that in fact it prevents a few and exacerbates inequality. While we want everyone to have the skills to navigate it, some worry about the development of children if exposed to digital education too early. As we cover topics this report is dealing with, we face challenges especially how to represent the global picture. We have to look at everything and how it contributes to our global education goal considering all educational and economic contexts. That is a bigger question mark, many countries are aspiring to access education levels that rich countries were enjoying before to add vent of the digital age. With that sense, the reason behind the title is that we have recognized the role of technology as a tool, not a blanket solution because countries can achieve objectives that they have said even without technology.

- We also faced other challenges. The big challenge for us was the use of evidence and one of the obstacles for having a proper analysis of what is happening is that things are changing very, very rapidly. They are changing rapidly, but it's fair to say that technology has not yet transformed education. Even in the world's richest countries a minority of students are seeing their education transformed through the medium of technology. Denmark, Sweden, Australia, one in three students are exposed. You could say that in school education things are being transformed but some of them are having cold feet. Sweden you may have heard in the news that they are going to drop the use of devices in the classroom and go back to paper.

- Technology is growing rapidly. The sector most affected is higher education. There are huge disparities in the use of technology by income, education level, and preparedness of teachers and by schools as well.

- Here was our main problem: Impartial evidence on the effectiveness of the use of technology in education is rare, that is partly because education evolves so fast with products changes every three years or so, so it is impossible to match that speed. We know therefore that technology is adopted with very little evidence. In the U.K.

7% did randomised trials and 18% in academic studies. The little evidence that exists is often very narrow and tends to be led by those who are trying to sell it.

- Technology of course offers millions of opportunities, a window for accessing education but at the same time it excludes many. There are multiple ways that technology can help learners with different types of impairment to access educational opportunities, and we can see later perhaps the advantages and disadvantages of these, but we also know it is a promise for a fraction of the people who have access to the technology. Accessible technology can play a huge role, creating not just opportunities and windows for accessing education, but also in communities bringing people closer together which is extremely important. We also know that teachers are often not well prepared or tend not to be well prepared to use technology, and that includes the use of technology for all students, but also use of specialised devices is something that teachers are not well prepared to deal with.

- The key message of the report is that some technologies can improve some types of learning in context. This basically says that we cannot have blanket adoption of technology and expect to see miracles in terms of learning outcomes. Yes, technology greatly increases access to resources, and can fill equality gaps in some cases and increase time available for students to practise, and it can personalise instruction, but again that comes as we will discuss later with advantages and disadvantages. It can help engage while it is still a novelty, but can also be detrimental. The report attracted a lot of attention on its use of smartphones. Where smartphones are available, there were negative reports on learning outcomes. One in four countries globally have taken some steps to ban the use of smartphones in their classrooms.

- There is a tendency to focus on the devices whereas we should be focusing on the learning outcomes, and learning outcomes can be improved even with technologies that are simple. In China, recorded lessons provided 20 years ago by well trained and respected teachers with the support of less well trained teachers in the classroom had less impact reducing the learning gap between rural and urban students. We talked about 100 billion students being reached through such lessons and reducing the gap in earning between urban and rural students. Technology does not need to be advanced to have such an impact. We want to think about the problem that we are trying to solve and apply it to be cost-effective.

- In terms of efficiency, some of those examples around distance education have been important. We know that we cannot replace face-to-face relationships with people in the classrooms or even coaching, but the costs are so high that make it a worthwhile option.

- In terms of capitalising on massive amounts of data being collected, it doesn't seem to be verified in practice because the ability of those in education administration to use and process this data and put them to good use is limited even in the world's richest countries.

- Online content has been a major promise and it's true we all know that and give your fingers access to as much of the knowledge as we could hope and it has helped improve concentration, adaptive, make it accessible and easy to distribute. Digital textbooks have been used in relatively well-off countries, they have reduced costs, but online content comes with its own problems. It is mainly produced in some countries and in some languages, 92% content is in English and that raises the question of appropriateness.

- Higher education which I mentioned before, which is the one most transformed already by technology, is increasingly relying on platforms, but all the companies that support these platforms are only beginning to emerge and are changing the role of universities as we have known them over the past centuries.

- Related issues to efficiency cost and the report notes that we don't often realise the full cost of investment and money is not well spent. In the United States two in three licences that have been purchased were unused.

- Many countries are also faced with problems related to regulation. In this edition we have a range of information that we will add to the PEER platform, including the low countries that guarantee privacy and the number that guarantee privacy in schools. We have looked at the issues from the perspective of four trade-offs when deciding to use technology in education. There is a contrast between inclusion and exclusion and between commercial interest and common good, short-term efficiency and longer-term costs, so we have come up with this scheme as we were discussing. It is difficult to have clear coordinates given that everyone has a few about technology in education.
- We have approached this with the four keys of the keyboard. Is it appropriate, is it relevant, improving outcomes, is it equitable, does it leave some learners behind? Is it scalable? Do we know the full costs and have we done the proper piloting before proceeding and is it sustainable in terms of not only economic?
- In terms of appropriateness. Curricular enhancing should be rethought. We need to ask ourselves better questions whether these uses of technologies are delivering better results and an AI based system based in the U.S. was no better than traditional teaching. Only a minority of senior leaders in the United States have been surveyed across the country. And these solutions should be designed to fit the needs of teachers. Again, a very large number of secondary school teachers that had been trained to use technology in classrooms felt they were ready to do that even after their training. The second recommendation is about the use of education technology and its effects on equity.

- As I mentioned before, technology needs to support the marginalised as in China and also India, simpler solutions essentially involving distance lessons without necessarily the use of advanced digital forms were effective in proving education outcomes in rule secondary public schools. We understand and support the idea that connectivity is becoming essential public service and we invite countries to set national targets on schools that are connected to the internet. We need to promote digital public goods in education.

- A third recommendation is about scalability, and the report notes with concern that very few countries in the world have bodies that evaluate educational technology and in the few places that happens such as in the United States only 2% of products in their clearinghouse had strong or moderate evidence of effectiveness. That should be used around the world to make governments more cautious. The report notes that there is consensus that initial investment in education technology is only 25% of the final cost and that is another warning sign before making a decision. Transparency of public spending is essential. When governments deal with private actors it becomes much more difficult finally sustainability. We do agree and understand that all countries and about more than half of the countries have some frameworks of digital skills for the future. Not all of them are broad enough and the report advocates for digital skills related to citizenship and not just the world of work, but we also know it's probably the most powerful finding of the report. When we talk about digital skills maybe at the end of the day what we are thinking about is having strong education systems that deliver on their promise and not something sophisticated in advance.

- The report argues that we need to protect learners in terms of safety of their privacy and review of products during COVID showed that almost 95% of software was connecting children's data.

- Finally, there is the need to consider the material and energy implications that if only the lifespan of laptops in the EU is equivalent to almost 1 million cars on the road.

- We need to focus on learning outcomes and not digital inputs because a lot of them do not improve. Digital technology should not be a substitute but a complement to human interaction.