Foreword

In a world in which the kinds of things that are easy to teach and test have also become easy to digitise and automate, we need to think harder how education and training can complement, rather than substitute, the artificial intelligence (AI) we have created in our computers.

While there is much debate around the potential impact of AI on our economic and social lives, surprisingly little is known about the actual capabilities of AI, and how we can anticipate their further evolution.

This is where the novel methodology of OECD's Artificial Intelligence and the Future of Skills (AIFS) project seeks to make a difference. It enables an understanding of the potential as well as the limits of AI capabilities at a detailed task level so we can describe more precisely how humans and AI are complementary. The project builds on a pilot which the OECD conducted in 2017, that compared the performance of adults on the literacy tests of OECD's Survey of Adult Skills with expert judgement on the capabilities of AI on the same test. This pilot showed that, already in 2017, AI outperformed the majority of humans on basic information processing tasks. However, information processing skills are just a small slice of human capabilities, and the AIFS project now extends this methodology to a wide range of human skills that capture essential dimensions for the success of humans in modern economic and social life. This will deliver valuable insights for the future of education, in terms of directions for the design of instructional systems, the delivery of educational content and the preparation of educators, and the ways in which we recognise and certify knowledge and skills.

Optimists will say that throughout history, education has always won the race with technology. However, there is no assurance it will do so in the future, and humans have always been better at inventing new tools than to use them wisely. In the past, when technology evolved slowly, education had long periods of time to adjust. When fast gets really fast, and when AI competes directly with the cognitive ability that have long been the focus of education, it is important to build rapid, robust and ongoing intelligence that can help us track and anticipate the capabilities of AI.

The AIFS project is therefore designed to provide a baseline against which the OECD can then systematically monitor the evolution of AI capabilities in the longer term. With the technical approaches described in this initial report, the AIFS project is taking the first steps towards building a "PISA for AI" that will help policy makers understand how AI connects to work and education - and how it will transform both of these foundational institutions of human society in the years ahead.

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