



The Productivity Shift: How AI is Redefining Skills and Work

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Contents

Introduction	3
Opportunities	4
Occupational Standards	4
Skills Demands	5
Developing Skilling Courses	6
Case study: Gamifying Skills	6
Developing Qualifications and Assessments	7
Case study: AI-Assisted Assessment	7
Challenges	8
What are Different Countries Doing	9
Conclusion	10

NOCN Group is an international charity which delivers future-fit skills solutions with social impact for colleges, training providers, employers and individuals. They currently operate in 27 countries to provide Qualifications, Apprenticeship End Point Assessment, Assured Courses, Competence Card Schemes, and Short Online Courses. Their skills solutions are designed to advance skills in the areas where they are most needed:

- preparation for life & work
- construction & the built environment
- engineering, manufacturing & the green economy
- health & social care
- education & management



Introduction

Artificial Intelligence (AI) has emerged as one of the most transformative technologies of our time. It does and will continue to touch all parts of our lives both working and leisure, and has the potential to increase productivity, drive economic growth, and embraced by governments, achieve a fairer distribution of wealth.

Employers will need people who are AI savvy to develop, market and deliver goods and services which are founded on AI technologies. These goods and services will be constantly evolving and changing as we develop our understanding of the deployment of these new technologies. As we embrace such technologies, productivity is only set to increase. This means that people working in the economy will need AI skills and an ability to continually upskill themselves in a way humanity has never experienced. Therefore, the way we develop our skills to enter and stay economically active will be increasingly supported by AI technologies.

AI will impact in all sectors but will vary considerably between sectors. For example, financial and insurance services will experience significant change whereas on-site construction will see less of an impact. This paper looks to explore this impact in more detail.



With nearly 45 years of experience in skills development, NOCN Group recognises the transformative potential of artificial intelligence in education and workforce training.

As a forward-thinking organisation, we embrace AI as a tool to enhance productivity, personalise learning, and modernise assessment—ensuring our solutions remain relevant and impactful in a rapidly evolving landscape.



Opportunities

If governments and societies can capture the benefits of AI technologies, we could see increases in productivity and living standards, improved work-life balance and greater opportunities for people who were previously excluded and disadvantaged. In other words, fairer economies and more just communities.

AI skilling tools will open up the opportunity of progressively moving away from classroom instruction, manual grading, and standardised tests. These AI systems can deliver dynamic, responsive, and tailored solutions, which can be customised to an individual's and employer's requirements. Capturing these opportunities will mean a seismic change in the way skills are developed, assessed and credentialled. There are several examples of this now, such as [IBM's AI Open Badge](#) initiative which offers instant digital certifications upon completing AI-validated courses.

Occupational Standards

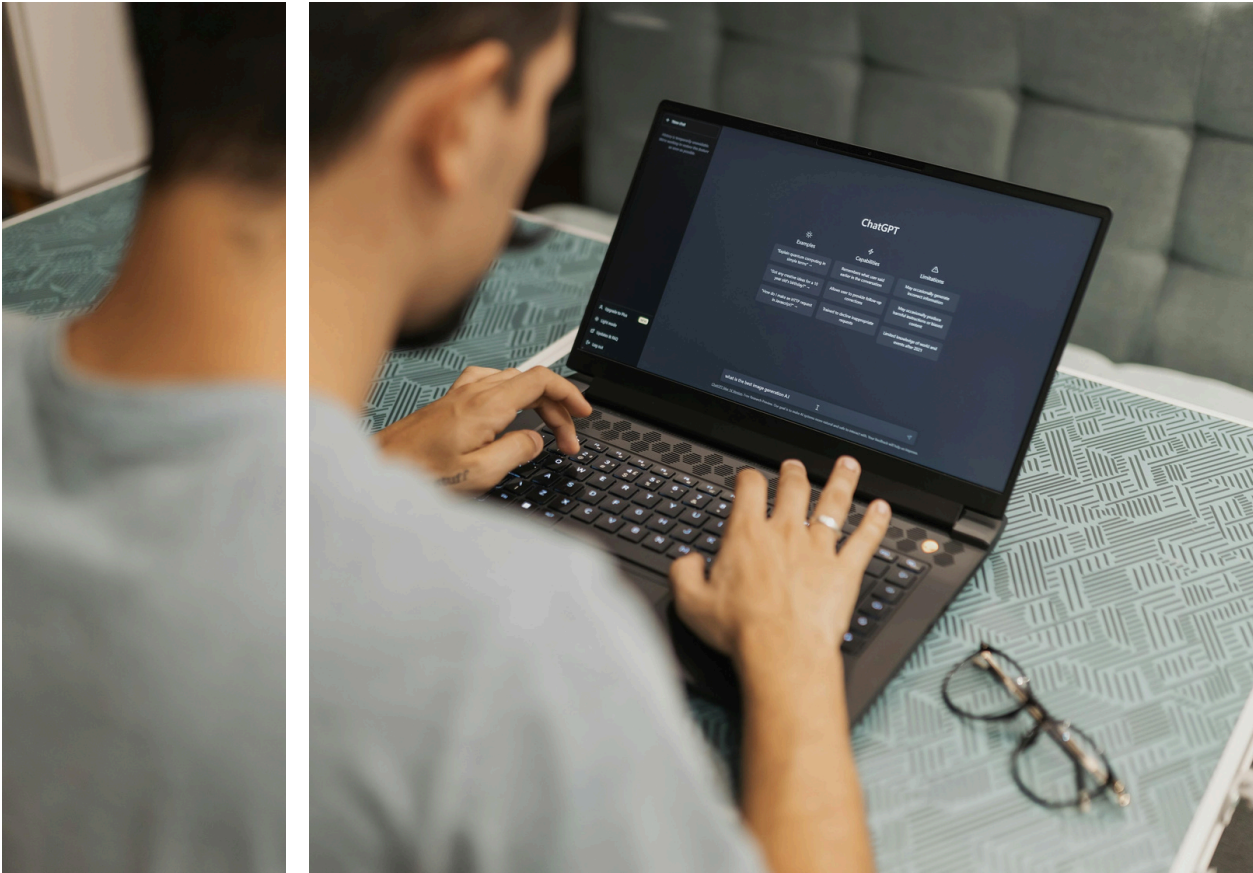
Many economies over the last few decades have developed national occupation standards for all key job roles in their economies. These have commonly been a collaboration between governmental bodies, sometimes qualifications regulators and sector organisations such as sector skills councils (SSCs).

The occupational standards have, in some cases, been designed based on rigid, locally- focused criteria with or without the context of clear career pathways. Certain countries have taken a more flexible approach, and other countries have tried to design their standards so they are 'transnational' - to permit people to work in other countries with more ease.

AI is going to have a fundamental impact on 'skills' architecture. There will be new occupations, existing occupations that are changing and needing to be kept up to date, and a merging or blurring of 'old' occupations and career pathways.

Countries that will find the transition easier will be those who have been driven by sector and economic need in designing their occupational standards; using a flexible, modularised or micro-credential structure aimed at achieving transnational transferability. At the other end of the spectrum countries that have adopted a rigid, locally-focused structure with no or only limited modularisation will face major challenges which could damage their ability to capture the benefits of new AI technologies.

Occupational standards can also be developed with the help of AI technology, which can present a solid ground for the development of occupation profiles and their analysis - making keeping them up to date much easier.



Skills Demands

The most successful economies, sectors and companies are the ones that will be able to predict their skills requirements and organise the skills development ecosystems to deliver higher productivity and economic growth. This way they will avoid the damaging economic impact of skills gaps and mismatches. AI enhances predictive capabilities by analysing patterns and trends in performance data. This will allow governments, sectors and companies to better forecast future skill requirements and align training and skilling programmes accordingly. As noted by the World Economic Forum, AI is increasingly being used to identify skill gaps, enabling organisations to retrain employees for future roles and better align workforce development with emerging demands.

Developing Skilling Courses

The most effective AI-powered training courses will be modular, helping learners build up to date skills and competencies while boosting their confidence. They will also offer simple, online pathways to stay current in a rapidly evolving world.

AI-generated content can also offer personalised and dynamic learning scripts, as well as evaluating the likelihood of a person underperforming in certain areas prior to employment. Equally, it can help individuals develop behaviours to adapt to change. AI-powered platforms like Coursera and LinkedIn Learning leverage algorithms to analyse user behaviour and recommend tailored educational pathways. [Research by Gartner \(2023\)](#) highlights that adaptive learning technologies powered by AI increase learner engagement by 40% compared to traditional methods.

We are already seeing different approaches to learning such as gamification and immersive simulations. Technologies such as virtual reality (VR) and augmented reality (AR), combined with AI, enable learners to practice real-world scenarios in a controlled environment. [A study](#) published in the Journal of Innovation & Knowledge states gamified learning modules powered by AI improve retention rates, knowledge sharing and job performance.

Gamifying Skills: A Strategic Partnership for Construction Education

In partnership with Gamesterinc Limited, NOCN Group is supporting an innovative approach to tackling the skills gap in the UK construction industry through interactive, game-based learning. Aligned with the NOCN syllabus, these educational games enhance student engagement and retention by making theoretical content more accessible—particularly for learners in Joinery and Bricklaying at Level 1, with crossover into Level 2 content such as fire and health and safety. The platform not only caters to diverse learning styles and enables tutors to identify knowledge gaps, but also automates assessment in line with NOCN workbooks, reducing manual marking and freeing up tutor time for practical instruction. Delivered under exam conditions, this strategic partnership reflects our commitment to modernising vocational education and supporting learner success across our wider communities.



A further benefit of utilising AI in skilling is that AI systems are capable of assessing performance in real time, offering instant feedback to learners. This helps individuals identify areas for improvement without delay, ensuring a quicker learning curve. Microsoft Teams incorporated AI-driven analytics to monitor employee progress during corporate training, which increased skill acquisition rates by 20%. [A report](#) by PwC (2024) predicts that AI-driven learning platforms will become the norm, offering courses tailored to individual career trajectories, thereby increasing global workforce productivity.

We will see a progressive move away from fixed classroom-based curriculum to more personalised learning, which will allow the person to learn at their pace and address their own skills gaps. Employers will find this approach incredibly useful in developing their workforce to ensure they can gain the skills needed to deliver their business goals. As a result, there will be opportunities to considerably increase productivity for those who start from a flexible base.

Developing Qualifications and Assessments

Organisations are already using AI technologies to design qualifications, modules and micro-credentials with their underpinning assessments.

AI tools such as coding assessment platforms and language evaluation software automate the process of skill evaluation. Assessment organisations are starting to use AI to mark and grade assessments. These systems, if properly designed remove human bias and provide consistent, data-driven assessments. For example, HackerRank uses AI to measure coding proficiency accurately, benchmarking candidates against industry standards.

AI-Assisted Assessment

NOCN will soon pilot an AI-driven solution designed to streamline and enhance the assessment and evaluation process by supporting our markers with intelligent assistance. This initiative aims to improve the speed, accuracy, and efficiency of marking across a wide range of assessments, helping to ensure high-quality outcomes at scale.



Challenges

Despite the obvious benefits AI can give to skills development, there are several challenges such as data privacy, algorithmic bias, and accessibility that must be addressed. Ethical use of AI will require transparency in algorithms and equal access to its benefits to avoid deepening socio-economic divides.

There are also delivery and regulatory challenges. On delivery we have an ecosystem which is based upon classrooms and fixed institutions with a pedagogy and tutors who are not all ready and skilled to make the best of the AI opportunities. That said this is starting to change and, in some cases, very quickly.

Many countries have skills or TVET (Technical and Vocational Education and Training) qualifications regulators that are concerned over fraud and malpractice, in other words cheating. These regulatory systems tend to be rigid and do not move quickly when adapting to change. Regulators may in fact hold back the development and deployment of some AI tools for skilling.



What Different Countries are Doing

Different countries are moving at different paces. Singapore, the United States, China, Germany, South Korea and several African nations are showing an accelerated trend towards incorporating AI into their TVET systems



Singapore's SkillsFuture initiative uses AI to personalise learning recommendations, align training with economic needs, and support lifelong learning. There is a strong emphasis on AI-driven curriculum and content development in China, with numerous universities offering AI majors. Germany uses additional qualification programmes for apprentices to learn AI, showcasing a pragmatic approach to skill development in vocational training.

Australia, Canada, Sweden, and the UK also demonstrate a keen interest in AI skills development and policy. Indian and ASEAN qualifications regulators have been taking a cautious, multifaceted approach to AI in assessments, focusing on ensuring integrity and fairness while exploring potential benefits. With the continual development of the AI this is likely to change.

In the UK, the governmental Qualifications Regulator Ofqual wrote to all awarding organisations in September 2023 to confirm that the use of AI as a sole marker of students' work does not comply with its regulations. Ofqual reached this view partly because such use does not meet requirements for a human-based judgement to be used in marking decisions. That said, Checkers - Turnitin is one of the more popular ones they use. Exam boards rely on Moderators and Classroom Teachers to detect AI use. Since 2023 people have started to get more confident and experienced in using AI in a safe and compliant manner.

Recently, the UK Government's Department for Education issued guidance and support tool for the use of AI in education and skills development in areas such as development of skilling support materials, a content store and an innovation investment fund for development of AI tools. So watch this space on further adoption of AI-focused skills development and assessment.

Conclusion

There are significant benefits of the use of AI technologies in skills development for employers, employees and people wanting to enter employment. These benefits will help drive productivity and economic growth. AI tools will continue to develop, and so will people's ability to deploy and utilise them.

There is a challenge for governments and regulatory bodies to fully embrace the technologies and adopt a much more flexible approach to include easy to change occupational standards, modularisation and micro-credentials to ensure we can continually skill and upskill the productive workforce of the future.

We can expect the situation to keep developing rapidly so we should embrace this and work with it to drive productivity, economic growth and a fairer distribution of wealth.



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