

# **OUTSTANDING TEACHING, LEARNING AND ASSESSMENT TECHNICAL SKILLS NATIONAL PROGRAMME**

**Output 17: Think Piece 1 - Problem-Based Learning and Policy  
Lisa Vernon and Melanie Lanser, Derby College**

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## **Problem-Based Learning for the future – where does it fit into the policy landscape?**

**Lisa Vernon and Melanie Lanser**

We currently stand at a crossroads in education, where the systems and approaches of the past are not equipping learners for the world of tomorrow. The UK has increasingly invested in rigid inspection systems, restrictive curricula, and education cultures that promote testing, grading and box ticking. In a tomorrow that needs innovative thinking, we have an education system that still relies on the concept of 'right answers', out of date pedagogies, and limited challenge. Life consists increasingly of a series of problems, often with no 'known' answers. Rapid changes in technology will mean that everyday a new solution will be possible. Innovative problem solving will become a key future skill.

Peter Serdyukov (2017) reviews research into the need for innovation in education. He concedes that we have been aware of the challenges since the 1960s and yet; *"more than 50 years later, we realize that the actual pace of educational innovations and their implementation is too slow as shown by the learning outcomes of both school and college graduates, which are far from what is needed in today's world."* Of more concern is that, at a time when innovation and creativity are crucial to world economies, research shows that the global culture of 'high stakes' testing has led to a significant decline in creative thinking as measured by the Torrance Tests (Kim 2011 & 2017). Ken Robinson (2011) suggested that the education system might be responsible for reducing creativity rather than developing it. He urges educators to respond to the urgent need to address this. Problem-based learning is one method of encouraging creative thinking in students. A problem-based learning process does not focus on problem solving with a defined solution, instead allowing for the development of ideas leading to knowledge acquisition, enhanced group collaboration, communication and creative and critical thinking skills. Self-directed learning increases resilience – a skill that will be needed as the pace of change accelerates.

The World Economic Forum (2018) explores the rapid rate of change in the world of work, and the importance of reform in education and training systems. The Nesta Report (2017) concludes that about 70% of people are in jobs that have an uncertain future, but knowledge, skills and attributes will be essential in turning that uncertainty into positive opportunities. The challenge with such a rapid rate of change is that the skills and knowledge required will change so rapidly that we can no longer skill individuals up at a young age and expect it to last them a lifetime. The workforce will need to continually develop and reskill throughout their working life, and attributes and attitudes to learning will become more and more crucial. Forbes (2014) suggested that the key skills

for the future would include social intelligence, analytical, novel & adaptive thinking. These are skills that cannot be taught through lectures or assessed in tests. They are skills that require learning approaches such as experimentation, problem solving, teamwork, debate and investigation. Additionally, individuals will need to take more responsibility for their own learning and development in life, and education systems need to give students responsibility for their learning. As a student-centered pedagogy, problem-based learning addresses both the individualisation of learning and the new skillssets that will be required.

In the Industrial Strategy (2017, the UK Government recognised the importance of people and ideas to the future productivity of the industries of the future. The introduction of T Levels is one of the methods for establishing a technical system that rivals the best in the world, and the National Retraining Scheme will support adults to reskill. However, these strategies will only work if there is a significant change to the way that subjects are taught. In a 2017 speech Ofsted's Chief Inspector, Amanda Spielman highlighted the importance of a curriculum that meets the needs of the future and expressed concern at curricula that had been stifled by 'teaching to the test'. The OECD report (2018) into science education emphasises the need for new ways of teaching. This report shows that connecting educational experiences to real-life opportunities is an effective way to get students excited about what they are learning. The introduction of a 45-day work placement on T Levels could be an effective way of relating training to real life, developing team working and problem-solving skills – but only if the placement is high quality and designed with those learning outcomes in mind. In addition, the taught element of these programmes must use new approaches to encourage learners to take responsibility for their own futures.

There may be resistance to integrating new approaches. Even when teachers are willing to try new things, incorporating them into their existing workload can often be a daunting prospect. Changing the way that teaching happens requires support from senior managers and a culture of change, but also time and effort from individual teachers (Howard & Mozejko 2015). It also requires a shift in the policy landscape. The culture of teaching to the test may be about to change, and Ofsted recognises the importance of challenging our learners: *"I do maintain that success in these measures should flow from a rich curriculum, rather than tests of all kinds and performance tables dictating the curriculum itself"* (Spielman 2018). So, whilst it may take time to embed approaches such as problem-based learning, it is clear from policy (such as the Industrial Strategy) that the urgency of the situation has at least now been recognised. Research and dissemination will become essential in encouraging others to try these new methods and approaches in order to create curricula and learning techniques that meet the learning needs of an uncertain future.

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