Education Summary

Much improvement is required. The core issues are:

- Poor use of current technologies, many inefficiencies in marking & assessment, little co-ordination across schools & colleges.
- Poor techniques for improving mental and physical health.
- Poor use of technology for continuous assessment
- Education is still, (amazingly), based on rote learning rather than moving to the development of *creative thinking and critical thinking* (using technology to provide the facts and further research).
- Poor STEM subject provision and encouragement.
- Poor linkage to business, universities and colleges for learning projects, STEM interest and work based projects.

The thrust of transforming our children's education effectiveness and outcomes must come from joined-up use of technology and UK wide support processes for both teachers and children.

This is a huge task, but the following outlines a simple way forward:

UK Education Resource Centre (online)

A central UK provision of core learning processes, techniques, assessment and courses.
This would include best practice for using current technology within the classroom for all courses, levels and include:

- Pre-defined courses that all teachers can use as a base for their teaching. These will be available for the major supported technologies currently in use.

Online courses that cover all the major subjects at all levels – for direct access by students (linked to assessment systems):

- These courses must use the best modern techniques from interactive gaming to provide the highest level of interest and learning outcomes.   Assessment will be built-in to these interactive systems. (EDX, Futurelearn and other MOOC providers already provide some good quality standard courses)
- Using interactive systems, (perhaps also using VR), the learning environment can be transformed. Difficult subject matter can be imaginatively compiled to provide an immersive learning experience that will be many times better than any classroom effort.
- The costs of development will be shared across all schools and colleges. It is likely that world markets will clamour for these very high quality educational tools

Techniques and technologies for continuous assessment:

- Assessment at all levels can be mostly automated using new technology
- The software applications required to provide easy marking and assessment will be created centrally and made available

- Central recording of assessments will provide UK wide information on each educational establishment, (without student identification).

Central database for educational jobs:

- Currently there is no central database for teaching jobs. This disenfranchises many individuals who may wish to help by making it extremely difficult to find relevant full and part time positions. It could also include opportunities for helping with class assisting, with recreational subjects and with career advice.

While there is a significant investment required to establish these central systems and tools, the UK is very well placed to create world-leading educational resources. Curriculum subjects need to only be covered once and the total investment being shared across the whole UK providing a cost effective, central resource that will transform educational outcomes.

The UK has the people and technology from the gaming, film, IT and media industries to help create imaginative online courses that break new ground for educational outcomes. Such a UK resource centre will help teachers immensely by providing direct access to course plans, material and the highest level of online courses for each and every subject. Using new techniques and with the application of technology the massive and unnecessary workload on every teacher in marking and assessment can be reduced significantly.

Curriculum

The curriculum should be amended to include physical and mental wellbeing. At all levels children should be given time and instruction on their own physical and mental health. Central to this is time during the students day for both physical activity along with training & practice in 'relaxation' techniques. These can be short periods where students learn the value of exercise and relaxation to their ability to think and learn.

The curriculum must also be amended away from rote learning and include at each and every step the techniques and practice required for creative thinking and critical thinking. All the educational resources from the UK central learning centre will be based on encouraging these abilities. This is the way to create the next generation that understands the world, the impacts of technology and the importance of life long learning. These changes will provide for a better society as we move into a new era away from repetitive work to creative and higher level work.

STEM subjects

STEM subjects are important not just for subsequent work & jobs. They help impart the crucial *critical thinking* processes that are sadly lacking in society generally.

STEM subjects must be given a much higher profile by introducing a minimum number of educational visits to universities, colleges and businesses that can provide interesting STEM insights.

Universities, colleges and businesses can be linked to schools via the Education Resource Centre. This would provide local opportunities for schools to link into existing projects, workshops or open days for STEM subjects. Specific online courses (at all levels) will be available from the Education Resource Centre to provide interest and understanding of STEM subjects.

JP 29/07/2018