Pearson response to the ETAG Consultation
Use of educational technology
June 2014

This submission summarises Pearson's views, ideas and actions in the relevant work-streams. If the Education Technology Action Group would like us to offer further thoughts and insights we would welcome the opportunity to discuss any of the below points in further detail.

Pearson has already been involved in discussions in relation to the Further Education Learning Technology Action Group (FELTAG) and we have provided some of our views and support for the recommendations made by FELTAG. Where appropriate we have included some of the suggestions we made in response to the FELTAG consultation, and have extended these for the other two sectors within the remit of the Education Technology Action Group (ETAG).

Below we have provided our responses and recommendations within six of the work-streams detailed on the ETAG's website.

(1a) Learning will be significantly more global

Key challenges and recommendations:

- Encourage and facilitate formal and informal groupings and collaborations between schools, colleges and universities as well as private providers. This might be at the level of individual institutions within each sector, as well as cross-sector collaborations to ensure that local innovation is scaled up and to avoid duplication or fragmentation of solutions that will need to be considered and managed. One example initiative is the Global Learning Project – a Department for International Development funded programme led by Pearson – supporting primary and secondary schools to develop quality developmental education.

- Barriers should also be removed in international communication and collaboration amongst institutions within all three sectors. When done well this could be highly effective at cementing links between schools, colleges and universities.

- Support institutions in all three sectors in identifying the needs of global learners and ensure that public and private educational providers develop products and services that meet these needs.

- Support centres in the adoption of new technologies and learning methods to allow them to explore and invest in technologies that best meet the needs of their learners. These decisions need to be based on sound, documented evidence; providers and suppliers of technology should invest in and share research into the efficacy of the different systems and the way they are used in the learning environment.

- With qualifications becoming more international, the challenges of setting clear and high standards and assessing student progress in more creative ways become more prominent. We should learn from existing examples where such initiatives have been implemented successfully.

- Allow time in the curriculum for developing global competence including the knowledge and skills students need in the 21st century.

- Conducting effective linking programmes is not free. The cost itself is not prohibitive but it is often more than can be afforded by a single teacher's budget. This means it requires escalation through the school's budgeting system. In the absence of a clear correlation to numeracy or literacy it tends to go towards the back of the queue.

- Many schools struggle with slow connectivity which makes streaming media on schools' or students' own devices slow. Large network providers need to be encouraged to offer faster solutions to schools at reasonable cost.

- Old equipment and legacy technical infrastructure are also problems. Incentives should be offered to schools to upgrade their equipment. Technology providers should be encouraged to offer latest spec equipment at reasonable prices.

- All communication between young people carries some element of risk. This can be mitigated through software such as www.crispthinking.com, but never eliminated.

- The bigger factor is actually the perception of risk amongst staff. This worry leads to very high security/safety costs for companies/charities looking to facilitate links. A conversation needs to be had more broadly about risk within education.

- Content filters are improving, however, schools need to be better educated on how to maximised their use to enable access to high quality educational content.

(1c) Online learning

Key challenges and recommendations:

- To enable a large-scale reform and wider uptake of online learning, expertise in the integration of technology, pedagogy and how to change learning systems needs to be consolidated and made available to all.

- Centres and online learning providers need greater understanding of how online learning can be individualised, including options for students with disabilities, working adults, and other students.

- Many colleges and universities in the UK offer individual courses and entire certificate programmes online. Some of the next steps would be:
  - for more traditional centres to change their teaching and learning models to better meet student needs and reduce costs by adding online learning.
  - the creation of more blended (including partly classroom/partly online provision) schools, colleges and universities. In other countries such schools already exist, as well as a wider range of such colleges and universities.

- Many innovative online learning initiatives have been teacher-led, lecturer-led or researcher-led. More research is needed to create a body of evidence regarding the effectiveness and efficacy of these as well as scaling such initiatives beyond the realm on individual institutions. The Government also needs to foster partnerships between early adopters and hard-to-reach institutions.

- Training and up-skilling teachers, lecturers, heads and governors in all 3 sectors will be key to ensuring progress. This needs to be a priority, both as an element of CPD, and of school standards.

- Robust and secure platforms are also needed to deliver scalable online leaning solutions to large numbers of students nationally and internationally.

- Developing standards for online only qualifications and assessments would also be very helpful.

- Encouragement for the acceleration of innovation and scaling through start-up companies.

(2a) Students with sight and control of their own complex learning "big" data

Key challenges and recommendations:

- In a report commissioned by our Chief Education Advisor, Sir Michael Barber, entitled *Impacts of the Digital Ocean on Education,* Kristen DiCerbo and John Behrens highlight the many possibilities and challenges that technology presents in capturing relevant data and turning it into meaningful information that teachers can use to assist their students. More research needs to be carried out to determine how such data relates to student achievement, problem-solving ability, and other skills developed in learning.

- There is a long process that student data needs to go through for it to be applied successfully including its analysis, interpretation, communication, and use in decision-making and further research into this is also necessary.

- One of the biggest advantages of data is that it can provide immediate feedback to students on their progress, making feedback relevant and actionable. Techniques that utilise intelligent recognition of verified data patterns can be used to generate personalised feedback. However, further investigation is needed into the validity and reliability of such predictive models.

- Using student data can also enable a model of personalised learning, which is still underutilised. Capturing data on a learner facilitates the targeting of learning in ways that are personal to the individual. Many see the realisation of this vision in purely technical terms: build clever adaptive technologies and a revolution in personalised education follows. But the challenge is more complex than this. One huge area of challenge is around data capture itself and the broadening public consciousness of personal data being used by private companies.

- To address the above, managing the impact of public perceptions about data ownership and use is required. A proactive way to deal with this impending challenge in the education sector is to establish the principle that data is owned by the individual learner. There are a number of complexities to consider. Once companies, schools, organisations and teachers know that the learner is the data owner, it establishes a principle to remove much of the current ambiguity and potential concern about data use and misuse.

- It would be helpful for the Government to encourage and possibly mandate some sort of "blue button" for educational data. "Blue button" is an initiative from the US Healthcare sector, which makes it clear and easy for patients to access and downloads all personal health data from the provider's site.

- Very few people possess the tools and skills to turn personal data into meaningful information let alone personalised recommendations. This requires expertise and investment. This is why it is valuable and necessary to have companies and non-profit organisations working with personal data. This needs to be done in a way that ensures that sharing of student data is done ethically, balancing both commercial needs and the rights of the schools, parents and most importantly the children themselves.

(2b) Technology will be even more personal

Key challenges and recommendations:

- The trend toward mobile learning will continue to accelerate as the devices students, teachers, and other staff carry become ever more capable, accessible, and affordable. More and more schools, colleges and universities are implementing Bring Your Own Device (BYOD) programmes, which allow students and staff to bring their own smart devices into school or campus. To set up successful BYOD programmes, technological infrastructure needs to be top priority. Institutions need to make bandwidth, networks and wireless, security and Internet filtering, and cloud computing top priorities.

- A range of quality multi-platform learning content that is closely linked to learning objectives along with local and international standards needs to be made available in all subjects. We are already making progress in this area.

- Giving students the ability to choose and use the device they are comfortable with can also promote personalised learning and problem solving. It can create a multi-device classroom in which students work collaboratively on a given task. Many institutions, however, need guidance on which BYOD implementation models and policies to adopt.

- A focus on digital citizenship in also required for BYOD policies to be implemented successfully.

- To ensure equity of access to an online network and electronic devices in BYOD classroom or school settings, turn-key solutions for wireless access are a priority, but many institutions would need support if widespread access is to be achieved.

- To ensure fairness, additional mobile devices can be made available through classroom, school, or board lending libraries to ensure every learner has access to a device.

- Teachers require professional learning to help them effectively leverage BYOD into their practice.

- Research into the impact on teaching and learning and student outcomes of such programmes needs to be widely shared.

- BYOD presents challenges for high stakes assessment. Adequate technological solutions need to be investigated by Awarding Organisations (AOs). In the future, adopting an open style of examinations, like these piloted in Finland, actively encouraging communication, collaboration and online research during examinations could potentially overcome this challenge. More on using technology for assessment is set out in Section 3b.

(3a) We will know a lot more about how we learn

Key recommendations:

- In order to engage young people in their education and for them to succeed in the future, Michael Fullan and Maria Langworthy[1], in another report commissioned by Pearson's Chief Education Advisor, suggest that 'deep learning' – the disposition to learn, create and 'do'– is necessary to stimulate lifelong learning in today's students. Deeper learning is already visible in many schools today, and other schools will need to be supported to spread such practices more widely.

- According to the authors the convergence of three forces is needed:

  1) New pedagogies – where teaching is no longer about curriculum content, but fosters learning that is more engaged with real life, encouraging students to continue learning outside the classroom;

  2) New change leadership – where leadership is no longer top-down or bottom-up, but rather about students and teachers pushing each other to learn together, driving progress in partnership;

  3) New system economics – where learning can be less expensive due to students' natural inclination to learn as a result of new, more engaging pedagogies.

[1] Fullan, M. & Langworthy, M. (2014). *A Rich Seam: How New Pedagogies Find Deep Learning*. Pearson.

- Michael Fullan and Maria Langworthy also admit that up to now, the impact of technology has had a low impact on learning, awareness is increasing about how to support pedagogy in a collaborative, connected manner as opposed to just using it for accessing information. One of the examples cited is Hellerup School in Denmark, where teachers use e-portfolios to track students' progress in all aspects of their development and where students can access their own portfolio to reflect on their strengths and weaknesses, as well as to set their own goals.

- In their report mentioned earlier Behrens and DiCerbo also point out that in the development of gamified learning "Games provide streams of data that allow us to assess process as well as final product. We can understand how a learner came to an answer, not just the end result. This allows us to provide better feedback to the learner and gives us a better understanding of how learners progress."

- Examples also exist of the changing role of teachers and learners. Considerable research is needed to ascertain the effectiveness of changing teaching and learning practices.

(3b) Better measures of performance

Our response to this work-stream covers not only how digital technology can be used to measure performance but also how barriers to the uptake of onscreen assessment could be overcome.

A considerable number of barriers have prevented the wider uptake of onscreen assessment for high-stakes examinations, especially within the schools sector. The barriers and challenges are wide ranging and include:

- technical infrastructure within centres precluding them from sitting large cohorts at the same time

- centre logistics to administer large number of on-demand tests

- regulatory quality assurance practices inhibiting the use of e-assessment and not acknowledging the quality gains of using e-testing

- limited confidence in e-testing amongst centre staff and members of the public

- limited confidence in the robustness of test delivery systems

- proliferation of test delivery systems that centres need to manage

- ensuring that all students and particularly those with special needs are able to access all learning and assessment content

- insufficient understanding of how to make the best use of data generated from e-assessment.

Over the past few years Awarding Organisations (AOs), the UK qualification Regulators and other providers have made a considerable effort to remove or reduce the effect of some of these barriers. Pearson has been working on expanding our capabilities to deliver online tests to centres and to enable access to all students. We are also collaborating with JISC and other AOs to establish the use of onscreen assessments and remove the barriers to further embedding it among FE providers.

As the regulatory conditions regarding linear examinations limit the uptake of e-assessment, it would be helpful if Ministers could allow high-stake assessments to be administered over a period of time. Examining when ready, and at any time, is an established practice within vocational qualifications, and should be extended to other types of qualifications.

Further regulatory support for computer-only examinations would also be beneficial, including the creation of an established approach to ascertaining their validity and reliability.

Many subjects across the curriculum are particularly suited to e-assessment, and should be considered as priority. This is already part of the Government response to the FELTAG recommendations.

Considerable gains can be had from using digital technology for measuring performance, including ease of administration and ease of checking the authenticity of student work.

Using online simulations, and the gamification of learning and assessment could present a failsafe environment to learn and develop skills, as well as new ways of measuring problem-solving, enquiry-based learning and other types of skills that traditional forms of assessment are not currently able to assess adequately. Further research is needed into what data to gather, and how to use such data for measuring performance.

Learners also contribute to collaborative and participatory online communities, in which they create and publish digital content. As such practices evolve and become more prominent, valuing learners' contributions to these would become more important. Online 'open badges' are already being used to acknowledge learning achievement, and are emerging as the new standard in communicating learner capabilities to employers.

Acclaim is a Pearson Open Badge platform, which offers institutions an easy way to

issue verifiable, web-enabled representations of student learning achievements. Students can share their achievements on LinkedIn, Facebook, Twitter, and other social and professional networking sites, to help better communicate their abilities. Employers can also use Acclaim to verify achievements represented in shared Acclaim badges. (www.youracclaim.com)

Finally, the high expectations placed on 'big data' mean that educational companies such as Pearson must strive to add value in the area of measurement, towards which we are already making progress. Our focus should be on communicating the most important insights about learning that technology can gather to those who need the information most – teachers, senior managers in education, and learners. If we can provide clear, relevant, prioritised and actionable information about learning, we can help teachers and learners to make even more difference to the progress that learners make.