



TECHNOLOGY LEARNING CHALLENGE

Response from ALT's Members: Technology and Data Ethics Inquiry

Written response submitted by Dr Maren Deepwell, chief executive, on behalf of the Association for Learning Technology, registered charity number 1160039.

Executive summary

1. ALT is making this submission as a membership body, representing over 3,500 individuals and organisations, including universities, colleges, government departments, agencies, and software, hardware, and e-learning businesses from across the UK;
2. ALT was represented at the roundtable on Education in November 2018 and we have now collated evidence from Members for submission;
3. Our response is focused on the education sector and, in particular, ethical issues relating to the use of predictive analytics in education;
4. We have focused on concerns about the legitimacy of education providers' decisions about individual students based on potentially biased and opaque algorithms, their ability to assess the validity of their decisions, and to set out appropriate institutional policies for informed consent of all data subjects;
5. We believe that Learning Technology professionals have an important role to play in advising policy makers, helping institutions develop informed and effective use of data and analytics, and supporting educators and learners to develop critical data literacy skills.

About the inquiry¹

Policy Connect and the All-Party Parliamentary Group on Data Analytics are launching their inquiry into the future of technology and data ethics².

In late-2017, the Government established a new Centre for Data Ethics and Innovation. As a result of this – policy makers and experts have a key role to play in formulating the role and remit of the Centre, as well as the wider regulatory and legislative agenda around the use of big data. The APGDA has established an expert steering group, co-chaired by Labour MP Darren Jones and Conservative MP Lee Rowley. Together, this group will undertake an inquiry process which brings together parliamentarians and industry figures to discuss four key areas affected by the rise of new technologies.

The group will also consider general matters pertaining to the ethical use of personal data. These roundtables will take place over between November 2018 and January 2019 in the House of Commons. Issues that are raised during these roundtables, as well as from wider studies and submitted evidence, will be collated into a report on Data and Technology Ethics. The APGDA intends to launch this report in early summer 2019.

The inquiry intends to provide policy recommendations that will allow the United Kingdom to be at the forefront of new technological developments, whilst adopting forward-thinking approaches to ethical concerns and regulations.

The key area of concentration in this area is one of trust. This encompasses consumer trust, business confidence, and the trade-offs between privacy and progress that are inherent in the utilisation of big data. We will also examine the need for a “backstop” for the enforcement of trust in the tech sphere when the first line of trust is broken.

ALT is focusing its response on the key area of education to address the following:

Universities and colleges can learn a lot about students’ behaviour and use predictive analytics to target those with specific needs or who may be about to drop out of a course, significantly improving their life outcomes. However monitoring student attendance, library use and internet browsing may be viewed as undue surveillance – is there concern over the legitimacy of university decisions concerning individual students based on potentially biased algorithms?

The key inquiry questions are:

1. Where is the government seen as being particularly strong or weak on the use and promotion of big data in the wider economy?
2. How can government and businesses promote trust within the public sphere? What emerging technologies are making use of big data in new ways?
3. How to reconcile security and privacy in the public sphere when regulating technology?
4. Who owns data, with regard to the rise of the ‘digital divide’ between individuals, the state and private business?
5. What changes in the nature of informed consent have there been since the introduction of GDPR?
6. Can ‘social consent’ replace individual consent?
7. To what level can ‘social benefit’ override personal privacy and use of data by public institutions?

¹ See

https://www.policyconnect.org.uk/appgda/sites/site_appgda/files/news/427/fieldnewsdownloads/apgda-techethics-callforevidencev4.pdf

²

<https://www.policyconnect.org.uk/news/call-evidence-data-and-technology-ethics-education-health-smart-vehicles-policing>

Consultation Response

ALT defines Learning Technology as the broad range of communication, information and related technologies that can be used to support learning, teaching, and assessment. In order to build trust across the sector, ALT would like to see guidance on Technology and Data Ethics, and specifically Learning Analytics, that reflects a broad understanding of what is meant by Learning Analytics including teaching and assessment, and which also considers the role of Learning Technology professionals.

As a membership body we value our cooperation with subject specific societies, such as the Society for Learning Analytics Research (<https://solaresearch.org/>),. Our work is informed by the research and guidance of this and other bodies including Jisc's [Code of Practice for Learning Analytics](#) and the Open University's guide on [Ethical use of Student Data for Learning Analytics](#).

There is growing concern over the legitimacy of using predictive analytics, suggested in this inquiry. There are three key issues to be considered:

Firstly, as with all Learning Technology, effective policy making and governance must take into account how quickly technological innovation is moving. This is a key reason why ALT takes an open approach to sharing research and best practice, enabling more effective sharing of new insights across its network.

Secondly, we recognise that there is a significant challenge for individuals and organisations to develop and maintain the capacity, the specific skills and knowledge, required to make informed decisions about how to use technology and the data collected in this way. Learning Technology professionals play an important role in providing expert advice and supporting staff and student understanding.

Thirdly, we question how 'social consent' is to be defined, in particular in the context of the General Data Protection Regulation (GDPR) that came into effect in 2018. Having placed significant responsibilities with universities in particular to collect individual consent, this legislation is helping to improve transparency and trust in use of technology in education.

ALT would, for example, endorse the Analytics Ethics Framework, proposed by Slade and Prinsloo (2013), around six principles:

1. Learning analytics as moral practice – the first principle is to appreciate that learning analytics is a moral undertaking and should not only focus on what is effective, but 'function primarily as a moral practice resulting in understanding rather than measuring' (p. 12)
2. Students as agents – in line with Nelson and Harfield, they propose that institutions should 'engage students as collaborators and not as mere recipients of interventions and services' (p. 12)
3. Student identity and performance are temporal dynamic constructs – students identities will change over the course of their studies, indeed education is often portrayed as an identity changing experience. Analytics and data need to take this into account.
4. Student success is a complex and multidimensional phenomenon – student success and behaviour is a result of more than can be measured through data.
5. Transparency - institutions should be transparent regarding what data is gathered and how it will be used.
6. Higher education cannot afford not to use data – however it is part of an institution's responsibility to make moral and effective use of this data.

Nelson and Harfield (2017) argue that it is essential for students to be involved in discussions around analytics, stating that the primary aim of a university education is 'to ethically develop and realize both individual and socio-cultural potentialities... that can only happen when students are involved in making sense of their own data'. ALT would endorse this collaborative approach.

ALT would also endorse the [DELICATE checklist](#) developed by the LACE Project, which includes the following 8 principles guiding the institutional use of learning analytics:

The eight points are:

1. D-etermination: Decide on the purpose of learning analytics for your institution.
2. E-xplain: Define the scope of data collection and usage.
3. L-egitimate: Explain how you operate within the legal frameworks, refer to the essential legislation.
4. I-nvolve: Talk to stakeholders and give assurances about the data distribution and use.
5. C-onsent: Seek consent through clear consent questions.
6. A-nonymise: De-identify individuals as much as possible
7. T-echanical aspects: Monitor who has access to data, especially in areas with high staff turn-over.
8. E-xternal partners: Make sure externals provide highest data security standards.

Drawing on case studies and references submitted by ALT's Membership, there are particular examples we wish to highlight in response to some the key questions posed:

1. Where is the government seen as being particularly strong or weak on the use and promotion of big data in the wider economy?

In our view there is currently insufficient guidance from the government on all aspects of gathering and using big data in education, including the governance of data by international technology companies. Learning Technology is strongly dependent on developments in the technology sector in the UK and internationally, as many of the tools learners use are general (i.e. social media platforms, cloud solutions etc) or based on the same technological infrastructure.

2. How can government and businesses promote trust within the public sphere? What emerging technologies are making use of big data in new ways?

Based on input from Members, we suggest considering an approach that gives the learners true ownership of their data, as proposed by MIT's Solid project (<https://solid.mit.edu/>), which recognises that there is a range of learner data that requires a range of permissions. Some learner data needs to be collected and analysed as part of the continuous improvement course teams wish to pursue. Alongside this, the learner needs to feel that there is a 'safe' private digital space to record and reflect on their learning. Creating categories that represent different levels of data use could allow organisations to state their intentions, and enable learners to easily understand how their data would be managed while maintaining ownership of their data. We envisage this to be an approach that categorises data into different bands with explicit sharing and governance permissions. This would enable a range of learner data to be stored digitally, but would allow for choice about what was shared (if at all) and with whom.

3. How to reconcile security and privacy in the public sphere when regulating technology?

ALT works across all sectors of education and takes into account the lifelong learner journey. Thus we recognise that regulating Learning Technology, particularly with respect to security and privacy, has to take into account all learners and learning providers and the transition between different stages of learning and development throughout life.

In the context of Learning Technology specifically:

- Staff and students need the necessary critical digital literacy in order to make use of technology safely and responsibly, and to build informed consent;
- Institutions need policy frameworks that are transparent and ethical, and should learn from practice across the sector and internationally;
- Technology providers have to engage with both institutional and individual users, to understand the way in which technology is being used in practice, to inform users about how the technology works and to gain awareness of institutional and national policies.

4. Who owns data, with regard to the rise of the ‘digital divide’ between individuals, the state and private business?

In response to this question, the example of a [policy from the University of Edinburgh](#) sets out helpful definitions: it differentiates between ‘Personal student data’ (data on identifiable individual students) and ‘Anonymised student data’ (a student dataset which has been aggregated and / or anonymised so that it is not possible to identify individual students (note that data is not considered anonymised if it is possible to convert it back into personal data)).

It further sets out different types of analytics and their use, including governance and responsibilities, including the following:

In general, the requirements for developing and managing learning analytics are more rigorous for learning analytics activities involving personalised individual student support, or otherwise utilising personal student data, than learning analytics activities utilising anonymised student data. For example, staff utilising aggregate learning analytics data for relatively routine quality assurance purposes are unlikely to need to undertake additional steps as a result of this policy. For research activities that require research ethics approval, this approval would be in addition to approval from the Learning Analytics Review Group.

5. What changes in the nature of informed consent have there been since the introduction of GDPR?

There have been significant changes in the nature of informed consent since the introduction of GDPR, both in relation to how technology platforms are used (and designed) and in professional practice. Examples from the Membership include, Dr Mark Glynn, DCU's Head of the Teaching Enhancement Unit, sharing this practical guide to [GDPR in the classroom](#) which explains different kinds of consent and responsibilities for student data and Martin Dougiamas, Moodle Founder & CEO, explaining how [Moodle has engaged](#) with the extended community and with specialist legal counsel to find the best way to help enable institutions meet their obligations under the legislation.

It is however worth noting that consent is just one of the six ways in that personal data can be lawfully processed and as such we are seeing the majority of institutions using contractual or legitimate interests as the basis for using learner data. Work in this area continues (as this [recent presentation](#) shows) as the full implementation of GDPR legislation continues across the sector and best practice for informing learners about their rights is still being developed.

6. Can ‘social consent’ replace individual consent?

The concept of ‘social consent’ raised a lot of questions amongst Members of ALT, as exemplified by this submission from our member organisation PebblePad:

There is a need for further clarification about some of the terminology connected to this issue. We have already highlighted the need for a more sophisticated definition of key stakeholders. We would like to have a formal definition of what the term ‘social consent’ means and how it would benefit individuals as opposed to ‘individual consent’. What are the legal ramifications of replacing individual consent with ‘social consent’, particularly when big international media companies are involved?

7. To what level can ‘social benefit’ override personal privacy and use of data by public institutions?

Considering the possible scaling up of the use of predictive analytics to extend its potential ‘social benefit’ with the aid of machine learning, we draw your attention to this recent [scoping study](#):

One of the conclusions from the Scoping Study (Bennett 2017) was that the use of machine learning to produce algorithms that tried to model students' behaviours had a number of limitations. The study's findings indicated that students confounded expectations based on machine predictions, in that weak students made use of data to drive motivation where as some stronger students found confronting their data emotionally challenging. This finding is supported by others' research which has shown that prediction using machine learning appears to be flawed (Beheshitha, Hatala, Gašević and Joksimović, 2016; Pardo, Ellis and Calvo 2015; Wilson et al. 2017).

There are also ethical issues about how prediction would be received by students. University of East London uses a prediction system which academics have sight of, but the outcomes are not shared with students (Prince 2018). This raises concerns that deriving predictions that are not shared with the student might be ethically wrong, however if they were shared they could potentially be damaging.

Consequently the authors recommend that institutions and dashboard providers should not allocate resource to the development of machine learning.

References and case studies

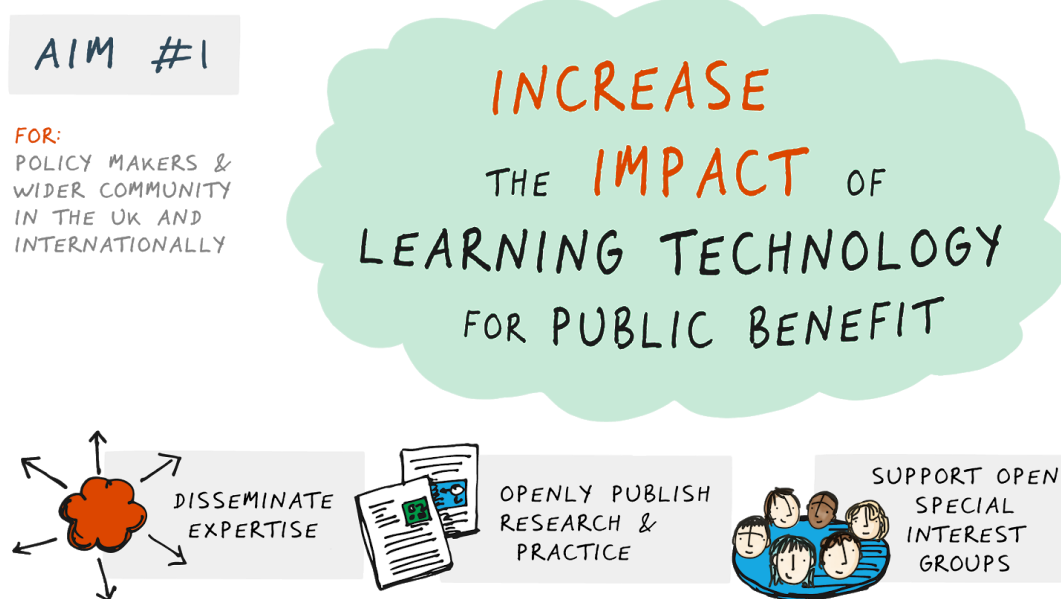
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- Consultation: ALT Members response to Jisc Private Consultation on Code of Practice for Learning Analytics <http://repository.alt.ac.uk/2361>
- Research: Students' learning responses to receiving dashboard data by Liz Bennett <https://www.srhe.ac.uk/downloads/reports-2016/LizBennet-scoping2016.pdf>
- Policy: University of Edinburgh: [Information on the governance and approval arrangements for introducing new learning analytics arrangements.](#)
- Policy: University of Edinburgh: [The University's Principles and Purposes for Learning Analytics.](#)
- Policy: Nottingham Trent University: ethics policy for learning analytics, developed early on and in discussion with our students, [Quality Handbook](#)
- Case study: PebblePad's response to the ALT Technology & Data Ethics Inquiry <https://v3.pebblepad.co.uk/spa/#/public/txb6HrsZRk54mHypjks9dW7cxr>
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- Degrees of Intrusion? A Survey of Cookies Used by UK Higher Education Institutional Websites and Their Implications by Katy Jordan

- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3142312
- Member's sharing expertise via webinar: [GDPR in the classroom](#)
- Member's sharing expertise via webinar: GDPR and [Moodle](#)
- ELESIG Scotland: What about GDPR? By Martin Hawksey
<https://www.slideshare.net/mhawksey/what-about-gdpr>

About the Association for Learning Technology (ALT)

Founded in 1993, the Association for Learning Technology (ALT) represents over 3,500 individual and organisational Members from all sectors and parts of the UK. Our Membership includes practitioners, researchers and policy makers with an interest in Learning Technology. Our community grows more diverse as Learning Technology has become recognised as a fundamental part of learning, teaching and assessment.

Our charitable objective is "to advance education through increasing, exploring and disseminating knowledge in the field of Learning Technology for the benefit of the general public". We have led professionalisation in Learning Technology since 1993.



What we value and what we do

Our current strategy sets out our aims for 2017-2020:

Increasing the impact of Learning Technology for the wider community, strengthening recognition and representation for the Membership at a national level and leading professionalisation for individual Learning Technology professionals in a broad range of roles.

At the heart of our approach is a strong belief in the value of openness, and this is reflected in the way we operate as an Association, in our policy work, and the activities of our Membership. Our Members advocate open practice and support open publication, for example via our Open Access journal *Research in Learning Technology*, the #altc blog and the Open Education Special Interest Group.

How we define Learning Technology

We define Learning Technology as the broad range of communication, information and related technologies that can be used to support learning, teaching and assessment. Our community is made up of people who are actively involved in understanding, managing, researching, supporting or enabling learning with the use of Learning Technology.

We work across the UK and beyond

ALT is a Charitable Incorporated Organisation (CIO), registered with the Charity Commission in the UK, number 1160039. We represent Members from all parts of the UK, including the devolved nations. We work together with other professional bodies and sector organisations in the UK in order to achieve our aims and generate the strongest impact for our Members.

Learning Technology research and practice expands beyond national frontiers, and in order to serve our Membership as effectively as possible we collaborate actively with a global network of partners. We welcome international liaison and always seek new ways to help inform and connect our community more widely.

Further evidence

We are available to provide further evidence. Please contact:

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