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The Digital Revolution in Cheating Has Already Begun

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Being told we live in the age of the Internet of Things where our gadgets are all interconnected at first seemed like something to celebrate, a digital revolution in convenience allowing us to turn on the heating at home before leaving the office, or ask Alexa to play us our favourite song and on will come *Nessun Dorma*.

More recently reports have revealed a sinister side to these 'Things', where people can snoop on us all day through our baby monitor or computer camera, or terrorise us by mysteriously opening and shutting our curtains from afar.

Similarly, contradictory outcomes could be predicted for higher education in a world of digitalisation.

On the positive side, developments such as blockchain technology, which is claimed to be incorruptible, may enable digital student data portability and 'open badges' that can be shared across the web – a Godsend in particular for refugee students who want to be able to prove their credentials when applying for university courses in host countries but often lack paperwork from destroyed institutions back home.

But digitally disruptive behaviour could also play havoc, for instance if someone works out how to hack into the blockchain, destroy electronic exam submissions with a 'superworm', or store exam notes on intelligent glasses, or use little two-way cameras for feeding back answers to questions.

Some of these examples are cited by Irene Glendinning, a member of a group of global experts carrying out research into what quality assurance and accreditation bodies are doing to tackle academic corruption around the world. The group was formed by the UNESCO International Institute for Educational Planning, and the International Quality Group of the US Council for Higher Education Accreditation, or CHEA/CIQG.

She says the danger with digitalisation is that an equivalent of an arms race will emerge, for instance with students being offered ever more sophisticated tools to find ways to cheat on essays or in exams, and plagiarism checkers becoming ever more sophisticated in the way they

cross-examine work.

Problems caused by sophisticated technology do not always need sophisticated responses, however. A faculty member in the Office of Teaching and Learning at Coventry University in the United Kingdom, Glendinning says her own university a few years ago began providing students taking exams with airline security-style plastic bags to put any electronic gadgets in and place beneath their seat where it was visible.

Then if anything was found on their person that could communicate with the outside world, whether it was a smart watch or a mobile phone, or earpieces and two-way cameras, the student would be penalised whether or not they had used it.

She says two of the biggest problems today are the existence of diploma mills providing false certificates from authentic institutions and essay mills or contract cheating as it is called now, which could not have taken off without the internet enabling both the essay writers and the students seeking their help to connect.

She says the latter problem can be addressed by persuading hard-pressed academic staff on the front line that it is not in their interests to ignore it – "and one way you can do that is to make it easy for them to gather the evidence".

She points to the fact that people can now look at the metadata in a file and see whether students wrote the information themselves.

One problem in deterring essay mills, however, is that it is difficult to prosecute for two reasons. One is that due to online accessibility they can be based anywhere in the world and not within the university's state boundaries, so how do you enforce legislation across international boundaries?

"Another is that if you manage to close them down, they will just pop up somewhere else," Glendinning says.

"But if more countries have legislation it will be more difficult to do that."

She points to a useful approach suggested by two academics from Swansea University, Wales. Michael Draper and Phil Newton have proposed framing legislation around the area of strict liability of companies and their duty of care to their customers. So if they don't tell customers what is likely to happen to them if caught, they are breaching that duty.

This may be easier to establish than fraud, particularly in the case of essay mills that say on their website that their essays are not meant to be copied but give a different impression in conversations with their clients or assure them that they have used tools to ensure they are 'plagiarism free'.

Blackmailing students

However, the best defence for the essay mills is that the students who use them do not want to implicate themselves for cheating. In some cases unscrupulous companies play on this by blackmailing the students, demanding that they pay more or they will be exposed to their university. Glendinning says she has some evidence of this occurring in both Australia and the UK.

She believes one of the most effective responses may have nothing to do with technology and more to do with changing student behaviour, by educating them.

Her own institution was given funding this year to appoint student champions for academic integrity, who are student representatives from different parts of the university who are trained in the principles of academic integrity and given the job of highlighting to other students why it is wrong to cheat and the importance of doing the work you have been asked to do.

“It is run through the student union and a lot of their communication is through social media, but also course representatives have face to face contact with their course groups. They can run sessions for other students but generally will be signposting and connecting them to services to understand what will happen to them [if they cheat].”

The university has also made it easier for people to report cases they come across by providing anonymity, a form of witness protection.

Gareth Crossman, head of policy and public affairs at the UK’s Quality Assurance Agency for Higher Education (QAA), says academic corruption is “increasingly an international issue which demands an international response”.

The QAA has set up an academic integrity working group which takes a sector-wide approach to academic corruption problems.

“If you are realistic about it and say is it possible to create an environment where it is impossible for students to find a way to cheat, the answer is probably not,” Crossman said.

“There are commercial entities which exist to make a profit and if you can make the market difficult enough for them, primarily through making students more aware of the consequences of the use of their services but also by picking up on it if people are cheating – and it’s not rocket science if students’ work suddenly goes to a significantly higher level – you can change things.”

He says QAA produces guidance for universities about how they can identify essay mills and make it harder for them to operate, in particular how to detect when students start using them.

“But while we have been able to take action against advertising from UK-based mills, most of these companies are operating overseas, many of them operating from Eastern Europe and the Indian subcontinent, which makes it very difficult to adopt a legislative approach.”

Tackling credentials fraud

While blockchain technology may one day provide a more secure way of verifying credentials as well as storing them, data sharing is already providing a way to tackle credentials fraud.

HEDD Prospects – HEDD stands for Higher Education Degree Datacheck – in the UK provides one answer to that problem. Essentially what it does is offer a much more effective way of managing the enquiry process than individuals contacting a university directly via their registration office or student record office to check if a degree really has been awarded.

Chris Rea, head of verification services at the company, explains that HEDD provides a central system, where an employer can enter the details of the candidate into the system and the university sees it and can check the details and respond and the employer gets a ‘Yes’ or ‘No’. With some institutions there is data integration with the HEDD system, enabling auto-verification. But no enquiry can be inducted without the consent of the candidate.

Rea says degree fraud is now a “terrible global industry” and the UK is a target because its degrees are highly prized – so they are “highly faked and highly forged as well”.

A second form of it is the selling of credentials from bogus institutions, which often have a similar name to respected real ones. HEDD runs a degree fraud reporting service on behalf of the UK Department for Education and has helped shut down more than 50 fake institutions in four years.

“Digitisation offers new channels and opportunities. But much degree fraud in the area of bogus universities is online anyway,” he says.

The key principle in tackling it is the importance of checking. “It is the single most important preventive measure,” he says.

The problem in the UK is that the checking culture does not run deep, he says. “The education process for employers is where the battle will be won for degree fraud. If every employer checked degree accreditation of every candidate, degree fraud would vanish or at least be much harder to commit.”

Internationally there is one dramatic example of strong government action to tackle this problem. His company spends a lot of time networking internationally and has one profound relationship with China, where the government has made it mandatory that any returning graduate who studied in the UK or elsewhere before entering the Chinese labour market has to have their

degree credentials verified.

So HEDD has a partnership with the Chinese Service Center for Scholarly Exchange, which is responsible for validation and authentication.

“They process the vast majority of their graduates through HEDD. The same process happens for those returning from the US.”

Retraction difficulties

Retractions in research publications is another area with a particular problem in the digital age, because once a publication has been republished or reported on all over the internet, it is very difficult to fully retract false statements whether intentional or a mistake.

As Glendinning points out, sometimes retraction is needed to address research that has been put together corruptly, either via plagiarism or as a hoax. “How do you stop people citing the incorrect work and how do you signal to them that it is not reliable. This is particularly important in medical research where people are building work on false results,” she says.

“There have been suggestions calling for a central global body to oversee it. Again, the problem is so international; with no national boundaries it makes sense to have an overarching body looking into this.”

Another area requiring an international response is the rise of predatory conferences facilitated by email marketing and website promotions. The organisers make money from charging people for publishing their work in journals or allowing them to speak.

It is a problem fuelled by the requirement in some countries for people seeking a research job or professorship to have a set number of publications to their name irrespective of the ranking of the journals they appear in.

International co-operation

A potentially key platform for international cooperation on academic corruption is the Groningen Declaration Network (GDN), set up six years ago to bring organisations around the globe together to work on full Digital Student Data Portability. Its members – which include the governments of Italy, France, Malta and the Netherlands – meet every year to share best practice.

In relation to degree verification, HEDD Prospects is talking to potential partners in the US, South Africa, Australia, the Netherlands and elsewhere to build on a vision where there is a GDN of interconnected systems across the world that share access to degree depositories and other data depositories.

“We currently have a system that enables verification of UK degree holders, but we envisage a time when we can connect to other systems that enable verification of US, Indian and other degree holders and all systems will talk to each other. This is the intention of global agencies,” says Rea.

But Sir John Daniel, former assistant director-general for education at UNESCO, and former chair of the CHEA/CIQG Advisory Council, has urged caution on the sharing of data and says even the GDN’s vision of making qualifications portable so students can have their qualification details on a secure data stick or website in a way that can’t be tampered with is already facing doubts because some people are casting doubt on the trustworthiness and protection of privacy.

“There are people who have already claimed to have cracked blockchain systems,” he says, and, referring to the Facebook data scandal among other things, he notes that "in the past year there has been a massive loss of public trust due to people getting hold of massive amounts of [personal] data. So I think the public will be wary and will not face a huge temptation to trust that.”