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Access denied

E-safety is a growing problem for schools, but technology and training companies may have the solution. Sunniva Davies-Rommetveit reports

Approximately 100 new websites pop up on the web each minute, according to Charles Sweeney, chief executive at content filtering firm Bloxx. More worryingly, he says that 30,000 new adult content sites are launched each week. Schools have taken full advantage of the internet's educational value, but statistics like these demonstrate the scale of the challenge of keeping children safe online. Schools must contend with a baffling amount of new and unsuitable material available on the internet, and often struggle to stay on top of the issue despite the best efforts of their IT departments.

Cracking the e-safety problem is not simple, though. Separate solutions are required for differing age groups, and the line between personal and school devices has become increasingly blurred with the dawn of affordable mobile internet. Dealing with children's insatiable curiosity – as well as their knack of circumventing blocks placed on inappropriate content – is also a big challenge.

Schools can also struggle to keep up with the latest 'hip' social media sites children are visiting. Facebook and Twitter are routinely put on a school's 'block' list, but sites such as Instagram and Tumblr can be overlooked. This means the cyberbullying and sexual grooming that can occur on such sites can go on in school time, and in plain sight.
Ensuring children remain e-safe in the classroom is a priority then; but how do schools achieve this without impeding useful information and hindering learning? Firstly - and in what represents good news for ED tech businesses – schools need excellent technology to filter unsuitable sites and to notify them when something untoward is typed or shared. It is here that making sure a system is adaptable to different age groups is key. Sweeney gives sexual education websites as an example, explaining that these should be blocked for all primary children, but that secondary children should be allowed to access them from a certain age and with a teacher's consent.

A proxy war
There are two different types of filtering which schools regularly use. The first, 'coarse' or address filtering, is filtering at the highest level, where whole websites like Twitter are blocked.
There is an easy way for students to bypass this, though, by using a so-called 'proxy' website, which changes the URL of a website in effect tricking the filter into thinking a website isn't blocked. Tackling this is not easy: while a technology firm can block the proxy website itself, new proxy websites appear all the time. This is where 'smart' filtering comes in. Companies like Bloxx have algorithms which track all the content from the internet that the users see. Such algorithms have been programmed to understand limited contextual situations, thereby putting web pages into various categories including 'food', 'retail' and when necessary, 'adult'.

"When our system picks up the word 'breast' along with the word 'chicken', the website is cached in the food category. However, when there is just that word along with other warning words, the content is usually more adult in nature and we flag it up with the school," Sweeney explains.

Jonathan Valentine, a former teacher and chief executive at Impero Software, says that on top of not knowing which new websites children are using, schools can also struggle with playground vernacular. The use of slang and acronyms is extremely common and evolves quickly, making it hard to filter. "We all know about the earliest text speech, including LMAO (laughing my ass off), BRB (be right back) and (bye for now) BFN," he explains. "But a recent case I heard of involved students using the acronym for 'get naked on camera' (GNOC). The pupils were giggling, while the teacher didn't understand what was going on."

When developing an effective filtering solution, knowing one's audience well is therefore vital. Impero's capability of recognising the latest slang, for example, allows the firm to identify cyberbullying situations and notify the school before they escalate. "The firm needs to adapt quickly to a change in language, and find out as soon as possible what this new phrase or acronym actually means in order to be effective," Valentine says.

Another limitation to 'smart' filtering is that it is very hard to track websites which use 'secure socket layer' (SSL) encryption (though both Bloxx and Impero have found ways around this). SSL security encrypts what is being searched for, or any messages which are sent via email or instant chat. Websites which use this include ones which you log into, such as Facebook, Twitter and Tumblr, but not all websites are SSL secured (The BBC is an example of a website that isn't secured when you're not logged onto a part of their

site.)

Lessons in e-safety
With so many loopholes out there, it seems schools can't rely on technology alone to maintain e-safety. Steve Smith, director of learning for Capita Managed IT Solutions, points out that blanket strategies to block all website with unsuitable content are proving increasingly ineffective.

"Technology is not a silver bullet," he says. "Two weeks ago, I was in a school where a teacher couldn't log in. The child at the front actually told this teacher her password. This child completely circumvented layers of security, and all because the teacher didn't hide her password very well. It's like covering your PIN at a cash point – teachers have to be sensible."

Now, a myriad of online or instructor-led courses are available to teachers looking to understand more about e-safety (see box). Courses like RM Education's EPICT e-safety awareness module mean teachers are becoming more aware of what students might be trying to access.
Such courses also help teachers to better handle conversations with pupils who break the rules. "The blanket approach to e-safety is disappearing," Valentine explains. "Increasingly teachers will be emailed when students search adult content sites for instance, then teachers talk to students about what is acceptable to post or search for."

Certainly the pressure on schools to deploy effective e-safety strategies – whether they're technologically led, involve teacher training or both – is becoming paramount. When Kadiza Sultana, Amira Abase and Shamima Begum flew to join ISIS in Syria last month, for instance, Bethnal Green Academy principal Mark Keary said that students were "unable to access Facebook and Twitter on academy computers". As such, the academy could not be held responsible for their disappearances, he said.

It is unclear whether 'smart' filtering was used in this instance – however one suspects that schools will increasingly be expected to show they have effectively tracked student searches and made timely interventions in the future.

E-safety isn't solely about prohibition and blanket blocking, then. Instead, effective filtering techniques should be combined with educating teachers and children about how to use the internet safely. Companies may never be able to block all of the 30,000 adult content sites that pop up online each week, but they have an increasing number of weapons at their disposal to make a difference.

The three Cs of internet safety
Children face three Cs when it comes to online threats, according to Steve Smith, director of learning for Capita Managed IT Solutions:

- Content: Children can be exposed to inappropriate content such as pornography and religious extremism
- Contact: Inappropriate and undesirable contact from strangers which in its most extreme case leads to sexual grooming
- Conduct: How children conduct themselves online. Cyberbullying is a product of malicious online conduct from one child to another.

E-safety course topics include:

- Teaching students how to use social networks responsibly – ensuring all pictures are only viewable by friends for example
- Making students aware of cyberbullying situations, and about when to tell a teacher if they feel they're being bullied
- On the other hand, teachers can make students more aware of what can be considered cyberbullying, as sometimes students don't realise how a joke in an email can be interpreted in the wrong way
- Teaching students about their digital footprint, including when they are unwittingly sharing personal information.

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US-based software provider Civitas Learning has acquired British learning platform BlikBook for an undisclosed sum.

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