Moving to a new kind of learning

Mobile learning is developing fast – not just in terms of applications but also in terms of its philosophy and standards. Innovative mobile learning technology providers are driving the way ahead, says **Bob Little**

In the last couple of years, as technology has developed and mobile devices have proliferated, mobile learning has established itself as another mainstream learning delivery method alongside face-to-face learning and e-learning.

The learning industry is in a similar place now to where the broadcast industry was at the birth of television. In those days, those in the broadcast industry soon discovered that television wasn't 'radio with pictures' and new techniques had to be developed for a new technology. In the same way, some 20 years ago, those in what was then the computer-based training industry discovered that merely transferring classroom-based training to 'e-learning' doesn't work.

That same principle is at work again, as the developers of learning materials that are being delivered to mobile devices are realising that e-learning materials are not optimised by merely being delivered *via* a mobile device.

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Add to that the enormous benefits for learners from personalised and contextualised learning – mobile-delivered programmes that can discover where the learners are, what they already know, what they need to know, and then provide the relevant learning materials – and you can see how mobile learning, more than any learning technology yet devised, can get the right information to the right person at the right time.

Developers of these materials are beginning to see how mobile learning can be tailored to each individual learner and delivered to where that learner wants, as and when he needs it. And, of course, don't think that mobile learning can only be delivered *via* a mobile phone. Increasingly, it could be delivered *via* devices you wear – such as glasses or earpieces.

Some e-learning development professionals believe that, in many ways, mobile learning is the 'social networking part' of learning.

"Mobile learning is something you would use informally, on the move and often under time pressure, to continually refresh your knowledge, when and where it's needed," says Fabrizio Cardinali, vice president of global business development at eXact learning solutions, a provider of mobile learning content management solutions with operations in Europe, the US and Asia.

"It should be as simple as possible on the front end, providing easy means to accessing and locating information quickly. But, on the back end, it requires some complex technology – which is able to profile your skills and competencies, your location and your device – to give you just the right piece of information, when you need it and where you need it. You might describe it as performance support on demand, anytime, anywhere."

Cardinali was recently re-elected chairman of the European Learning Industry Group. ELIG includes all the major learning industry stakeholders in Europe, including further and higher education, publishers, broadcasters, industry representatives and technology providers.

"E-learning is well suited to formal learning, while mobile learning is ideal for electronic performance support, lifelong learning, just-in-time and close-to-the-point-of-need learning," says Matthew Lloyd, managing director of UK-based e-learning solutions provider Omniplex.

"Consequently, you need to look at – and, so, construct – mobile learning content differently from e-learning. And, importantly, when developing mobile learning, keep in mind that users will need to be able to distinguish 'good,' reliable information from 'bad,' unreliable information – principally because their learning is likely to be taking place at the point of need. They need to be sure the content they access and apply is from a trusted source."

For some time, there has been a growing awareness that e-learning is not merely about teaching people to 'pass' a test. Industry professionals such as Cardinali, Lloyd and Ken Wood, of learning management system and e-learning specialists Course-Source, believe that this is even more applicable in terms of mobile learning.

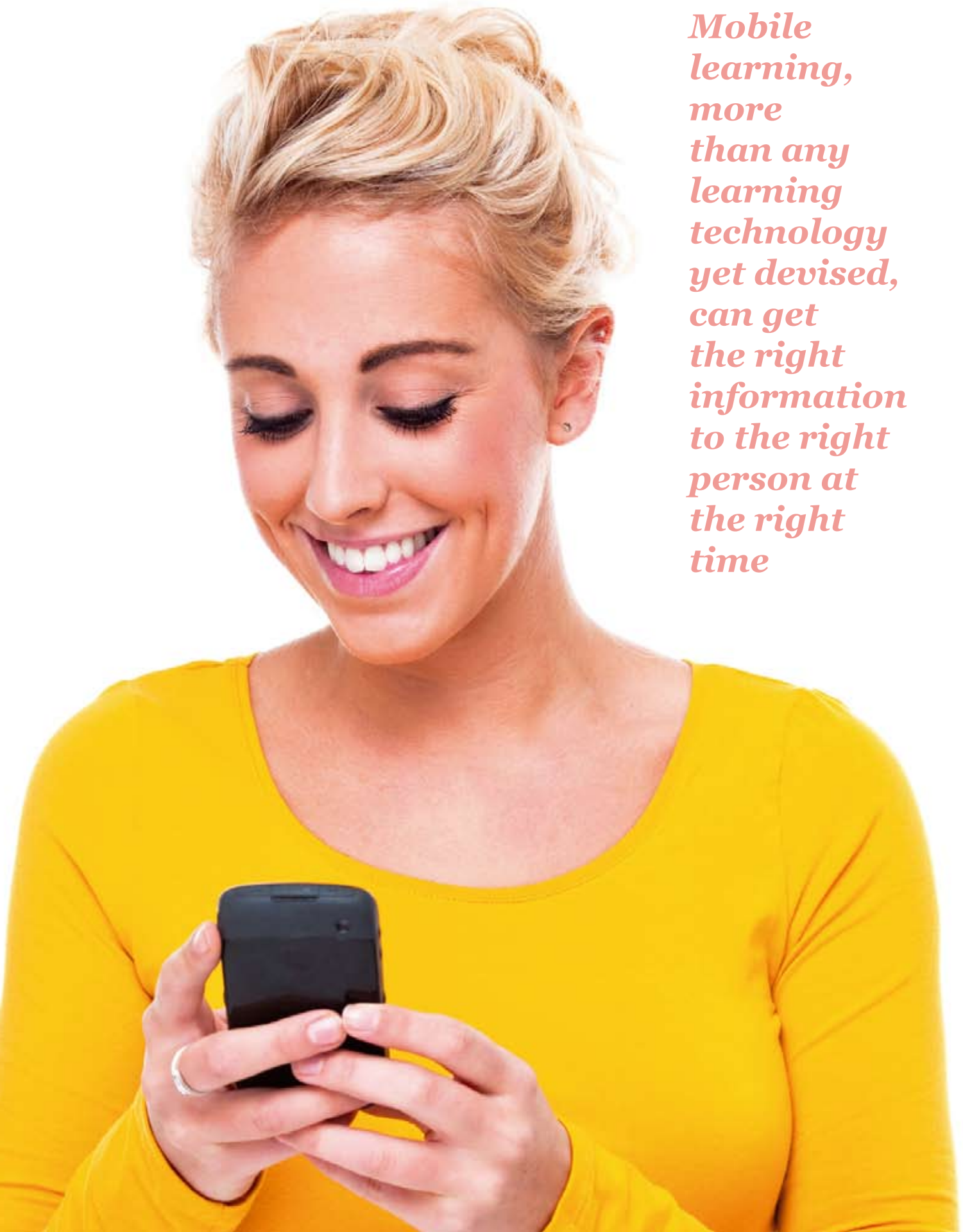
"Mobile learning is not about merely 'teaching to the test'; nor is it about teaching what course designers or subject matter experts think the learners might need," says Wood. "Because mobile learning is being used as a just-in-time, just-enough, anywhere, anytime at point of need performance support aid, users will need different things at different times from the same basic learning material – so the learning developers can't be prescriptive about how materials are structured."

There are even more basic differences between e-learning and mobile learning for the learning materials designer/developer to take into account.

"Learning content that has been developed for delivery *via* a desktop or laptop computer is unlikely to be able to be delivered *via* a mobile device without some modification – if only because of screen size," says Cardinali. "This means that you have to develop a process – and there is much to recommend the view that such a process should be made available to all producers of learning materials – whereby learning materials can be chunked, ie made into smaller 'bites' of learning that can be more easily delivered *via* a mobile device at the point of need.

"In turn, this means that content for mobile learning programmes needs to focus more on essential information. This turns the learning programme into more of an electronic performance support system – or even a learning 'app'.

"Also – and most importantly – mobile learning platforms should not be conceived nor should →



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they be developed as stand-alone solutions or, in today's jargon, as isolated apps. They should be interworking with the existing learning platforms already installed in large organisations, using single sign-on and exchanging tracking data on user performances so as to deliver an 'extended' blended learning experience. This can be delivered, *via* mobile learning, to wherever learners might be learning, including not just online but also 'bricks and mortar' schools or training departments in which learners might be undertaking more formal learning experiences.

"All of this can be done without disruptions to, or gaps in, the learning experience – with no need to log in to different learning platforms or to recreate the learner's profile every time.

"Actually, with your mobile learning platform profiling the content as you need it, based on your background, the time, device and location available, you have an educational *continuum* following students and trainees wherever they need learning or wherever they ask for just-in-time support."

Currently, people are producing mobile learning materials for iPhones, Android phones, BlackBerrys and so on. There are also some suggestions that Articulate, the New York-based producers of a popular suite of rapid (do-it-yourself) authoring tools, is about to launch a new authoring product – called Storyline – which will be able to publish iOS-compatible output *via* HTML5, thus bypassing Flash and enabling materials produced in this way to be played on mobile devices.

"We also have learning content management system solutions now making content production optionally available for mobile devices," Cardinali says. "For example, eXact learning solutions has just announced extensions to its eXact LCMS for producing, delivering and tracking SCORM contents for the iPhone, iPad, BlackBerry and Android device series."

Sources close to the US-based ADL Initiative – which developed and now maintains the Sharable Content Object Reference Model set of technical specifications for e-learning software products that is accepted worldwide – are suggesting that producers of mobile learning materials should be encouraged to develop them on a common base so that they can be accessed by all users whose mobile device has a browser.

SCORM tells programmers how to write their code so that it can 'play well' with other e-learning software. Specifically, it governs how online learning content and LMSs, along with LCMSs and digital repository technologies, communicate with each other. SCORM does not prescribe particular instructional design or pedagogical methods; it is purely a set of technical specifications that provides a model for content exchange and interoperability across delivery platforms.

There is now speculation that, with the continuing development of mobile learning materials, ADL will soon be looking at developing similar standards to SCORM but relating specifically to mobile learning. This could well take the form of a variant of SCORM that can track and assess experiential learning scenarios.

"Mobile learning is going to play a big part in delivering this experiential learning," Cardinali explains, "because mobile learning is influenced by, and belongs with, games, social networking and virtual worlds – all of which create challenges for tracking learning and provide the *continuum* that an extended blended learning experience needs in order to be effective."

A few months ago, Achieve Labs Inc (using its product LearnCast), Intuition Publishing Inc (Intuition Rubicon), OnPoint Digital (CellCast Solution for Mobile Learning), OutStart (Hot Lava Mobile), Trivantis (Lectora and Lectora Online) and eXact learning solutions (eXact Mobile) took part in a pilot study, supervised by ADL, involving converting an existing e-learning course to a mobile format.

The online course uses HTML, Flash and video. It contains an introduction and six modules, a pre-test and a post-test. It has a glossary and resource links. So the key challenge for the producers was converting the Flash of the online version of the course into something that could be delivered *via* a mobile device.

In the end, there were more than six mobile learning modules because some producers contributed more than one treatment of the module. eXact learning solutions even provided a version of the module with geo-location, enabling a degree of personalisation and contextualisation of the learning materials. Adding a geo-learning feature means that authors can drag and drop learning objects and packages on virtual earth maps during the authoring process. Users can then get content that is not only personalised to their devices and learning needs, but is also filtered by their location.

Cardinali comments: "Geo-location appears to be of great benefit for field based training in the defence sector as well as in sales force automation and performance support. It delivers the right content exactly where learners need it, exactly providing 'just enough' content, where and when it is needed." **TJ**

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