The total learning system:
Discovery, productivity and skills
Contents

Foreword 2
The Benefits of Social Learning 4
Curation: Learning beyond the course 8
Deploying formal learning in the Enterprise: The Learning Management System (LMS) 13
Learning as it’s lived: The Learning Record Store (LRS) 17
Author bios and contact 21
Foreword
by Charles Gould, CEO Brightwave

How did you learn how to do your job? How do you solve a problem when you get stuck? Where do you go for the knowledge you need to advance your career? Over time the classroom has been augmented and gradually replaced with computer-based and then online training. These are now well-established tools in the Learning and Development (L&D) toolkit. They are top-down, formal methods of disseminating bodies of knowledge to groups of people. This makes sense when everyone needs to know the same policies or carry out routine procedures. But in practice they meet only a fraction of our needs for knowledge and know-how at work.

We’ve always searched for information, asked questions and sought out the experts who can help us do our jobs well. Over the last decade our ability to do so by using online technology has increased exponentially. This presents a considerable challenge for HR and L&D people, the custodians of courses. A veneer of control over employees’ learning has been afforded by the Learning Management System (LMS). But with personal smartphones in every pocket, social networks and immediate access to almost limitless free knowledge online, it’s time for L&D to relinquish that control and embrace a new role as facilitator, scaffolder and unblocker of knowledge.

This is not to say we abandon formal, structured or guided learning. There will always be value in finding essential knowledge from the best sources or packaging it up in appealing parcels that save learners time and make knowledge easily digestible. There’s also a value in providing the best tools and infrastructure to support formal, informal and social learning alike.

In this paper we look at the four components of a total learning system. In many cases some or even all of these exist already, but as separate independent systems. There’s no surer way to fail than by expecting users to log into multiple systems.

The four components of a total learning system are:

- **A Social learning system** – for learners to create, share and discuss learning experiences and knowledge.

- **Curation tools** – so that subject experts can assemble and give context to up-to-date, relevant knowledge and know-how.

- **A Learning Management System (LMS)** – a means of delivering and tracking formal learning content to large numbers of people, and structuring learning pathways.

- **A Learning Record Store (LRS)** – a way of capturing, codifying and sharing personal learning experiences of any kind.
Expectations of a traditional LMS tend to be modest, despite the millions often spent on them. But why shouldn’t we aim for more? A total learning system should – and can – unlock the kind of business benefits that will make any board or shareholder sit up and take notice. A total learning system provides all these primary business benefits:

- **Improved productivity** by making users’ access to expertise as easy and fast as possible so they can solve problems and do their jobs better and faster. We should be able to offer learners access to structured e-learning, recognised experts and colleagues all online in one place. We should be able to foster a social learning community that shares knowledge and experiences. And we should provide curation tools that enable in-house experts to provide relevant, up-to-date knowledge.

- **Reduce cost of staff training and turnover**: engage and retain staff by recognising their expertise and contribution to the knowledge of the company. Capture learning experiences that can be shared to meet assignments, gain likes and points from peers and experts.

- **Create value** by users sharing and developing new ideas with and for their organisation. Very few new products are the creation of just one individual working in isolation. Sharing ideas and creating content are the seeds of innovation that all businesses seek to generate new value.

At Brightwave we’ve seen many of our clients realise that their employees increasingly find ways of learning what they need without formal learning. The concept of a total learning system that encompasses but goes far beyond a simple learning management system is being embraced by many of our clients. Companies like 3M, BT and Tesco Bank have adopted it for a range of different purposes.

But we recognise there may need to be a mindshift at organisation level if this is to be taken seriously. While there’s an interest – maybe even a buzz – around ‘informal’ and ‘social’ learning, for the learners and the business to embrace it we must demonstrate, not just talk about, how valuable it can be.

This paper is written for L&D professionals and managers who are passionate about developing the skills and knowledge of their people, and recognise the opportunity to greatly improve the way this is currently achieved.
The Benefits of Social Learning

Alex Reeve,
Learning Consultant

The potential for social media to transform how we learn at work has captured the imagination of L&D departments across the world, and with good reason. Organisations who embrace a more open and social learning culture are reporting significant increases in productivity, efficiency and speed-to-competence of new joiners and movers. However, social learning requires a leap of faith on the part of L&D practitioners. We need to move away from the traditional ‘command and control’ approach to the provision of learning and instead put greater emphasis on discussion, inquiry and knowledge sharing.
7 steps to social learning success

Now that’s all well and good, I hear you say, but how can we make this happen? What will motivate our time-poor colleagues to share their knowledge and expertise? This is an important consideration, as lack of participation is arguably the number one reason why work-based social initiatives fail. To help you implement a buzzing social learning platform which colleagues enjoy using on a daily basis, try following these 7-steps:

1. **Define requirements.** Are you looking for an enterprise-wide system where colleagues can post questions and answers on any topic? Or are you looking to support collaboration and knowledge sharing within a targeted group (e.g. new starters or managers)? Think about what you want to achieve and set some realistic success measures.

2. **Choose the right platform.** People have high expectations of social networks, based on their experience of using services like Facebook and LinkedIn. So make sure you choose a platform that’s easy to use and offers the functionality to meet your needs (e.g. community areas, leader boards, rate & review and curation tools). To test the water, run a pilot project with a relatively small group of users before rolling out the platform to the rest of the organisation.

3. **Identify your social ‘champions’.** The ultimate goal of social learning is to create a self-sustaining community where learners are motivated to share their insights, observations and expertise. But people can be shy about getting involved at first, so it’s good to identify a few champions who can stimulate activity in the early days and inspire others to participate. Ask your best champions to become ‘curators’ i.e. contributors who post links to interesting new content and answer questions on an on-going basis.

4. **Promote the platform.** Use all your communications channels (email, newsletters, face-to-face events, posters etc.) to promote the platform and notify learners when new content is available. People pay attention to leaders, so ask senior managers to endorse the platform and encourage their teams to get involved.

5. **Set clear goals.** Make sure your community understands the purpose of the initiative and the value of sharing questions, answers and links to relevant materials.

6. **Reward participation.** Give your best contributors positive feedback and recognise their achievements in performance reviews. As noted earlier, the main reason why social initiatives founder is due to lack of participation. So give the community the chance to express itself freely and take a light-touch approach to moderation. Remember that the vast majority of colleagues will use work-based social media responsibly, so don’t stifle the initiative with too many rules and regulations at the start.

7. **Get feedback and refine your strategy.** Social learning is a continuous and evolving process. Once your platform is up-and-running it’s important to get feedback from learners and identify ways to improve the service.

“By bringing together people who share interests, no matter their location or time zone, social media has the potential to transform the workplace into an environment where learning is as natural as it is powerful.”

Marcia Conner,
The New Social Learning: A Guide to Transforming Organizations Through Social Media
How it works in practice

Social learning initiatives tend to work best when targeted at a group with a shared set of needs and interests. So, for example, giving graduate trainees a dedicated space where they can post questions, network with one another and share their experiences is an increasingly popular application of social learning in big organisations. Here are some other examples of social learning in action.

- **Sales teams:** sales teams are often dispersed, finding it hard to meet in person. A social platform can be used as a hub which provides access to product news, core learning materials and allows reps to share ‘war stories’, best practice tips and client feedback. Gamifying the platform with points, a leaderboard and badges can be a good way to motivate learners and encourage some friendly competition.

- **Induction:** social learning is perfect for induction as it helps engage, creates a sense of community, and provides new starters with a tool that matches their expectations of how they interact with social technology in their daily lives. It also provides a safe space where ideas can be tested and questions asked away from day-to-day working pressures.

- **Management capability:** management capability can be aligned and supported with a community of practice. In addition to learning and toolkit access, new ideas and ways of working can be shared and feedback gathered from dispersed teams. Managers can pull in relevant industry information and market developments to share amongst their community.

- **Healthcare:** healthcare professionals of any discipline (consultants, nurses, clinicians) can come together and share around a particular specialty area to work in conjunction with other learning CPD initiatives and enhance the growing importance of team learning in this sector.

People have always learned from one another, as asking for help from peers and experts is the obvious way to boost our ability to complete any given task. What’s changed is that we can now facilitate this process on a massive scale via social networking technologies. This is why many organisations now include a social element in their learning and change programmes as a matter of course.

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### What are the benefits of Social Learning?

- It helps dispersed learners in global organisations to network and share experiences
- It provides access to a wealth of user-generated and curated resources
- It supports communities of practice and inquiry
- It’s scalable: colleagues from across the world can connect, question and share
- It’s trackable: organisations can measure activity and ROI
- It’s cost-effective: secure corporate social networks come at a minimal cost per user
- It’s social! So reduces feelings of isolation associated with self-directed learning
Curation:

The act of sorting through the vast amounts of content on the web and presenting it in a coherent way, organized around a specific topic(s)... the essential difference of curation is that there’s a human being doing the sifting, sorting, arranging, and publishing.

Macmillan Open Dictionary
Curation: Learning beyond the course

Meg Green,
Head of Operations (Enterprises)

What’s the one burning question that you need an answer to? What single scrap of perfect information is going to make a real impact on how you perform in your job, day in and day out? What is the one thing you need-to-know, right here and right now? Whatever your burning issue might be, the answer you need is probably already out there. There are – at a conservative estimate – several hundred-thousand instructional videos on YouTube alone, which has turned what was originally intended as an entertainment channel into a vital asset for many businesses. Whatever gap in your knowledge needs to be filled, there’s going to be an instructional video
or other online resource that can help you do it. (And if there isn’t a resource out there, then perhaps you need to think about making it yourself! But that’s a topic for another day...)

The rise of the social web and the blurring of the line between a content consumer and a content producer has brought about a situation of information overload: every day, there is more data generated and transmitted online than would be possible to sift through in a lifetime, and unfortunately, for most purposes the noise-to-signal ratio within that deluge of information is infuriatingly high. There is a lot out there, and a lot of it is nonsense. But the gold, the valuable (and usually free) resources that are increasingly essential to thrive in the unpredictable terrain of 21st century work – multi-channel, multi-tool, multi-dimensional – is already out there.

The challenge of working in the knowledge economy – and perhaps the core challenge of living in the knowledge ecosystem – is being able to find the right resources, at the right moment, and to recognise their worth for your current situation. Improving organisational info-gathering systems, making efficiencies in these processes and systems has to be a core priority for driving productivity in the knowledge economy. The answer to your problems is out there, but how will you know it when you see it?

The act of negotiating the modern digital landscape – finding, selecting and assessing the value of a piece of digital content, its usefulness to you in the moment and its suitability for the given task at hand, is known as **curation**. It’s a skill that most of us practice in some form or other most days – every time you place a song on a playlist, thereby taking it out of the generalised flow of available information and placing it in a discrete space where you can access it at will – you are acting as a content curator.

On the individual level, curation is something we are already familiar with, and there are innumerable consumer apps and websites that are designed to make everyday interactions with the barrage of digital content a more friendly and useful experience. The world’s most frequently-visited website, Google, is at its heart a curation tool that has become so ubiquitous that it’s hard to recognise it for what it is. When Google was developed it was called a search engine, and the name has stuck, but the profusion of available data has required its function to subtly shift over the years since its inception. It’s not enough anymore for Google to simply return you the search terms you entered – now it employs a series of ever more complex algorithms to curate a selection of appropriate content based upon your user history and preferences. Google doesn’t just search, it **discriminates**, and this ability to assess the suitability and relevance of a particular piece of information in a given situation is the essence of curation.

Scaling this organising principle of information management from the individual learner up to the level of the organisation brings with it a new set of problems and challenges. But like all good challenges, the solution to the problem of mass information overload is implicit in the problem itself. If the overwhelming quantity of available content...
has been brought about by the fact that any individual with a laptop, tablet or smartphone is a potential content provider, then the best way of finding and curating the right content at the right time comes from the social web too.

An effective curation system combines the data capture capacity of the Tin Can API (see page 19) with a social platform, that enables the individual learner to discover the best learning resources for their role, and bring them back to be shared within the community space. The very act of sharing and discussion becomes the means and method of validation that determines the usefulness of the resource. If the resource receives attention from and is used by the learning community – usage data which can be tracked through the LMS – nominated subject matter experts can curate the resource into an official learning resource, placing it in a separate area of the total learning system, where it can quickly be found and used as required by the rest of the enterprise.
Next generation coaching

The best coaches act as a mirror, a means of reflecting the learner’s concerns back at themselves and empowering them to achieve new knowledge and insights, to confront and overcome their current obstacles by themselves.

Today’s enterprises often seek to employ the various benefits of the coaching relationship, but there are barriers and costs associated with the coaching process in its traditional form. Flexible or home-working, distant offices, frequent (and unpredictable) travel, and the simple minute-by-minute demands of reacting to a fast-paced economy make the reflective space of the coaching session difficult to prioritise and sustain.

The solution is the next generation coaching process. It commences with an initial session, in the form of a face-to-face meeting to identify challenges, describe suitable development pathways, set objectives and agree appropriate metrics.

After this session the coaching process continues in an entirely original direction. The learner goes on to discover new learning resources, acquire new skills and provide evidence towards their agreed goals. Supporting data and commentary is shared with the coach in a private area within the social learning platform. The coach offers feedback via the platform at any time, and from any place. Mistakes can be corrected by private messaging, and progress encouraged through a gamified system of rewards and incentives.

This process can continue indefinitely, interspersed with further face-to-face sessions when circumstances allow. The autonomy, informality and freedom of movement essential to the knowledge economy is preserved, and the learning benefits of the traditional coaching relationship are enhanced.
Social learning delivers measurable results. AMD reduced the time sales staff spent searching for content from 8.5 hours per week to 5.5 hours per week.

IBM Case Study – AMD, 2013, quoted in The Social Imperative in Workforce Skills Development, IBM, 2014
Deploying formal learning in the Enterprise: 
**The Learning Management System (LMS)**

Paul Draper,  
Technical Architect

**The changing value proposition of the Learning Management System**

The Learning Management System (LMS) is the foundational structure of online learning provision. At its simplest, the LMS is a software platform that hosts and provides access to e-learning courses and modules, and tracks usage and completion data, i.e. what courses or training programs have been commenced, completed, passed or failed by individual learners.
The LMS is no longer the monolithic structure of years gone by, hosting, launching and tracking an ever-denser concentration of ‘click Next’ e-learning courses to a grim, apathetic population of captive learners. A key consideration for the next generation LMS in the context of today’s smarter learning organisation is that it must encourage – not prove a barrier to – engagement by the learner. This is often overlooked as a chronic, baleful effect of poor LMS implementation, and all too frequently results in a cumbersome, uninviting and confusing user experience. When combined with poorly designed learning courses, many learners come to regard learning online as a dispiriting chore, rather than an exciting, empowering opportunity to develop themselves and their careers.

Today’s LMS is leaner and smarter, capable of sitting alongside and seamlessly interacting with the organisation’s complex network of info-tech platforms. The next generation LMS is in reality probably a series of systems working together and in sequence to meet the assortment of learning needs required by all the various departments and functions that comprise the totality of today’s organisation.

This paradigm has been a sufficient mode of thinking about what the LMS can do for the last 15 years or so, roughly contiguous with the rise of online workplace learning itself. But the new opportunities afforded by more recent technological developments in the learning space have changed the way we need to think about the LMS as a tool. The LMS may still be the ideal means of delivering the full 10% of formal, structured learning that occurs in the workplace (according to the widely recognised 70:20:10 guidance framework – see page 18), but the options for nuance, variety and diversification within the scope of the 10% itself is changing.

In previous years the LMS was the best way of, for instance, providing evidence for completion of mandatory compliance-based courses. ‘Flat’, enterprise-wide imperatives of this kind are no longer the limit or best use of what today’s LMSs can do. The LMS can still track learning, still provide a data trail and analytic insight into an individual’s development and achievements, but this effectively passive role can now be leveraged into something much more responsive and personal to the needs and aspirations of the learner.

The Structured Learning Pathway

An increasingly important function of a next generation LMS is the option to integrate Structured Learning Pathways (SLPs) into the learner’s continuing development. The SLP can be configured for the specific goals of the individual or the general requirements of the role they inhabit, and as such offer a massively increased scope of potential applications and uses.
The learner can be assigned an appropriate, bespoke SLP according to their current level of development, which they can pursue upon an agreed schedule or simply when time and circumstances allow. A crucial new difference to this well-established process is that a next generation LMS will allow the learner to select, in combination with their formal agreed SLP, a number of complementary, alternative pathways, according to their own abilities and ambitions. These SLPs might take the form of long-term projects or experience-gathering processes, or be a blend of bite-sized courses and resources that can meet immediate skills gaps and learning needs. Crucially, configurable access levels within the LMS lets the mentor or manager oversee these supplementary SLPs too, and gauge their suitability for the learner’s development, output data analytics, provide feedback and assistance etc.

This kind of data visibility is ideal for identifying high achievers and proactive learners within the organisation, assisting with promotion and recruitment for higher level rewards and responsibilities.

From the viewpoint of the learner, the benefits of this total learning vision of LMS functionality are clear: the individual is afforded an unprecedented degree of autonomy and flexibility over their career development within the bounds of the business. Do they want to take the management route, or decide to become a subject matter expert (SME) and further specialise and refine their skills in a chosen direction? What do they want to do for themselves in the future, what does the organisation need them to do in the here-and-now, and where can these two threads be brought together?

From the perspective of the organisation, the benefit lies in being able to understand and optimise staff skills and talents according to the actual reality of the people present in the organisation, rather than according to some presupposed set of role profiles or competency frameworks.

A clear line of sight – from both directions – and evidence-based analytics of the best way to achieve these agreed goals is now possible within the framework of the next generation LMS.
The US is seeking to develop a new generation of software specifications to manage an individual’s learning experience across multiple formats and environments. The initiative has been called Tin Can and is an API that records learning events for storage in an LRS. The next generation of LMSs will emerge out of these types of initiatives.
Learning as it’s lived: The Learning Record Store (LRS)

Jonathan Archibald,
Chief Technology Officer

Growing coevally with the digital information technologies that have radically affected almost every conceivable form of human relations, technology assisted learning in the workplace has driven huge changes in the way that data, skills and knowledge flow through the modern organisation. With this technological push, the Learning and Development (L&D) team has become an essential function of any organisation smart enough to know that the quality
and talent of the people it employs is intimately connected with the success of the business as a whole.

But throughout all this success, the L&D team has been working in the dark.

The technological standards of the last two decades have been powered largely by the industry standard SCORM specification, which tracks data about online courses launched and completed through a web browser on someone’s desk. And it’s done it very well.

But is that really the only way people learn? The now widely accepted 70:20:10 guidance framework for workplace learning strongly suggests that only 10% of the learning and information-gathering that people need to perform well in their jobs is done within a formal, course-based setting that a traditional SCORM-based LMS was designed to process.

90% of that learning occurs through other, largely informal and situational means. If today’s worker, particularly in the knowledge and service sectors common to developed economies, is presented with a challenge, they either find out how to fix it, there and then, or they fail. They don’t wait for a conveniently suitable training course to come along. Whether they take to the internet to find the solution, or ask a colleague with the necessary expertise for their advice, they go and find that information out for themselves, and deal with the situation at hand.

Until now, and the advent of the Tin Can API and the Learning Record Store (LRS), L&D teams have been making assessments and recommendations about the skills and knowledge in the organisation using just the data that was available through the LMS. Just 10% of the full picture.

Imagine being in a vast, strange city, and trying to find your way home with only 10% of the map. Now imagine what new things you might discover if someone gave you the missing 90%.

**What is 70:20:10?**

The 70:20:10 guidance framework is a widely acknowledged model describing how individuals learning in the workplace acquire new knowledge, skills and information. The precise definitions and ratios differ by interpretation, but broadly:

- 70% of learning takes place informally, through meeting day-to-day challenges on the job (learning-by-doing).
- 20% of learning and development happens through contact with other people in (or out of) the workplace (social learning).
- 10% of learning takes place through formal, structured learning interventions (linear e-learning courses, face-to-face training sessions).

Although there is much debate about the relative amounts of learning occurring within each context, the overarching lessons of 70:20:10 remain: most learning happens outside of the traditional or formal learning intervention, such as a training session or e-learning course. The vast majority of learning is developed through ongoing social and informal processes existing outside of the familiar teacher–learner relationship.

Recognition of the concrete reality of 70:20:10 often requires a radical reform of how learning is delivered through the organisation.

Providing that missing 90% of information about the contemporary learning process is the final core component of the total learning system: the Learning Record Store. An LRS is in effect a database that holds, retrieves and...
processes Tin Can API statements, and makes that data available for review and analysis. The volume and variety of information the Tin Can API can record and process makes a working LRS an essential feature of any Tin Can-compliant system: the LRS is the official document of any and all learning experiences captured through the Tin Can API.

**What is Tin Can API?**

The Tin Can API – AKA the Experience API or xAPI – is an open source specification for managing e-learning data. Released in 2012, Tin Can was designed to manage the various forms of data not currently covered by the industry standard SCORM specification, to reflect the myriad ways people learn today:

- across multiple devices and browsers
- through a mix of formal online learning courses and informal, often learner-sourced resources
- in a variety of on- and offline contexts.

The Tin Can’s strength is in the simplicity of the format it uses to describe complex data. Tin Can data statements are formed of just three core elements:

```
[actor] [verb] [object]
```

or

```
[I] [did] [this]
```

e.g.

```
[John Smith] [attended] [a training seminar]
```

From the starting point of this deceptively straightforward formula, any amount of information about someone’s experiences and behaviour can be captured and stored for analysis.

The range of information that Tin Can API can turn into meaningful data is limited only by the sophistication of the capture and recording tools, and this simple structure belies the scope of the data that can be recorded. The basic statement of experience can be supplemented with any amount of contextual data to encapsulate any stage of an individual’s learning journey.

Tin Can data statements can be shared across multiple LRSs, becoming a permanent record that evolves with the learner through their career. An LRS is to the Tin Can API what the Inbox is to your email client: You can write and send an email, but without an Inbox, where’s it going to go?
Under previous e-learning specifications the forms of learning activity that could be recorded were considerably limited – essentially online courses launched from within a standard LMS – and the data that could be recorded was rigidly quantitative: how many courses have been launched, how many completed, what was learner X’s personal score. The insights that could be derived by the L&D team, and their ability to extrapolate those insights into evidence-based strategies for further staff development, were strictly limited by the capacities of the data they could collect. They only had visibility of 10% of the learning that was going on in the organisation at any time.

A Tin Can-driven LRS completely redefines what learning data itself can be: it can record and store information about any form of online or offline experience. The LRS immediately brings learning into the real world – today’s learners, especially in knowledge economies, need to continually gather and refresh knowledge relevant for their roles. In effect, this can mean anything from attending webinars, browsing relevant online resources during breaks or after work; to a simple informal chat with a colleague about best practice or a new way of thinking about an old problem. The LRS holds a detailed, evidential account of all these information gathering activities, and describes the information in a way that’s ideal for later presentation and scrutiny. The LRS provides detailed, real-world data about the actual skills and knowledge required to perform a job well, based upon what is already actually occurring in the organisation.

Learning experiences captured by the LRS can be reinforced by extra qualitative assessments of learning outcomes – they can be tied to improved performance results, used to identify avenues for further development and progress, or cut recruitment costs by aiding succession planning or identifying high achievers for internal advancement and promotion. It provides invaluable insight into skills gaps, future learning requirements and other opportunities for development – the LRS is an essential asset in today’s learning ecosystem and a source of vital information for both learner and employer.

L&D has been finding its way in the dark – with credible success – for the last two decades, making smart decisions about knowledge requirements and growing staff skills in a competitive global economy that is changing at a historically unprecedented rate. The LRS gives them the missing 90% of the picture. Imagine what they can do for productivity, for innovation and for today’s learners, with the LRS in their toolkit.
By bringing together people who share interests, no matter their location or time zone, social media has the potential to transform the workplace into an environment where learning is as natural as it is powerful.

Author bios and contact

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**Alex Reeve** (Learning Consultant) has over 17 years’ experience in learning technology design and development. He works closely with our clients to understand their needs, so he can recommend the most effective blend of e-learning, virtual classroom, face-to-face and social learning opportunities to advance their objectives. Alex has strong TNA, instructional design and consulting skills and has worked with a wide range of organisations in the public, private and voluntary sectors.

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**Paul Draper** (Technical Architect) has a degree in Software Engineering and several years’ experience designing and developing bespoke applications and off the shelf products for the public and private sector, both in the UK and USA. Some of Paul’s key clients include G4S, Merseyside Police, Metropolitan Police, The Guardian, Haymarket Media, Live Nation, AEG Worldwide and Leicester Council. In 2012 Paul completed his MBA in finance and is looking to develop and combine his business and technical skill set.

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To experience first-hand the benefits of the total learning system, visit:

www.tessello.co.uk

and book your personal demo.