Mapping ID to Performance Needs

A white paper
on learning models
and approaches
for the connected,
networked learners
in a complex world.

MPS Interactive

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Abstract of Session on ID Models to Meet Performance Needs

The complexity wrought by the increase in information, adaptability, and interconnectedness implies a lack of predictability about what's next. And the world of workplace learning and performance is not immune from this shift. Social media and mobile technology, coupled with an increasing demand for performance-based over knowledge-driven learning, are influencing learner behavior, challenging the industry to re-look at traditional content presentation formats. This is the age of just-in-time information, focused micro-interventions, increased learner control, and performance support tools. Thus, new Instructional Design (ID) models have appeared and some of the older ones are being re-interpreted against this backdrop. This paper takes a look at models like Pervasive Learning, Flipped Learning, Evidence-based Learning, Adaptive Learning, and 70:20:10, and discusses their relevance in today's environment.

Section I: Executive Summary

The economic reality of the times, the changing face of the modern workforce, increasing aspirations, social networks, and higher performance standards are compelling learning and development (L&D) teams to assess training and its role in workplace learning. Courseware designers are going back to the basics, while the industry is churning out new theories to rationalize the changing paradigms and foster the creation of learning ecosystems that enable performance over "learning for the sake of learning".

Moving from learning to performance in the Age of Information is no easy task—either for individuals or for organizations. Complexity and emergent practices are the new normal, and learning models and approaches are emerging in response to this flux. Formal, top-down training programs could be designed when the world was stable, and good practices were the norm. In a world ridden by change and the unknown, learning and performance cannot be the domain of training alone. The focus has moved from formal trainings to social and collaborative learning, from hierarchy to wirearchy, from elaborate training programs to just-in-time performance support, and the instructional approaches reflect these larger social and global trends.

Some of the major models contributing to the shift in workplace learning design are based on the **Principles of Connectivism** proposed by George Siemens. This principle takes into account the interconnectedness of the world today and learning as an outcome of this connection. While an approach like **Pervasive Learning** says the answer lies in three modalities—**formal, informal**, and **social** learning—the **70:20:10 Framework** takes this

one step further. It looks beyond formal & informal and states the odds are that individual development will come from 70% on-the-job experiences, working on tasks and problems; about 20% from feedback; and 10% from courses and reading. Reading, which may well involve taking one of the many massive open online courses (MOOCs) for self-development—development that translates to performance. The concept of learning has evolved into something much beyond an eLearning module or a training program frozen in time. And L&D has moved from gatekeepers of learning to facilitators and curators of the learning experience.

Empowerment is essential. The call is to give the power to the individuals—to choose, to learn, and to perform. **Adaptive Learning Systems** and **Personal Learning Environments** are enabling that, with evidence-based instructional approaches laying the foundation. The change can be seen in the classrooms too, with the strategy for instruction now having been flipped to meet the needs of the learner. The educator's role has changed from being the "Sage on the Stage" who knew it all to the "Guide on the Side" who is also as much a learner as the rest.

How, in these times of flux and calls for efficiency, will you show business that continuous learning is an important contributor to performance improvement? How will you ensure that your learning experience design is evolving to meet changing needs of business and the workers? Enter the **Learning Evaluation Framework**—a framework that offers process flows, tools, templates, and scorecards to implement learning effectiveness evaluation for all four levels of Kirkpatrick and the 5th level of ROI proposed by Jack Philips. A combination of appropriate ID approaches coupled with an evaluation framework to measure the influence can majorly help establish the value L&D provides to business.

In this paper, we explore some of these trends to see how they affect the eLearning industry. We discuss emerging theories and popular trends, case studies based on work we've done over the years, and how to resolve the learning-performance conundrum.

Section II: From Learning to Performance

Circa 1990.

Industry, mesmerized by the possibilities of technology-enabled learning, was committing dollars (pounds, euros, and francs too) to train people, build competencies, improve knowledge, and enhance skills. Training departments spent nights facilitating the rollout of digital learning and promised employees the Holy Grail—training that was effective, available anytime, anywhere, and at the click of a mouse. Detractors smirked, while

analysts predicted the coming of age of eLearning and spoke of fancy growth figures.

By 1994, the world had its first online high school.

By the start of 2000, the number of universities offering distance learning courses was increasingly on the rise. Student enrolments were up.

The world seemed to have found an optimal path to learning and development.

Cut to 2010.

Detractors started eyeing that bottle of champagne as industry and educational institutions took a step back. Analysts still saw a bright future for eLearning but the L&D community was asking the tough question: How do we get to performance from learning?

Was it time to look beyond eLearning? Was this not the Holy Grail?

The truth may lie somewhere in between the euphoria of the 90s and the seeming disenchantment of this decade (2000-10). Not so much in debating the merits (or the lack of it) of eLearning but in understanding the context in which we evaluate it today. It's a dynamic world where training, like everything else, must mirror the demands of the time. The result—a call for a change in focus from learning to performance.

To instructional designers of eLearning courses, the link between learning and performance is a foregone conclusion. That a well-designed course should help you perform, should be a given. Why then are we talking of a change in focus? Perhaps because:

- The economic reality of the times is making the community vigilant about the effectiveness of eLearning. Given the effort spent on developing eLearning modules, there is a greater scrutiny on the performance a module facilitates.

- Social networks have made information dynamic and interconnected. The availability of a network that can be advantageously used at all times--not just for learning at a point in time but over a continuum--has given traditional eLearning bad press. The call then is for a change in focus, using tools that are out there, to go a step beyond traditional eLearning.

- To believe a one-time intervention can deal with performance problems or enhance performance is in itself a flawed logic, particularly given

the shifting benchmark of acceptable performance standards. Thus, a course design may have to be about a holistic and blended approach that includes performance support tools; a much broader spectrum than a pure learning-oriented philosophy.

- Today's learner views learning through different lenses. The primary motivation is linked to aspirations, like a better degree, a job, or career growth. As the opportunity cost of an eLearning program is high, today's learners (and not just the organizations they work for or have signed up for courses with) want a clear connect between the course and performance.

So where do we go from here? How do we advantageously use the best of what we started with, and use the power of technology to improve performance? What models are out there to support this change in focus—from learning to performance? We take a closer look in the next section.

Section III: The Super Models

When work is changing from process-driven and defined tasks to one where predictable workflows are automated, and the worker is left to deal with shifting and complex challenges with no cookie-cutter solutions, learning designers must take a hard look at what they should offer to remain relevant. Just formal learning can no longer enable a worker to perform. Best practices are giving way to complex and emergent practices. And, performance can only be facilitated through collaboration, knowledge sharing, and collective sense-making. Enter the age of **Wisdom of the Crowds** and **Wirearchy**.

Dave Snowden's Cynefin Framework captures this shift succinctly (http://cognitive-edge.com/library/more/video/introduction-to-the-cynefin-framework/).

Other forces are also at play in shaping the workplace—ubiquitous connectivity, mobile technology and affordances, globalization and global workforce, outsourcing and automation, rise of the remote worker versus the 9 to 5 office goer, work fragmentation and specialization, and the economy of individuals.

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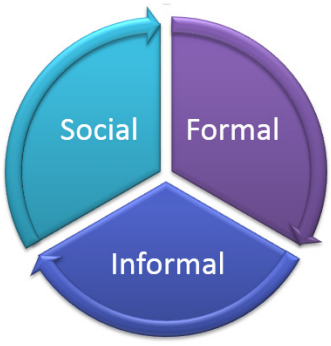
For eLearning, these shifts require a move from designing fixed learning events to developing learning ecosystems. L&D departments and eLearning creators have to now don the mantle of workscape (Jay Cross) designers. To facilitate a learning ecosystem, eLearning has to cater to a spectrum of learning needs—from formal to informal, from push to pull, and from individual to social and collaborative. eLearning designers have to advantageously use the emerging trends and draw inspiration from some of the key models of this age.

Pervasive Learning

In his book, **Flat Army: Creating a Connected and Engaged Organization**, Dan Pontefract defines pervasive learning as: "Learning at the speed of need through **formal**, **informal**, and **social learning** modalities." This model merges learning with work and gives equal weight to all the three components. Ubiquitous technology enhances the modalities of this model by enabling anytime-anywhere access to information, to communities, and to experts, thus making learning both locational and time agnostic.

This model highlights three components to support learning and performance:



Formal learning. The onus of delivering formal learning in organizations typically rests with the L&D department and is equated with structured, top-down push learning through courses, modules, online classes, classroom trainings, compliance trainings, and so on designed in response to business needs and skill gaps—perceived or real—existing in employees. These are delivered either as eLearning or instructor-led training (ILT).

Informal learning. This has its roots in research dating back to the late 1990s by educationalists like Bentley (1998) who called it 'learning beyond the classroom', Marsick and Watkins (1990) and Dale and Bell (1999) who described it as 'informal and incidental learning in the workplace', and

McGiveney (1999) who called it 'informal learning in the community'. It is characterized by learning that:

- Takes place outside of the establishment or conventional structure
- Is not driven by a curriculum
- Can originate accidentally in response to a need
- Is related to problem-solving, being just-in-time as opposed to just-in-case
- Reflects an individual's natural learning styles and needs

Informal learning in workplace performance and eLearning picked up momentum with Jay Cross' book **Informal Learning: Rediscovering the Natural Pathways That Inspire Innovation and Performance**. Jay Cross defined it thus:

"Informal learning is the unofficial, unscheduled, impromptu way people learn to do their jobs. Formal learning is like riding a bus: the driver decides where the bus is going; the passengers are along for the ride. Informal learning is like riding a bike: the rider chooses the destination, the speed, and the route."

Today, with the changing context of work, informal and social learning are taking over formal learning—both in ease of access and in currency of information. In the workplace, informal learning can be both individual-driven and social, ranging from coaching to job shadowing and job rotation, forum discussions to reading books, listening to podcasts and watching videos, and so on.

Social learning. Banduras (1977) described social learning thus: "Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling ...." The modeling and observation has taken on a whole new meaning in this era of uber connectivity where proximity is no longer required for people to learn from another. It lies in one's ability to connect, network, and create personal learning environments (PLEs) for personal knowledge management—both concepts socialized by Harold Jarche—as a part of workplace learning and professional development.

Social learning is characterized by connected workers, availability of social networking platforms, access to expertise, ability to access, create, and share content freely, facility to network with globally spread individuals, technology and mobile devices, and the economy of individuals.

To remain competitive and relevant, organizations need to weave together all the three components in their workplace learning and performance strategy. Clearly, the approach is a lot broader than developing just eLearning. It's about designing the entire ecosystem, using all of the available resources to support formal, informal, and social learning. And eLearning module would be a piece which could play a role in each of the components—as a course in formal learning, as a performance support tool in informal learning, and as a basis for discussion in social learning.

Forward-looking organizations are investing in enterprise collaboration platforms that enable content creation and sharing, discussions, blogging, micro-blogging, and so on.

Pervasive Learning and 70:20:10 are aligned on the philosophy that performance requires solutions that go beyond one-off interventions. Both create the requirement for interventions that use social collaboration, create experiences, include effective feedback mechanisms, and move away from a push to a pull strategy—a strategy that's best suited for the adult learner. A learner whose approach is summarized by Winston Churchill's statement: "I always like to learn, but I don't always like to be taught."

2. 70-20-10

The 70:20:10 model has its roots in the work of Morgan McCall and his colleagues at the Center for Creative Leadership in North Carolina. The team looked at high-performing managers over a period and observed that they acquired knowledge and skills roughly in the following ratio:

- 70% from tough jobs
- 20% from people, particularly their supervisors
- 10% from formal courses and reading

Michael M. Lombardo and Robert W. Eichinger, McCall's colleagues, published some of their findings in the book **The Career Architect Development Planner** (1996). In the book they said: "Development generally begins with a realization of current or future need and the motivation to do something about it. This might come from feedback, a mistake, watching other people's reactions, failing or not being up to a task—in other words, from experience. The odds are that development will be about 70% from on-the-job experiences, working on tasks and problems; about 20% from feedback and working around good and bad examples of the need; and 10% from courses and reading."

In 2002, Charles Jennings—an innovator and a part of the Internet Time Alliance Group—further developed this model as a strategic reference tool at Reuters. Denoted as a reference model, this highlights how learning typically occurs in organizations: Learning in the workplace mostly takes place through experiential and social modalities—the 70 and the 20, rather than through formal training, which makes up the remaining 10. This model has become popular because it's based on the basic tenets of how adults learn, though the percentages may vary across workplaces and individuals.

This, like pervasive learning, takes a holistic approach to employee development and goes a step beyond by quantifying the contribution of each type of intervention. It creates a framework for providing the right interventions for the right kind of learning and helps in identifying performance drivers with more accuracy than traditional learning models. But where does eLearning figure in all of this?

The 70 is primarily learning on-the-job, and can be augmented with well-designed performance support tools. What about the 20–learning from others? This is an area which comprehensive learning design can affect with the help of modern technologies like Web 2.0 and enterprise collaborative platforms. Formal eLearning can also affect the 10, thereby becoming a piece in the larger learning ecosystem.

By extending the ecosystem to include formal, informal, and social, they create ample room for inclusion of different knowledge resources and artifacts to deal with performance needs. Almost a near-perfect solution for today's learner, calling for empowerment and a range of alternative learning formats!

Enter, evidence-based learning and adaptive learning systems.

Evidence-based Learning and Adaptive Learning Systems

Evidence-based Learning uses instructional strategies that are effective. An approach popular since the 1990s, it uses tried and tested methods—those that have been applied in controlled environments and have evidence to prove their efficacy.

Industry veterans like Ruth Clark have been supporters of Evidence-based Learning. The theory requires learning designers to change with the times—as research throws up new evidence supporting emerging trends, strategies can get a makeover. As technology progresses, we go from classroom to virtual, from eLearning to experiential, mobile to collaborative

… the possibilities are endless. Within each modality, we can have case studies, advance organizers, cooperative learning, activation of prior knowledge, hypothesis testing, formative assessments … the list goes on.

In 2007, Will Thalheimer looked beyond research-based prescriptions to evidence on the effectiveness of interventions. This interpretation of Evidence-based Learning is about gathering and analyzing data to find evidence of how well learning interventions are working. And then, designing the following learning events based on this evidence. Unlike traditional course design, Evidence-based Learning thus calls for a feedback loop—a continuous improvement process that gives designers feedback and allows them to create an appropriate learning path. With the focus shifting from learning to performance, we may need to consider the tenets of Evidence-based Learning in course design. A well-designed curriculum can have a feedback mechanism that works on getting this evidence and recommending a learning path based on the feedback.

An adaptive learning system (ALS) can assign content based on the learner's preferences and pre-defined needs.

An adaptive learning system (ALS) can assign content based on the learner's preferences and pre-defined needs. ALS is getting increasingly popular because it allows to learners choose their learning path, based on preferences and needs. One of the paths to move from learning to performance may well be by integrating the principles of Evidence-based Learning with its ALS counterpart. By definition, ALS uses learning models that enhance cognition because evidence points to their efficacy.

ALS is also about interactivity and feedback—to help the learner understand where he is on the learning continuum and take a suitable path thereafter. Evidence-based Learning principles can be applied after analyzing the effectiveness of interventions for groups of learners. Based on the evidence or data, learners can be assigned a curriculum or the required learning resources.

Like Pervasive Learning and 70:20:10, these strategies score on flexibility and the sense of empowerment they give to learners. Learning is driven by learner motivation, desire to achieve performance outcomes, and even the peer network—trends popular among today's learners.

Adaptive Learning needs an ecosystem of content available in different formats. Depending on their preferences and performance goals, learners should be able to select the content formats that are suitable. Viewed through different lenses, these content formats could well be assigned, based on evidence of what works and what doesn't for different categories of learners. This integration of approaches would support performance by:

- Personalizing the learning environment and increasing the chances of learning and knowledge transfer.

- Motivating the learner to achieve performance goals through effective interventions.

ALS can provide the technological framework for implementing this instructional strategy. While the industry does have a few companies specializing in ALS, the acceptance of this solution has been low because of the time, money, and effort that are associated with its design and development. While taking a decision on an adaptive system, it's best to do a due diligence by seeking answers to the following questions:

- What are my objectives for investing in a new system?

- Can I advantageously use existing knowledge assets to provide a vast repository of content to the learner?

- How important are learning styles for my audience?

- Where can I source additional content modules from?

- How do I want my learning system to evolve in the years to come?

- What is my budget and preferred timeline for creating a robust system?

The business case for investing in an ALS to personalize learning experiences will be the strongest if it is possible to advantageously use existing assets and minimize the initial cost. The case should also circle back to the possibility of empowerment and motivation. And like the proverbial pot of gold at the end of the rainbow, there are dollar benefits from investing in a system that allows personalization of learning and performance improvement. These outcomes are likely to have a positive effect on business results (see the section on Learning Evaluation for the methodology).

Variations of a pure ALS, though, are gaining in popularity. While many may not have all the features of adaptive learning, they score by creating a truely personal environment for learning. They offer a framework for applying some of the ID models we discussed earlier—Pervasive Learning, 70:20:10, Evidence-based Learning, and even some aspects of the Adaptive Learning methodology. In the following section, we take a closer look at one such example.

Case study: Alcatel-Lucent My PLE

A Marriage of Philosophies

Business Driver

Developed by Alcatel Lucent and MPS Interactive, My Personal Learning Environment (PLE) is an exciting, integrated learning platform. It was designed to address the following challenges faced by Alcatel Lucent:
o Frustrations with learning platforms that required more training than enabling more learning.

o Problems with the intrinsically elitist nature of corporate training where companies can only afford to offer development to the already well-developed.

o Frustrations about the enormous cost and ecological footprint of learning with all its flying and time away from home.

o Problems with the one-size-fits-all nature of training and its inability to go beyond mere compliance—to allow learners to build new areas of excellence and improve performance levels.

Core Philosophy

At its very core, My PLE is an ecosystem in which learners can explore the world of formal, informal, and social learning. It has its roots in the philosophy we've been discussing so far—that learning today doesn't have to be restricted to one-off interventions, formal trainings or even the network of a single organization. My PLE deals with the formal-informal

learning conundrum making it possible for learners to access and get credit for learning that could exist anywhere—inside the organization's learning management system (LMS) or outside of it (think Wikipedia, YouTube, resources on other Clouds, and so on). As far as learning resources go, the sky is indeed the limit! Learning is all-pervasive, although defined by a structure in which the knowledge can be accounted for and recognized.

The instructional design is a marriage of the emerging trends which (**borrowing from Dan Pontefract's definition of Pervasive Learning**) allows "Learning at the speed of need through **formal**, **informal**, and **social** learning modalities". It's a gateway for today's learner to enter the ecosystem, collaborate with peers from communities of practice, learn through interactions, and follow their path of choice towards a desired performance goal. It puts into practice the mantra "**work is learning and learning is the work**" that Harold Jarche, one of the thought leaders of the **Internet Time Alliance** Group, has been espousing.

And there's more.

My PLE provides a framework for the application of the 70:20:10 principles. Interventions like on-the-job learning assignments, special projects, and so on can be given and evaluated, providing a more structured way of dealing with the 70% learning. The 20 and the 10 can be easily dealt with through some of the design elements we discussed earlier.

Features and Benefits

Remaining true to the spirit of Adaptive Learning, My PLE puts the learner in control. They decide how they want to learn and on a device of their choice. The experience is dynamic and customizable and the expertise has to be proven to a living and evolving community of peers. The application is Cloud-based and scalable, with the potential to draw learning resources from a universe of content.

My PLE is a high-impact application that enables learners to create a program specifically geared to their job role, professional development needs, and career plans. Content can be provided in a variety of formats like traditional eLearning, micro learning nuggets, virtual classrooms, videos, mobile learning, and so on.

Learners know what's in it for them and choose content that's relevant. The

application has a search function on the learner's dashboard that allows them to access learning objects. The search function gleans objects of relevance from all repositories linked to My PLE, and not just from an organization's LMS. Learners can choose as well as be recommended 'individual' learning objects or 'aggregates' composed of multiple learning objects

The application helps learners connect with other people. Personal learning is achieved when 'learning' and 'collaboration' are one experience. Learners can choose to be a part of several communities based on their learning requirements. As part of the community, the learner improves her own knowledge and contributes to the community as well, thus enabling 'social learning'.

Learners are challenged to make choices. They define their learning tracks and learning areas and have the flexibility to evaluate their competency. Based on the competency diagnosis, learners will be directed to invest their time only in certain areas of the course.

What started off as a solution for corporate learning, My PLE is now being rolled out across student communities. It allows students to be immersed and become part of communities. Through communities, and with the addition of social components, students can become experts and ultimately become teachers themselves, helping drive communities forward and advancing the common knowledge.

Flipped Learning

Flipped learning is a more recent technology-based educational concept. It came from the US and was defined by Jon Bergman and Aaron Sams around 2007—essentially in response to the increasing number of disengaged students in their classes—students who hadn't known life without the Internet, and didn't see technology as something separate from their lives, or from learning. This concept has popularly come be known as the 'flipped classroom'.

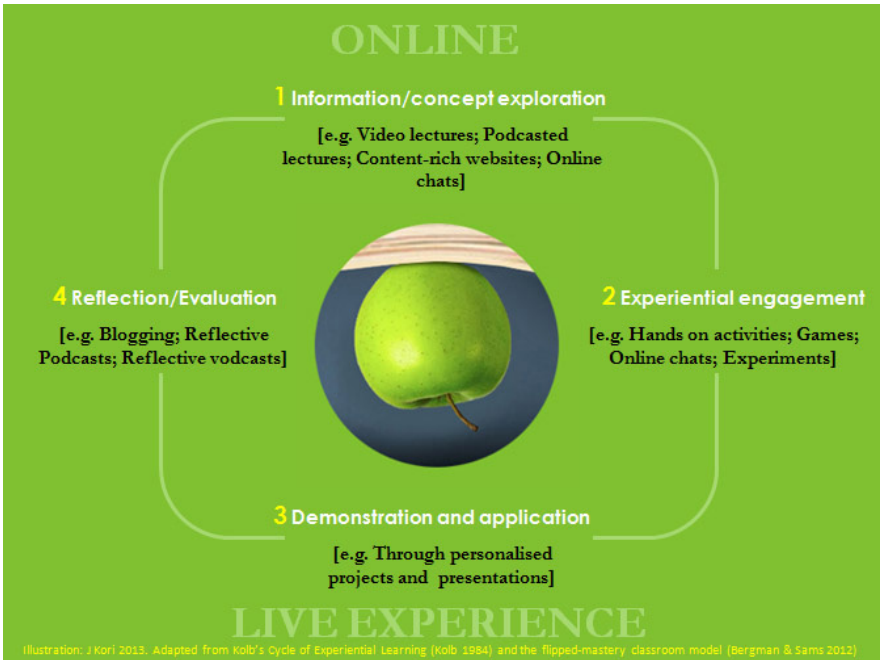
The flipped classroom inverts traditional teaching methods so that the core information is delivered online, before the class (at home) and the 'homework' moves into the classroom. So what we've got is a form of blended learning which encompasses the use of technology to move direct teaching and instruction from the group teaching space (the classroom) into the self-paced, individual learning environment. This enables students to grasp the content at their own time and pace, releasing classroom time to concentrate on application of understanding through discussions, debates and other activities that take care of the group dynamics available in a face-to-face to format.

The educator's role also changes from being the 'Sage on the Stage' to the 'Guide on the Side''. From being a performer and the central repository of information in the classroom, they become a mentor and guide.

As these models and trends take over the corporate world, organizations are strategizing and debating ways and means of incorporating these models into their training programs. Today, eLearning—or technology-enabled learning—is at a very interesting juncture where it has a much larger role to play than it did a few years back. And, driving the dynamics of the industry are these emerging models and trends which seek to respond to the fast evolving social, economic, cultural, and technological change.

The Flipped Learning Model

We've been using the Flipped Learning Model for a range of Tata clients this year. Our experience of clients is that they are increasingly facing a bewildering and seductive array of digital-learning 'goodies'. Clients recognize how simulations and games are exciting and fun to engage with; how convenient apps can be; the importance and increasing use of virtual social communications; and how effective great classroom training can be with its human contact.



Notice the word 'seductive' because the client's focus is often captivated by the learning **tools**, rather than a memorable learning **experience**.

The Flipped Learning Model (illustrated above by J Kori, 2013) is adapted from the schools environment, ready to be applied to training and blended learning solutions in organizations. It takes Bergman and Sam's flipped classroom concept and re-emphasizes its links to Kolb's Experiential Learning Cycle, and includes a range of learning tools beyond online video for self-paced learning. Before looking at a case study, let's briefly take a closer look at the four stages of this model.

The first part of the model is **information and concept exploration**. Its equivalent pedagogic level is **Level 1/2** - where the learner receives and reflects back core information that has been delivered to them. This stage establishes self-paced learning, delivered online. The learner gathers information and explores concepts through a variety of formats such as YouTube, podcasts, content-rich websites, and nuggets of e-learning. Online chats are included as well, because keeping an element of shared communication throughout all four stages is important – getting in the possibility of peer-to-peer learning helps you in your job as an educator (or learning designer), and is a great motivator within the self-paced learning environment.

The second part of the model is **Experiential engagement**. Its equivalent pedagogic level is **Level 3/4** - where learners embed and apply core knowledge. This can take place within a monitored live or virtual classroom, and through assessed exploratory interactive activities such as scenario-

based simulations. So learners engage with their learning by experiencing hands on activities, games, experiments and creative tasks – both individually and collaboratively.

The third part of the model is **Demonstration and application**. Its equivalent pedagogic level is **Level 5/6** - where learners personalize their application of knowledge. Asking people to present their knowledge to their peers, or to problem-solve more complex situations and dilemmas close to their own working situation, is effective here. Learners need to be asked to demonstrate & apply their understanding of the learning through creative personalized projects and presentations which can be shared with others.

The fourth part of the model is **Reflection and evaluation**. Its equivalent pedagogic level is **Level 7** - where the learner is involved in debate and thought processes beyond the established system of knowledge, and where you have the potential for the learner to show evidence of thought leadership. Learners reflect on their learning by blogging, reflective podcasts, reflective vodcasts and through tasks that encourage self-evaluation.

There is a cyclical, ongoing nature to this model – we can use all four stages of model to achieve a single level if we want, and then go round it again to achieve the next level. We usually advise clients to incorporate the reflective part of the model all the way through. For example, clients could get people to use a learning journal right from the very start – this could take the physical form of a notebook and pen - or the digital form of something like Microsoft OneNote or a blogging platform. In short, this becomes a learner's outbound brain enabling them to assimilate and synthesize their learning and apply in context. The shared communication with peers as well as the mentor can also take more than one other form than a VLE – we can have successful monitored Facebook groups as well as live group classroom events. We have used the Flipped Learning Model to help clients plan all-digital solutions as well as blended learning solutions for the classroom and or live events.

Case Study: Applying the Flipped Learning Model

A Good Blend

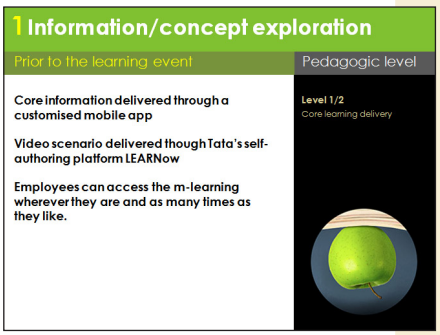
We're now going to look at how the Flipped Learning Model has been applied to one of the larger and more complex blended learning solutions at Tata. The following is what we were presented with.

A client had in place a 12-month accelerated leadership learning program. The target audience was up and coming leaders from management and senior management. One of the key elements was Breakthrough Performance Coaching.

There was a 4-day learning event (classroom based) in October for about 260 attendees. A substantial part of what was currently being delivered during the key learning event was core information. It had been noted that in past programs that attendees had been frustrated that they have not had a chance to actively contribute during the learning event.

Throughout the year, there were also individual coaching sessions; feedback was provided throughout the year; as well as follow up learning after the learning event. Communication was usually through email, PowerPoint and pdfs. This was a busy, time-poor audience who needed relevant learning on the go, and ultimately they need to reach a level 7 (that is, evidence of thought leadership).

The following is the flipped learning solution we came up with at Tata. We'll go through the 4 stages broken down across the 12 month time span. To help manage expectations in terms of evaluation, there is a comparative definition of levels alongside each stage of the solution on the right hand side.

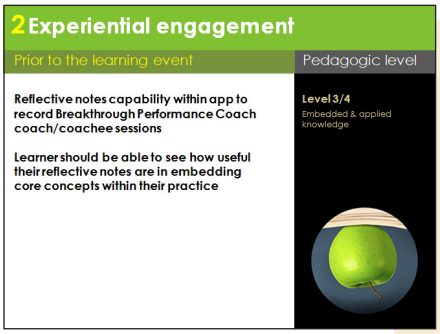


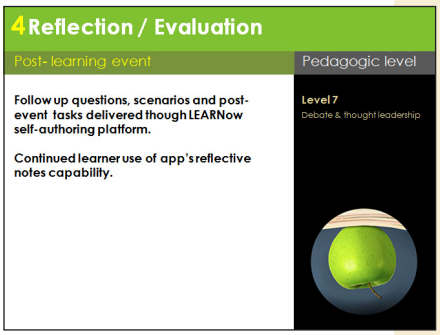
The first stage of the solution was **Information and Concept exploration**.

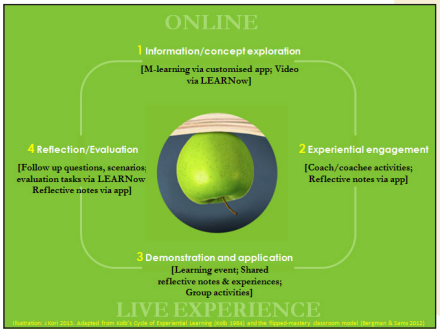
Prior to the 4-day learning event, core information and thought-provoking questions about Breakthrough Performance Coaching were delivered through a customized mobile app.

Video scenarios about the leadership program were delivered though LEARNow, Tata's self-authoring platform which works on both company and personal devices.

Employees were able to access the m-learning wherever they were and as many times as they like.







The second stage of the solution was **Experiential engagement**.

This was also encountered prior to the 4-day learning event.

We created a reflective notes capability within the app for learners to use before and after Breakthrough Performance Coaching sessions (the learners were both coach and coachee).

This meant that learners could fill in notes about their sessions using the app's guided questions and prompts (or without them as they got more confident). They were encouraged to do this as part of their preparation for the learning event.

The reflective notes were there to help learners embed the core concepts (knowledge) within their practice.

The third stage of the solution was **Demonstration and application**.

This was a form of extended learning.

The 4-day learning event was designed around participants sharing experiences, their reflective notes and taking part in applied learning activities.

Because most of the core information delivery had already taken place before the event, the emphasis was less on just 'getting it right' and more on a sharing a mature learning experience.

The fourth stage of the solution was **Reflection and evaluation**.

This post-event learning allowed learners to progress beyond the training through reflection.

We had follow-up questions, scenarios and post-event evaluation tasks being delivered though the LEARNow self-authoring platform.

The learners are continuing to use the app's reflective notes capability.

Learning is ongoing, but it's viewed as a useful, contributory part of the job instead of separate from it.

So on the left here is the summarized solution within all 4 stages of the Flipped Learning Model diagram.

The idea was to create an experience that was meaningful to each individual, and that was social and contributory – a place for the learner to transform themselves and others along the way.

Section V: Evaluation

We have now covered some of the buzzwords in learning design. But how do we actually determine whether learning programs designed using these models (or any other for that matter) are yielding the results they were aiming for? And that brings us to the subject of learning effectiveness evaluation, which still remains an ideal in most cases, and seldom translates to real life implementation.

> In a survey for Top Challenges facing L&D, 'Improve ability to evaluate impact' is at number one, with 37% respondents choosing that option as top challenge.
>
> [Source: Bersin & Associates 2012 survey of High-Impact LearningOrganization (HILO)]

However, the fact remains that today more than ever before, training departments have to fight for their training dollars. Almost every CLO loses sleep over uncomfortable questions on what value training adds to the business.

Measuring Learning Effectiveness is considered difficult, time consuming, and difficult to implement. At best, most organizations would conduct assessments and create a pass-fail report. How, in these times of cost cutting, does a CLO show the business that training is an important contributor to performance improvement?

There is work being done around the globe by the Kirkpatricks and independent learning designers, using an updated Kirkpatrick Model, elements of the Jack Philips model, and a host of other methods to evaluate training effectiveness.

The updated Kirkpatrick model talks of many new aspects, including Relevance and Engagement (Level 1), a shift from post assessment to Retrospective Evaluation, as well as evaluating commitment and confidence (Level 2), and Return on Expectations and looking at leading indicators to identify whether the behaviors promoted by training are well on their way to achieve business success (Level 2). For the new world Kirkpatrick model, visit: http://kirkpatrickpartners.com/OurPhilosophy/TheNewWorldKirkpatrickModel/tabid/303/Default.aspx

Besides looking for more effective ways of evaluating learning programs, the contemporary learning manager is also conscious about customer satisfaction as they gear up to run their learning department like a business on its own. Traditional evaluation approaches tend to over-survey the learners and sometimes, their managers too. To avoid such overload, the

preferred approach is to make the evaluation a part of the activities for the training program itself instead of being designed as independent surveys. There are practical and simple approaches like online polls, stories from collaborative portals, leaderboard for games, and so on, which can be used to derive effectiveness results. These are fairly easy to implement with minimum infrastructure requirements – what they need to succeed is serious managerial intent to provide meaningful training that improves performance. Here we will touch upon a few examples of learning effectiveness evaluation and share a sample evaluation plan.

A Kirkpatrick Example: Building a Chain of Evidence

A lot of frustration and cynicism around the Kirkpatrick model has been caused by the perceived difficulty in evaluating at the higher levels. While evaluating Level 1 (Reaction) and Level 2 (Learning) is fairly simple, Level 3 (Behavior) and Level 4 (Results) pose several challenges, chief of them being the ability to connect training performance with actual business results. As most learning professionals know, whether learning is transferred to the job and then to business results is not determined only by the quality of learning. There are organizational drivers that can also impact performance, positively and negatively and there could be external influencers which drive results.

While both of these are valid concerns, there is a way around proposed by Don Kirkpatrick. He talks about 'evidence' vs 'proof' of learning effectiveness. His recommendation is to build a chain of evidence from Level 1 to Level 4, which shows that right from learner satisfaction to business result, there has been similar impact, either positive or negative. **The hypothesis is: while results at any one level could be skewed by factors other than training, the entire chain cannot be influenced by such factors.** Here's an example from one of the Kirkpatrick articles on how to build a chain of evidence for a new order entry system implementation training.

New Order Entry System Implementation Initiative	
Level 1: Reaction	Overall course rating: 4.6 / 5.0
Level 2: Learning	Hands-on practice participation: 100% Post-test average score: 92%
Level 3: Behavior	Percentage of orders entered in new system: November: 48% December: 79% January: 99%
Level 4: Results	Cost savings that resulted from reductions in order entry hours: November: $83,250 December: $132,000 January: $149,000

Linking a Learning Program to Business Results – a case study

A leading telecom company based in Canada embarked on the journey of condensing high volume Customer Care onboarding programs when the overall training budget was reduced by 42%. The objective was to reduce cost and time to productivity. After rolling out the new initiative, the company looked at some business results that were positively impacted by training.

Before	Modality of learning 95% ILT
Goal	• Achieve a ratio of 60% ILT and 40% WBT: • Reduce Time to Productivity • Cost reduction through taking Trainer Ratio from 1/7 to 1/14 • Courses of 51 Days; need to reduce by 15-20%
Action Taken	• 400 hours of WBT in 6 months • Reduced time to readiness • Reduced in-class time • Increased online component
Results	• Cost Savings,: Year 1 – $1.4m • Productivity: +22%

Level	Measure	Requirement	Mechanism
4	Desired Result	Empower our organization to achieve its strategic objectives (we will need to know what these are)	• Before–After analysis on key business parameters (e.g. productivity, customer satisfaction) • Testimonials from key stakeholders including primary customers
3	Critical Behaviors to get Desired Results	Behaviors that the learner needs to demonstrate after going through training that would help the organization achieve its strategic objectives.	• Manager feedback on survey conducted 1-2 months after course rollout • Learner's Self Evaluation on Behavioral Change • Moments of Delight stories from portal
2	Knowledge, Skills & Attitudes that promote Critical Behaviors	• Learning Objectives mapping to critical behaviors and competencies	• Retrospective Evaluation (learner compares own knowledge on the topic before and after training) • Knowledge Checks, Pre & Post Assessments within online program
1	Learning environment that promotes learning (reaction)	• Engaging instructional methodology • Suitable support for learner to complete learning smoothly	• L1 Survey • Feedback stars on collaborative portal for key elements of course • Net promoter score

Section IV: MPS Interactive LeX Model

As the previous section demonstrated, there are many Learning Design Models in use, each with a strong rationale supporting it. However, practical application of such theories and learning models often show us that one size does not fit all—we need a **combination of theories and models to address real life learner and business needs**.

We need a framework that inculcates **the key principles of traditional learning theories** like Constructivism, Principles of Andragogy, Conditions of Learning, and Component Display Theory, models like ADDIE and Dick & Carey as well as the current theories discussed in the previous section. **MPS Interactive' learning design model LeX** combines elements from learning research over the ages, but first and foremost, it focuses on the learner.

MPS Interactive' LeX Design Model

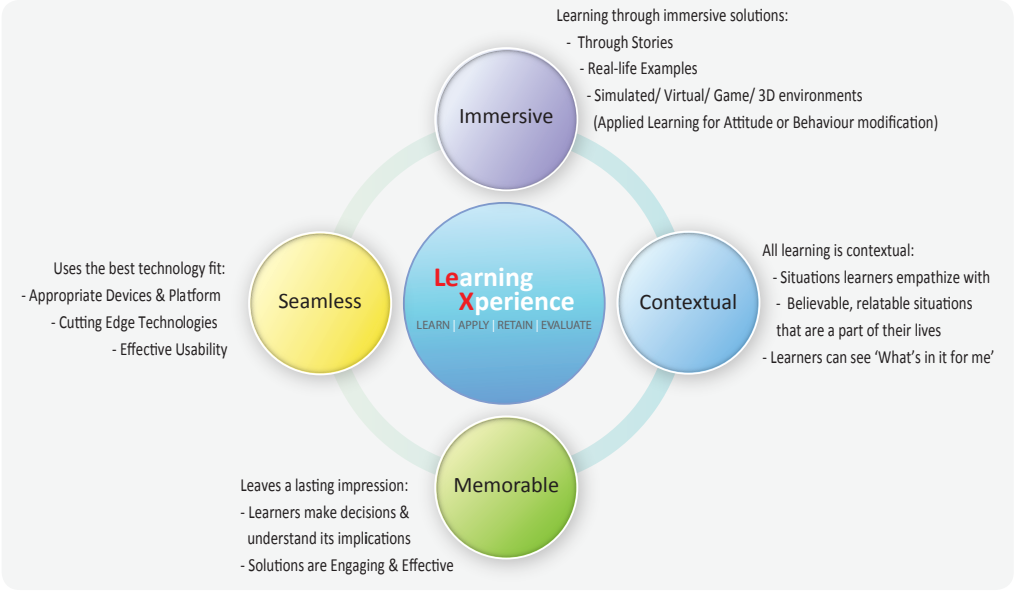
At MPS Interactive, we believe that **the learner, and not the learning, is the key point of focus**. Learning is a constructive process where the learner needs to be involved actively. As research has shown, learner engagement is a key factor in the effective transfer of learning – simply, **engaged learners learn more**.

Therefore, the **learning experience, which drives engagement, becomes critical to successful transfer and retention of learning**. Additionally, the learning needs to be applied and reinforced to ensure retention in spite of the natural process of forgetting over a period of time. Finally, it is important to evaluate how effective the learning has been, both for the learner to feel a sense of completion and for the organization to assess the benefits derived from learning.

Keeping these factors in mind, MPS Interactive has developed the LeX (Learning Experience) Design Model – **the model that puts the learner first!**

The foundation of the model comprises the four steps of **Learn, Apply, Reinforce, and Evaluate** – on which MPS Interactive builds its solutions. This foundation is augmented by four **design mantras** – the solution must be '**Immersive, Contextual, Seamless, and Memorable**'. Every learning solution has to have an optimum mix of these criteria.

The **four steps and the four design mantras** can be implemented at **different levels**, depending on the complexity of the content and the criticality of the learning program.



For instance, in a simple interactive Web Based Training (WBT), the application of learning may be the 'knowledge checks', reinforcement can be achieved through downloadable 'job aids' and evaluation is achieved through the 'assessments' at the end of the course.

For a more complex program, e.g. a Simulation, learning and applying happen through the core program, reinforcement can be enabled through a follow-up mobile nugget and evaluation can be done at 4 levels of the Kirkpatrick Model – Reaction, Learning, Behavior, and Results.

Learning programs designed using the LeX model provides the learners with a superior learning experience that helps them assimilate the content and apply it on the job. It also provides them with the necessary performance support to reinforce their learning and access the key learning points when and where they need them. The organization also benefits as

LeX – Key Benefits

LeX turns the focus on the learner and on how learning takes place in today's digitally enhanced world. In doing so, it inculcates many of the guiding principles of popular learning models, be it Flipped Learning, 70:20:10, Pervasive or Adpative. Here are some of the key benefits of this model that resonate with the learning models discussed in this paper:

• LeX supports **sustained learning**, focusing on application, engagement, and understanding the way in which learners learn in real life. It includes elements of **formal, informal, and social learning**, which are great ways to ensure application and reinforcement. The 'reinforce' stage of LeX promotes on-the-job learning as well as reinforcement through formal training, coaching, and mentoring. Peer reviews, assignments, virtual classrooms, and mobile learning are elements within the LeX approach which ensure application and reinforcement. LeX makes **learning a part of work** and not a separate activity.

• LeX is **flexible** and can be applied to **a single learning program** where knowledge checks and job aids provide application and reinforcement and post assessment provides Level 2 (Kirkpatrick) evaluation metrics. It can also be applied to **a combination of learning interventions** including web-based training (formal), collaborative learning (informal & social), on-the-job assignments (learning by doing) and coaching and mentoring. Evaluation for such programs can be done at the highest level, using the WBT (Kirkpatrick Levels 1 & 2), collaborative portal (Levels 1-3), manager feedback (Level 3), and business results (Level 4).

• The design mantras of LeX – **Immersive, Contextual, Seamless, and Memorable** – enable learner engagement and create the 'pull' factor that is an essential characteristic of modern learning environments.

All in all, the LeX model inculcates the essence of most modern learning models and is flexible enough to address different kinds of learning and performance enhancement requirements.

it can implement better learning and also evaluate learning effectiveness.

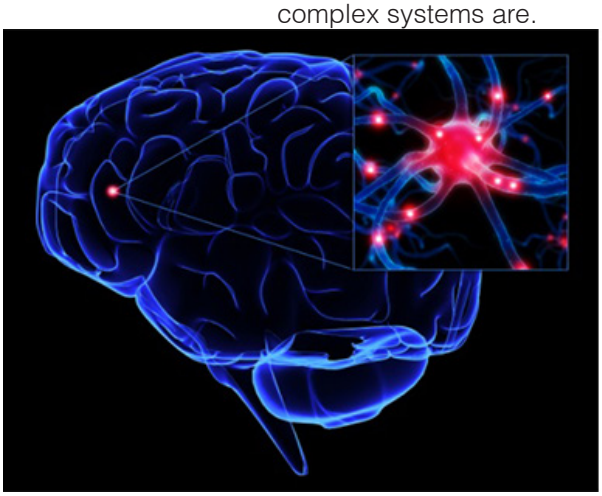
Section VI: The Road Ahead

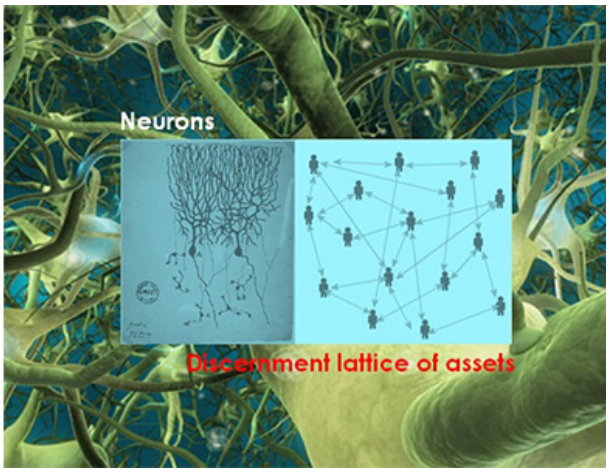
How do we see the future of learning evolving?

There are trends being talked about for 2014 as a result of Elliot Maisie's Learning 2013 conference, such as compression of learning content, short videos and neuroscience. There are also concepts that have been gained momentum, such as the flipped classroom mentioned earlier in this paper.

What we are already encountering with our clients is a desire for change in the way that we learn that goes further than flipping the classroom, beyond a linear course structure and into the unfamiliar and seemingly disorganized world of MOOCs. We counted up to 10 different kinds of MOOCs (and probably more) being talked about in London's January 2014 Learning Technologies Conference.

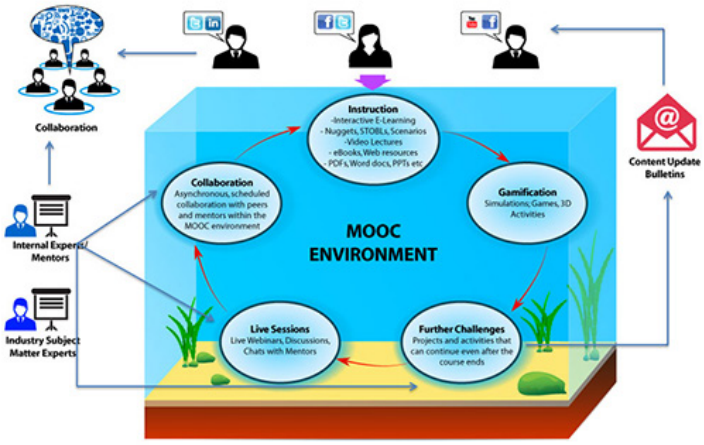
We have clients who are ready to plunge themselves into connectivist learning and MOOC design within their own company learning environments. Some of these not-so-open cMOOCs are structured in the same way that neurons and their connections are in the human brain – which look disorganized but are in fact highly organized in the way all complex systems are.





Look out this year for the **Neural Network Model** (illustrated by J Kori, 2014, bottom left) which enables clients to plan MOOC-style learning environments for subjects that involve strategic thinking and planning, and which ask for evidence of those elusive 'aha' moments. And look for our **Fishtank Model for Corporate MOOCs** (below right), illustrated and introduced by Preeti Jasnani at London's January 2014 Learning Technologies Exhibition.

IDs with educational training and background will be of increasing importance when designing MOOC-style environments, as their knowledge of pedagogical levels will be important for effective planning of learning outcomes.



We find that clients are increasingly valuing the carefully crafted classroom experience as much as the digital one. There is far less talk of e-learning replacing the trainer, and much more consultation about how to integrate the skills and knowledge held by the best of their classroom trainers into active contributions within a blended, connectivist learning experience. For example, as virtual trainers within webinar-based 'live' events; as mentors, commentators, peers, presenters and bloggers in learning and discussion forums. The need is to enable the classroom trainers to become facilitators in an increasingly merging online and offline environment.

The role of the learners is also undergoing a change. The learner is becoming an active participant, expected to construct knowledge and make sense of their learning as they progress through their individual paths (guided or not), choosing what they want to learn and from whom or where.

Mention of neuroscience can be dismissed by clients as 'neuroblagging' or worse, a result of pseudo-neuroscience statements and others' shallow use of it to make inaccurate or irrelevant correlations. However, what we have noted is the recent inclusion of gaming as a factor for improved memory and retention within a key study for a 'proper' seminar on Cognition for Scientists late last year. We have known since Reece and Walker's 2007 study that gaming was amongst learners' top ten preferred learning strategies; and since 2001 that Marc Prensky's "digital natives" responded well to digital game-based learning. We are used to clients asking us to design games, simulations and immersive learning environments, but most recently we have been receiving enquiries about creating learning environments which

echo the gamification and multiple pathways of Alternate Reality Games (ARGs) – that is, interactive networked narratives that use the real (or simulated) world as a platform and use transmedia storytelling to deliver a story that may be altered by players' ideas or actions.

In effect, the road ahead is not just a didactic one for learners - they will be asked to follow their own pathway through a range of exploratory, collaborative and constructive challenges, much in the same way as we have all learned to weave our own ways through 20 years of www and the Internet.

Section VII: Conclusion

It is evident that the world of learning and performance—workplace, higher education, and individual—is undergoing a fundamental shift. Driven by forces that have been reshaping the world since personal computing became affordable and ubiquitous, trends like mobile, uber connectivity, big data and analytics, social media platforms, and the rise of the consumer (learners being one such) have added to the complexity and choices. The near breakdown of hierarchy that fashioned workplaces of yore is another dynamic force adding to the big shift, the magnitude and depth of which are only now becoming apparent.

In 2009, John Hagel and John Seely Brown defined this shift succinctly as "moving from a world of push to a world of pull" as a part of the Deloitte Center for the Edge study. Learning designers must be cognizant of these changing paradigms to remain relevant and be a partner to business. Dan Pink aptly described the three key factors that intrinsically motivate today's workers in his best-selling book, Drive: The Surprising Truth about What Motivates Us as **autonomy, mastery** and **purpose**.

Today's workers not only look for these in the workplace but also in their learning experiences. And the onus of designing learner-centric experiences that incorporate all three, i.e., provide learners with a clear purpose and gives them the **autonomy** to learn the way they desire in a way that leads them to achieve mastery in their work, will be what winning learning strategy is all about.

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