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21st Century Corporate Learning & Development

Trends and Best Practices

PROF. DR. NICK H.M. VAN DAM

21ST CENTURY CORPORATE LEARNING & DEVELOPMENT

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ABOUT THE AUTHOR

PROF. DR. NICK VAN DAM is full professor CORPORATE LEARNING & LEADERSHIP DEVELOPMENT.

Nick has a passion for people development and is excited about helping individuals to reach their full potential. He strongly believes that lifelong learners are more successful professionally and lead happier, more fulfilling lives. Nick is keenly interested in the emerging insights from the fields of positive development including: Psychology, Sociology, Cognitive Neuroscience, Andragogy and Philosophy. These all have enormous potential to transform people development and to lead to the creation of healthy, humanly sustainable organizations. Nick studied Economics, Business Economics and Pedagogy (Vrije Leergangen – Vrije Universiteit van Amsterdam), Organizational Sociology (Universiteit van Amsterdam) and earned his Doctorate of Philosophy (Ph.D., Human Capital Development).

He started his career in 1986 as a training consultant at (Siemens-) Nixdorf. In 1995, he joined Deloitte Consulting in the USA and served for 19 years in international Consulting/ Learning & Development/Human Resources executive roles. Currently he is a partner, Global Chief Learning Officer and Client Advisor at McKinsey & Company. Nick is a visiting professor and advisory board member at the University of Pennsylvania's, PennCLO Executive Doctorate Program. In 2016, he joined the Corporate Advisory Board of edX which is a non-profit organization founded by Harvard and MIT, with a mission to bridge the gap between education and employment.

Nick has (co)authored 17 books and is an internationally known thought leader in Human Capital Development. His latest book: YOU! The Positive Force in Change. Nick has written many articles and has been quoted by *The Financial Times, The Wall Street Journal, Fortune Magazine, Business Week, Harvard Business Review, The India Times, Information Week, Management Consulting, CLO Magazine, and T+D Magazine.* Under the patrons of the European Parliament Federal Ministry of Education & Research, he received 'The 2013 Leonardo European Corporate Learning Award' for *shaping the future of organizational learning and leadership development.*

He is the Founder and Chairman of e-Learning for Kids (www.e-learningforkids.org), a global non-profit foundation that offers free, digital lessons for underserved elementary school aged children worldwide.

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1 INTRODUCTION

Organizations around the world are experiencing sweeping, rapid changes in what they do, how they do it, and even why they do it. Mastering current and future realities requires deep learning capabilities. The people who will thrive and flourish in the 21st century are those who embrace new learning and are motivated to acquire new skills and competencies. But, as much as it is the responsibility of the individual, organizations have a crucial role to play in upskilling their people and nurturing new leaders. It may not be a simple task but people development is critical for organizations in order to stay at the cutting edge of their industry.

A call to action for companies to embrace *'Lifelong Learning Strategies'*.

I have identified two different strategic initiatives to support this:

A. Enhance the strategic role of L&D
B. Implement 21st century L&D practices

2 ENHANCE THE STRATEGIC ROLE OF L&D

The role of L&D has become more important in many organizations as shareholders look increasingly at the role of intangible assets when they establish the value of knowledge-based organizations. For example, according to Forrester Research more than 85% of the market value of a typical Standard & Poor (S&P) 500 company today is the result of intangible assets. The bulk of these intangible assets are their people – the human capital. Investments in L&D will pay off. For example, the value of investing in leadership capabilities has been questioned. However, research indicates that organizations earn a substantial premium for great leadership – those performing in the top quartile on leadership outperform others by nearly 2 times on EBITDA. (Abbreviation for a company's **e**arnings **b**efore **i**nterest, **t**axes, **d**epreciation, and **a**mortization). Organizations that invest in developing leaders during significant transformations are 2.4 times more likely to hit their performance targets.

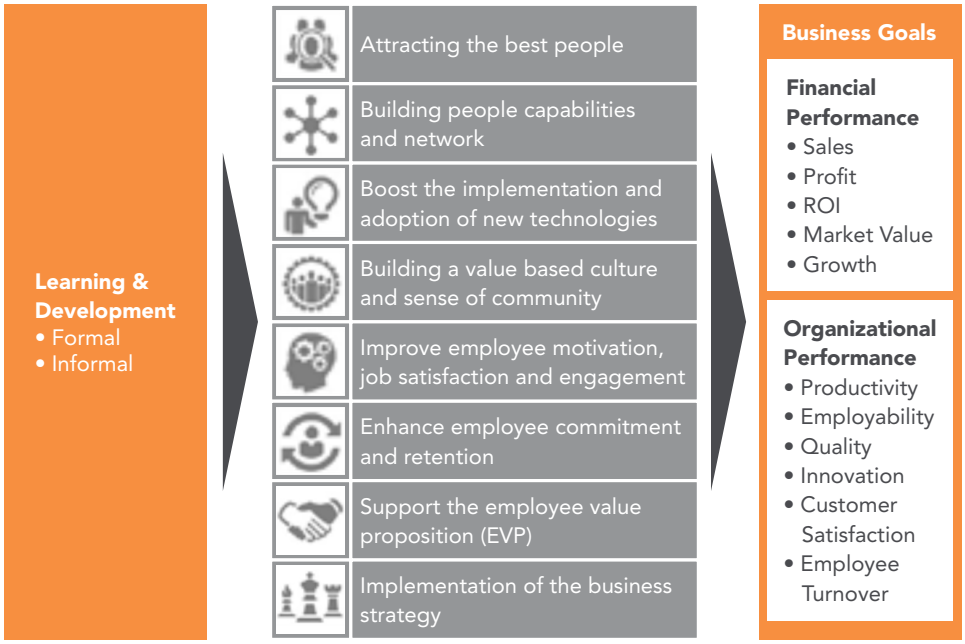

FIGURE 1: THE STRATEGIC ROLE OF LEARNING & DEVELOPMENT
Source: van Dam, 2008.

Companies are making investments in L&D for a variety of reasons. First, people chose organizations who will help them to continue grow and develop because market valuable competencies have become the new *currency*. As there is a shortage of talent in different competency domains L&D contributes to the attraction and retention of people. It also supports the so called employee value proposition (EVP) which helps the enterprise to become an employer of choice.

Second, the emergence of digital technologies, innovation, the brief shelf life of knowledge, new business models, globalization, an aging workforce, new legislation, and a changing workforce, to name a few, are having a tremendous impact on the need to develop people capabilities at the speed of business. Human capital is a critical production factor that requires ongoing investments in L&D in order to retain its value. The value of human capital can be determined based on the formula:

The value of human capital: ∑ education + accumulated work experience.

The value of human capital increases after completion of formal education and when people start accumulating work experience. The value declines because knowledge is quickly outdated or forgotten and needs to be supplemented by new learning and relevant work experiences. According to research from the Dutch SCP, about 18% of employees are insufficiently equipped for the requirements of their existing job.

Third, L&D can contribute to an increase of people's motivation, job satisfaction and engagement. It is also becoming widely recognized that the most important way to engage employees is to provide them with opportunities to learn and develop new competencies. Research has shown that highly motivated and engaged employees are invaluable in boosting the implementation of new technologies and other innovation practices. Furthermore, engaged employees are more likely to stay with the organization where they are being challenged and given the skills to grow and develop in their chosen career path.

Fourth, as the workforce in many companies becomes increasingly virtual and globally dispersed, L&D can help to build a value-based culture and a sense of community. It is suggested that particularly millennials seek to work in a value-based and sustainable enterprise that contributes to the welfare of society. They also want respect for their individual talents and open communication with their management. They value their personal life in addition to enjoying a challenging work environment.

Finally and importantly, companies are using learning programs to support the implementation of the business strategy.

The classical vision of learning is that is solely focused on improving *productivity*. Today, learning contributes as well to *employability*. People are employable if they can easily find a job inside or outside their organization.

An extensive study of literature provided evidence that highly skilled people have a positive impact on financial and organizational performance of an organization. For example they can increase customer satisfaction, profit, market growth, productivity and innovation.

Corporations such as General Motors and General Electric began offering in-house-training programs about 100 years ago. Today, thousands of organizations around the world have established so called *Corporate Academies,* also referred to as *Corporate Universities,* which can be defined as: "*A dedicated unit or initiative that aims to develop and sustain institutional and individual capabilities to deliver performance in line with the organization's strategy*."

Examples of companies that have established Corporate Academies include: Apple; Disney; Danone; Nike; Deloitte; McDonalds, McKinsey & Co and Vanguard, among others. The Corporate Academies/Universities play a strong role in developing a learning culture.

Various research studies confirm that people capability development remains a high priority for many organizations around the world. Globally, more than 8 in 10 executives view learning as an important or very important issue. Senior executives report that their companies are not developing skills fast enough or leaders deep enough. Therefore it is not a surprise that more than 60% of companies plan to increase their L&D spending, and more than 66% of organizations will increase the number of formal learning hours.

However, many organizations are not satisfied with the status quo of their L&D function. As a consequence, they expect L&D to change significantly over the next three years. The L&D function needs different capabilities and has to operate more agile and nimble in order to match the faster pace of business. The most important areas for enhancement include: aligning learning priorities with the business; assessing the capability gaps of employees; enhancing the effectiveness of the current learning initiatives; deployment of more digital learning solutions and platforms; improving the impact insights from learning programs; innovating the design of learning solutions; offering blended learning; integrating *work and learning*; and professionalization of L&D. Companies that are taking the modernization of their skill-building efforts seriously, must attract people with deep experience in this function.

A learning for all culture

As mentioned before, learning opportunities are unequally distributed in many organizations. Employees who take the most advantage of learning, are relatively young people with the highest education levels, who are typically identified by the organization as highly talented, high performers. Groups with less participation are less educated and people who are older.

There is a strong bias in organizations that *"you simply can't teach old dogs new tricks"*. The American Psychologist Edward L. Thorndike (1874–1949) claimed in 1927 that the ability to learn declined very slowly and slightly at about 1% per year after age 25. It was believed that there was only a small critical window for people to learn.

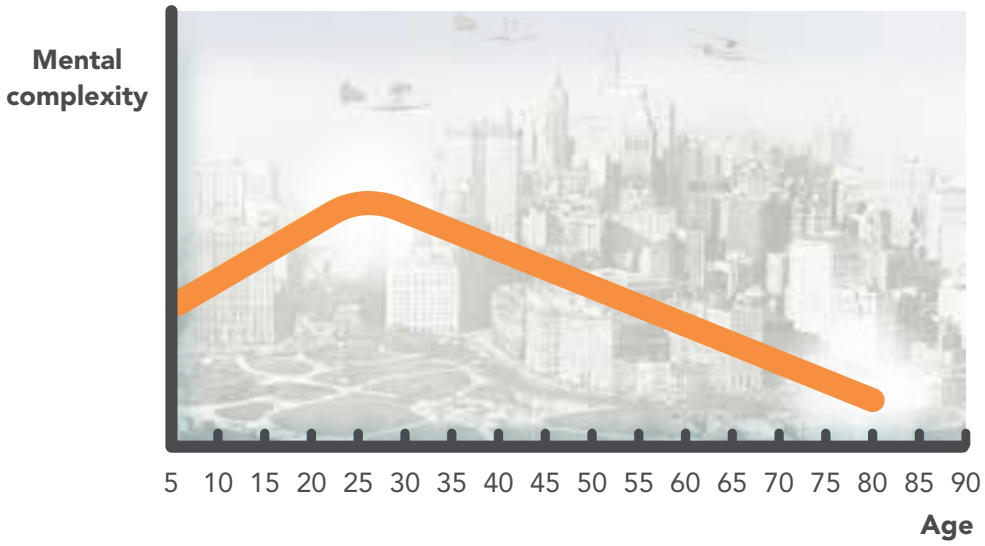

FIGURE 2: AGE AND MENTAL COMPLEXITY: THE VIEW IN 1927
Source: Crawford, 2004.

Research from scientists over the last 40 years has proven that the assumptions previously made about human growth and mental abilities are not true. The graph showing age and mental complexity reveals very different results on the basis of longitudinal research. (Kegan & Lahey, 2016)

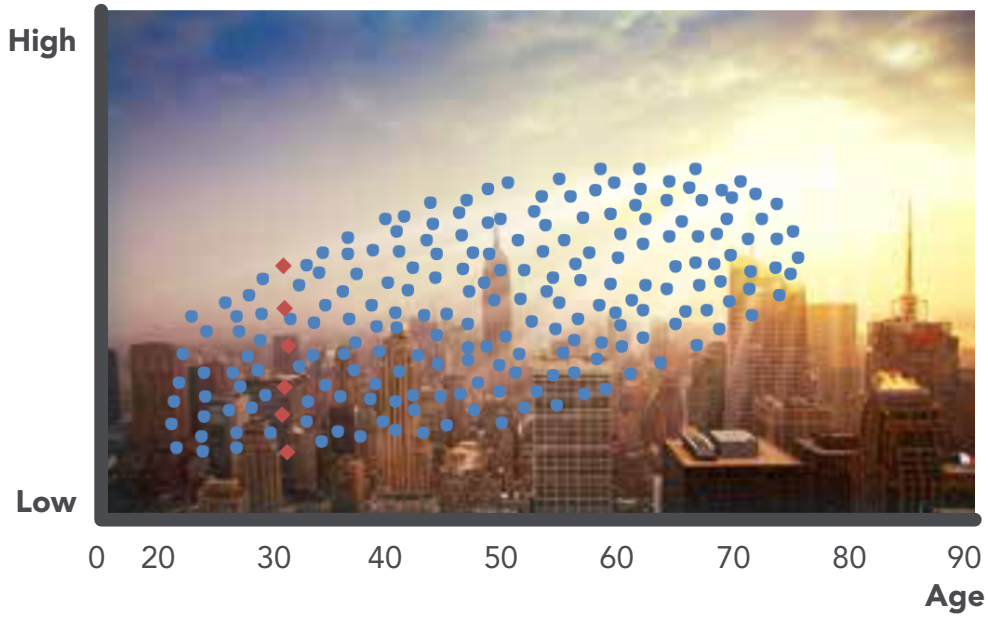

FIGURE 3: AGE AND MENTAL COMPLEXITY TODAY
Source: Kegan & Lahey, 2016.

Each of the dots represents people in the research.

There are two important *take aways* from this graph:

1. There is an upward slope which shows that mental complexity tends to increase with age through adulthood, at least until old age.
2. There is a considerable variation within any age group. For example, each of the people in their thirties (darker dots) could be at a different place in their level of mental complexity and some could have achieved an even higher level of mental complexity than another person in their forties.

Learning is a physical process in which new knowledge is represented by new brain cell connections. Studies report functional and structural changes in the brain related to training and experiences. This phenomenon is described as neuroplasticity. Our brain has phenomenal capacities for adaptation throughout our life. Therefore, there is no reason not to develop people at older ages in organizations.

Harvard researchers Kegan & Lahey (2016) strongly believe that organizations that deliberately develop *every single person* will prosper, because this is aligned with people's strongest motive, which is to grow. This means that organizations should embrace a culture in which support of learning is woven into the fabric of working life, the company's regular operations, daily routines and conversations. In their book, *An Everyone Culture: Becoming a Deliberately Developmental Organization*, they featured three organizations (Next Jump, Bridgewater and Decurion) that share a single goal: business excellence and the growth of people into more capable versions of themselves through the work of the business.

The authors show how to build a Deliberately Developmental Organization (DDO) based on a conceptual structure of a DDO in terms of depth, breadth, and height.

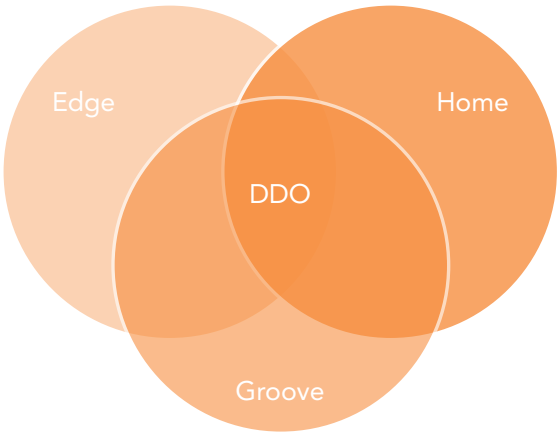

FIGURE 4: THE THREE DIMENSIONS OF A DDO
Source: Kegan & Lahey, 2016.

The DDO has three dimensions and comprises twelve principles, which are referred to as *discontinuous departures*. These discontinuous departures combine to create a new *continuity*: a single continuous and immersive focus on people development for every person in the organization.

Edge is the developmental aspiration of the DDO and comprises four principles: 1. Adults can grow; 2. Weakness is a potential asset; error is an opportunity; 3. Run on developmental principles; and 4. The bottom line is all one thing.

The Groove is all about developmental practices and tools. These practices include: how meetings are structured; how employee performance is monitored and discussed; how people talk to one another about their work; the challenges they face personally; and advancing the interest of the company. The principles which are part of the *Groove* include: 1. Destabilization can be constructive; 2. Mind the gaps; 3. Set the time scale for growth, not closure; and 4. The interior life is part of what is manageable.

Home is the development communities. Growth can happen only through membership in workplace communities where people are deeply valued as individual human beings, constantly held accountable, and engaged in real and sustained dialogue. The principles associated with *Home* are:

1. Rank does not have its usage privileges; 2. Everyone does development;
2. Everyone needs a crew; and 4. Everyone builds the culture. According to Kegan & Lahey*, Edge, Home* and *Groove*, mutually reinforce each other, and together foster a *deliberately developmental* culture.

I am optimistic that the groundbreaking research from Kegan and Lahey will inspire organizations to start implementing the dimensions and principles they describe, and truly transform their enterprises into *deliberately developmental organizations*.

Another author who has stressed the importance of developing *a-learning for all-culture* is Peter Senge. He is the author of *The Fifth Discipline: The art and practice of the learning organization* and coined the concept of *the learning organization* in 1990.

It is a term given to a company that facilitates learning, continuously transforms itself and becomes a place that employees feel a commitment to. According to Senge, a learning organization exhibits five characteristics: systems thinking; personal master; mental models; a shared vision; and team learning. The concept has gained broad acceptance and a number of companies are implementing these approaches.

The execution of a strategy happens through people and is possible only if employees have the right capabilities. Many companies are striving to become true *learning organizations,* but implementation is elusive and is not often based on the research that demonstrates the characteristics of a learning culture. Marsick and Watkins (2003) developed a questionnaire called *dimensions of the learning organization,* which can help organizations to diagnose their current status and guide change.

DEFINITIONS FOR CONSTRUCTS FOR THE DIMENSIONS OF THE LEARNING ORGANIZATION

DIMENSION	DEFINITION
Create continuous learning opportunities	Learning is designed into work so that people can learn on the job; opportunities are provided for ongoing education and growth
Promote inquiry and dialogue	People gain productive reasoning skills to express their views and the capacity to listen and inquire into the views of the others; the culture is changed to support questioning, feedback and experimentation
Encourage collaboration and team learning	Work is designed to use groups to access different modes of thinking; groups are expected to learn together and work together; collaboration is valued by the culture and rewarded
Create systems to capture and share learning	Both high- and low-technology systems to share learning are created and integrated with work: access is provided; systems are maintained
Empower people toward a collective vision	People are involved in setting, owning, and implementing a joint vision; responsibility is distributed close to decision-making so that people are motivated to learn toward what they are held accountable to do
Connect the organization to its environment	People see the effect of their work on the entire enterprise; people scan the environment and use information to adjust work practices; the organization is linked to its communities
Provide strategic leadership for learning	Leaders model, champion, and support learning; leadership uses learning strategically for business results
Financial performance	State of financial health and resources available for growth
Knowledge performance	Enhancements of products and services because of learning and knowledge capacity (lead indicators of intellectual capital)

Source: Marsick & Watkins, 2003.

Both Kegan and Senge argue that developing – *a learning for all* – culture will have a very positive impact on the business. Recent research by Kegan provides leaders in organizations with specifics on what they need to develop or enhance a culture of learning.

Finally, in – *a learning for all* – culture there also needs to be an ongoing dialogue about employability of the employee inside or outside the organization. Individual L&D plans need to be developed, reinforced and executed. However, people can be sent to courses or be told to take online trainings, they can not be forced *to learn*. Each individual must acquire and maintain a curious mindset, so it is important to stimulate people's curiosity and tempt people to satisfy their curiosity with learning and discovery.

It is relevant to point out that the implementation of these approaches to creating a vibrant learning culture, requires true Learning & Development/Human Resources Development professionals.

3 IMPLEMENT 21ST CENTURY L&D PRACTICES

In this section, I will discuss a number of innovative L&D practices which support the accelerated development of people in organizations.

Historically, the field of L&D has its roots in pedagogy, andragogy, organizational sociology, and development psychology. This is the scientific study of how and why human beings develop over the course of their life. The relatively new field of cognitive neuroscience is the study of mental brainpower processes that underlie our neural systems. This includes thinking and behaviour and is driven by the learning brain. Therefore, cognitive neuroscience can reveal how the brain learns, stores, and uses the information it acquires. It is through learning that the brain enables us to adapt to our ever-changing environment.

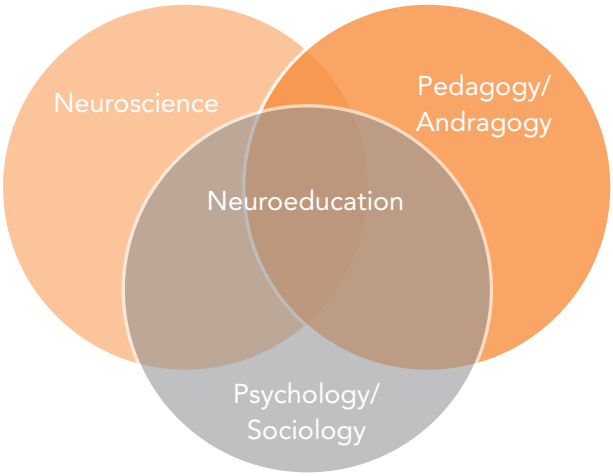

FIGURE 5: COMPONENTS OF NEUROEDUCATION
Source: van Dam, 2014.

Neuroeducation is the field that investigates basic biological processes involved in becoming literate and numerate, and explores learning to learn, cognitive control, flexibility, and motivation, as well as social and emotional experiences.

4 APPLY INSIGHTS FROM COGNITIVE NEUROSCIENCE

Learning is a physical process in which new knowledge is represented by new brain cell connections. The strength and formation of these connections are facilitated by chemicals in the brain called growth factors. We now know from neuroscience that the availability of these growth factors can be enhanced. For example, specific exercise routines, optimal sleep structure, and silencing the mind can all increase the availability of these growth factors. Nature and nurture affect the learning brain. People have different genetic predispositions but experience continuously shapes our brain structure and modifies behavior.

During the past decade numerous peer-reviewed publications have connected the fields of neuroscience with education and learning. Several studies report structural and functional changes in the brain related to training and development experiences.

A good understanding of how the brain learns and performs is an invaluable new skill. It is essential for the future success of individual employees and their organizations.

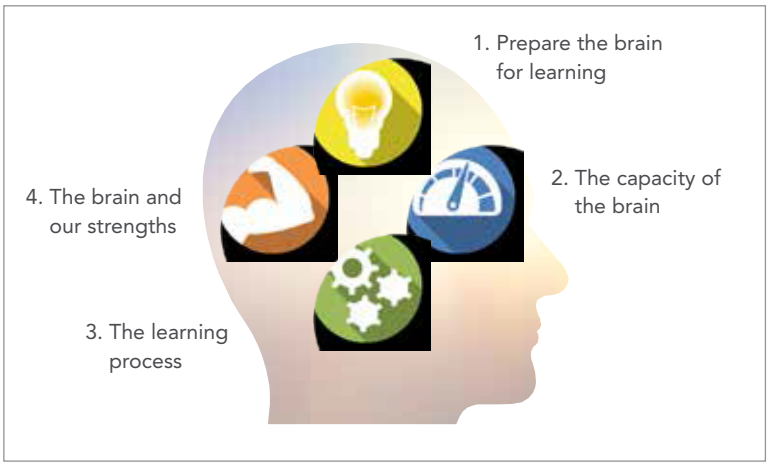

FIGURE 6: OUR BRAIN AND LEARNING
Source: van Dam, 2016.

The following insights from brain science should be considered as part of modern L&D practices.

1. **Prepare the brain for learning**
   A very important insight from neuroscience is that our brains need to be prepared for learning.

   This starts with a good night of sleep which has an impact on learning and memorization. People who are sleep deprived will be 19% less efficient at recalling memories and memory ability drops to 50% for people who have not slept at all. The final two hours of sleep are invaluable for memories to become stable residents in our brain.

   Our brain does not function well without proper *food and water*. Our brain uses 25–30% of our energy and therefore it is critical to have a balanced diet otherwise our brain can't work an efficient way. A good diet includes complex carbohydrates (e.g. oatmeal, brown rice, vegetables, fruit and whole grains) and proteins (e.g. fish, eggs, chicken).

   Simple carbohydrates (e.g. sodas, cookies, honey, white bread, pasta) have a negative impact on learning because they destabilize the blood glucose level. A great deal of water is needed for the brain's production of hormones and neurotransmitters which play a key role in the brain's communication system. Therefore it is critical that people have a good breakfast before they start a day of learning.

   According to several researchers – our learning capabilities are heavily supported by regular and adequate *exercise*. Exercise produces a protein called brain-derived neurotrophic factor (BDNF) that serves as a fertilizer for brain cells, keeping them functioning, growing, as well as supporting the growth of new neurons. This makes learning easier. Exercise also increases the production of serotonin, dopamine and norepinephrine which help the brain to be alert and motivated to learn.

   Focused attention is fundamental in order to acquire knowledge. *Meditation* boosts the alpha brainwaves which are important for focusing attention, studying and memorizing. Meditation has proven to be powerful in improving all mental tasks including promoting a general readiness to learn. This is one of the reasons that companies such as Google, Facebook, eBay, and McKinsey, etc. are offering their employees opportunities to benefit from meditation classes at work.

   Stressful events interfere with people's ability to learn. Research suggests that acute stress activates selective corticotrophin-releasing hormones which disrupt the process by which the brain collects and stores memories. The best medicine against stress is exercise.

2. **The capacity of our brain**

   Many people, particularly the millennials – suggest that they *multitask* but in reality they are very good at jumping from one task to another which is referred to as *switch-tasking*.

   Unfortunately, people's brains are not wired for multi-tasking because our brain needs to stop working on one task before it can work on another task. Research shows that individuals who frequently shift tasks make 50% more errors and spend at least 50% more time on both tasks. Our brain needs fully focused attention for learning.

   Learning activates different parts of our brain's existing network and will make changes to it. Therefore, *previous knowledge* and *experiences* are extremely valuable to support learning. Additionally, *creative and innovative thinking processes* in our brains *are built on the foundation of knowledge*. Our brains continuously draw on this knowledge base to create simple solutions to complex problems. Knowledge provides the building blocks for innovation, which is the top priority for many organizations. For this reason alone, people wanting to be more innovative (and thereby increase the value of their contribution to the organization) should explore every opportunity to add to their knowledge base.

   Plato mentioned more than 2,000 years ago that all learning has an *emotional base.* Today, we know that that our brain is better at remembering emotional content. One part of our brain (amygdala) is responsible for processing memory of emotional reactions. It boosts activities in areas of the brain that form memories as soon as it identifies an emotion. Tapping into people's emotions during learning interventions will make it easier to form a memory of what has been learned.

3. **The learning process**

   There are many insights from neuroscience which should guide the design of learning interventions. One of the key ones is that *"The one who does the work does the learning"*. Permanent brain connections are only made when people combine a number of activities such as reading, writing, listening, talking, practicing, collaborating and reflecting.

   Powerful training initiatives use *multiple learning delivery* channels, vary the type of activity, and employ instructional methods that stimulate *active engagement* including facilitation, simulation, games, and role play.

   Many studies have confirmed that people learn the best if they can use *multi-senses* including hearing, seeing, touching, smelling, and tasting. All human senses work together: learning will get a boost if at least two senses are used together. For example students were found to have three times better recall of visual information over oral information, and six times better recall when the information was represented using both oral and visual methods at the same time rather than only oral methods.

The brain is divided into hemispheres, called the left and right hemispheres or half's. Each hemisphere provides a different set of functions, behaviors, and controls. The right hemisphere is often called the creative side of the brain, while the left hemisphere is the logical or analytical side of the brain. Because there is no evidence that our left and right brain work very differently, it is suggested that learning techniques should not be designed on the desire to enhance the less dominant hemisphere.

The brain remembers the first part and the last part of a training initiative best. This is called the *primacy* (begin) and *recency* (end) effect. The main reason for this is that the short term memory at the beginning of a learning session is less 'crowded'. The end of a learning session is the perfect moment for application to support our retention of what we have learned. The middle period of learning should be filled with the least important information, and shorter learning sessions will improve the middle period. This is why training sessions should be ideally last no more than 20 minutes, with planned *brain breaks* separating sessions. Overall, the usage of *short learning sessions* with small *chunks* of content will increase knowledge retention.

Permanent memories are formed after *distributed practice* (also referred to as spaced repetition) where practice is broken up into a number of short sessions over a longer period of time.

Learning is a social activity. Sharing learned content with colleagues during a learning session and at work improve retention. Deploying various learning techniques (e.g. mind mapping) supports more effective learning and memorizations.

The adult brain changes following the acquisition of new skills. However, the changes in the brain reverse when people do not have the opportunity to use the skills they have developed – *use it or lose it*. Unfortunately, many training initiatives are less effective because people can not apply their learning in the workplace after completion of training. This is one of the benefits of digital learning. It provides on-demand learning and knowledge that can be reviewed at any time and in any place needed. Finally, in order to reinforce the application of the new learning on-the-job, organizations should follow up the learning with specific interventions such as coaching.

There are clear and accurate summaries of progress in the field of the cognitive neuroscience of learning. However, there are at the same time questionable media reports and claims about brain-based learning that, according to some scientists, often oversimplify, misrepresent which have been referred to as *neuromyths*.

Example of neuromyths:

- You only use 10% of the capacity of your brain
- You are either a left or right brainer
- Individuals learn better when they receive information in their preferred learning style (for example, visual, auditory, or kinesthetic (= learning that takes place by carrying out physical activities)
- Differences in hemispheric dominance (left brain or right brain) can help to explain individual differences amongst learners
- An age-based limited time window exists for learning.

Therefore L&D professionals should use only research that provides sufficient evidence and that can be put into practice. I believe that it is important that L&D professionals have a fundamental knowledge of the working brain and apply cognitive neuroscience evidence to their practice of developing people.

4. **Our brain and strengths**
   Historically, corporate people development practices have been focused on performance deficiencies or weaknesses. Weaknesses are behaviours you are not good at, and which also drain your energy.

   Over the last decade a growing number of companies have moved toward focusing on a strengths-based development approach. The StrengthsFinder® assessment tool, which was developed by Gallup, is now used by 1.6 million employees every year and in 467 of the *Fortune* 500 companies.

   The belief of 'strenghts-based development' is that people have enduring, unique strengths and when they are encouraged and aided to play to their strengths, high quality performance and full engagement result. Mitigating your weaknesses might be relevant if the weakness has gotten in the way of your overall performance, but this kind of fixing never results in becoming *excellent* in this area.

   Strengths-based development has its roots in positive psychology. This is the scientific study of human flourishing, and an applied approach to optimal functioning. The term *positive psychology* was used for the first time by the humanistic psychologist Abraham Maslow who included a chapter entitled *'Toward a Positive Psychology'* in his 1954 book *Motivation and Personality*.

Brain research has supported building on an investment in strengths. Studies have found that when a baby is born, there are approximately 100,000 billon neurons in the brain, each capable of 15,000 synapses. A synapse is a structure that permits a neuron (or nerve cell) to pass an electrical or chemical signal to another neuron.

As the baby develops and learns over the next 3 years, there is an explosion of connections in the brain which, for reasons not fully yet understood, stops at about the age of three. Then, a pruning work starts in the brain. The synapse connections that are used frequently become stronger, like frequently traveled roadways, and unused connections disappear like a remote path in a jungle.

By the time we reach our 20s, these super highways in the brain are essentially developed, widened, and paved. They are our enduring talents and strengths. By continuing to build on this foundation of knowledge and skills, we develop our talents. When we use our talent-based strengths we achieve success in life and work.

Research studies have been done on the impact of strengths-focused development of leaders on their overall effectiveness. In one organization, following a leadership assessment process, a group of leaders opted to focus either on developing weaknesses or on developing their strengths. The same leadership assessment was completed 12–18 months later, and the group that focused on strengths showed three times the improvement on their leadership effectiveness.

FIGURE 7: IMPROVEMENT OF LEADERSHIP EFFECTIVENESS SCORE FOR TWO GROUPS OF PARTICIPANTS
Source: Zenger & Folkman, 2012.

In conclusion – *"strengths-based development"* does not imply that people should *only focus* their improvements on *strengths*. When people take on new roles, with different demands, they might discover '*unrealized strenghts*' which can be developed as well. Furthermore, identified weaknesses need to be raised to an acceptable level for certain roles and/or one should explore finding other people that have strengths in these areas. Finally, one should also be careful not to overuse a specific strength in certain settings because this could become a perceived liability.

5 DEPLOY A FULL LEARNING & DEVELOPMENT PORTFOLIO

Now I would like to introduce a learning framework that provides a holistic perspective on how organizations can build people capabilities and design leading learning experiences with bottom line impact and relevance to a global workforce.

FIGURE 8: LEARNING SOLUTIONS FRAMEWORK
Source: van Dam, revised 2016

This learning solutions framework has been developed and validated by many L&D professionals around the world. The first version was published in my book *Next Learning, Unwrapped* (2012) and has been revised since.

This framework illustrates that personal and organizational learning does not need to be *one-size-fits-all.* Rather, it can take place through multiple blended formal and informal learning initiatives. It is suggested that about 10% of learning in organizations happens through formal L&D events and 90% of learning is informal and happens on the job.

FORMAL LEARNING

Formal learning is structured, curriculum-driven, role- or level-based learning that is shaped by an organization. In other words, the organization decides what kind of learning needs to be completed by people during a specific timeframe in order to develop identified competencies. Formal learning plays a relatively limited but crucial role in building people capabilities in organizations.

Formal learning can be delivered in a classroom learning context (physical or virtual), through self-paced, digital learning programs (for example, web-based training, MOOCs or SPOCs [Massive Open Online Course and Specific Private Online Course], webinars, and learning apps), and by providing people with access to online diagnostics and assessment tools such as emotional intelligence and the Myers-Briggs Type Indicator, among others.

According to the ATD 2015 Global *State of the Industry Report*, the average number of formal learning content hours delivered per employee in 2014 was 32, and the so-called BEST *organizations* delivered 44 hours of learning per employee in 2014. In other words, organizations that take people development seriously provide more time for formal learning. One of the biggest challenges for people in today's business environment is setting aside the time needed to participate in learning. This is where I believe formal development at corporate universities and business schools continues to play a crucial role. Taking people out of the office and providing them with development time in a safe environment enables them to experiment with new ideas and concepts, practice skills in simulations. Additionally, they are encouraged to develop solutions for existing business issues, reflect on their performance and that of their team, and turn their learning into new behaviors and actions.

Conversations with L&D/HRD leaders from different companies in countries around the world have validated that many employees still value a formal, structured approach to learning. Employees want to know which competencies they need to develop and how they can do this. This also is particular true of knowledge-driven organizations like Consulting and Professional Services Firms who have made significant investments in corporate learning & leadership development centers and formal curricula.

It is important that formal learning solutions are always designed to improve the capabilities of employees and enhance the performance of the individual and organization. It has become a best practice to blend formal with informal learning solutions to achieve this goal.

INFORMAL LEARNING

Since people spend most of their time in the workplace, it is critical to learn on-the-job. This informal learning can be defined as semi-structured or unstructured learning. It is driven by the daily developmental needs of employees, and occurs often spontaneously on-the-job through problem solving, interaction with colleagues, and use of digital learning solutions. Informal learning has its theoretical roots in constructivism and is not prescriptive, but it is an example of self-directed learning. It is estimated that informal learning accounts for 70% to 90% of all the learning that takes place in organizations. There are three different categories of informal learning, as shown in the framework: 1. Career-driven learning, 2. On-demand learning, and 3. Social learning.

1. **Career-driven learning**
   Most learning takes place when people move into different roles or work on new projects that challenge them to work with new teams in a different context and with different goals. As a result, people move outside their comfort zone into a new area – *the learning zone*. It is quite effective if these experiences are supported by on-the-job coaching and mentoring, and supplemented with formal classroom learning programs (for example, learning programs on managing people, leading change, and executive education modules on various topics).

2. **On-demand learning**
   Every day, people are looking for the knowledge and information that help them performing better in their jobs. The Internet, search engines, electronic performance support systems, and the growth of mobile computing provides people with 24/7 access to rich content at their fingertips, enabling them to fill knowledge gaps. A major challenge for many people is information overload and the fact that it is difficult to find what is needed. As a result, people waste time searching and surfing various internal portals. Therefore, L&D functions need to design learning platforms that provide a personalized view of learning and are supported by social media features (for example, rated, recommended content – the Amazon user interface like experience) and up-to-date and relevant learning content.

3. **Social learning**
   People do learn from other people in both formal and informal learning. Social learning refers to Albert Bandura's theory indicates that people learn most effectively when they interact with others about a given topic. A 2001 study from the Harvard School of Education reinforced this theory and showed that students who studied in groups were more engaged in their studies, were better prepared for class, and learned significantly more than students who worked on their own.

The term social learning has been used frequently in the context of social media and web 2.0 technologies. I have defined social learning as *"the interaction between two or more people utilizing social media and/or other collaborative technologies to facilitate exchanges in knowledge acquisition."* Social learning is characterized by interactive collaboration and iterative knowledge creation stimulated by cycles of sharing and feedback. Examples of social learning applications include serious gaming and simulations, online communities, wikis and blogs, social networking, expert directories, micro-sharing and tweet chats, interactive video, online coaching, and crowdsourcing.

Many organizations are exploring how to improve the learning that takes place on the job and apply the so called 70:20:10 model for L&D. This model suggest that people obtain 70 percent of their learning from job-related experiences, 20 percent from interaction with others and 10 percent from formal education events. The model was created in the 1980s by Morgan McCall, Michael M. Lombardo and Robert A. Eichinger and was featured in their book *The Career Architect.*

6 PROFESSIONAL LEARNING DESIGN

With the emergence of new learning approaches and learning technologies, someone might ask: *What makes a program an effective learning experience?* The results of meta-analysis of more than 355 studies conclude that the most important factor in knowledge retention is the quality of the learning design, rather than the delivery method, whether it is classroom- or technology-based learning. Physical classroom learning and technology-based learning are both used (and blended) to support L&D, and each approach has a unique place in the portfolio of learning delivery options. Professional learning design should guide intentional choices on the use of different learning modalities, enabling the production of high-end, effective learning experiences. Four phases can be distinguished in professional learning: learning analysis, categories of learning goals, and learning delivery methods.

Learning analysis

The first stage of a learning analysis is to assess the business requirements and determine what kind of performance capabilities the organization needs, both short-term and longer-term. This will help learning professionals to understand if a learning program is necessary, and how the business needs can be addressed other than through learning initiatives. If there is a need to develop a learning program, the content and task analysis stage will begin. The content is the knowledge component, and tasks are decomposed from skills that a person needs to master. These provide input for the second stage of the professional learning design model.

Categories of learning goals

At this stage, L&D professionals need to identify the learning goals that support building the required people capabilities and close the performance gap that was identified. There are five categories of learning goals.

- *Knowledge and skills assessment*: Assess someone's knowledge or skills. For example, this can be done by using different (electronic) diagnostic tools, surveys, or by live assessment centers.
- *Access look-up knowledge*: Determine which knowledge a person needs to access. It is not a requirement of this learning solution that the person remembers the specific knowledge; they just need to know how where to find it if needed.

- Acquire ***must-know*** knowledge: Transfer knowledge that is critical for people to retain because they need to apply the knowledge on a regular basis.
- Create and share knowledge: Engage people in the creation of knowledge and in the sharing of this knowledge with others.
- *Skill development*: Learn a new ability or a new capability to do something well.
- *Skill practice*: Practice a skill that has been learned.

Learning goals can also be defined in terms of business outcomes, which are verifiable outcomes of relevance to the business of the organization. Outcome-driven learning goals have gained significantly in relevance and value over recent years.

Learning delivery methods

At this stage, one or more learning modalities must be selected for design and development. The most important criteria for selection are learning effectiveness and learning efficiency.

Learning effectiveness determines which learning modalities provide the best way to transfer knowledge and build skills based on the business requirements. For example: *What is the timeframe allotted to achieve competence?* The identified learning goals have a significant impact on choosing the best learning modality.
Learning efficiency determines which learning modality provides the best value for the investments made.

Depending on the number of people who need to be trained, technology- based learning solutions typically provide learning at lower costs compared to physical classroom learning programs.

Learning modalities can be grouped into four categories

- *Online performance support:* Technology-based learning systems that offer help to increase productivity and efficiency. One use case of online performance support systems is to support access to *look-up knowledge*.
- *Collaborative or social learning*: This is a situation where two or more people learn together. This can happen through enabling asynchronous collaborative and social technologies, or by having live interactions.
- *Digital Courses*: These are synchronous- or asynchronous-designed technology-based learning programs that support specific learning goals.

- *Physical classroom learning*: The physical classroom is an important environment for L&D, with the biggest value derived by reinforcing the company culture; providing access to leadership; building teams; exchanging knowledge and best practices across different organizations, functions, departments, industries, or geographies; networking; and practicing new skills. Another benefit of physical classroom learning is that people have dedicated time to focus on learning at a facility with limited disruptions from work.

After the selection of the learning modalities, the next step is to apply instructional design theories, pedagogical concepts, and instructional methods, and to identify the right media to develop world-class learning solutions.

Designing blended learning

The outcome of the process described above creates learning experiences that could be a mix of different technology-based learning modalities or a mix of digital learning modalities and a physical classroom experience.

Blended learning is the mix of learning strategies, methods, media, and delivery modalities that support the learning objectives and maximize the efficiency and effectiveness of the learning. Finally, the magic is in the blend. Learning design excellence requires a deliberate and explicit choice of the right modality for the level of learning required.

7 DIGITAL LEARNING

In 1997, almost 20 years ago, the term *e-learning* was coined. ATD reports that in 2014, 41% of all formal learning in organizations globally was delivered through technology supported methods. As discussed, today there are multiple technology-based learning solutions which are often referred to as *digital learning*. However, a new development is that the content of digital learning and digital learning platforms are moving to the *cloud*, becoming accessible across multiple devices and teaching environments and are often being generated, shared and continually updated by learners themselves. The power of digital learning is that it can be taken on-demand, at any place, and on multiple devices providing a personalized experience that is very cost effective. And yet the quality of the instructional design can differ significantly, having either a very positive or negative impact on the learning experience and therefore the effectiveness of learning.

Massive Open Online Courses (MOOCs)

MOOCs are a relatively new digital learning solution. MOOCS are offered by Udacity, Coursera and edX (a nonprofit founded in 2012 by Harvard and MIT) who partner with faculty and universities around the world to offer online courses for free (or at relatively low costs). Courses are offered on almost any university subject including: business and management, economics, finance, computer science, chemistry, medical, etc. Participants gain a certificate of completion which can be valuable for job or career enhancement. A number of courses provide academic credits that are accepted by selected universities.

The opportunity to learn from the best educators of the top universities at no cost has captured the imagination of millions who have registered for MOOCs across the United States and abroad. Between 2012 and 2015, over 25 million people have enrolled in MOOCs from Coursera, Edx, and Udacity, but only 3.9 million completed a MOOC from the providers mentioned. Critics suggest that the low completion rates are a major cause of concern regarding the long-term success, impact and sustainability of MOOCs and raise questions about the pedagogy of MOOCs. Others argue that the reach and impact is still very significant (Zhenghao, et. all, 2015). The primary goal of 52% of those who complete a MOOC, is to improve their current job skills or to find a new job. 87% of this group reports a career benefit of some kind. 28% of people who complete a MOOC enroll primarily to achieve an academic goal. Of these, 88% report an educational benefit.

A growing number of corporations such as Google, AT&T, Accenture, GE, Boeing, etc, are collaborating with MOOC providers to offer specific private online courses (SPOCs) in skills areas where they experience a talent shortage. For example, Microsoft is partnering with edX to offer its Professional Degree program, beginning with a curriculum on *data science*. In 2015, IBM estimated that the global need for data scientists is 4.4 million jobs, but only one third of those positions will be filled.

I believe that MOOCs and SPOCs will provide corporations and the workforce of tomorrow with a powerful opportunity to turn education into a lifelong experience at limited cost. This learning modality will also help people by refreshing their knowledge while they interact and learn from world class faculty, develop cross-cultural perspectives and acquire expertise from their peers. Organizations of the future will be driven by connectivity, collaboration, and networks. A MOOC can be a perfect incubator for these capabilities. MOOCS are designed and build to stimulate collaboration and support people to develop a deep level of knowledge and expertise.

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There is no friend as loyal as a book

– Ernest Hemingway

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> *You must give some time to your fellow men. Even if it's a little thing, do something for others – something for which you get not pay but the privilege of doing it.*
>
> – Albert Schweitzer

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