ACHIEVING LEARNING IMPACT

Aligning Corporate Learning For Business Outcomes

VALAMIS

Executive Summary

Work is changing. Much of this change is driven by knowledge and learning. According to McKinsey, we are witnessing a massive shift in the nature of work, not seen since the transition of the labor force out of agriculture in the early 1900s.[1] In the years ahead the vast majority of workers will experience multiple occupational categories and learn new skills many times over. Occupations that currently require only a secondary education will see a significant decline, even as occupations requiring college degrees and higher will continue to grow.

For most of our history, human beings toiled in fields, subject to cycles of scarcity and conflict. The Industrial Revolution, followed by the Machine Age, changed this economic paradigm. What is obvious today is that people can no longer rely on a single skill set. Given the potential of technology to continually restructure jobs, workers will need to spend much more time on activities that differentiate them from machines, particularly as artificial intelligence (AI) becomes more commonplace.

The hard reality is that educational requirements for new occupations are already higher than those for the jobs increasingly displaced by technology.[2] To meet this challenge, corporate leaders must look within their organizations to improve employee engagement, channel creativity, and develop their existing human capital. Companies must leverage the most advanced tools available in order to evaluate their learning capability and create an environment where intellectual capital is shared and diffused throughout the entire organization.

Developing the right kinds of organizational systems for learning and skill development demands an appropriate mix of theoretical and applied learning methods in the context of modular, real-time learning delivery systems. Investment in learning systems is not just about improving efficiency, it is also about delivering more for less. In fact, the only way for companies to adapt today is continual learning.

Navigating this shifting terrain requires intelligence and the ability to turn new knowledge into new value. At Valamis, our focus is on learning for the future. Our learning experience platform, Valamis, is specifically designed for large corporations, making learning and knowledge acquisition cost effective and ubiquitously available. Regardless of time, place, or particular device, Valamis offers an effective solution for the management and monitoring of organizational learning and development (L&D), providing detailed data analytics supporting organizational performance outcomes.

Combining aspects of problem-based learning, explorative learning, and learning analytics, Valamis is specifically geared to support effective learning and training.

What we know today is that learning technologies are continuing to have a major effect on the efficiency and outcomes of workplace productivity. When L&D departments benchmark their progress against those within their sector/industry, or against other similar groups, they become more conscious of taking steps to improve their performance in order to critically determine what is working and what is not.[3]

Key Performance Indicators (KPIs) ensure that the metrics displayed are meaningful to the production process in order to drive the desired behaviors across departments. Tracking performance benchmark KPIs since June 2010, the Emerald Group concludes that organizations of all sizes and sectors can expect to realize a 20% - 25% efficiency saving across a range of efficiency performance indicators.[4]

Additionally, investing in a workforce analytics practice enables business leaders to better evaluate the health of their organization. L&D tools that support segmentation analysis, correlation and regression analysis, enable leaders to continually evolve the organization as a whole. As companies invest in scalable HR reporting and workforce analytics solutions, they can begin to understand what to measure and how those measures can impact their workforce and their business outcomes.

This White Paper is intended to be a resource for leaders and stakeholders in business enterprise who are interested in strengthening their capacity to measure and advance organizational learning in order to achieve effective learning impact in alignment with business goals.

1 https://www.mckinsey.com/global-themes/future-of-organizations-and-work/what-the-future-of-work-will-mean-for-jobs-skills-and-wages
2 https://www.mckinsey.com/global-themes/future-of-organizations-and-work/what-the-future-of-work-will-mean-for-jobs-skills-and-wages
3 https://towardsmaturity.org/elements/uploads/TM_Benchmark_2012_Bridging_the_Gap_v2.pdf
4 https://towardsmaturity.org/elements/uploads/TM_Benchmark_2012_Bridging_the_Gap_v2.pdf

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1 | INTRODUCTION:
The Need for Organizational Learning

Growing interest in organizational learning directly overlaps rising economic competition across a complex global economy. According to IBM, 71% of CEOs cite human capital— ahead of products, customer relationships and brands— as the leading source of sustained economic value.[5] As they observe, workforce training and investments in human resources (HR) dramatically impact employee retention.

Providing job retraining and enabling individuals to learn new skills throughout their lifetime is becoming a critical challenge. Unfortunately, most learning systems today are based on models that were developed over a century ago. As researchers at the Harvard Business School and the Chan-Zuckerberg Initiative point out, today's AI-enabled, information-rich tools are making organizational learning into the foundation of business innovation.[6]

John Seely Brown from Deloitte LLP's Center for the Edge's suggests that we are moving from an era characterized by stocks of explicit knowledge to one characterized by flows of tacit knowledge.[7] This is particularly true for professionals who require continual learning and retraining. Continual learning or lifelong learning (LLL) is becoming ever more important as the skill mix needed for a successful career change.

Theories on learning are increasingly seen as the key to competitive advantage and economic prosperity. This includes corporate LLL systems that support learning methods across a wide range of formats and timeframes. In the digital age, workers require learning systems that are modular and adapted to a variety of technology-intensive and in-person formats.

This shift in the importance of learning for business enterprise deeply affects both HR and corporate information technology (IT) systems. Work is no longer a place to go, but rather, a task to perform. In fact, the convergence of work and learning is changing the kind of work that people routinely do. Consequently, HR and IT departments need to work closely together in order to smoothly bridge work and learning within the broader organizational culture.

5 https://www-03.ibm.com/services/learning/pdfs/IBMTraining-TheValueofTraining.pdf
6 https://www.mckinsey.com/business-functions/organization/our-insights/putting-lifelong-learning-on-the-ceo-agenda?cid=other-eml-alt-mkq-mck-oth-1712
7 http://www.johnseelybrown.com/WorkingLearningLeading.pdf

2 | WORKFORCE DEVELOPMENT: Measuring Impact

As McKinsey states, the compound annual growth rate of education and training expenditure is projected to grow at 7 to 9 percent globally over the next few years.[8]

Organizational learning systems are critical to fostering learning in the context of corporate training and innovation— from anywhere, and at any time. At the same time, effective evaluation of corporate training, requires certain components. Companies must develop a measurement strategy that aligns with both the needs of their business and their larger corporate learning strategy.

Of course, the ability to determine causation with validity and reliability is essential to demonstrating the value of a program. However, causation is often difficult to isolate.[9] This makes it particularly important for organizations to quantify learning in terms of the return on investment (ROI).

ROI in corporate training dates back to the 1950s and the work of Donald Kirkpatrick. The standard in analyzing and evaluating training and educational programs, the Kirkpatrick Model demonstrates that effective learning (formal and informal) exists along a continuum and must respond to four levels of criteria—Reaction, Learning, Behavior, and Results, outlined in Figure 1:

LEVEL 1 The degree to which participants find the training favorable, engaging and relevant to their jobs

LEVEL 2 The degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training.

LEVEL 3 The degree to which participants apply what they learned during training when they are back on the job

LEVEL 4 The degree to which targeted outcomes occur as a result of the training and support

Figure 1: The New World Kirkpatrick Model

3 | Actionable Metrics

As the Kirkpatrick Model of learning acquisition demonstrates, adult learning requires a highly practical and problem-focused approach to training and development. The Internet has generated a multitude of course content and learning objects that are now within reach of learners around the world. However, this wealth of resources has not generally translated into improvements in the quality of the online learning experience. In fact, according to a lengthy study by the The Organisation for Economic Co-operation and Development (OECD), education systems that have invested heavily in technology have seen "no noticeable improvement" in overall learning.[10]

Part of the problem is that traditional learning management systems (LMS) have provided a poor learner experience. Traditional LMS platforms are essentially software designed for the administration, documentation, tracking, reporting and delivery of educational courses or training programs. The main problem with these LMS is that they have been designed for course administrators, rather than for learners. As one observer puts it, trying to retrofit an LMS for effective learning is akin to trying to turn the Titanic ship into a Tesla.[11]

Effective learning means moving away from systems and cultures of tight control and toward learning systems that function more as open platforms supporting integrated external tools. This means developing platforms that easily connect all elements of the learning ecosystem across a seamless network. It also means allowing the analysis and evaluation of all elements of a learning ecosystem— individual, group, community, and organization.

Effective learning and training demands tools that support adult learning while also measuring performance in order to continually improve learning and adapt it to meet future demands. As American educator and expert in adult learning Malcolm Knowles demonstrates in his four principles of andragogy, learning should achieve the following [12]:

1) Adults are involved in the content creation and process of their instruction.
2) Experiential learning is the basis for instruction.
3) Learning is focused on problem-solving.
4) Learning is relevant to a learner's job or personal life.

In order to ensure that learning impacts development at all four levels of the Kirkpatrick Model, it is critical that learning systems harvest actionable metrics. As successful organizations in the 21st century know well, access to rich data improves how organizations make meaning of their efforts. These diagnostic tools enable organizations to experiment faster and with purpose to see what works and what does not. Most importantly, these actionable metrics enable organizations to metabolize data in order to improve performance.

Learning Analytics Frameworks

Learning analytics provide actionable data in order to improve student-learning outcomes and ultimately accelerate business intelligence. Learning analytics refers to the use of data to support learners and their environments. These tools include Key Performance Indicators (KPI) and Balanced Scorecards, as well as tools to enable a broader learning analytics framework. In order to construct a Learning Analytics Framework that ensures learning and training makes a measurable impact, business goals must be defined first, followed by the creation of a function map delineating the data analysis needed to achieve those goals.

Learning Analytics Frameworks provide an architecture for measuring learning impact. As Figure 2 demonstrates, organizations can use learning frameworks to define and improve business performance through the use of metrics. In the case of sales, for example, FIgure 2 demonstrates the ways in which learning can be leveraged to increase sales opportunities. This includes performance metrics that increase sales performance in the context of cold calls and follow-up calls.
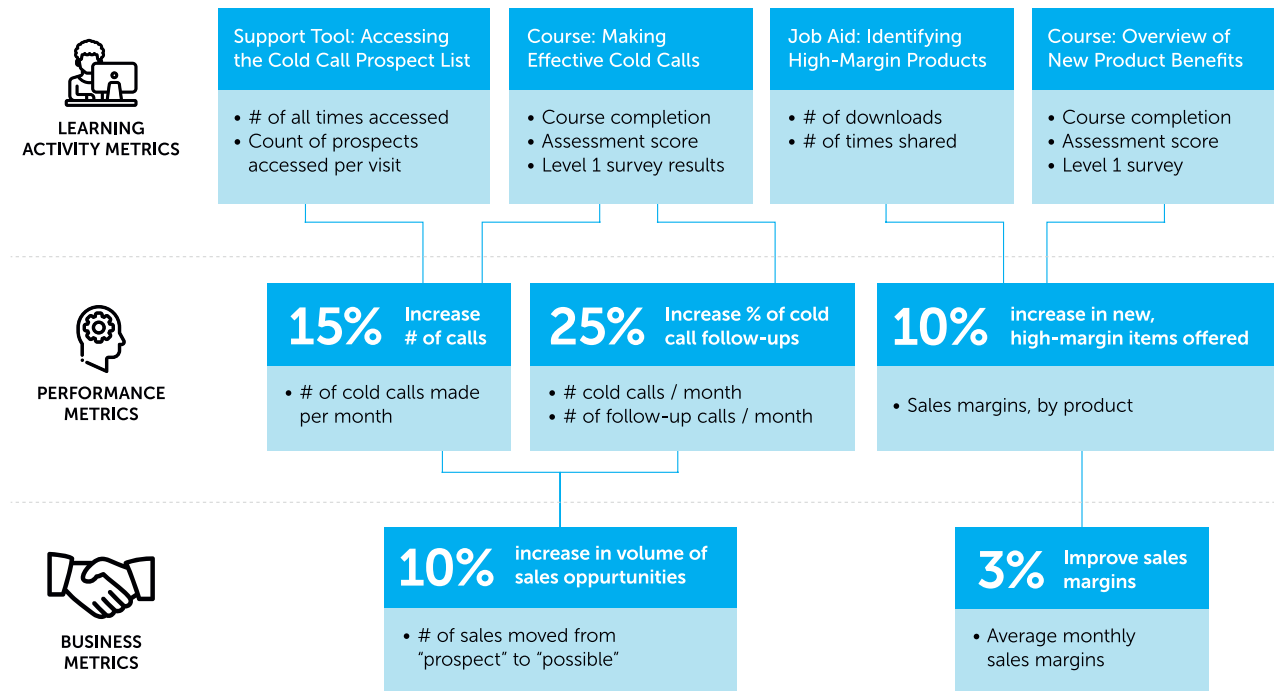
An effective analytics framework provides a means to manage the needed behavioral changes required to drive sales performance. In this case, a company may know that increasing the quantity of sales opportunities will lead to increased sales. However, the problem remains: how to create more sales opportunities. Data may indicate that cold calls are a very effective way to drive sales opportunities. So by adding course material that supports the most productive methods for effectively managing cold calls, employees can master cold calling and improve outcomes.

10 http://www.bbc.com/news/business-34174796
11 https://www.linkedin.com/pulse/why-do-lmss-fail-steve-dineen/
12 https://www.learning-theories.com/andragogy-adult-learning-theory-knowles.html

Building on the Kirkpatrick Model, learning impact can be measured to determine whether coursework has had a measurable impact on (1) the success of cold calls, (2) follow on sales opportunities, and (3) turnover among sales staff, etc. As Flgure 2 illustrates, sales training can be most effective when it supports training in new product benefits. Leveraging learning and training programs, sales personnel are empowered to communicate the benefits of new product lines to potential customers, thereby increasing sales targets and overall business development.

LEARNING ACTIVITY METRICS

Support Tool: Accessing the Cold Call Prospect List
- # of all times accessed
- Count of prospects accessed per visit

Course: Making Effective Cold Calls
- Course completion
- Assessment score
- Level 1 survey results

Job Aid: Identifying High-Margin Products
- # of downloads
- # of times shared

Course: Overview of New Product Benefits
- Course completion
- Assessment score
- Level 1 survey

PERFORMANCE METRICS

15% Increase # of calls
- # of cold calls made per month

25% Increase % of cold call follow-ups
- # cold calls / month
- # of follow-up calls / month

10% increase in new, high-margin items offered
- Sales margins, by product

BUSINESS METRICS

10% increase in volume of sales oppurtunities
- # of sales moved from "prospect" to "possible"

3% Improve sales margins
- Average monthly sales margins

Figure 2: Learning and Training for Sales Improvement Source: A.D. Detrick, 2016

Very few companies today capture anything beyond basic metrics. The value of data is that it tells a story about an organization, providing insights that enable organizations to eliminate inefficiencies and thereby continually improve upon learning strategies over time. What is the ROI in learning systems? What is the overall adoption rate of new knowledge? How has organizational performance improved after training? In order to answer these critical questions, organizations require actionable metrics.

Most LMS platforms provide a broad range of data analytics to measure learning outcomes. However, an effective LMS must provide a range of data that can be combined with data from other tools. This includes customer relationship management (CRM) systems and HR platforms. Integrating data metrics across multiple systems in order to bridge data, largely hinges on the kind of visibility that integrated data provides as well as the ease of the integration itself. Data provides insight on performance, enabling organizations to fill skill gaps and improve organizational performance.

In order to ensure that learning has impact, analytical tools need to help organizations collect, visualize and organize learning data. This data enables organizations to adjust courses, manage users and modulate the overall learning process. Using an LRS (Learning Record Store) in a learning platform, users can store actions as an activity log, and then leverage that data to provide a full picture of user activity. This includes the curation of content and the personalization of learning and training based on data analytics.

Of course, data is meaningless without context. Measuring learning impact is a complex and very case sensitive process requiring particular capabilities in a learning platform:

1. **Collecting data about the learning events**.
2. **Descriptive analytics:** Reports detail what has happened, using data sets and tools for customer insight.
3. **Diagnostic analytics:** Provide experienced analysts and knowledge about analytics + tools to get a better understanding of client needs. Determine why something has happened in order to measure learning impact and manage it more effectively.
4. **Predictive analytics:** Using a range of methods, including algorithms, R (coding language) and some predictive tools like IBM SPSS, the combined data provides the knowledge necessary to predict what's going to happen and why.

Learning Pattern Report

The Learning Pattern Report in Figure 3 shows an effective means for users to see detailed and neatly composed information on the learning patterns. It tracks all lessons, pages and questions that users view, displaying their progress and success graphically.

Figure 3: Valamis Learning Experience Platform, Learning Report

4 | Case Study

The emergence of new standards such as Experience API (xAPI, also known as TinCan API), Open Badges and LTI (Learning Tools Interoperability) has expanded the interoperability standards support outside the LMS scope. Managing digital portfolios and capturing learning experiences in the Learning Record Stores (LRS) are now the tip of the iceberg of digital learning. In order to appreciate this in practice, let's examine one case study on an organization that have leveraged Valamis, learning experience platform to both improve organizational learning, and drive metrics for evaluating impact.

Case Study Riveria: Learning Analytics

North Karelia municipal education and training consortium (Riveria) is an organization providing qualified vocational education in North Karelia, Finland. Riveria is committed to developing vocational expertise for the benefit of North Karelia. The consortium operates in eight fields of education and has over 300 qualification titles with tailor-made education available. Riveria supports 7750 students with a staff of 1050, including 650 teachers.

Challenge
Finland's focus on phenomenon-based learning has driven a lot of interest at the global level. The idea of phenomenon-based learning is to bring learning and teaching closer into practice. Rather than focusing on singular, disconnected subjects, Finland's education system has focused on an integrative approach to learning.

Riveria needed a learning environment to achieve phenomenon-based learning, but the main challenge was deploying a technological platform that uses to analytics to develop more efficient training. A strong requirement was the need for trustworthy analytics for measuring and diagnosing a student's learning processes in order to make the training content better, thus better training would generate better results. Furthermore, an important part of the solution was the capacity to give and receive feedback, as well as grade the students' work easily. Riveria also wanted to optimize the time spent by teachers in the learning platform.

Solution
The Valamis eLearning platform provided a comprehensive system for integrating separate subjects in the form of a story. In phenomenon-based learning, learners are taught topics instead of subjects. The topics can be related to any real life events, which motivate the learner. The challenge with phenomenon-based learning is validating what students have learned. Valamis provided powerful learning analytics, supporting the xAPI learning management system, collecting data about student activities, including what students experience in the learning environment. Additionally, the analytics in the form of learning records and achievements were also visible to students; they could see what they have accomplished, what needed to be completed next, and their expectations were clearly defined. Teachers also reaped the benefits of Valamis' optimization. Teachers could easily identify who to contact individually based on the learning records, which gathered a comprehensive view of all the learner's activities in one succinct place.

Outcome
The co-operation with Riveria and Valamis began as a pilot program but has since grown into a program for the whole institution. The diagnostic capabilities of Valamis offered key advantages both for students and teachers alike. Students could learn in a new and motivating way, building on real-life stories. This in turn makes it easier for teachers to see what students are actually learning and how they might continually improve their digital teaching methods and materials.

"The seamless cooperation between Valamis, Riveria and the Tampere University of Technology (TUT) has been the key success factor in this project. Now as the pilot phase has ended, we will start moving the actual studies into the Valamis environment during the next semester. According to the feedback, the students seem to particularly like the idea of different subjects being under one entity".

Ville Tuominen, Advisor of Online Learning, Riveria.
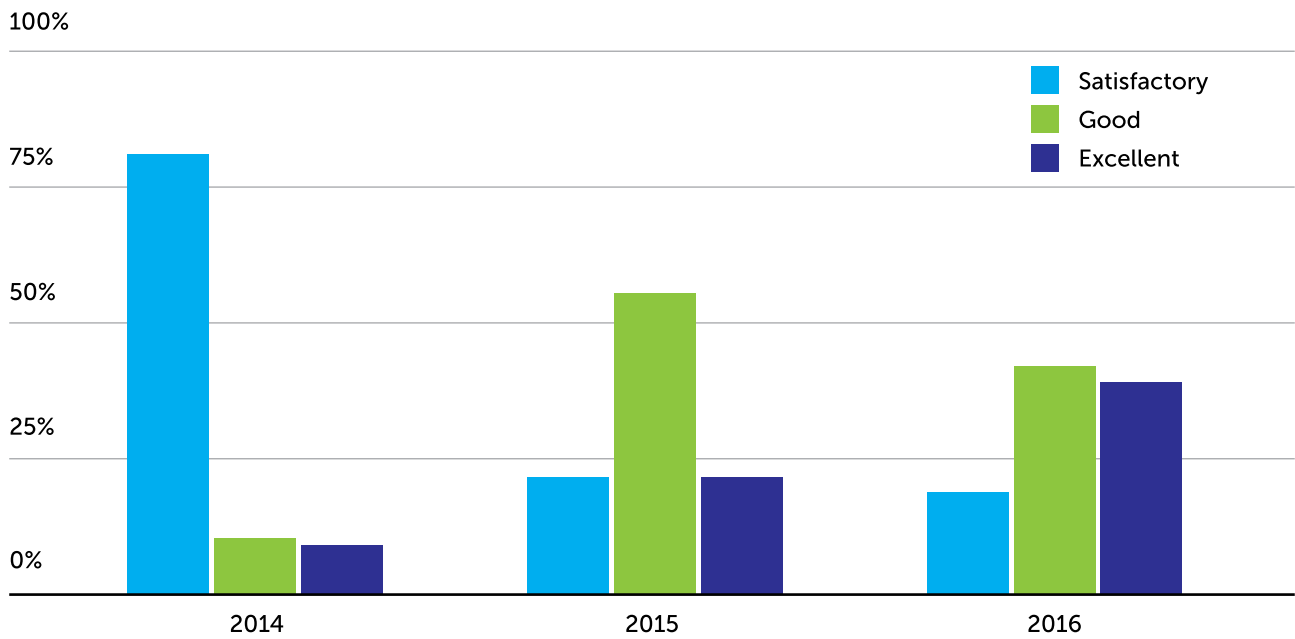
Figure 4: Grade Development. After defining and measuring challenging areas in the course materials, Riveria has managed to help students to learn more efficiently and achieve better grades. Satisfactory grades decreased and excellent grades increased.
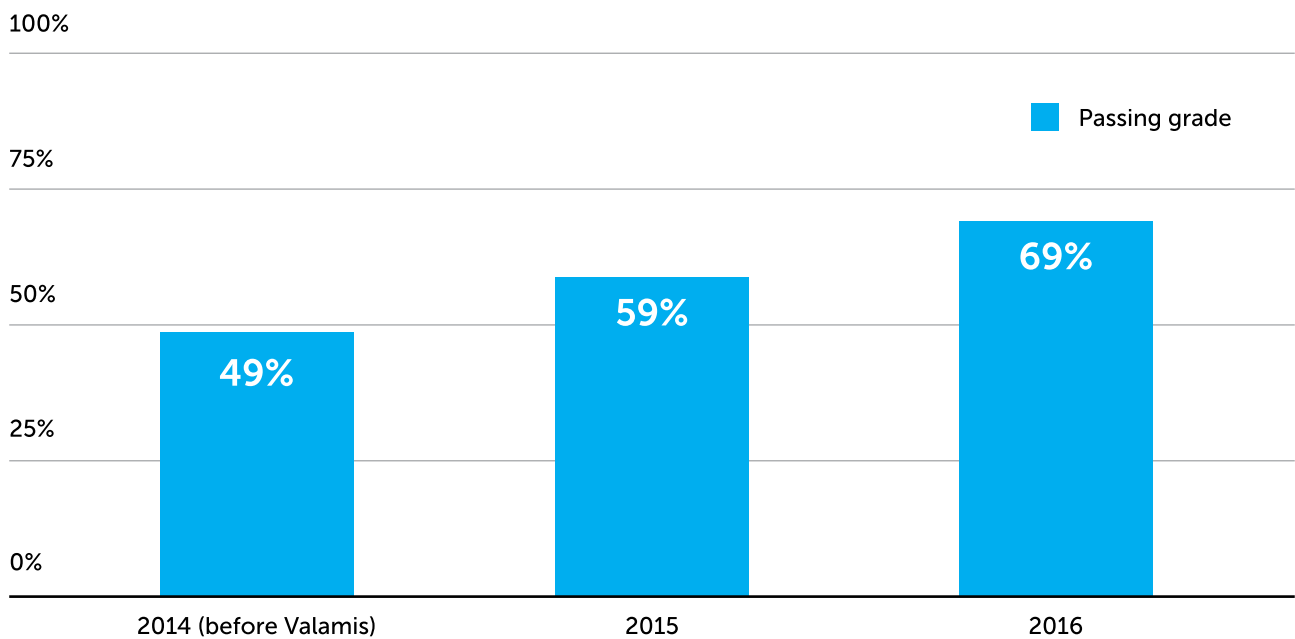
Figure 5: Ever since Riveria started developing their course material by measuring the learning impact (2015), they have been able to better the course material and the students' passing grades have risen from 49% to 69%.

5 | The Evolution of Work and Learning

The capacity for organizations to consistently learn and create new, innovative ways of improving workforce development is creating a massive competitive advantage. According to research at IBM, employees who do not feel they can achieve their career goals at their current organization are 12 times more likely to consider leaving than employees who do feel they can achieve their career goals. [13] Indeed, the importance of career development highlights the need for organizations that are grounded in learning and training. Much of this revolves around technology.

13 https://www-03.ibm.com/services/learning/pdfs/IBMTraining-TheValueofTraining.pdf

What we can say with a level of confidence is that there are certain keys to building learning organizations in this new digital era. These keys include:

1. Digitalization of learning

Learning is becoming more measurable and goal-directed even as it becomes much more student-centric. Independent of place and time, students now have the tools and resources to learn anywhere that best suits their needs. Consequently, accelerating organizational learning systems through digitalization is now the foundation to the long-term success or failure of competitive organizations.

2. The convergence of work and learning

Work is becoming increasingly virtual. Workers have become acutely dependent on social and technological networks. The ability to find, curate, and share information effectively provides rapid acceleration in an organization's strategic capabilities. In this way, work and learning are beginning to blend together in a larger digital convergence.

3. Continuous and rapid change

Approximately 35% of the skills demanded for jobs across industries today will change by 2020 [14]. Nonetheless, by making the appropriate investments in systems and platforms that support learning, for optimizing the potential of the adult workforce at all stages of the career path, companies and societies can reap the benefits of productive, innovative and experienced employees who continue to adapt and deliver over time.

4. Digitally augmented workplace initiatives

Internal workplace initiatives are key to preparing organizations for a smooth transition into the Fourth Industrial Revolution. In order to maximize the effectiveness of a augmented workplace, it is critical to understand how the sources of motivation and engagement vary between different generations of the workforce. By internally implementing digitally augmented workplace initiatives, it is easier for organizations to increase employee agility, engagement, and effectiveness in this transition.

5. Measure and analyze learning

Today learning and problem solving often happen in social and informal scenarios. Whether formal or informal, it is crucial for companies to have tools to both measure and analyze all types of learning activities. The ability to measure learning will be closely tied to the actual ability to execute.

6. Enhanced organizational capability

As work becomes more spontaneous and hyperconnected, organizations need to enhance their organizational capabilities in order to respond to the new operating models introduced within the Fourth Industrial Revolution. It is critical to engage people and suit new ways of working, such as working virtually. Without a proper understanding of the digitalization and the changes it brings along, it is challenging for the workforce to absorb the transforming nature of work.

7. Ensure cooperation between CIOs and HR

Organization CIOs and HR need to work closely together to define the technology capabilities for digital work, digital learning, and digital workforce development designed to facilitate the change. Note, that it is not enough to aim at replicating the physical world processes, as the working skills required in the digital domain are unique and evolving.

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14 http://www3.weforum.org/docs/WEF_FOJ_Executive_Summary_Jobs.pdf

It is critical to engage people and suit new ways of working, such as working virtually.

Conclusion

Organizations increasingly need to identify top talent but are often needlessly saddled with learning systems that undervalue the principles of effective learning. New technologies are enabling highly flexible workplaces, connecting people together in new ways. Much as the digital transformation impacted media and publishing, the transformation of learning is taking a turn into systems and practices that make learning highly personalized and on-demand. The need to augment workforce development within highly digitalized workplaces is now a key driver of organizational investment in learning ecosystems.

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