

# Sustainable Behavior Change: **Metrics, Measurements and Methods**

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## VUCA World

### Volatility

Volatility refers to the speed of change in an industry, market or the world in general. It is associated with fluctuations in demand, turbulence and short time to markets and it is well-documented in the literature on industry dynamism. The more volatile the world is, the more and faster things change.



### Uncertainty

Uncertainty refers to the extent to which we can confidently predict the future. Part of uncertainty is perceived and associated with people's inability to understand what is going on. Uncertainty, though, is also a more objective characteristic of an environment. Truly uncertain environments are those that don't allow any prediction, also not on a statistical basis. The more uncertain the world is, the harder it is to predict.



### Complexity

Complexity refers to the number of factors that we need to take into account, their variety and the relationships between them. The more factors, the greater their variety and the more they are interconnected, the more complex an environment is. Under high complexity, it is impossible to fully analyze the environment and come to rational conclusions. The more complex the world is, the harder it is to analyze.



### Ambiguity

Ambiguity refers to a lack of clarity about how to interpret something. A situation is ambiguous, for example, when information is incomplete, contradicting or too inaccurate to draw clear conclusions. More generally it refers to fuzziness and vagueness in ideas and terminology. The more ambiguous the world is, the harder it is to interpret.



It is undeniable that we live in a world of VUCA (Volatility, Uncertainty, Complexity, Ambiguity). The pace of change can seem frantic, our future can seem unclear, the speed of innovation can seem daunting and the demand to show results, yesterday, can be exhausting. However, VUCA situations provide significant opportunity to learn from shared best practices, to quickly experiment and try new things, to leverage innovations from inside and outside our traditional domains of expertise, to change our own behaviors and to pivot towards success.

This research paper forms one of a series of outputs from an initiative started in 2018, called #BehaviorConf. Following nearly two decades of experience researching, developing and validating technologies for measuring and changing human behavior firstly as a postdoctoral research fellow at Trinity College Dublin and then as co-founder of EmpowerTheUser, I found similar patterns emerging. An issue or opportunity in the business would be identified, a training need would be derived, training content would be developed and delivered, and then measurement around usage and learner satisfaction would be completed. Measuring behavior change and business impact, however, would seldom occur. With #BehaviorConf, our goal is to change that trend.

Preparing for #BehaviorConf, we spoke with over 50 industry experts across the Talent Management Lifecycle, from acquisition to development to management, in order to gain their insights, experience and inputs on the agenda. While their backgrounds, experiences and operational contexts differed significantly (e.g. recruitment and selection, learning and development, compliance, leadership, sales, procurement), their drive to deliver business impact and value from their Talent initiatives was consistent.

The inaugural #BehaviorConf, held May 30th 2019 at the Irish Consulate in New York City was an intimate workshop with professionals passionate about enablement and behavior change in the modern workplace delivering tangible outputs. At the event we focused on the missing link of most Talent initiatives - how to drive sustainable behavior change by focusing on the 3Ms: Metrics, Measurements and Methods.

We are excited to share with you the key takeaways from this initiative in addition to further ETU research and observations from the contributors.



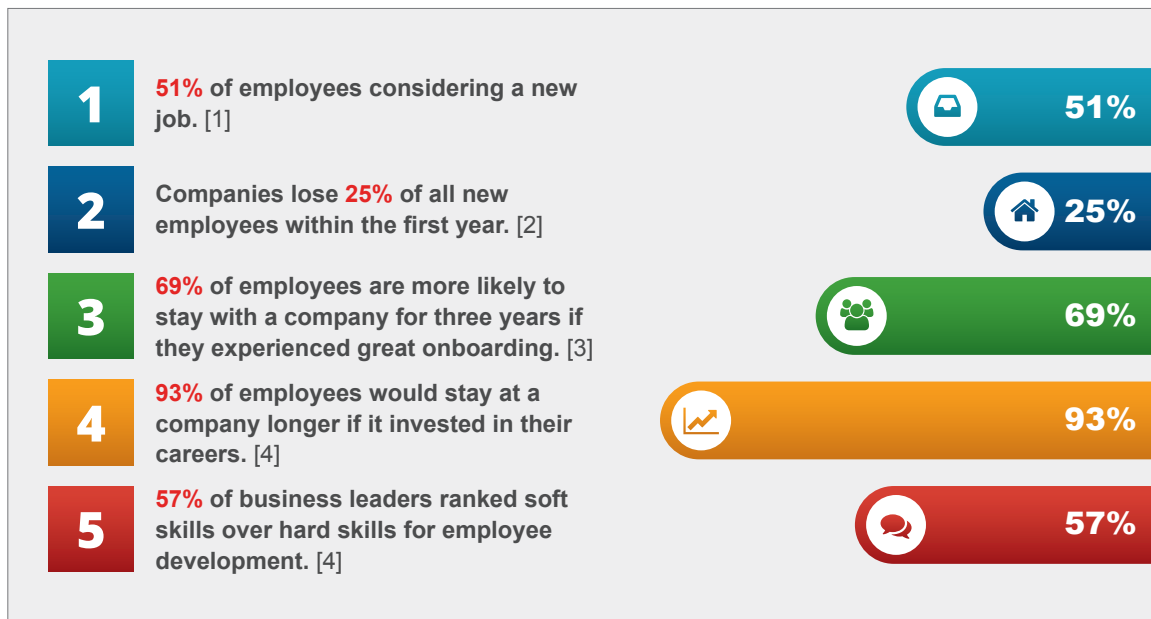
Figure 1) Analysis of BC19 conversation highlighting behavior change and business impact

I would like to extend a special thank you to all the participants involved in this initiative and its outputs, all of whom are listed below in the contributors sections.

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## The war for talent rages on.



In a marketplace where over \$400BN is spent every year on tools, technologies, internal salaries and external resources[5], Talent executives face increasing pressure to demonstrate that their investment is paying off in areas like sustainable behavior change, finding the right talent for key hires, driving consistent leadership culture, positively influencing employer branding and ultimately demonstrating return on investment (ROI).

However, organizations continually struggle to measure the business impact and behavior change achieved through their Talent initiatives.

- Too often, business alignment is a reactive response to executive questions instead of a proactive process embedded in the culture of talent organizations.
- Many organizations focus efforts on measuring the easy metrics like throughput and user satisfaction and **not** the more meaningful metrics like business impact (e.g. financial, operational, customer and brand, learning and growth capabilities) and expected behavior change.
- Traditional training methods deployed in organizations to address their business needs such as instructor-led training and eLearning, fall short of sustaining behavior change.
- Traditional measurement methods deployed in organizations to quantify business impact such as surveys, interviews and multiple choice questions, fall short of scalably measuring business impact and ROI.

This research paper is focused on Sustainable Behavior Change: Metrics, Measurements and Methods. An initial collection of concepts, principles and best practices for optimizing employee behavior and delivering measurable business impact are presented. This is a complex and expansive subject when applied to the practices of the Talent Management Lifecycle (TML): Talent Acquisition, Talent Development and Talent Management. To simplify our task, throughout this paper we will focus our context predominantly on post-hire situations, i.e. Talent Development and Talent Management. However, the principles of alignment, metrics, measurement and methods are globally applicable to all Talent practices.

**Section 1** focuses on business alignment and the processes and practices of ensuring your Talent initiatives are strongly aligned to the business needs and requirements of your organization.

**Section 2** discusses how metrics and measurements are key to determining and quantifying the business impact and ROI from your Talent initiatives.

**Section 3** emphasizes the methods, and their key attributes, that can deliver sustainable behavior change in your organization.

# 1 - Business alignment in the Talent Management Lifecycle (TML)

## 1.1 What is business alignment

According to David Vance, Executor Director of the Center for Talent Report, alignment is “a process to ensure learning is carefully planned and directed to meet the highest goals of the organization.”[6]

Alignment is a critical process that all organizations should embed across their TML initiatives. Tight alignment ensures a connected flow between strategic business goals and the execution of the initiative. It creates transparency of purpose and, when done correctly, sets the foundation for measuring behavior change and business impact. Performance consulting, which has grown in popularity in the past decade, is one approach organizations are leveraging to create strong business alignment within TML initiatives.



Figure 1.1) Levels of Alignment

As shown in Figure 1.1, alignment occurs during the strategic planning process (i.e. strategic alignment)

but also occurs during tactical execution when the Learning and Development (L&D) organization initiates a performance consulting process or conducts a business needs analysis.

Figure 1.2, presented at #BehaviorConf (#BC19), depicts the high-level process starting with strategic alignment and transitioning to tactical alignment and execution. Note that during both the strategic alignment and tactical alignment phases, an explicit checkpoint ensures that L&D has a meaningful role to play or said another way, that development is an appropriate solution to address the performance gap in the organization. This question and subsequent validation is critical to ensure that L&D doesn't allocate resources because training seems like a good idea.

For example, imagine you work for an organization with a strategic priority to sell a soon-to-be released product into a new market. The VP of Sales believes that sales of this product are critical to fuel overall company growth. During the strategic planning process, business and L&D leaders agree that employee training will be essential to enable sales associates to aggressively sell the new product in the market.

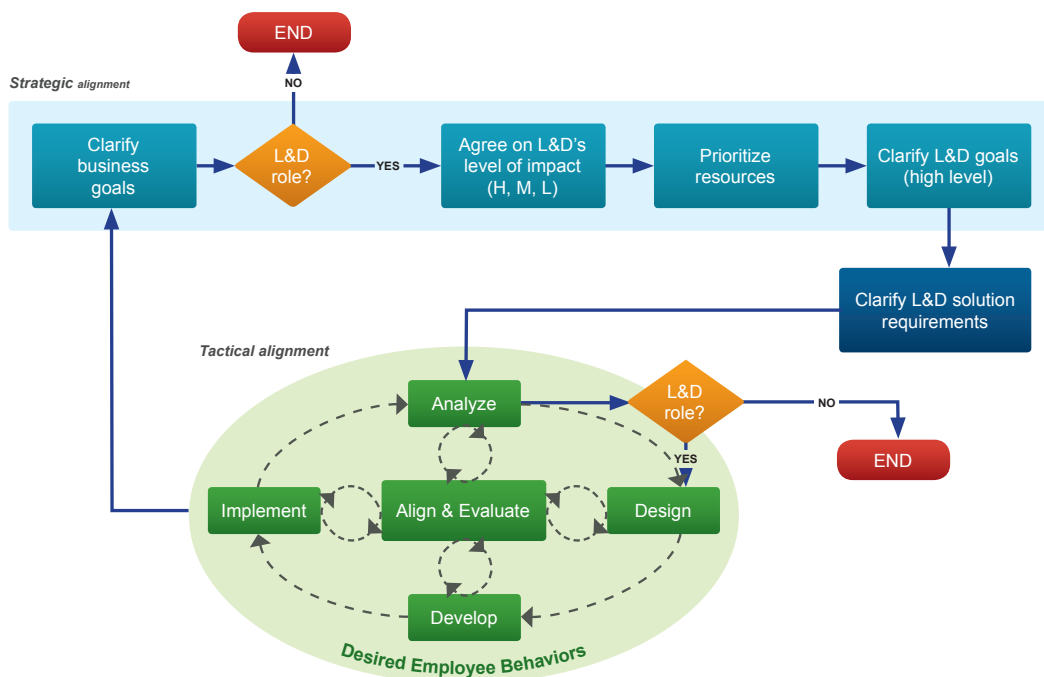


Figure 1.2) End-to-end alignment process

# 1 - Business alignment

L&D now involves its performance consultants in a tactical alignment process. These consultants evaluate the underlying cause of a potential performance gap and identify the most appropriate solutions to address the business need. They discover that many elements of the new product are similar to existing products the company already sells. They believe that with a mix of self-guided learning material and a few eLearning programs, sales associates can successfully sell the product.

However, during the discovery process, they learn that the barrier to sell the new product is less about associates' knowledge and skills, and more about their desire to sell the product. The new product is targeted for a market that sales associates have typically avoided. This market requires longer sales cycle times and yields orders 10-20% less than what they can achieve in existing markets. If sales associates can make their quota selling the older products into existing markets, they will continue to do so. The performance consultants identified that a modification to compensation structures was more likely to successfully change sales associate behaviors than in-depth training.

At this point, L&D engages the Compensation function to address the fundamental barrier to accelerate sales. This tactical alignment checkpoint and process focus on meeting the business need while also ensuring that the right function (i.e. compensation) creates the right solution to change the employee behaviors, address the business need and yield the desired outcome (i.e. greater sales).

As this example highlights, L&D is not always the solution to closing a performance gap. Rather, other causes such as outdated policies, complex procedures, unwieldy structures, unclear roles, poor communications or complex technology may be at the heart of underperformance. The tactical alignment process ensures that business and L&D leaders effectively and efficiently deploy their scarce resources to deliver the optimum behavior change and business impact for the TML initiative and ultimately the organization.

## 1.2 Why is business alignment so important?

Business alignment is a critical process that every L&D organization should strive to get right, both at the strategic and tactical levels. As the prior example demonstrates, the alignment process helps ensure that L&D invests its resources in those programs that will make a difference.

Let's put this into context. According to the 2018 Training Industry Report [7], U.S. training expenditures—including payroll and spending on external products and services were \$87.6 billion in 2018 or almost \$1,000 per learner.

The looming question is, what is the return on this huge investment? To what extent is L&D advancing the business strategy or ensuring that the business runs efficiently and effectively? Unfortunately, industry organizations such as the Association for Talent Development (ATD) and Training Magazine don't publish statistics on the impact of this spend on business outcomes. That's because, even if organizations compute the return on investment of select programs, few compute the overall impact of their spend on the business as a whole. ATD or Training Magazine would be hard pressed to calculate the impact for specific sectors or the industry as a whole without mandated measurement standards.

Lacking statistics on the return, we must focus our efforts on standard processes that increase the likelihood that the \$1,000 spent per learner actually yields a tangible and quantifiable benefit. This is where alignment comes in. When L&D is well aligned (and continuously strives to stay aligned), L&D can fulfil its promise to not only build capability but to do it efficiently and effectively and ultimately contribute to business outcomes.

In addition, alignment has downstream positive benefits for L&D. First, most L&D functions strive to be seen as a strategic partner. What says 'strategic partner' better than a function that truly understands the business requirements and allocates resources appropriately to build talent and capability? Second, well aligned learning organizations utilize their talent wisely. They ensure they are working on the most important programs for business success, thereby giving their employees, L&D practitioners, opportunities to make major contributions to business success. Employees who see how their work connects to the business goals and additionally see their direct contribution are more likely to be highly engaged (and therefore productive) in their day to day work[8].

Conversely, when L&D isn't aligned or is poorly aligned, the consequences can be significant. If L&D delivers the wrong programs to the wrong audiences, the organization will lack the needed capability to achieve its goals. Furthermore, other parts of the organization now have to pick up the slack created by L&D. Non-L&D functions may develop "shadow learning organizations"[9], or hire external resources to fill the gap left by L&D. If L&D wants to fulfill its purpose to develop the needed capability for the current and future workforce and improve L&D performance, then effective alignment is the critical success factor.

## 1.3 Where are we today?

BC19 participants had a lively discussion during the breakout sessions to discuss what is working and what is not working in their respective organizations to achieve meaningful alignment. Figure 1.3 captures the major themes that resulted from that discussion.

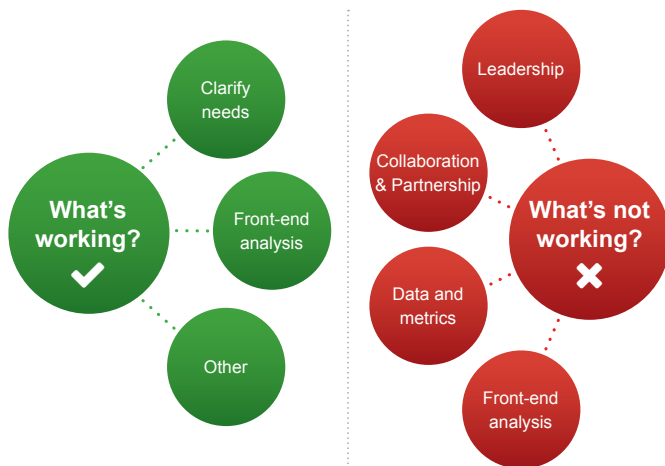


Figure 1.3) Participant feedback: What's working and what's not in the alignment process?

BC19 participants indicated that many aspects of their alignment process are working well.

- A large number of attendees felt they were effective at clarifying business needs and requirements. Several noted they have robust processes to understand the desired outcomes from the business.
- These participants also commented that their front-end analysis process is sound and helps clarify specific training needs. A few noted that the process is annual, well defined and involves senior business leaders.
- There was less agreement on other alignment factors that are working well, hence our categorization of “other.” A few mentioned they have effective partnerships and use data from multiple sources to identify emerging needs but this was limited.

When we turned to the “what is not working” question, participants identified four barriers to successful alignment:

- Several attendees felt they did not have sufficient leadership support and the old ‘order taking’ mentality still exists within the organization. This attitude resulted in L&D building unnecessary learning programs created simply because a single influential leader insisted there was a training need.
- Several participants admitted they still struggled to form meaningful relationships and collaborate across organizational boundaries including the business, HR and other L&D organizations.
- Others indicated they struggle with data and metrics. Specifically, these participants felt they were ineffective at connecting behaviors to performance metrics and demonstrating business impact.
- Finally, despite the positive comments from many of their colleagues, a few participants felt their front-end analysis process needs to be prioritized in the end-to-end design and development process. These individuals commented that analysis gets shortchanged in the rush to create solutions.



## 1.4 How can you achieve alignment?

There is so much talk about alignment, that you might assume we all mean the same thing when we say the word. Unfortunately, you would be wrong. Do a quick Google search on L&D business alignment and you will get thousands of articles on the topic. Click some of the links and you will find as many suggested approaches to alignment as search results [10].

The Center for Talent Reporting (CTR) has a methodology (Talent Development Reporting Principles, TDRP), that relies on strong business alignment. TDRP recommends that L&D functions establish five key practices to achieve strong alignment:

1. An intentional approach to surface emerging areas of potential L&D involvement that support business success;
2. Clear business goals that L&D programs are designed to impact;
3. Agreement with the business sponsor on the expected impact of the talent programs or learning and development initiatives;
4. Disciplined execution with regular reports of progress;
5. Measurement and evaluation that reports on the efficiency and effectiveness of the learning function and the impact of its strategic initiatives.

These practices individually and collectively require discipline, standard processes, strong business relationships and a strong team that can execute and effectively challenge when necessary to maintain alignment of programs to business needs. And quite frankly, alignment can be challenging and requires time. But as we've discussed, without it, the L&D function will be hard pressed to deliver significant value and ultimately will not be viewed as a strategic partner.

In the BC19 session, attendees participated in breakout groups to suggest how the industry can improve its alignment practices. They suggested several actions that L&D practitioners should take in their daily work

- First, they all agreed that it's critical for L&D to build credibility with the business. Meaningful discussions with business leaders will only happen if L&D understands the business and speaks its language. While spending time "on-assignment" in the business would be ideal to form an in-depth understanding, at a minimum L&D practitioners need to leave "L&D speak" behind and come to the business discussion with a solid understanding of the business pressures and levers that advance the strategy.
- Second, participants agreed that the discussion about business needs should be grounded in performance requirements, clarifying business goals and how performance will impact them.
- Third, L&D needs to reframe the business conversation. Instead of asking "what do you want your employees to learn?" they need to ask, "what do you want them to do?" This shift to desired behaviors vs knowledge or skills enables the L&D practitioner to focus its needs analysis on behaviors and performance outcomes to devise the appropriate solution. Moreover, by refocusing on behaviors, they are better positioned to measure behavior and subsequent performance gains from their initiatives.

BC19 participants also discussed the importance of measurement and the steps L&D can take to improve practices in this area. The recommendations varied from expanding how we measure (go beyond end of program surveys), what we measure (the learner experience, predictive KPIs, competencies) and simplifying the measurement process (integrate into the workflow, access existing data sources, rely on measures leaders already track).

Clearly, measurement is a significant opportunity that clarifies what success looks like at the outset and tells us if we achieved it at the end. In the subsequent sections of this research paper, we will explore the measurement arena in more depth.

## 1.5 Take-away: Assess the quality of your alignment process

Now it's your opportunity to address the important topic of alignment. Consider Figure 2.4 below. Answer the following questions to assess your current approaches to alignment.

If you don't have clear answers to these questions, this mini assessment could be the catalyst to identify where you can improve your process today and how to evaluate its effectiveness, in the short term but also ongoing.

- How does this process work in your organization?
- What type of dialogue do you engage in with the business to clarify solution requirements?
  - Do you work with the senior-most leaders or middle managers who report to the senior-most?
  - Do you research the needs before the discussion or use the dialogue to uncover unstated, but important needs?
- Do you define behavioral expectations for specific solutions being considered? What process do you use to clarify and vet them?
- Do you engage in a robust front-end analysis process? If not, why? What happens if capability development is not the right solution for the business need? How receptive are your business leaders to consider solutions beyond training?
- What agreements do you reach with business stakeholders? Do you document roles and accountabilities for success?

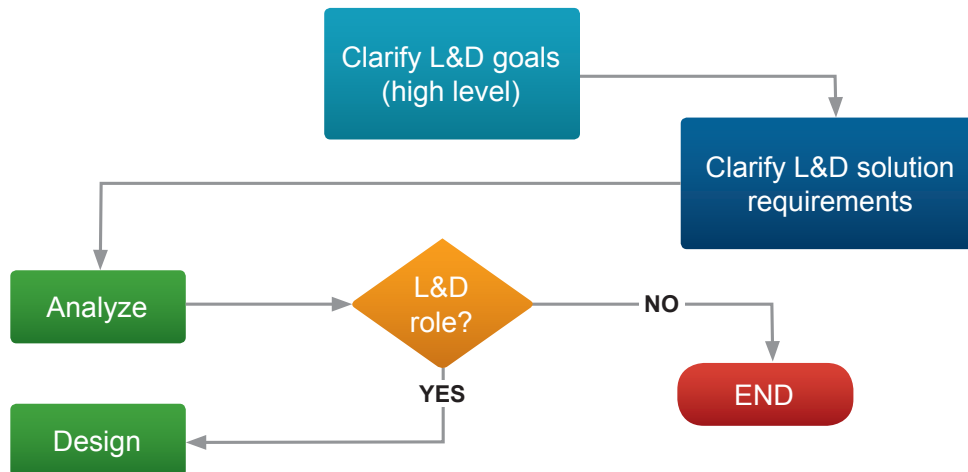


Figure 1.4) The essential elements of alignment

## 2.1 Current state

We tend to think about measurement in the Kirkpatrick framework, where outcomes are organized hierarchically from Reaction to Learning to Behavior to Results. Some follow the ROI Institute methodology of Jack and Patty Phillips, adding an additional level that includes return on investment (ROI). As measurement progresses up the hierarchy the perspective changes from micro (the experience of individual learners) to macro (the impact of the training on the company as a whole).

What information does each level provide?

- **Activity:** Often referred to as Level 0, this data provide insight into the execution of the process, that is, that learners actually attended the training.
- **Reaction:** Indicates whether the L&D team successfully delivered a piece of content that fits with learners' and beliefs about their work needs
- **Learning:** Indicates whether the training was successful in conveying the desired information to learners in the moment. Additional learning assessments can be administered in the future to assess continuing content retention.
- **Behavior:** Indicates whether employees are engaging in the desired conduct targeted by the training as part of their job performance or organization's culture.
- **Results:** Indicates whether the relevant business outcomes, targeted by the training, have changed (ex. fewer data security breaches).
- **ROI:** Indicates whether the financial benefits due to the changes achieved in business outcomes is greater than the expense of producing, distributing, and consuming the training.

- **Activity:** Compute not only how many employees viewed the video, but if the target audience (for example, anyone who works with IT systems) has viewed it.
- **Reaction:** Determine whether learners liked the training and perceived it to be relevant, useful and engaging. Results impact future content design and instructional quality.
- **Learning:** A short comprehension quiz to determine whether the content was remembered and understood. Results impact future content design and learners who may need further training.
- **Behavior:** Managers' observations of whether the new data security procedures are being followed by employees. Results impact learners by identifying those who need further training
- **Results:** Comparing the number of data security breaches that occurred in the year before and the year after the training. Results impact the business by informing them about vulnerabilities.
- **ROI:** Calculate the cost savings gained from the reduced number of data breaches minus the cost of producing the training. Results impact the business' bottom line.

The Reaction and Learning assessments both involve asking questions directly of the learner. As L&D will already be in direct contact with the learner through the process of providing the video (via an LMS or other source), it is relatively straightforward to gather these additional assessments at the same time. It is inherently more difficult to assess outcomes later in the levels (behavior, results, and ROI) as they require access to data that is typically outside of the L&D function. Gathering such data can be time consuming, expensive, and even risky (if the required data is sensitive).

In addition, while the methods to assess reaction and learning are straightforward (questionnaires and quizzes), the higher levels of the hierarchy can be measured in a wide variety of ways, and it is not always clear which method is best.

As a result, most current assessments measure only reaction and learning. L&D leaders struggle to demonstrate the business impact of their programs and their own value to the company. Despite the conceptual clarity of the learning measurement model, practitioners struggle with its practical application in their own organizations while trying to effectively assess the business impact of training.

Measurement Levels	Impact Target			
	Process	Content	Learner	Business
L0: Activity	✗			
L1: Reaction		✗		
L2: Learning		✗	✗	
L3: Behavior			✗	
L4: Results				✗
L5: ROI				✗

Figure 2.1) Levels of measuring L&D Effectiveness

As an example, the measurement framework could be used to assess the effectiveness of a learning initiative to teach new data security procedures via an online video:

## 2.2 Future state

To understand a learning solution’s impact on the business and related ROI, let’s think about measurement a bit differently. Measurement can be used as a way to gather evidence of impact. Through a “logic model” approach, you outline the logical chain of evidence and metrics that will be used: from the inputs to the process, and then the outputs.

Using this “logic model” approach means taking unstated assumptions about how training will work and putting them down on paper. Each “link” in the chain of the logic model provides an opportunity for measurement. The benefit of constructing a logic model is that it will naturally proceed from the “micro” to the “macro,” covering the same terrain as Kirkpatrick, but with specific suggestions for what and how to measure at each level.

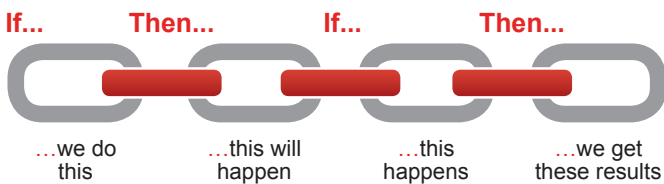


Figure 2.2) Logic Model

This model is also a great tool to leverage for business alignment activities. By using this approach in initial discussions with your business partners to understand intended goals and metrics they are looking to target, you develop a shared vision for what impact means to them. Assumptions are documented, expectations are made clear, and you now have the tools and language to communicate impact on the business through the duration of the program and beyond. These discussions also provide opportunities to work with your business stakeholders to identify potential external influences on results- mitigating factors that can affect outputs, behaviors, and outcomes outside of training. These might include a new hiring initiative expected to begin during the training period, CEO changeover, or even something as simple as the holiday season. Documenting these in

addition to other assumptions in the Logic Model can help make the chain of evidence more credible and relevant.

This is pretty abstract, so let’s break it down with a concrete example.

A manufacturer has determined that their largest source of fines results from a new product that does not meet compliance standards. As a result, L&D is considering designing a new training course focusing on the best practices in how to build this new product safely and efficiently. Their logic chain might look like this:

- IF** we assign a training designer and SME to the project:  
**THEN** we will produce a training course that teaches learners how to best build the new product safely and within spec.
- IF** we have the training course on best practices in building the new product  
**THEN** the right employees will complete the training.
- IF** the right employees complete the training:  
**THEN** they will use best practices when building the product
- IF** employees start using best practices in building the product  
**THEN** we will build more products that meet compliance standards.
- IF** we build more product that meet compliance standards:  
**THEN** the company will pay fewer fines for substandard new products.
- IF** the company pays fewer fines:  
**THEN** the company’s profit margin on the new product will increase.

Each “IF” in the logic chain is an opportunity for measurement. The graphic below lists a wide variety of elements that often can be used to measure the “IF”s in a logic model at various stages.

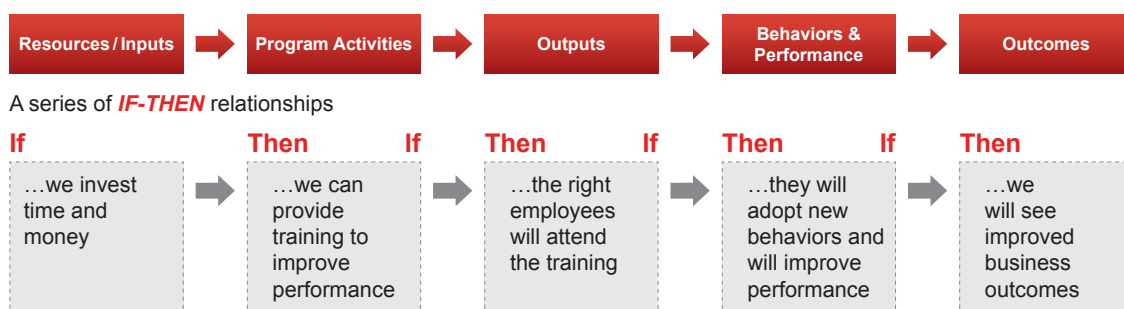


Figure 2.3) an example Logic Model

An L&D logic chain will typically follow this order.

- 1. SITUATION:** First, describe the situation to be addressed or the business need for a learning solution.
- 2. RESOURCES/INPUTS:** To address the situation, L&D takes stock of their relevant resources (e.g. time, staff, money).
- 3. PROGRAM ACTIVITIES:** Resources are used to implement program activities (e.g. develop courses, administer training, coach employees) that create a learning solution.
- 4. OUTPUTS:** Make a prediction about the direct outputs of the training (e.g. how many participants will be trained, how many will pass a post-test) and a plan to measure them.
- 5. INDICATORS/BEHAVIORS:** Next, specify in the logic model the indicators/behaviors that will result from the training (e.g. specific changes in performance or other behaviors), these can also be measured.
- 6. OUTCOMES:** Finally, the logic model arrives at the outcome, the ultimate reason the training was proposed in the first place: to reduce production costs, avoid fines, or raise the profit margin on a product or service.

Each stage in the logic model is dependent on the stage before it. If the training isn't administered, there are no outputs. If the training is administered but to the wrong people, then behavior won't change. If behavior doesn't change, then ultimate outcomes won't happen.

By laying out the logic model for a training program in advance, assumptions are made explicit and expectations are clear.

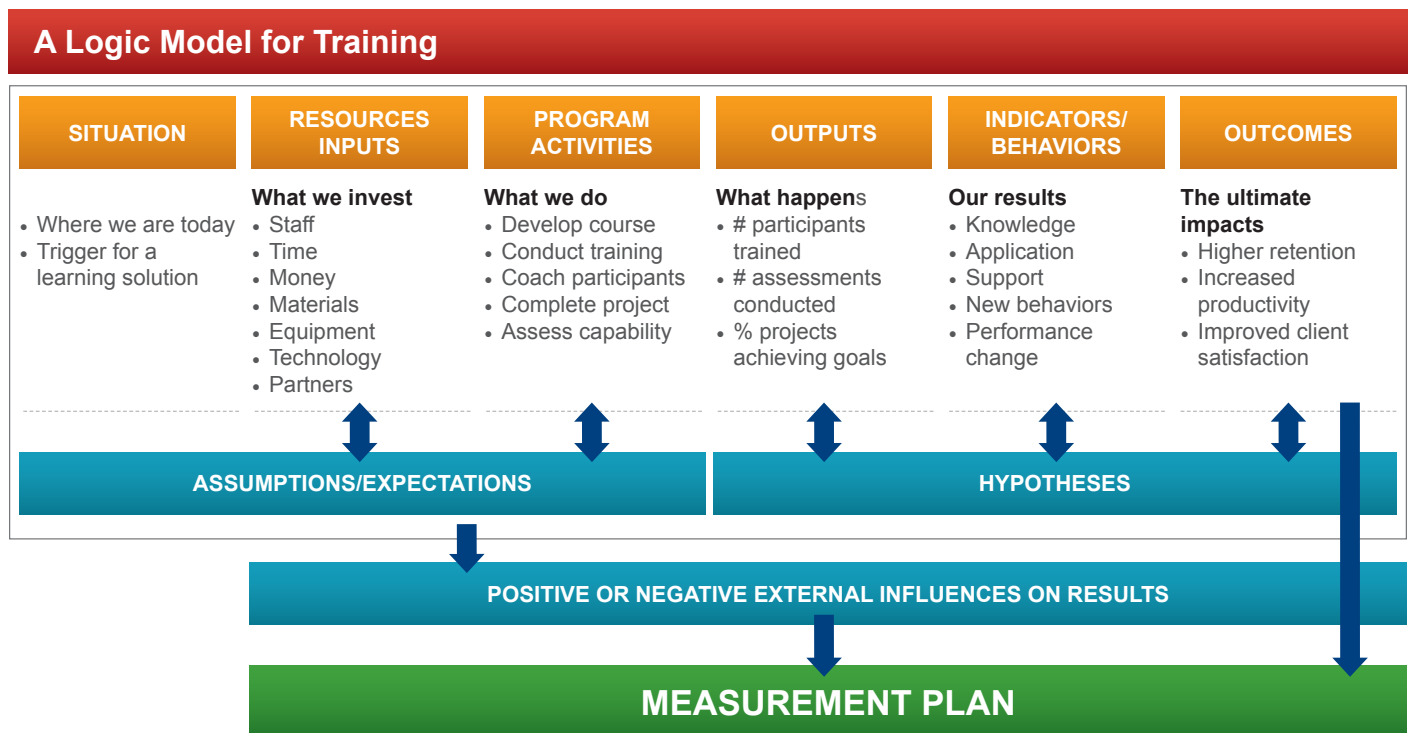


Figure 2.4) Logic modelling, metrics and measurement

### 2.3 Importance of choosing the right metrics

There is a famous joke about walking home at night and stumbling across a man frantically searching for something underneath a brightly lit street lamp. The man says he has lost his keys; being a kind sort, you offer to help out. After several minutes of fruitless searching, you ask the man where he was when he lost his keys. He then points to a set of stairs half a block away, barely visible in the darkness. Shocked, you ask him why he's searching under the lamppost and not by the stairs. He replies: "The light is better here, so it's easier to look."

There are an infinite number of things to measure and ways to measure them. Like the searcher in the story, often when choosing metrics people fall back on the measures that they know well, without thinking about whether those measures are actually targeting what they, and their business stakeholders, need to know. Instead, choosing metrics should be part of the ongoing alignment conversation between L&D and business leadership.

The goal of a good outcome metric is to assess whether a learning program is moving the company closer to its strategic and tactical goals. For example, if a learning program is intended to increase sales by teaching new persuasive skills to salespeople, then it is important to measure not only whether the salespeople completed the training (an output) and have learned the new skills (an indicator/behavior) but also whether those skills result in increased sales (an outcome desired by the company) after accounting for the influence of external factors.

Because business goals tend to be quite broad, there will be a wide variety of relevant outcomes that could form potential metrics. The challenges of choosing which metric(s) to focus on are making sure they a) are accessible to L&D, b) can be easily measured and quantified (converted to a number), and c) can be measured in a timely manner. There's no point in defining a metric that is perfectly aligned with the business strategy if it turns out that another department won't release the data needed to measure the metric, or the data won't be available for several years. Likewise, there are some things that can't be measured due to privacy concerns or cost/feasibility.

Defining metrics based on their alignment to larger business strategy and tactics can be challenging, but it can also open doors within the business. Requesting data to evaluate an L&D initiative supporting company-wide goals is more likely to get a favorable response from other areas of the business than a request for data that only serves internal L&D goals.

In certain situations, it isn't possible to get Outcome information directly. In those cases, assessments of employee behavior can act as a leading indicator of the effects of training on the business. Behavioral data is more accessible to L&D due to their direct access to learners, but few L&D professionals know the best practices for measuring behavior change. Those best practices, rooted in decades of social science research, are described in the next section.

### 2.4 Measuring behavior & behavior change

The power and potential of L&D comes from its access to and its ability to influence employee behavior and mindset. Based on published figures by TrainingMag.com [7] for 2018, employees receive on average 46.7 hours of training per year. This training time, independent of the L&D time to design, develop, deliver and administer training, is in itself an investment. When employees are consuming training, they are not working at their jobs. So, the opportunity cost of 46.7 hours per employee per year for a 10,000 person organization exceeds \$8.4M in a single year. With such a high investment of resources, it's no wonder that organizations are demanding impact and ROI from their talent initiatives.

Human behavior is fundamentally defined as an observable response to a stimulus. From childhood through adolescence and adulthood, our behaviors form over time and through our social, environmental, physiological, psychological and cognitive interactions. One purpose of the Talent Management Lifecycle (TML) is to shape behavior: First, recruiting candidates who can successfully perform the behaviors of their job role, then teaching them company-specific behaviors through onboarding. Performance management is about encouraging functional behaviors and discouraging dysfunctional ones, while learning & development teaches employees new ways of behaving both consciously and intentionally.

Behaviors are a key component defining organizational culture and fundamentally influence the performance of an organization. People behave in accordance with their skills: Someone highly skilled in networking will employ specific behaviors at a work conference (mingling, listening well, smiling) while someone poor at networking might behave differently (avoiding eye contact, only talking about themselves, scowling). Both people are in the same situation (work conference) but their response to that situation is different because of their differing skill-set and underlying behaviors.

By proactively developing and practicing skills, we can change and develop behaviors. Conversely, by measuring behaviors, we can form a view of a person's skill-set and potential development needs. When designing talent management initiatives, understanding how people behave in their jobs can help to align the skills targeted with the behaviors required to do the job well. Clarity on the behaviors expected in the future (as a target) helps to align business goals and L&D efforts.

Behaviors are inherently difficult to measure. They are also time-consuming to change or develop. Measurement difficulties arise from:

- The complexity of some behaviors;
- The context-dependent nature of behaviors;
- The skills required to accurately and consistently “score” the observed behavior;
- The effects of observation and assessment on the behavior being observed;
- The difficulty inherent in accurately describing one's own behavior.

The simplest method of measuring behavior is to ask people to describe how they have behaved in the past or will behave in the future. Unfortunately, a great deal of research in the social sciences has shown that people are notoriously bad at self-evaluation. The less skilled overestimate their abilities (the Dunning-Kruger effect), the way a question is phrased can dramatically affect peoples' responses (demand characteristics), and even peoples' own desire to see themselves as competent can lead them to inflate their self-assessments (social desirability). It is a perfect storm of distortion [11].

Another popular method for trying to assess behavior is through knowledge tests. People may not be able to accurately describe how they behave at work, but a quiz that tests their knowledge of company policies is more straightforward. With simple right-or-wrong answers, issues of bias fall away. Here, the challenge is linking knowledge to behavior. Again, social science has shown that what people know and believe is not always the same as what they do. A person's mood and context, and the behavior of the people around them, are often stronger predictors of how a person will behave [11].

Observing real behavior in a work context requires considerable planning and resources, but also provides the most accurate data about how employees do their jobs. Challenges begin with defining exactly what aspects of a behavior need to be measured, and in what context. Employees will behave differently in meetings with their supervisor, versus with their coworkers, versus when meeting with a client. Even a seemingly simple behavior such as making a phone call can be quite complex: Should we measure tone of voice, length of call, word choices, or something else entirely? The Logic Model approach is essential here for pinpointing the relevant aspects of behavior to be measured.

Changing or developing behaviors presents its own challenges as both motivation and skill attainment play critical roles in influencing the success of the behavior change initiative. As anyone who has tried to break a bad habit knows, change isn't easy. New behaviors arise from learning new skills, which cause people to respond differently to the same stimulus. For example, an employee may be motivated to learn telephone skills so that they respond to the stimulus of their work phone ringing with a polite "Hello" rather than a snapped "What?". Since behavior change involves overwriting an old behavior with something new, repetition is needed to extinguish the old behavior and achieve mastery of the new skills.

After making the effort to institute behavioral change, it is important to understand if the training worked. Measuring behavior change involves four considerations:

- Sampling
- Correlation vs causation
- Application latency
- Forgetting curve

### 2.4.1 Sampling

Measuring if or to what extent training changed behavior means we need to compare after-training behavior to some other group. We can compare people to themselves before training (a pre-post design), or compare them to a second group that didn't receive training (experimental design). Both approaches have risks.

If we compare people to their own past selves, we run the risk of confusing the effects of training with the effects of time or other events. People may just get better at their jobs over time, with or without training. Also, our assessment is vulnerable to outside events: If everyone in the company gets a raise just as the training begins, it will be impossible to know whether changes in peoples' behavior are due to the training delivered, or the improved morale.

If we compare people who received training (called the experimental group) to a different group of people (called a control group), it is important that the two groups be very similar in as many ways as possible. If the groups are quite different, then it's impossible to know whether the differences in their behavior are because one group received training, or because the groups were already behaving differently even before training. To avoid this situation, pay careful attention to the samples you choose to make sure they are as matched as possible.

A classic example of this situation (which is called experimental confounding) is an experiment to test whether people like chocolate or vanilla ice cream flavors more in the summertime. One group is given chocolate ice cream, the other is given vanilla, and the behavior that is measured is how much ice cream the group eats. The chocolate group eats twice as much ice cream, so it seems that chocolate is better liked. However, if the air conditioning in the chocolate group's room had broken down, while the vanilla group's was still working, then the difference in room temperatures is a "confounding factor": we can't know if people ate more chocolate ice cream because they liked it more, or because they were overheated due to the warm room.

### 2.4.2 Correlation vs causation

A truism in the social sciences is that "correlation does not imply causation," meaning that just because two events occur in close proximity (such as getting a new haircut the day before getting a raise) does not mean that one of the events caused the other (the new haircut probably did not cause the raise). In the case of assessing behavioral change from training, it means that just because peoples' behavior changed after receiving the training does not mean we can immediately conclude that the training caused the behavioral change. Other factors such as the knowledge they were being observed could have led people to change their behavior (this is called the Hawthorne effect). Or perhaps an inspiring new CEO caused both the design of a new training program and the change of behavior (this is called "shared cause"). Experimental design principles such as those described in the "sampling" subsection above are intended to rule out alternative "correlational" explanations for training effects by creating situations where the only possible reason for behavior to change is the training.

### 2.4.3 Application latency

How long does it take for a skill to be expressed as a behavior? Or more specifically, in complex jobs, how long does it take for people to integrate a new skill into their work? Sometimes implementing a new behavior requires a cascade of changes in workflow and procedures. If we look for behavior change too quickly after training, we may conclude that the training was ineffective because we failed to account for application latency, or the time between learning a skill and applying it. Consultation with subject matter experts can help to determine how long to wait before taking measures of behavioral change.



### 2.4.4 Forgetting

A skill that isn't used often can decay, and old behavioral tendencies return. In addition, even an often-performed behavior can change over time due to procedural drift or forgetfulness or misremembering. As a result, training that appeared to successfully change behavior may not have an impact on company performance because

the behavioral change caused by the training is not sustained. Research by Ebbinghaus has established that people forget information (and therefore lose skills) at a predictable rate [17]. He also found that forgetting can be prevented if training is supplemented by refresher material on a regular basis.



#### Sampling

- Compare to past performance
- Compare to others



#### Correlation vs Causation

- Hawthorne effect
- Shared cause



#### Application latency

- Changes in workflow
- Changes in habits
- Time for effects to show



#### Forgetting

- Ebbinghaus
- Periodic refresher
- Frequency of use

Figure 2.5) Measuring behavior change involves four considerations

### 2.5 Measuring business impact

This section outlines the considerations for measuring business impact. To best make the case that a training initiative is meeting the business goals, change in behavior should be linked to measures of impact. This enables us to build a story for business stakeholders about how the training works at multiple levels.

Business impact can be divided into four areas: Financial, Operational, Customer & Brand, and Learning & Growth. Not all training initiatives will impact all four quadrants, and the quadrants operate interdependently. For example, retaining high performing talent (Learning & Growth) can increase revenue (Financial) and increase customer satisfaction (Customer & Brand), as well as increasing productivity and efficiency (Operational).



Figure 2.6) Categories of Impact Measurement

Business impact data can be very powerful, which also makes it highly valuable. Gaining access to relevant measures of impact requires persuading data gatekeepers within the company to share sensitive information. Making a case for how the data will help L&D to support larger company initiatives is critical. Demonstrating alignment to the business goals increases stakeholder engagement. In addition, engaged stakeholders can act as champions within the business to help pave the way for access to the needed data.

Due to the powerful and potentially sensitive nature of business impact data, it is critical to develop a measurement plan to derive the most value possible from the data. As in the section on measuring behavior, conduct careful sampling (who is your comparison group and why); use principles of experimental design to preemptively neutralize external such as macro market conditions (stock downturns, 9/11, leadership turnover) that can drown out the effects of training; and separate correlation from causation with careful measurement and design.

## 2.6 Take-away: a practical guide to choosing the right metrics

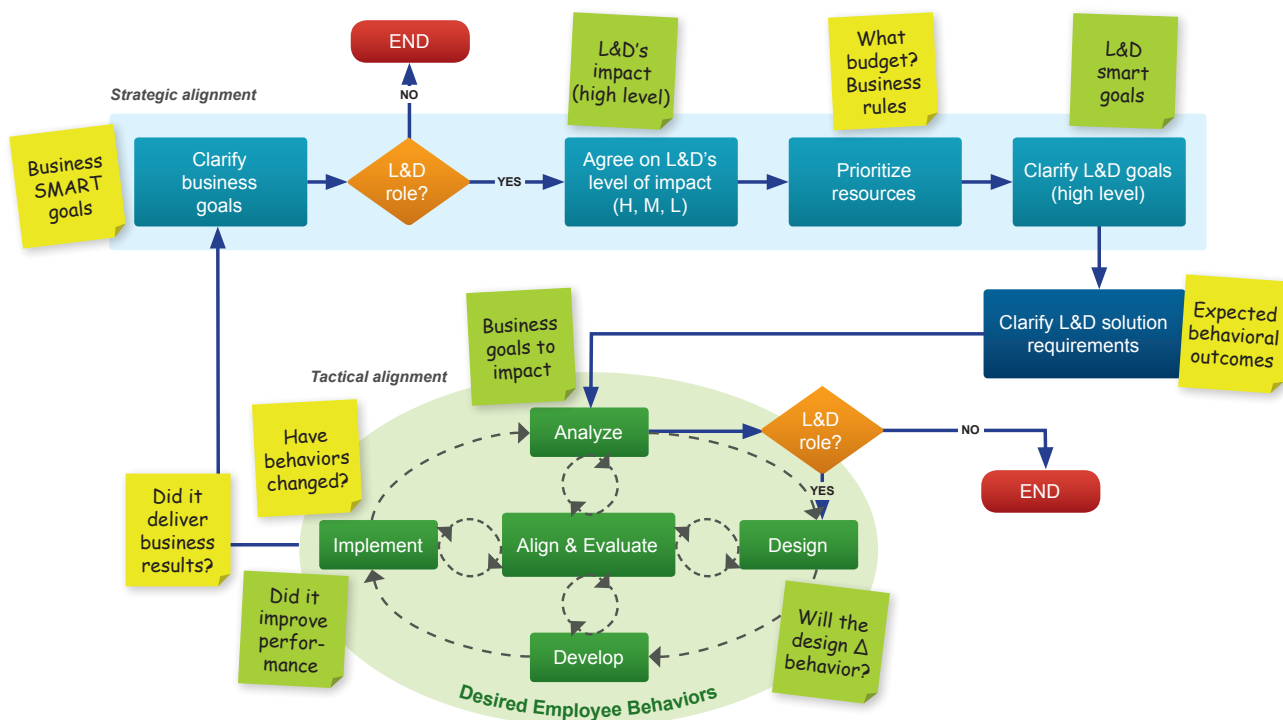


Figure 2.6) The Right Metrics: Alignment with Business Impact

As part of #BC19, attendees brainstormed a comprehensive list of elements involved in carrying out an L&D initiative that is strategically and tactically aligned with the business. The process they followed is described in the diagram above, and the list below reflects their ideas. A large portion of alignment rests on ensuring that the metrics are aligned to business outcomes with regard to Financial, Operational, Customer & Brand, and Learning & Growth areas.

Attendees emphasized that when having strategic alignment conversations with the business stakeholders, the relevant business goals must be SMART: Specific, Measurable, Attainable, Relevant, Time-Based. This will help to ensure, from the outset, that it is possible to measure business impact.

It is also important to determine if the business need can, or should, be met by L&D. With limited resources, it is important to maximize the business impact of L&D initiatives by focusing on relevant business goals. A critical step is to ensure that the requirements of a proposed L&D solution (time, expertise, availability of subject matter experts, other stakeholders) fall within the range of available L&D resources.

Next, attendees turned to tactical alignment. Here, we use the data gathered during the strategic alignment phase to determine the hard and soft costs of the proposed solution, what we know of best practices, and whether there are comparable projects from the past to draw on for lessons learned. On the basis of all this data, an informed decision can be made about whether to pursue this learning solution.

From that point forward, concerns move to design: Which employees form the target population, what training methods will be used, how will Outputs, Behaviors, and Outcomes be defined and measured, and what data sources will be used. As part of the training development process, we may wish to gather input from employees and seek out potential benchmarks to define good performance in training. Once the data is collected and/or acquired from other sources, calculate outputs: Implementation numbers, participant demographics; behavioral change; and business impacts, using pre-defined criteria. It is critical to define what your outcome metrics will be before beginning training.

### 2.7 Take-away: how to measure the right metrics

After identifying the metrics that best balance feasibility with value, use best practices to measure them:

1. Whenever possible, directly observe behavior rather than rely on self-report. Use scalable methods such as computer-based simulation to avoid the high costs of in-person observation.
2. Use naturally-occurring control groups to measure the effectiveness of training. A naturally occurring control group is a group of learners who don't receive training and who can be compared to those who have attended. (e.g. a phased roll-out of training). Metrics from these untrained learners can be compared to metrics from learners who already received the training; afterward, the members of the control group can also be trained. This approach balances experimental design rigor with fairness to learners.
3. Time measurements so that you capture behavioral change, taking into account application latency. In the same vein, use repeated measurements spaced over time to serve as "refreshers" and combat forgetting.

Use behavior as a leading indicator of business impact as you craft the story of how your training initiative is supporting the business's SMART goals.

## 3.1 The role of behavior in the Talent Management Lifecycle (TML)

The Talent Management Lifecycle (TML) includes the practices of Talent Acquisition (TA), Talent Development (TD) and Talent Management (TM); spanning from hire to retire as illustrated in figure 3.1 below. While many organizations clearly separate these practices via different teams and org structures, the role played by human behaviors across each practice of the TML is evident and significant.



Figure 3.1) Talent Management Lifecycle (TML)

For context, consider the impact of bias-related behaviors in the practices of TML. In Talent Acquisition for example bias can significantly impact recruitment and selection practices and the sustainability of an organization. Quoting a recent Forbes article: “Unconscious bias can affect workplaces and organizations.

It can introduce unintentional discrimination and result in poor decision-making. Unconscious bias can be a huge setback in creating a truly diverse and inclusive workplace” [12]. In TD for example it can impact the training methods chosen to address particular challenges. If L&D practitioners have a bias towards the norm/status quo of e.g. face to face training or storyline eLearning, that method will likely be always chosen regardless of the training requirement. It is somewhat ironic that many unconscious bias training programs fail to deliver on business expectations due to this very bias [13]. In TM, bias can significantly influence career opportunities (e.g. how and who gets selected for the HiPo program or promotion), mobility and ultimately retention. A recent Harvard Business Review article “found that perceiving bias on at least two dimensions correlates with more frequent reports of emotional distress, higher employee disengagement, and lower employee retention.” [14].

Many other examples of “behaviors” impacting the effectiveness and efficiency of TML practices exist; sales behaviors impacting commercial performance, leadership behaviors impacting organizational culture, customer-orientation behaviors impacting brand loyalty, ethics, compliance and risk behaviors impacting exposure to fines and litigation, to name but a few. Further discussion on these and others are outside the scope of this research paper.

Organizations must therefore be empowered with capabilities to both develop and change behaviors, in a sustainable and scalable way.

## 3.2 Methods to enable behavior change

Firstly, we must acknowledge that changing old behaviors or developing new behaviors is a difficult and complex task. It has long been the subject of empirical investigation by multiple branches of scientific research: psychology, sociology, neurology, anthropology, etc. As discussed in a recent paper in the American Psychological Association Consulting Psychology Journal, at a macro level, behavior change/development requires both a “will” and a “way” [15]. “will” refers to the motivational factors driving the change and the buy-in of your employees. Note that for the purposes of this research paper, we will not further explore the “will” aspects of behavior change. “way” refers to the “method” of changing behavior; the tools, techniques and processes used, the associated skills and competencies, the measurement/feedback loops, the plan and expected timelines for change.

Our traditional, de-facto single-event training methods will not work to deliver sustainable behavior change. Delivering a one day face-to-face training or a mandatory one-off compliance training or a self-serve eLearn will not be sufficient to change behaviors or develop new behaviors [13].

For a method to successfully change/develop behaviors and sustain those new behaviors, it must include the following critical attributes:

- 1. Alignment** - the method must enable/support alignment between the required behaviors/skills identified and the type of training delivered. E.g. If you want somebody to be able to “do” something, your method must be active not passive;
- 2. Measurement (and the right Metrics)** - the method must be data and measurement-driven. E.g. You must measure the gap between current state and desired state to not only understand the “size” of the gap but to incrementally measure progress towards desired state as you proceed;
- 3. Contextual practice** - the method must support higher-order cognition and the higher levels of Bloom’s taxonomy (application, analysis, evaluation, creation). E.g. if you want to teach somebody to play the piano, the training method must align around them actually playing the piano, not reading a book, not listening to somebody talk:

### 4. In the flow of work (close proximity to application)

- the method must be as close to the flow of work as possible. E.g. don’t teach something today if it’s not being applied tomorrow at the latest. The close proximity of the method to the on-the-job application is key:

**5. Feedback loops** - the method must provide timely, accurate and useful feedback to the user. Just like high-performance athletes receive just-in-time feedback from their coaches and the myriad of supporting technologies like biometrics tracking analytics, your users require feedback to inform progress and amplify motivation to change:

**6. Spaced repetition** - the method must support repetition of task/activity. Repetition is required to form/augment the neural pathways in our brains to embed a behavior:

For example, a 36 month study conducted by the Royal College of Surgeons in partnership with ETU, demonstrated how a behavioral change method with the above 6 attributes can deliver sustainable behavior change and associated improved performance in a clinical trial [16].

During a breakout session at BC19, we captured a range of methods participants had deployed across their TML to drive behavior change, including: simulated practice, buddying, personalization, peer feedback, job rotation, chatbots, apprenticeships, role play, hiring success profiles, reflection guides, assessments, micro-learning, experiential activities, P2P communication (e.g. Slack), games, spaced learning, assessment simulation, rewards and compensation, augmented reality (AR), virtual reality (VR), behavioral performance, intern programs, performance conversations, university partnerships and performance profiling.

## 3.3 Take-away: Progressive Behavior Change Methodology (PBCM)

The Progressive Behavior Change Methodology (PBCM), illustrated in figure 3.2 below, was launched at #BehaviorConf19; starting a process to help categorize the various Methods used by organizations today to measure and develop behaviors and quantify business impact and performance.

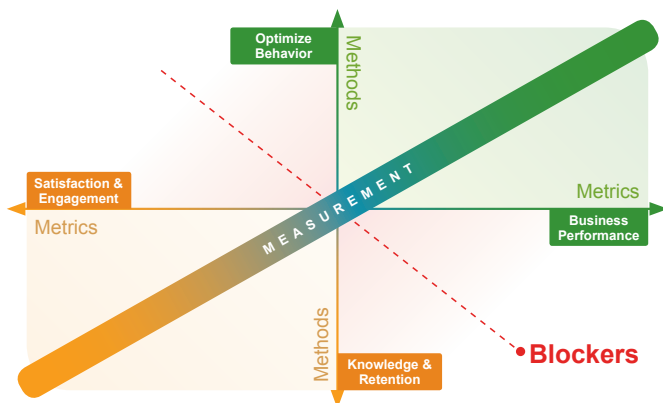


Figure 3.2) Progressive Behavior Change Methodology

The methodology prescribes 2 axes:

- Metrics: the type of metrics, ranging from low-impact metrics like satisfaction and engagement up to high-impact metrics like business performance
- Methods: the type of method and its capabilities from low-impact methods of conveying knowledge or testing retention to high-impact methods of skills development or behavior optimization
- All underpinned by accurate and timely measurement

Now it's your opportunity to reflect on past TML initiatives at your organization or indeed the initiatives you are currently planning and executing. Choose 3 initiatives and write down where they would be placed on the PBCM from figure 3.2.

Would they be placed low and to the left?

- Methods: E.g. passive eLearning focused on knowledge, information or retention
- Metrics: E.g. focused on learner completions and "happy sheets"

Or would they be placed high and to the right?

- Methods: E.g. experiential learning in the flow of work focused on application and skill development
- Metrics: E.g. focused on behavioral change and business impact

Furthermore, can you quantify, numerically, the business impact of those initiatives in the areas previously outlined in Section 2.5 above?

- **Financial:** E.g. can you demonstrate increased revenue from your sales training initiatives or reduced attrition rates post-hire from your candidate experience initiatives?
- **Operational:** E.g. can you quantify productivity gains from your agile management initiatives or did your compliance programs reduce risk events and exposure at your organization?
- **Customer and brand:** E.g. did your customer services training improve your net promoter score (NPS) or your marketing training increase your number/quality of qualified leads?
- **Learning and growth:** E.g. did your diversity and inclusion initiative change employee behaviors and deliver a truly diversified organizational structure?

It is a truly exciting time to be working in the Talent industry. Today, we have unprecedented opportunities to deliver measurable impact and drive change at our organizations whether hiring, developing or managing our most valuable resource; our people.

This research paper brings together decades of research and experiences to help you navigate the path towards sustainable behavior change and measurable business impact at your organization; the metrics, the measurements and the methods to achieve success.

The key takeaways are as follows:

- **Business alignment must be a continual iterative process, not a once-off exercise:** To ensure your initiative delivers on the expectations and the needs of the business, it must be umbilically linked to the business. Alignment cannot be an afterthought.
- **Measure the Metrics that actually matter:** Invest your effort in effectively identifying the meaningful metrics to measure. Do not get distracted by measuring what's easy because it's easy. You must measure the right metrics that connect to business performance and employee behavior. Your business partners' continued involvement and participation in metric selection and measurement is fundamental to success. Get them involved early and create shared ownership and accountability.
- **Choose the right Method to address the need:** Sometimes when you're holding a hammer, everything looks like a nail. Don't use face to face just because you've always used face to face. Don't use surveys just because you've always used surveys. Selecting the right Method for the business need will ultimately determine its success and sustainability.

Our objective is to continue this work and our relentless drive to deliver measurable business impact from our Talent initiatives. With this in mind, we would love to hear your insights and experiences of the topics discussed in this paper. To get involved and share your experiences with the global Talent industry, please reach out to us today at: [Declan.Dagger@empowertheuser.com](mailto:Declan.Dagger@empowertheuser.com).

Finally, I would like to acknowledge the great effort and support from all our contributors and participants to this initiative. A very special thanks to my co-editors Dr Bethany Kok and Peggy Parskey; and to my reviewers Christine Allers, Patty Aquaro, Marie Casarella, Ryan Goodrich, Danielle Herrick, Detlef Hold, Eric Mingorance and Julie Riga. You made this research paper possible.



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