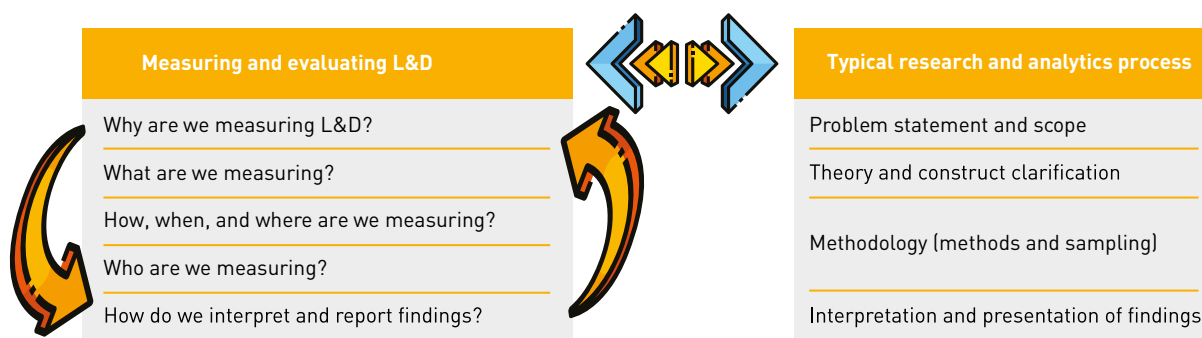# THE SABPP™
FACT SHEET

2023

MEASURING LEARNING AND DEVELOPMENT

Introduction

Learning and development (L&D) is increasingly spotlighted as a critical lever in helping organisations to deliver on their strategies and prepare for the future world of work while managing the challenging present. There are many references in various forums and publications to the urgency of 'upskilling, multiskilling, and reskilling'. To be this lever that can help organisations, L&D requires investment. Corporates and government departments often allocate sizable investments, resources, and budgets for their L&D initiatives and function, typically around 5% of payroll. The corporates feature this as their investments in human capital in their integrated reporting. As with all investments, the typical questions that arise are as follows: what is the impact of this investment on the organisation and what value has it created? Sometimes this is framed as the question: what is the organisation getting in return for this investment or what is the return on investment? This is where the measurement and evaluation of L&D plays a role, where we need to also step back and ask how we are framing what we measure.

In this Fact Sheet we will focus on the measurement of L&D. We begin first with the question of why we are measuring L&D. We will note that there are multiple layers and levels to L&D and its purposes. Therefore, we need to begin with identifying the purpose of measurement. Thereafter, we can answer the questions: what we are measuring; how, when and where we are measuring; and who we are measuring. The diagram below illustrates this. It also points out how these questions feedback into each other and help further clarify each other in an iterative process. That is, the how, when, where, and who questions will feedback and help clarify the why question, which in turn will clarify the former questions. The diagram also shows the parallel to the typical research and analytics process.

Measuring and evaluating L&D	Typical research and analytics process
Why are we measuring L&D?	Problem statement and scope
What are we measuring?	Theory and construct clarification
How, when, and where are we measuring?	Methodology (methods and sampling)
Who are we measuring?	
How do we interpret and report findings?	Interpretation and presentation of findings

Navigate the menu by clicking on desired heading.

- PURPOSE OF MEASURING L&D
- MODELS FOR MEASURING L&D
- NEW WORLD KIRKPATRICK MODEL
- PHILLIPS ROI METHODOLOGY™
- LEVELS OF MATURITY OF L&D FUNCTION
- SOLO TAXONOMY MODEL
- THALHEIMER'S LEARNING TRANSFER EVALUATION MODEL
- INSIDE-OUT OR OUTSIDE-IN PERSPECTIVE TO MEASURING L&D?
- NEED FOR A THEORY OF CHANGE ?

Purpose of measuring L&D

Before we begin to search for the latest metrics and models to measure L&D, we need to deliberate on **why** we are measuring L&D and the link to the set **objectives** of L&D, the employment value proposition (EVP) in the HR strategy, and ultimately of the organisation. We need to answer these basic questions for example:

→ Why are we measuring?

→ For which internal and external stakeholders?

→ What are the perceived and real value and outcomes of measuring for these stakeholders?

The answers to the above questions will then help identify the purpose and approach to measuring learning and development and the relevant and appropriate models, metrics, and samples required. Most times one finds reference to measures of *effectiveness*, *efficiency*, and *economics* of learning and development within organisations as their purpose of measuring and evaluating. For example, measures of the reactions of learners, transfer of learning to the workplace, improvements in performance, or resources and technologies utilised for learning. Lately, another E has been added to the 3Es; that is, measures of the *experience* of the learner.

However, we should not confuse *measures* with the *purpose* of measuring. We still need to answer the **why** questions and then determine **what** needs to be measured in our organisation and its context and strategy. If we determine that effectiveness, efficiency, economics, and experience are to be measured, then answering the why question will help clarify what these mean in our organisation and for the different stakeholders. This will help define effectiveness, efficiency, economics, and experience for our organisation and **how**, **when**, and **where** it needs to be measured as well as **who** is measured.

Take the economics of L&D for example. We could define it in terms of various costs internal and external to the L&D function and organisation as well as in terms of return on investment (ROI) in different capitals such as financial, human, and social capital. Consider the question of where we measure: is it the inputs, the process and experience of learning, or the outputs and outcomes? We will discuss this more in the next section. Here, we can remind ourselves of the circular nature of measuring and evaluating. Deliberating on the how, when, where, and who of measuring and evaluating helps clarify why we measure, as illustrated with the circular, feedback arrows in the diagram in the introduction section.

Consider, for example, the listed objectives of the L&D Standard and how monitoring and evaluating is located within the illustrated process on the right from the Standard when deliberating on the why question.

LEARNING AND DEVELOPMENT PROCESS
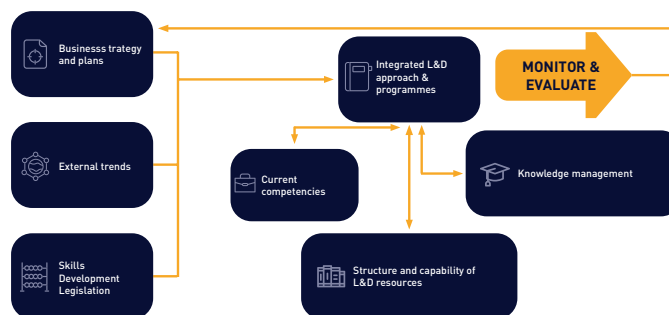
Models for measuring L&D

There are many models that have been developed over time and in relation to each other[1]. In this Fact Sheet we sample some of the more popularly cited ones and consider their use in our current contexts. We can begin by revisiting the familiar transformation model that we can find in many areas of HR as well as in business management. As you will recall, the model comprises inputs, process, and outputs as illustrated below. We will use this model as a starting point and explore a range of simple to more complex models of measuring L&D in terms of the factors and levels of analysis considered.
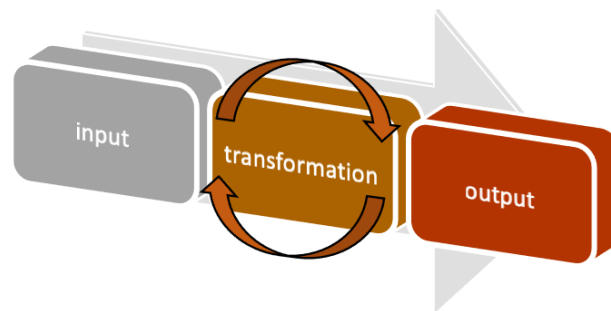
In L&D, we can identify the above transformation model in the CIRO model developed by Warr, Bird and Rackham. The model evaluates the following components of learning and development:

- **context** (undertaking of valid and reliable needs analysis; identification of the immediate objectives for learners and intermediate objectives related to job performance that will lead to the ultimate objectives such as improvement in an organisational performance dimension; and fit with organisational culture and climate)

- **input** (identifying the resources available for learning and development solutions and interventions)

- **reaction/process** (evaluating design and delivery of the learning and development as well as the participants' responses to the interventions and the learning process)

- **outcomes** (measuring outputs against the immediate, intermediate, and ultimate objectives) (Meyer, 2002; Topno, 2012).

We can note the addition of context in the CIRO model, as illustrated and expanded on the next page. The CIPP model developed by Stufflebeam is similar in that it proposes the evaluation of context and comparable components for learning and development:

- context

- input

- process

- product (or output and outcomes)

**1.** Beich, E. (2014). ASTD Handbook. Virginia: ASTD Press.

CIPD. (2022). Evaluating learning and development. *https://www.cipd.org/uk/knowledge/factsheets/evaluating-learning-factsheet/*
Meyer, M. (2003). Managing Human Resource Development. Durban: LexisNexis Butterworths.
Topno, H. (2012). Evaluation of training and development: An analysis of various models. Journal of Business and Management, 5(2), 16-22.
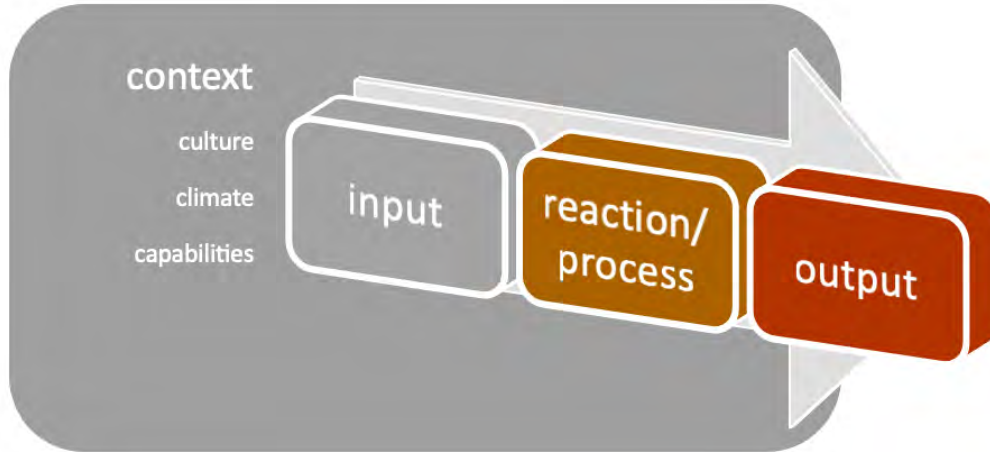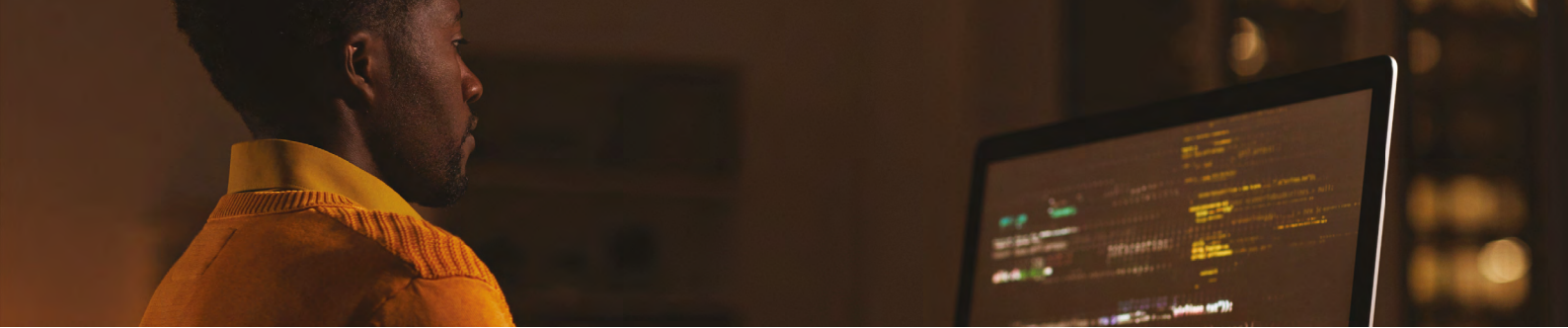
In the above illustration we show one input-process-output flow. However, in reality, there are many of these input-process-output flows feeding into each other. Thus, we could differentiate different feedback loops and the different levels of measurement as illustrated below. The illustration also points to possible types of measures that can be used. We can note here that in the learning process also we refer to feedback loops, as in the concepts of double and triple-loop learning.

Source: IEC (2002, *https://www.employment-studies.co.uk/system/files/resources/files/392.pdf*)
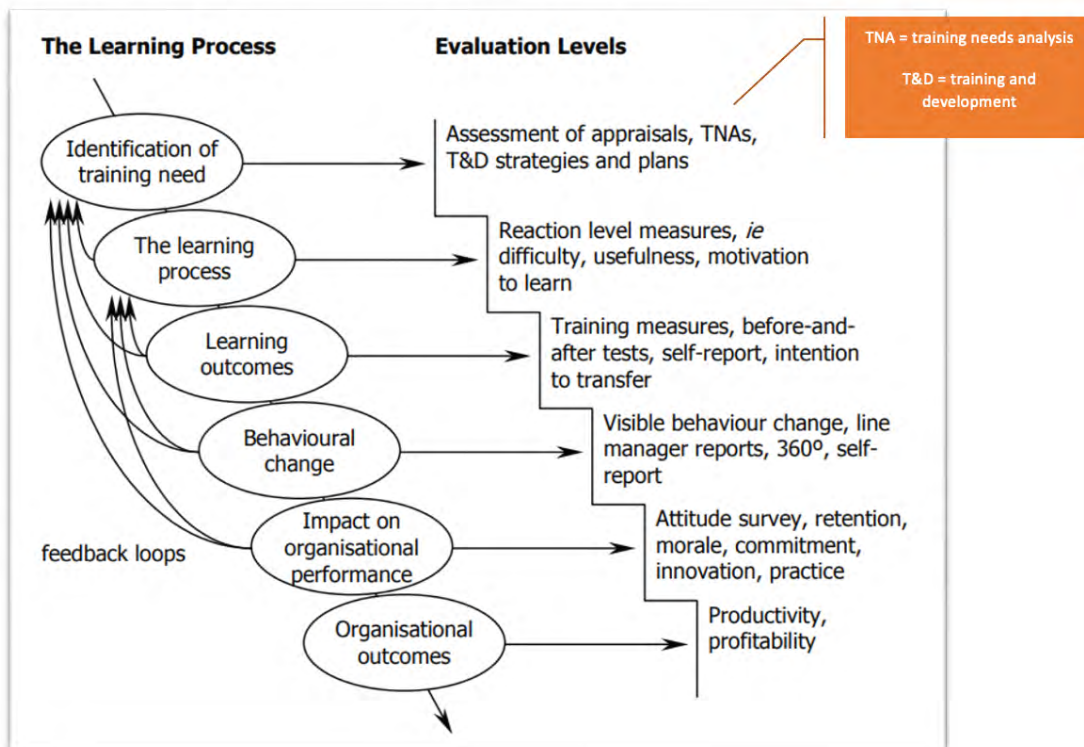
In the next subsections we will look at models that differentiate levels of learning measurement.
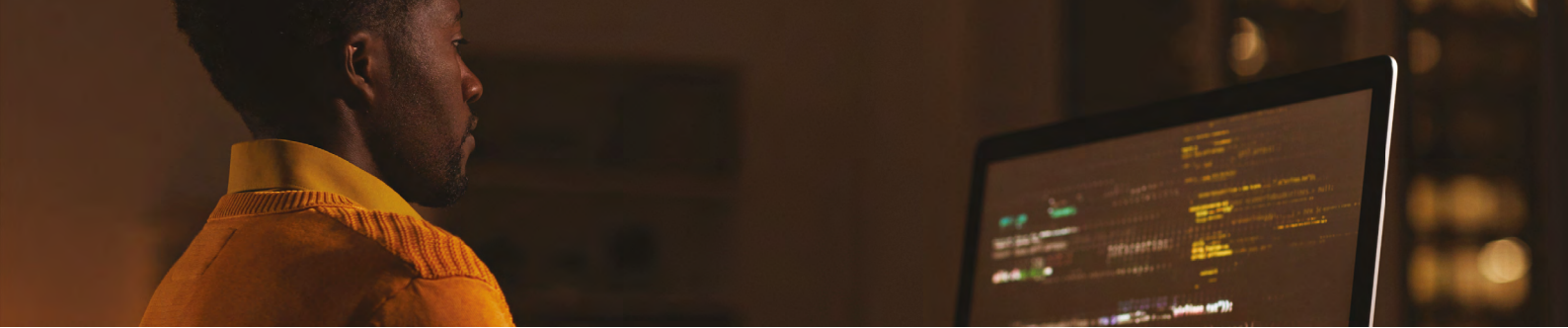
New World Kirkpatrick Model

The original Kirkpatrick five levels model is the most recognised and cited model available. The levels are described as follows:

level 1 - reaction of learners to a programme or intervention

level 2 - learning in terms of the change in learners' knowledge, skills, and attitudes
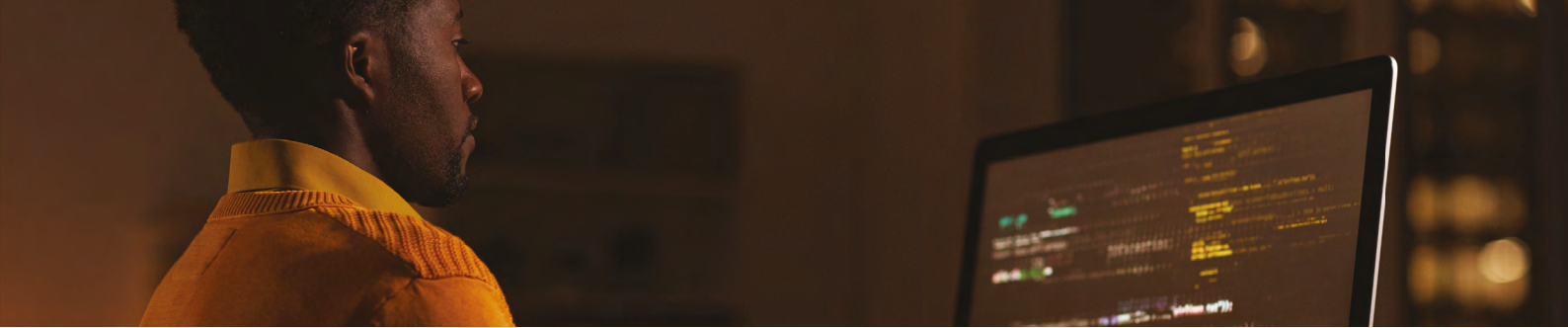
level 3 - behaviour change that has occurred due to the transfer of learning to the workplace

level 4 - results in terms of the impact on organisational performance

The four levels measure the learner experience, learning process and acquisition of knowledge and skills, learning transfer, and targeted outcomes of the learning programme or intervention. The New World Kirkpatrick Model adapts and adds to the four levels as illustrated below. We could suggest that it is portrayed in terms of the input-process-output flow. For a detailed description of the Model see the following article wherein the below diagram is presented: *https://www.td.org/insights/updating-the-four-levels-for-the-new-world*
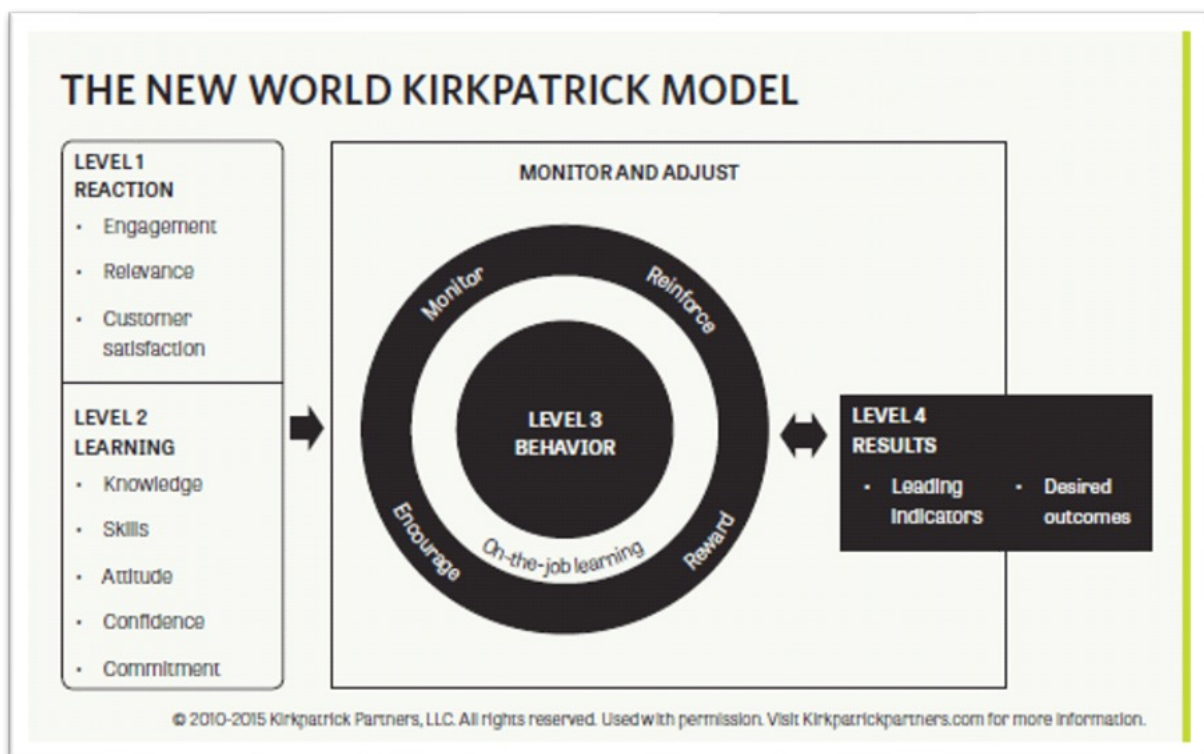
Source: Kirkpatrick (2015, *https://www.td.org/insights/updating-the-four-levels-for-the-new-world*)

Phillips ROI Methodology™

The Phillips ROI Methodology adds a fifth level of measurement and evaluation, as illustrated below. The Model shows how to link the initial learning and development needs analysis and the various L&D, broader HR, and organisational objectives to different levels of measurement. This can be seen in the V shape created by the two arrows below. The previous illustration of different measurement levels and aligned different types of measures can be supplemental to the below Phillips ROI Model.
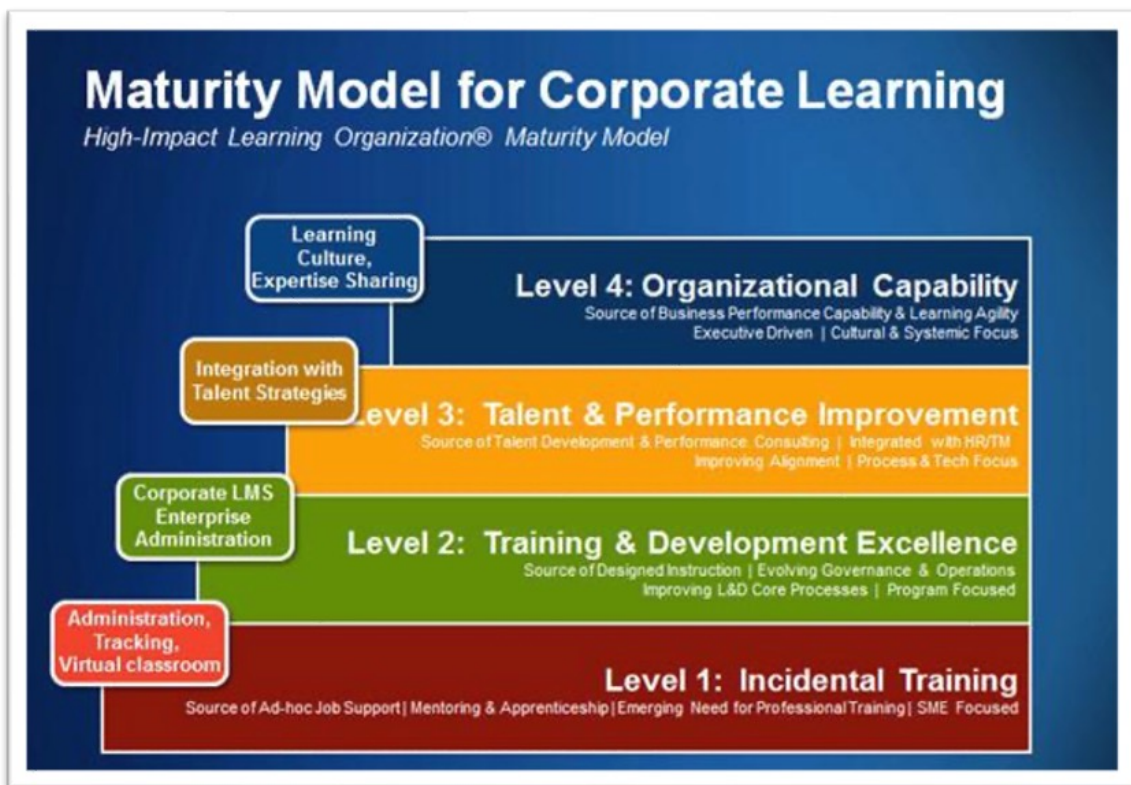

Source: ROI Institute (*https://roiinstitutecanada.com/evaluation-planning-the-v-model/*)
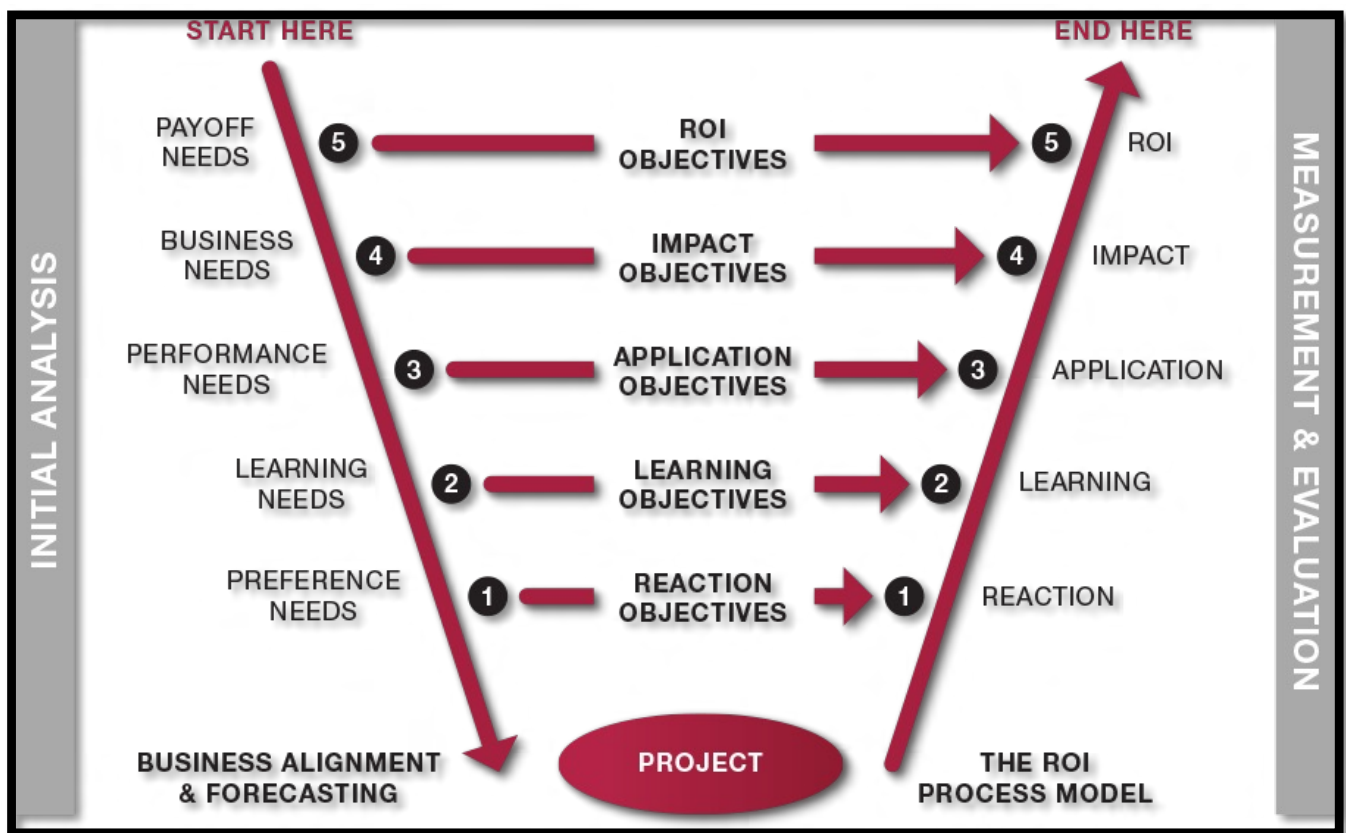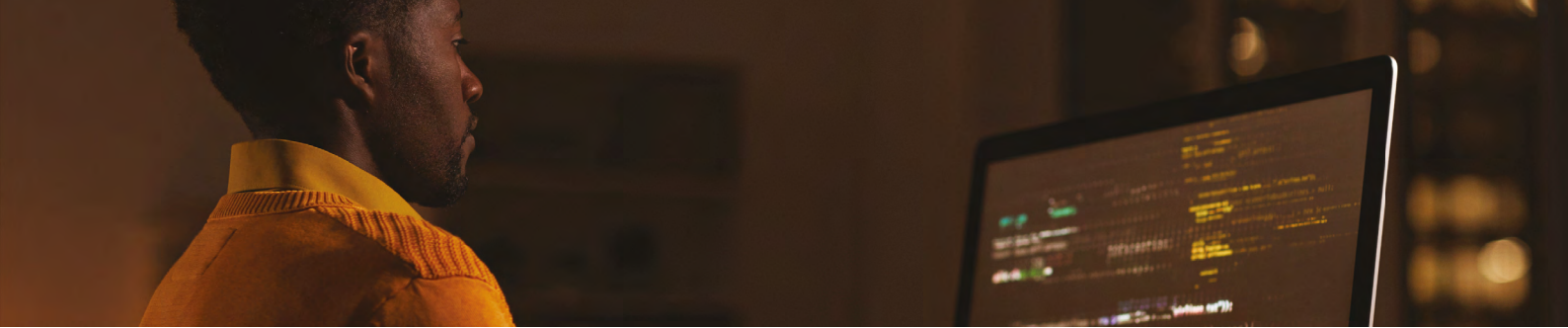
Levels of maturity of L&D function

Changing focus to within HR, we can also explore models that depict the levels of maturity of the L&D function within organisations. In the **December 2022 Fact Sheet** on HR maturity models, we shared Bersin's Corporate Learning Maturity model. The model suggests the following levels of learning and development capabilities and the integration thereof within HR and the broader organisation as illustrated below:

- incidental training,

- training and development excellence,

- talent and performance improvement,

- and organisational capability;

Source : Bersin (***https://www.forbes.com/sites/joshbersin/2013/03/20/how-corporate-learning-drives-competitive-advantage/?sh=487bb6817add***)
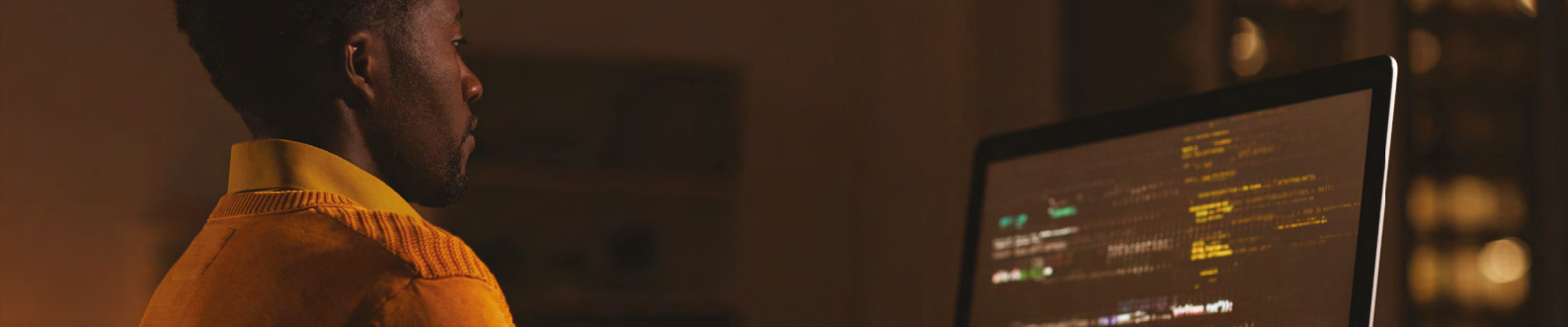
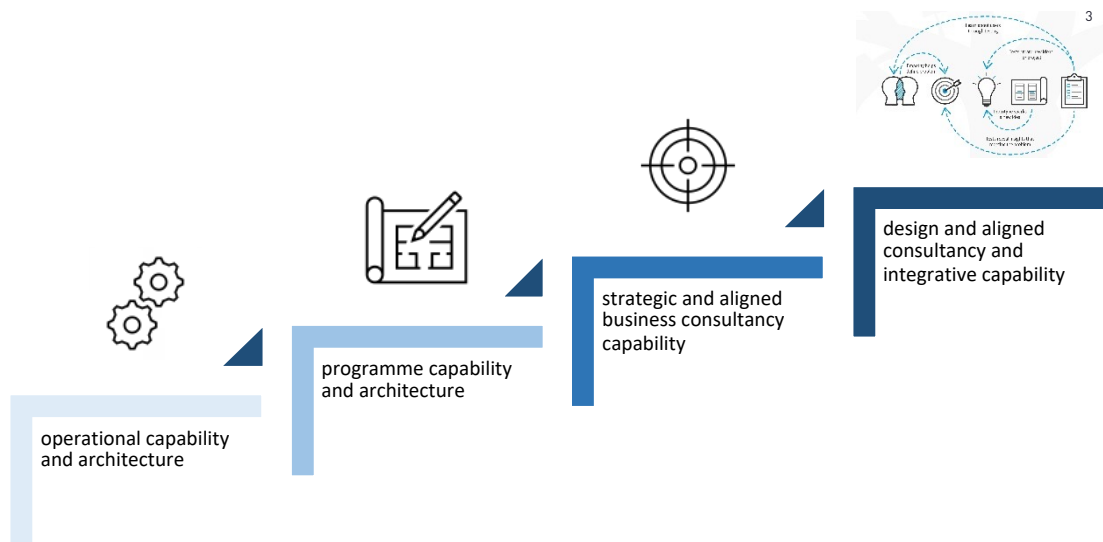Another possible model to consider is one that examines the management, design and integration capabilities of the L&D function. For example, Jivan (2020)[2] outlines the evolving management, design, and integration capabilities of the leadership development function as follows and as illustrated below:

• developing **operational** capabilities (for example, the administration, logistics, and basic data and learner management capabilities and efficiencies therein)

• developing **programme design** and **integration** capabilities

• developing **strategic** and **business integration** capabilities

• developing further the **design** and aligned **consultancy** and **integrative** capability (for example, design thinking and practice)

design and aligned consultancy and integrative capability

strategic and aligned business consultancy capability

programme capability and architecture

operational capability and architecture

Source: Adapted from Jivan (2020)[4]

2. *https://sajhrm.co.za/index.php/sajhrm/article/view/1155*

3. *https://www.interaction-design.org/literature/topics/design-thinking*

4. *https://sajhrm.co.za/index.php/sajhrm/article/view/1155*
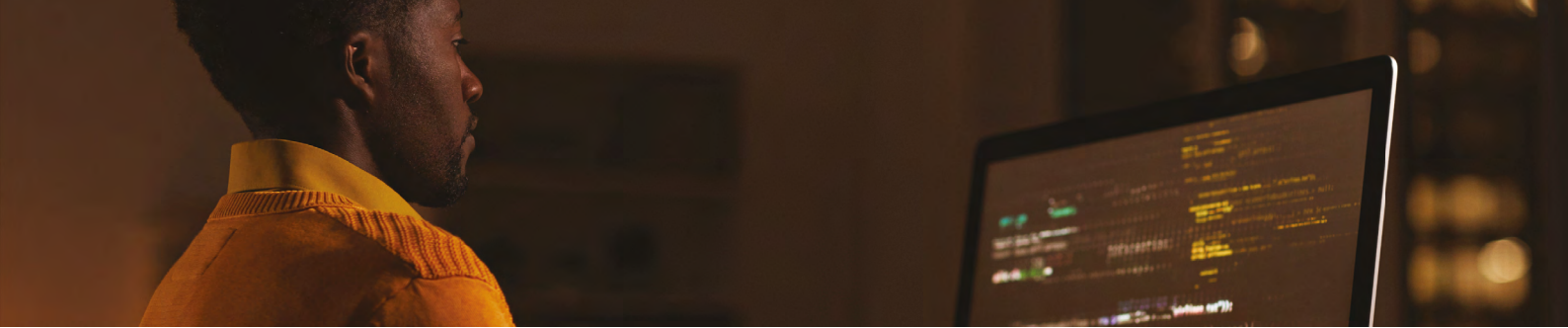
SOLO taxonomy model

The above maturity models look at the increasing sophistication, complexity, and depth of the L&D function. We can also shift focus to look at the learner's maturity and the increasing complexity in their acquisition of learning and the application thereof. Or we could look at the complexity of learning outcomes achieved. Biggs and Collis developed the Structure of Observed Learning Outcomes (SOLO) taxonomy that differentiates levels of complexity of learning outcomes and qualitatively differentiates the learner's achievements. The illustration below outlines the different levels of learning outcomes and learner achievement.


Source: Biggs (no date, *https://www.johnbiggs.com.au/academic/solo-taxonomy/*)
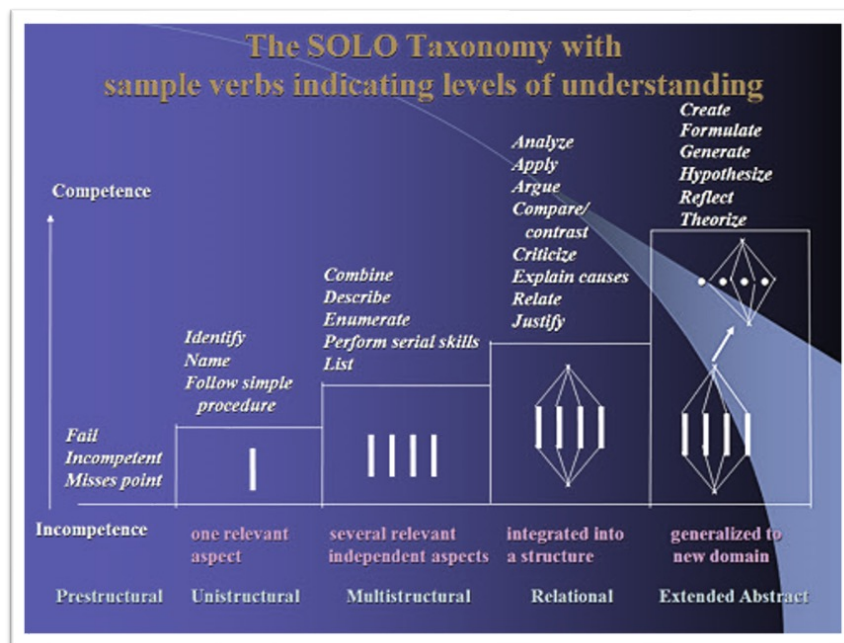
As can be seen, the model differentiates five levels of how learners approach the learning task as described below with the yellow-coloured verbs in the above diagram providing descriptions of the level of learner understanding.

- **pre-structural –** learner does not understand or fails to identify appropriate aspects of the task
- **uni-structural –** leaner focuses in on one aspect of the task
- **multi-structural –** learner explores several relevant aspects of the task, however, these are not related together
- **relational –** learner begins to bring together and integrate the different aspects of the task, identifying patterns and developing coherent picture
- **extended abstract –** learner can generalise the pattern to other areas or domains and can identify and develop alternative patterns

We could map the levels of understanding and the verbs therein to the well-known Bloom taxonomy: *https://en.wikipedia.org/wiki/Bloom%27s_taxonomy*. We could also refer to the level descriptors in the National Qualifications Framework: *https://www.saqa.org.za/wp-content/uploads/2023/02/level_descriptors.pdf*.
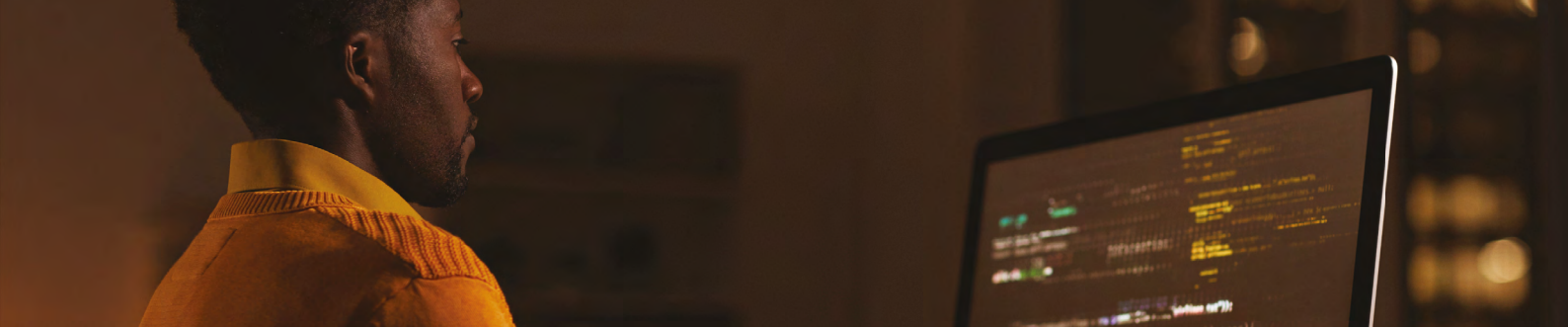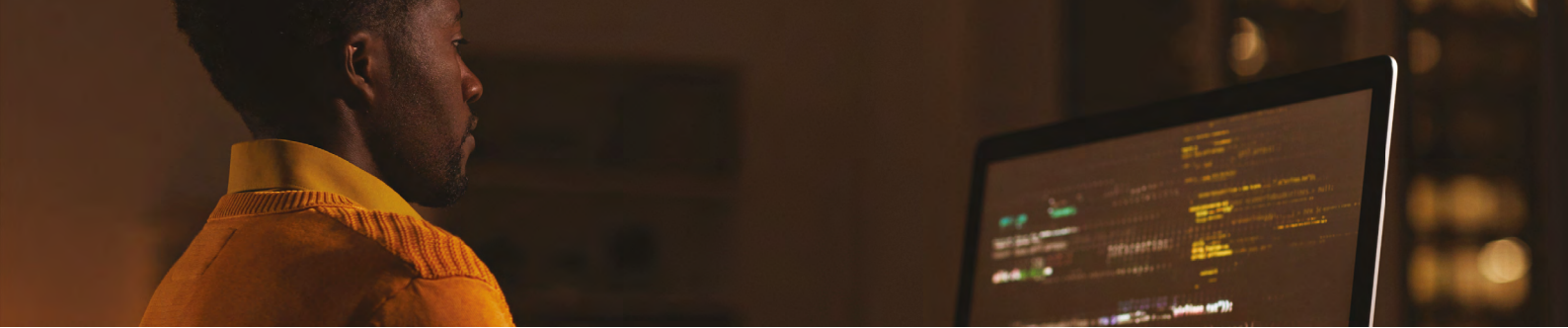
Thalheimer's Learning Transfer Evaluation Model

As we differentiate levels of understanding, we can also differentiate levels of learning application. Thalheimer's Model is outlined in the below table, ranging from simple attendance to learner perception, knowledge, competence, and transfer.

The Learning-Transfer Evaluation Model

Abbreviated as LTEM (Pronounced "L-tem")

1	Attendance	**Learner signs up, starts, attends, or completes a learning experience.** *A metric inadequate to validate learning success—because learners may attend but not learn.*
2	Activity	**Learner engages in activities related to learning.** • <u>Measures of Attention</u> *A metric inadequate to validate learning success—because learners may pay attention but not learn.* • <u>Measures of Interest</u> *A metric inadequate to validate learning success—because learners may show interest but not learn.* • <u>Measures of Participation</u> *A metric inadequate to validate learning success—because learners may participate but not learn.*
3	Learner Perceptions	**Learner is queried in a way that does NOT reveal insights on learning effectiveness.** • <u>Examples: Measures that target Learner Satisfaction, Course Reputation, etc.</u> *A metric inadequate to validate learning success—because such perceptions are not always related to learning results.* **Learner is queried in a way that reveals insights related to learning effectiveness.** • <u>Examples: Measures that target Learner Comprehension, Realistic Practice, Learner Motivation to Apply, After-Learning Support, etc.</u> *Such measures can hint at outcomes but should be augmented with objective outcome measures.*
4	Knowledge	**Learner answers questions about facts/terminology.** • <u>Knowledge Recitation</u>—during or right after learning event. *Usually inadequate because <u>knowing</u> terminology does not fully enable performance.* • <u>Knowledge Retention</u>—after several days or more. *Usually inadequate because <u>remembering</u> terminology does not fully enable performance.*
5	Decision Making Competence	**Learner makes decisions given relevant realistic scenarios.** • <u>Decision Making Competence</u>—during or right after learning event. *Not a fully adequate metric because learners may forget decision making competencies.* • <u>Remembered Decision Making Competence</u>—after several days or more. *ADEQUATE TO CERTIFY DECISION MAKING COMPETENCE.*
6	Task Competence	**Learner performs relevant realistic actions and decision making.** • <u>Task Competence</u>—during or right after learning event. *Not a fully adequate metric because learners may forget their task competencies.* • <u>Remembered Task Competence</u>—after several days or more. *ADEQUATE TO CERTIFY TASK COMPETENCE.* *NOTE: "Tasks" comprise both decision making and action taking. For example, a person learning to write poetry could <u>decide</u> to use metaphor, could <u>act</u> to use it, or could do both.*
7	Transfer	**When learner uses what was learned to perform work tasks successfully— as clearly demonstrated through objective measures.** • <u>Assisted Transfer</u>—when performance is substantially prompted/supported. *ADEQUATE TO CERTIFY ASSISTED TRANSFER.* • <u>Full Transfer</u>—when learner demonstrates full agency in apply the learning. *ADEQUATE TO CERTIFY FULL TRANSFER.*
8	Effects of Transfer	**Effects of Transfer: Including outcomes affecting (a) learners, (b) coworkers/ family/friends, (c) organization, (d) community, (e) society, and (f) the environs.** *Certification at this level requires certification of transfer plus a rigorous method of assessing transfer's causal impact—including positive and negative effects.*

Developed by Will Thalheimer with help from others. Version 11. © Copyright 2018. You are free to share this document as is. Inquiries: info@worklearning.com

Source: Thalheimer (2018)[5]

5. *https://www.worklearning.com/wp-content/uploads/2018/02/Thalheimer-The-Learning-Transfer-Evaluation-Model-Report-for-LTEM-v11.pdf*

We can align Bersin's model for corporate learning with Thalheimer's model of learning transfer. That is, we can begin exploring relations between models. Below is an example with suggestions on what to measure depending on the level. However, we shouldn't see other level-related measures as not applicable when the organisation sees itself at a specific level.
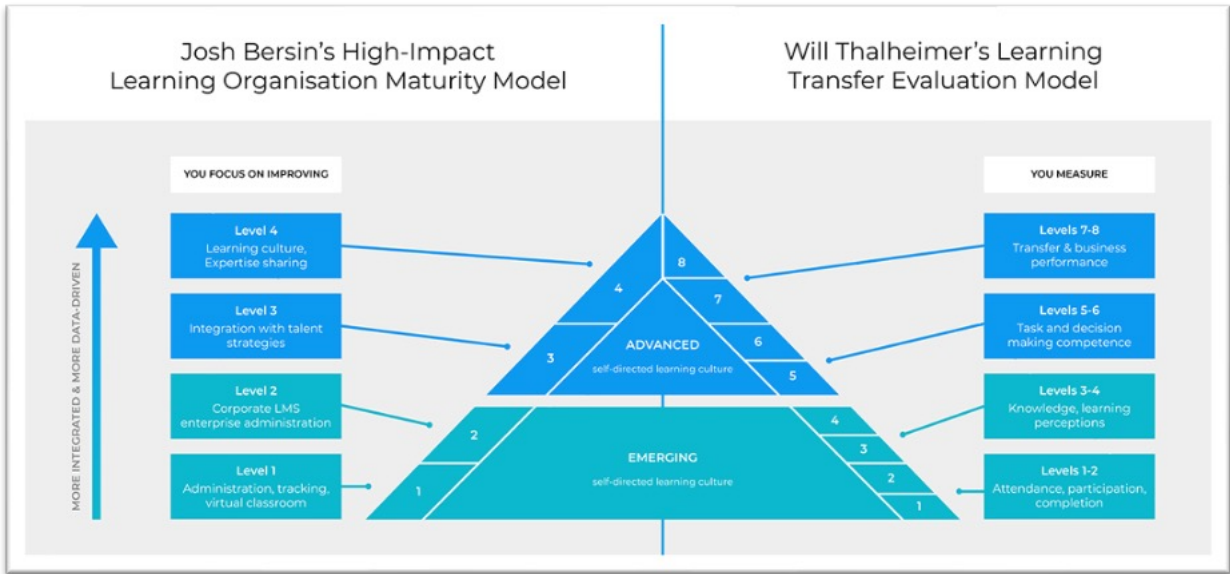
Source: Harris (no date, *https://learn.filtered.com/thoughts/maturity-model-learning-culture*)
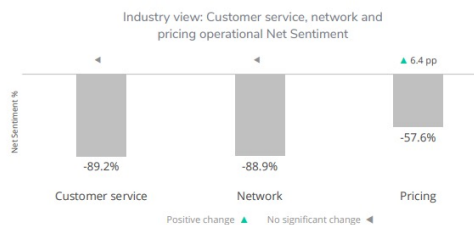
Inside-out or outside-in perspective to measuring L&D ?

As we consider the above models, we need to return to the why question and ask ourselves whether we are taking an inside-out or outside-in perspective to measuring L&D and its value. This includes how we see return on investment (ROI). Ulrich has been one of the voices motivating for the change to an outside-in perspective in HR given our evolving contexts and business and stakeholder landscapes:

> "Outside-in thinking means that *HR aligns HR practices* to **customers**, **investors**, and other **external** community **stakeholders**. Outside-in HR is based on the premise that the business of HR is the *business*. Outside-in logic goes beyond the current state of the HR profession, where the focus is on connecting strategy to HR. We now believe that rather than a *mirror* in which HR practices are reflected, business strategy should be regarded as a *window* through which HR professionals observe, *interpret*, and *translate* **external** *conditions* and **stakeholder** *expectations into* **internal** actions" (italics and bold added, Ulrich, 2016)[6].

An outside-in perspective means measuring the impact and value of learning and development from the perspective of external customers or clients. For example, is L&D contributing to customer experiences, journeys, satisfaction, and value? Are the leadership development programmes contributing to teams that are customer-centric and ensure value to customers? Take the example of the telecommunications sector where the various companies make sizable investments in L&D. The South African Telecommunications Sentiment Index, which measures customer sentiment through social media, however, indicates that, despite this investment, customer sentiment is net negative. See the below table from the 2021 Deloitte report[7].

Industry Net Sentiment for customer service, network and pricing

Industry view: Customer service, network and pricing operational Net Sentiment

	Customer service	Network	Pricing
Net Sentiment %	-89.2%	-88.9%	-57.6% ▲ 6.4 pp

Positive change ▲   No significant change ◄

Competitor comparison: Drivers of customer complaints

	NO RESPONSE RECEIVED	MULTIPLE CONTACTS	FEEDBACK GIVEN BY A BRAND REPRESENTATIVE	STAFF COMPETENCY	PLACED ON HOLD / CALL DROPPED / NOT ANSWERED
Industry avg	26.4%	22.8%	18.7%	14.8%	9.8%
Cell C	24.7%	25.8%	21.7%	13.9%	8.7%
MTN	28.0%	25.5%	20.2%	21.1%	16.0%
rain	34.5%	19.7%	17.3%	16.3%	4.9%
Telkom	23.7%	20.4%	15.9%	10.7%	10.5%
Vodacom	21.3%	22.5%	18.3%	12.2%	9.1%

Source: Deloitte (2022)

What has been your experience and what are your expectations of your mobile operator? How will you inform learning and development given this in your mobile operator? How will you measure L&D in your mobile operator? What causal pathways would you hypothesise that lead from the various L&D interventions to customer experience, journeys, satisfaction, and value? One way of thinking of causal pathways for L&D is the Theory of Change as described below. However, we should note that this is not an easy task. For example, there are various intervening, moderating, mitigating, and extraneous variables that one needs to consider between learning at different levels and performance at the individual, team, and organisational levels. We can also think about developing a 'chain of evidence' as described in the textbox below.

6. Ulrich, D. (2016). HR at a crossroads. Asia Pacific Journal of Human Resources, 54(2), 148-164.
7. https://www2.deloitte.com/za/en/pages/technology-media-and-telecommunications/articles/2021-south-african-telecommunications-sentiment-index.html

Need for a Theory of Change ?

In programme monitoring and evaluation literature one finds reference to the need for a Theory of Change. This means that before identifying and delivering a programme a deliberate and conscious model of how change will happen needs to be developed. It involves a clear articulation of the assumptions of how the selected programme interventions and its various components and sequences will lead to the desired outputs, outcomes, and ultimately objectives. The monitoring and evaluation help to identify if the desired outputs, outcomes, and ultimately objectives are achieved. It also helps to identify limitations of the assumptions or whether the assumptions were erroneous. A fuller description of what a Theory of Change entails can be found in the below description from the World Bank and the cited webpage:

> "A theory of change identifies the goals, preconditions, requirements, assumptions, interventions, and indicators of a program, providing important insight into and guidance on intervention and impact evaluation design." [8]

Return on Expectations

We can also consider Kirkpatrick and Kirkpatrick's Return on Expectations (ROE)[9]. They describe ROE as the ultimate indicator of value. This is because the expected outputs and outcomes were established before the programme commenced (think scope creep).

As they pointed out, "stakeholder expectations define the value that training professionals are responsible for delivering" (2010: 36). They advised that programme leaders, ask senior leadership to "clarify and refine" what expectations they have at all four Kirkpatrick levels. This approach of asking senior leadership what expectations they had of the programme was used in this assessment as discussed in their article.

> "There is an urgent need for training professionals to demonstrate the value they do bring to the business by **presenting a chain of evidence** at the end of important initiatives.
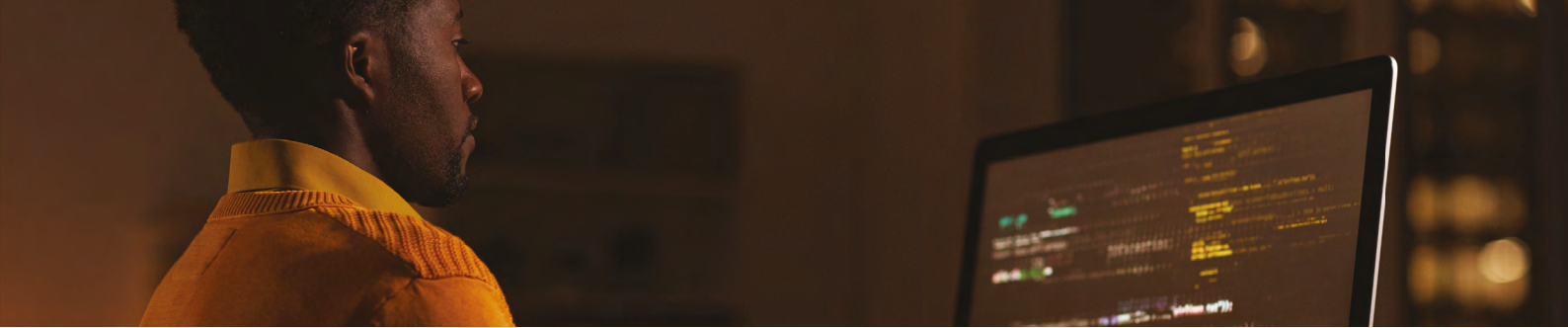>
> It is common that training professionals are asked to "show their **ROI**." Return-on-investment has become shorthand for value much the way "Kleenex" has become the accepted name for facial tissue. **Be sure to ask the stakeholders exactly what sort of measurement of value they require**. Generally, what ensues is a conversation in which the stakeholders say they want to know what they are getting for the **time**, **money**, and **resources invested** in learning and development efforts" (bold added).[10]

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8. *https://dimewiki.worldbank.org/Theory_of_Change*

9. Kirkpatrick, J. D., and Kirkpatrick, W. K. (2010) 'ROE's rising star why return on expectations is getting so much attention', Talent Development; Alexandria, 64(8), 34-38.

10. *https://www.td.org/magazines/td-magazine/roes-rising-star#:~:text=Return%20on%20expectations%20(ROE)%20is,terms%20desired%20by%20key%20stakeholders.*

Perhaps we could suggest that as the L&D function matures it capabilities, as discussed previously, it also develops and matures its analytics capabilities and with this something akin to a Theory of Change. For example, consider the following analytics capabilities, in particular the predictive and prescriptive capabilities:

- ¨*descriptive* analytics: focuses on the past and answers the question on what has happened
- *predictive* analytics: identifies patterns from the past and present and tries to explain these; and then attempts to answer the question on what will happen and the reasons why
- *prescriptive* analytics: develops forecasts of future trends and developments and provides recommendations for these, which answers the question what should be done given the different scenarios¨ (Jivan, 2023)[11].
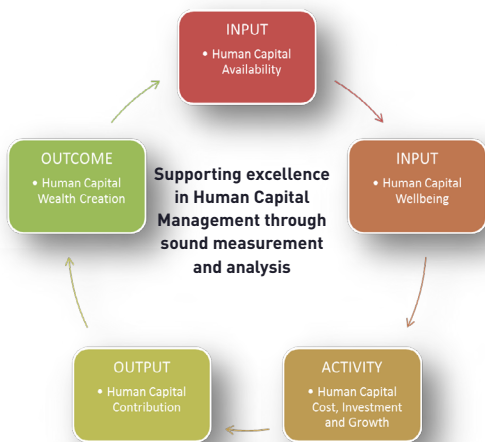
Do you think the L&D function and broader HR function should have predictive and prescriptive analytics capabilities? Will you consider developing a theory of change for L&D programmes and interventions or develop probable scenarios and the causal pathways for change and transformation through learning and development?

Linking L&D measurement and analytics to the SABPP Human Capital Measurement Framework

The Framework is based on five identified Human Capital measurement domains:

- inputs
- activities
- outputs
- outcomes

We can see the alignment with the previous transformation models we discussed in earlier sections of the Fact Sheet. The Framework comprises the following cycle as illustrated below.

Some of the critical questions identified in the Framework are listed below.

Human Capital Availability	Human Capital Contribution
• What is the **match of supply and demand** of economically active people (skilled and unskilled) in the country? • Where are specific **under supply and over supply** situations?	• How **productive** is the employed population? • What is the level of **innovation** in the country?
Human Capital Wellbeing • What health and wellbeing issues impact on the general **productivity potential** of the economically active population?	
Human Capital Cost, Investment and Growth • **What** are we doing in terms of learning and development in the **school and post-school** education system? • **How much** are we spending on whom for what in **the post-school education system**? • What are we doing and how much are we spending **on job creation efforts**? • What health and wellbeing interventions are having **positive impacts on productivity**?	**Human Capital Wealth Creation** • How do different sectors of the employed population **share in the wealth** created in the country? • How **attractive** is the country **to international talent**?

INPUT
• Human Capital Availability

INPUT
• Human Capital Wellbeing

ACTIVITY
• Human Capital Cost, Investment and Growth

OUTPUT
• Human Capital Contribution

OUTCOME
• Human Capital Wealth Creation

Supporting excellence in Human Capital Management through sound measurement and analysis

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11. Jivan, A. (2023). Chapter 16 Future trends in HR and people analytics capabilities. In Joseph, R. (Ed). Foundations of People Metrics and Analytics. Pretoria: Van Schaik Publishers.

Conclusion

Organisations ultimately serve various stakeholders. It follows that L&D should assist organisations in serving these stakeholders in the present and the future. This means we need to be deliberate in our perspective and approach to measuring L&D. In the Fact Sheet the difference between an inside-out and outside-in perspective is cited as an example. The Fact Sheet also points to the need to be clear why we are measuring, and then clarify the questions on what, how, where, when, and who we measure. We should not first seek out the latest fad in metrics, and we should not confuse measures for the purpose of measurement. We first need to clarify the purpose of measurement and why and what we are measuring.

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