Assessing the efficacy of Learning and Organization Development Interventions: A Constructive Approach

By: Dr. Daniel K. Saint and Dilbag Singh

Prelude

In a brief span of history, the world has transformed from an industrial economy to a knowledge economy to an innovation economy. It is fairly indisputable that human capital is the greatest source of value creation in modern business. However, spending in human capital is often done reluctantly due to the challenges of linking measurable financial results to the many people-related investment alternatives. As a CHRO of one of the largest companies in the world told us, “The numbers are too squishy.”

However, there is widespread acceptance that sustainable success of learning in organizations is to a great extent dependent upon a systematic evaluation of the impact of learning and development related to business outcomes. Also, emerging research links learning and development to employee engagement and customer satisfaction. That research more importantly also links engagement and customer satisfaction to increased revenue, decreased costs and decreased risk. Learning and development done correctly and targeted appropriately is one of the key levers to shareholder value maximization. Measurement related to business impact is important.

Many useful models have been developed and employed by academics and practitioners towards this end. However, it is also true that there have been a transformational change in the business environment as well as the workforce over the last two decades. As a result, the expectation of the business stakeholders from organization development (OD) initiatives has changed significantly. Simultaneously, research also indicates that only a few organizations are assessing and analyzing the quality and outcomes of their learning interventions. Actionable and credible research that builds on modern finance theory, advances in data availability and analytics, and organization theory is sparse. The present article is an audacious attempt by authors to contribute theory, methods and tools to begin to fill this gap.

Therefore, the authors seek to enrich the existing literature and organizational practice by proposing a contemporary and constructive model to evaluate the efficacy of learning and organization development interventions. The research will be presented as a four-part series. The current issue of SATTVA will contain Part one that presents a review of existing literature in the area of evaluation of learning and development interventions. Part two will examine the linkage between learning and organizational development and its impact on employee engagement as well as performance and business outcomes. Part three will explore the metrics that might help assess the impact of learning and organizational development on employee engagement, performance and business outcome. Part four will delineate an optimal methodology for designing OD interventions for greater effectiveness and ease of measurement.
About the Authors:

Dr. Daniel K. Saint is the Dean of Faculty at Samatvam Academy. He is a distinguished business leader and researcher with over 25 years of leadership, consulting, and teaching experience. His current research efforts are in three interrelated areas: 1.) Measuring the economic value of human capital interventions including earning & development; 2.) Using advanced data analytics to identify causal linkages among human capital metrics; and, 3.) Designing evidence-based interventions to maximize shareholder value.

Dilbag Singh is a resident faculty at Samatvam Academy. He has multi-faceted experience of eight years in Operations, Learning and Development and Human Resource Management in a global milieu. His areas of passion include strength-based approach to Learning and Development.

1.0 Introduction

The business world today is characterized, among other things, by an increasing competitiveness, globalization, continual technological advances and changes in work organization; therefore the success of a company implies the prosecution of sustainable competitive advantages. Theories placing the origin of these advantages outside the company are now losing validity in favor of those centered on internal elements, especially the resources and capabilities (Sanchez, Barba-Aragón, & Sanz-Valle, 2003).

Research shows that among the internal resources, two factors can be considered sources of competitive advantage, one is the human capital and the other is organizational knowledge (Pfeiffer 1995), (Smith 2001). To maximize value, a business must consequently develop its human element to the fullest and skillfully manage knowledge.

Training plays an important role in fulfillment of both the objectives. With regard to human capital and according to economic theory, investment in training leads to an increase in worker productivity (Fernandez et al, 1999) and increases the inimitability of human resources, which is essential in maintaining the competitive advantage (Fahy, 2000). With regard to organizational knowledge, training, among other things, provides necessary data, which are internalized by the employee and then converted into information and this information, is then converted in knowledge through learning process. (Bollinger and Smith 2001).

As organizations strive to compete in the global economy, differentiation on the basis of the knowledge, skills, motivation and engagement of their workforce is taking increasing importance. Learning and development initiatives of any organization facilitate the achievement of this differentiation by improving the performance of individuals and groups. Rapid changes in technology, the exportation of jobs, downsizing, shortcomings in formal education, global competition and the aging workforce are some of the major reasons making organizations to focus on continuous learning and job training. (Prasad, 2009).
These initiatives can be a source of competitive advantage as employees gain new knowledge and skills (Towler and Dipboye, 2009). Therefore, there is a strong case for investing in the employees to reap the benefits and differentiate from their competitors. Strategic positioning of training and development directly promotes business goals and objectives. Key business challenges require that companies thoughtfully evaluate their market position and determine the talent, skills and knowledge to be successful.

1.1 Learning & Development in Organizations: Efficacy and Challenge

Though there is general agreement about the importance of training as a tool to help organizations in development of sustainable competitive advantage based on human resources. However the investment of companies in training activities is relatively low. Among other reasons, that is due to the fact that organizations do not effectively measure or evaluate the effects of training on performance and therefore they do not know its economic impact on the company. (Sánchez et al, 2003). Hence, it is clearly important to accurate measures of the impact created by the training as it guides the human capital investments of the organizations. If the impact is not measured correctly, the employers will hesitate in further investing in the training endeavors (Bartel, 2000)

As per Jack J. Philips, Management training and development has received much criticism in recent years. In most organizations, teaching managers how to manage has been a difficult, haphazard and often unsuccessful exercise. Each year companies spend millions of dollars on programs to help supervisors, managers and executives become more competent. How many such programs really affect organization’s ability to compete is a question mark. Five most common reasons the training and development program fail add value

1. Programs are not linked specifically to strategies, challenges or problems in organizations
2. Programs are designed to create awareness and understanding, but not competence
3. Programs focus on individuals rather that operating unit
4. Participants attend programs for reasons other than personal or organizational needs
5. Programs fail to help participant confront reality

Such problems appear across all organizations and industries. These problems can be overcome with a comprehensive, result-based approach using measurement and evaluation (Philips, 1997).

Thus, it is also important to ensure that the training efforts lead to positive impact on productivity, efficiency, effectiveness, business results, and ultimately on shareholder value creation. This further creates a need for evaluating the impact of learning and development initiatives.

1.2 Training Evaluation: Meaning and Importance

Evaluation involves collecting and analyzing information for and about a training program which can be used for planning and guiding decision making as well as assessing the relevance, effectiveness, and the
impact of various training components (Raab, Swanson, Wenting & Dark, 1991). There is a wide range of literature that recognizes the need for effective evaluation of training in order to prove its effectiveness. As per Lewis and Thornhill (1994:25) “there seems to be widespread agreement with the proposition that evaluation is the least well conducted aspect of all training activities” which suggests that there is a need for organizations to focus on this area of the learning and development process in order for evaluation to reach its potential.

The impact assessment of training is important from multiple points of view. Evaluation is necessary as it:

- Provides evidence of investment in Human resource,
- Showcases the value addition that trainings bring to the organisation.
- Provides a justification to the expenditure of training department, particularly where there is an increased focus on increasing the Return of Investment (Goldwasser, 2001).
- Allows the organisation to identify whether there are better ways to achieve things rather than through the provision of formal learning and development interventions i.e. job aids which are more effective (Simpson, 2002)

1.3 Purpose of Training Evaluation

In addition to the above-mentioned benefits, evaluation of training is needed in order to examine the following:

1. Whether the learning objectives of the training have been met. This involves examining the relationship between program activities and observed consequences.
2. Future improvements in the quality, effectiveness, or efficiency of the training programs.
3. Assess whether there was an optimum utilization of resources.
4. Assess the value for money of the learning and development.

1.4 Existing Models of Training Evaluation

A review of literature reveals that a number of frameworks for evaluation of training programs have been proposed. The research paper will discuss these one by one.

1.4.1 Donald Kirkpatrick’s 4 levels

The most influential and widely used framework has come from Kirkpatrick (Carnevale & Schulz, 1990; Dixon, 1996; Gordon, 1991; Philips, 1991, 1997). Kirkpatrick described 4 levels of training evaluation: reaction, learning, behaviour and results. He identified the four levels as:

- **Reaction** – a measure of satisfaction (what the trainees/fellows thought and felt about the training); evaluation here focuses on the reaction of individuals to the training or other improvement intervention:
• **Learning** – a measure of learning (the resulting increase in knowledge or capability); evaluation here assesses what has been learned as measured with end of course tests;

• **Behaviour** – a measure of behaviour change (extent of behaviour and capability improvement and implementation/application); evaluation here measures the transfer of what has been learned back to the workplace;

• **Results** – a measure of results (the effects on the institutional environment resulting from the fellows’ performance); evaluation here measures (at least tries to) the impact of the training on overall organizational results.

The four levels of Kirkpatrick’s model progress in difficulty from 1 (the easiest to conduct) to 4 (the hardest). Although most organizations implement level 1 evaluation for their training programmes, the number diminishes as the levels increase. Level 1 (Reaction) is the most commonly used method of evaluation, probably because it is the easiest to administer and evaluate. Public sector/academic settings are more likely to use level 2 techniques; these are most reliable when pre and post-evaluations are utilized. Only a handful of organizations take advantage of the rewards of level 4 evaluations.

When choosing the appropriate model to include in an organizational assessment, it is essential first to identify the questions the evaluation needs to address. Many scholars have used Kirkpatrick’s work to develop further models.

### 1.4.2 Jack J. Phillips Return on Investment (ROI)

The Phillips ROI Methodology model provides a step-by-step process for collecting data, summarizing and processing data, isolating the effects of programmes, converting data to monetary value, and capturing the actual Return on Investment (ROI). The mode incorporates the four evaluation levels developed by Dr Donald Kirkpatrick with the addition of the fifth ROI level developed by Dr Phillips.

**Level 1, Reaction and Planned Action,** This level measures the program participants’ satisfaction is measured along with a written plan for implementing what they have learned. This level varies from Kirkpatrick’s with the addition of an action plan (Phillips, 1997).

**Level 2, Learning,** This level focuses on assessing the skills and knowledge that the participants learned during training. It is important to assess learning to ensure that participants have absorbed the material and know how to use it.

**Level 3, Job Applications,** measures changes in the behavior of the participant once back on the job.

**Level 4, Business Results,** measurement focuses on actual business results achieved after participants are sent through training. Level 4 measures include output, quality, time, costs, and customer satisfaction.

**Level 5, Return on Investment,** assessment takes Level 4 a step further. Measurement at this level compares the monetary benefits from the program with the fully loaded cost to conduct the program. ROI is usually expressed as a cost/benefit ratio or a percentage.
The ROI formula is: 
\[ \text{ROI} \% = \frac{\text{Benefits} - \text{Costs \times 100}}{\text{Costs}} \]

In addition to this Dr. Phillips has perfected a set of techniques for converting data to monetary value, isolating the effects of the program from other factors and capturing the costs of the program. While this ROI investment attempts to use the language of business to prove the value of training, it falls short of being able to communicate the true economic value. By using a simple measure that does not take into account the time value of money, it is not convincing for its intended targets and other business leaders.

1.4.3 The Bottom-Line OD Measurement Approach

Andersen builds on Kirkpatrick and Philips in his book *Bottom-Line Organization Development*, Andersen provides a set of tools to capture and measure the return on investment of learning and development and other organization development (OD) types of projects.

In Table below, you will see the similarities of the conceptual frameworks. However, Andersen’s contribution is to embed the change management process itself into the measurement of the value created by learning and development projects.

<table>
<thead>
<tr>
<th>Level</th>
<th>Kirkpatrick</th>
<th>Phillips</th>
<th>Bottom-Line OD Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reaction to the training</td>
<td>Reaction to the training</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Learning the program material</td>
<td>Learning the program material</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Behavior changes</td>
<td>Application of the material to the workplace</td>
<td>Application of the material to the workplace</td>
</tr>
<tr>
<td>4</td>
<td>Results that show up in performance increases</td>
<td>Business Results, with monetary benefits</td>
<td>Business Impact, with Monetary benefits</td>
</tr>
<tr>
<td>5</td>
<td>ROI, mostly post-program</td>
<td>ROI done as estimate, Forecast and post-program</td>
<td></td>
</tr>
</tbody>
</table>

Andersen follows the OD process-consulting framework for designing learning projects with measurement in mind with a five-step process of diagnosis, design, deployment evaluation and reflection (Andersen, 2004).

1.4.4 The CIRO Model

In 1970, the CIRO model for the evaluation of managerial training was proposed (Warr, Bird & Rackson, 1970). This model proposes the evaluation of four aspects of training: context, input, reaction and outcomes. The CIRO model focuses on measurement both before and after the training has been carried out. The differentiating factor of the CIRO model is that the objectives (context) and the training
equipment (input) are considered (Topno, 2012).

The model is based on four stages or types of evaluation – context, input, reactions and outcome:

**Context** evaluation focuses on factors such as the correct identification of training needs and the setting of objectives in relation to the organization’s culture and climate.

**Input** evaluation, is concerned with the design and delivery of the training activity.

**Reaction** evaluation looks at gaining and using information about the quality of training experience.

**Outcome** evaluation focuses on the achievement gained from the activity and is assessed at three levels: immediate, intermediate and ultimate evaluation.

### 1.4.5 CIPP Evaluation Model

Daniel L. Stufflebeam developed CIPP model of program evaluation in 1983. It refers to the four phases of evaluation. It is based upon the view that the most important purpose of evaluation is to improve the functioning of a program.

**Context evaluation:** It involves evaluation of training and development needs analysis and formulating objectives in the light of these needs.

**Input Evaluation:** Input evaluation involves an examination of the intended content of the program. It is designed to assess the extent to which program strategies, procedures, and activities support the goals and objectives identified in the needs assessment and context evaluation.

**Process Evaluation:** A process evaluation involves assessment of preparation of reaction sheets, rating scales and analysis of relevant records (Prasad, 2005).

**Product evaluation:** It involves measuring the attainment of training and development objectives. The purpose of product evaluation is to measure, interpret and judge the extent to which an organization’s improvement efforts have achieved their short term and long-term objectives.

### 1.4.6 Kaufman and Keller 5 level Model

In the year 1994, Kaufman and Keller reappraised the use of evaluation in HRD and provided a new model of training evaluation. The evaluation on the level 3 and 4 prescribed by Kirkpatrick is difficult because of the fact that training is not the only relevant causal factor. Kaufman and Keller proposed and expansion in the Kirkpatrick model to consider the internal and external consequences of all interventions associated with performance and organizational improvement. The following table provides an overview of these five levels:

<table>
<thead>
<tr>
<th>Level</th>
<th>Evaluation</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Enabling</td>
<td>Availability and quality of human, financial, and physical resources inputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1b</td>
<td>Reaction</td>
<td>Methods, means, and processes' acceptability and efficiency.</td>
</tr>
<tr>
<td>2</td>
<td>Acquisition</td>
<td>Individual and small-group mastery and competence</td>
</tr>
<tr>
<td>3</td>
<td>Application</td>
<td>Individual and small-group (products) utilization within the organization</td>
</tr>
<tr>
<td>4</td>
<td>Organizational outputs</td>
<td>Organizational contributions and payoffs</td>
</tr>
<tr>
<td>5</td>
<td>Societal outcomes</td>
<td>Societal and client responsiveness, consequences, and payoffs</td>
</tr>
</tbody>
</table>


### 1.4.7 The Six Ds Model

Wick, Pollok, and Jefferson in *The Six Disciplines of Breakthrough Learning* (2006) provide an innovative approach in that they do not build on the Kirkpatrick Framework, but begin by assessing the impact of the training on the business. They begin with the premise that: "...human capital is the single most important source of competitive advantage in today's increasingly knowledge-based economy."

Given the premise, learning programs are viewed as investments that enhance the value and effectiveness of the workforce. The 6 Disciplines provide a process to follow in developing and in ultimately evaluating training:

- Define the business outcomes
- Design a complete experience
- Deliver for application
- Drive learning transfer
- Deploy performance support
- Document results.

The 6D’s begins to move away from the historical focus of training and development of preparation and instruction and then focusing on the evaluation of the instruction and potential learning. The complete learning experience begins with understanding the training imperative based on potential business results. Then, the complete experience includes how the program is initially communicated, how participants are invited, the preparation and delivery of the training, then providing learning transfer and practice support leading to achieving results and mastery.

The final discipline of documenting results is actually done throughout the process with the ultimate purpose of answering whether the training made a positive difference and achieved its intended purpose.

The 6D framework is one the latest model recommended for evaluating learning and completes the review of existing frameworks. This literature review is not meant to be exhaustive; rather it is aimed to some of the main models in use for evaluating learning or training.

### 1.5 Conclusion

The above review of literature on evaluation of training programs covers the major frameworks model being used by Learning and development practitioners. It reveals that there have not been major changes
in the training evaluation literature over the last five decades. The key contributors in the field have been Donald L. Kirkpatrick and Jack J. Phillips. According to a research conducted by American Society for Training and Development (ASTD), while 92% of the respondents use the Kirkpatrick/Phillips level one evaluation of training, whereas, only 18% of the respondents use the level 5 evaluation. Level 1 is the most commonly used type of evaluation; it is considered of lowest value. Only 36% of respondents whose companies use Level 1 evaluation said it had high or very high value. In comparison, Level 3 (evaluation of behavior) and Level 4 (evaluation of results) were seen to be the most valuable, with 75% of respondents indicating high or very high value for each level (ASTD, 2009). The results of above research indicate that although Kirkpatrick/Phillips are the most widely used evaluation frameworks. However, as the usage declines when we move from level 1 to 4/5 the usage declines sharply. Therefore, it is the need of the time to develop and apply a more contemporary model of evaluating impact of learning and development interventions. In coming series of research papers, the researchers will make an attempt at presenting a more contemporary model of evaluating the learning impact.
References


