Demonstrating Value Through Learning Analytics
Overview of KnowledgeAdvisors

The Standard in Learning Analytics

We help organizations measure and improve the results of their learning programs.

Visit our website at www.knowledgeadvisors.com
Metrics that Matter® Enterprise Scalability

Enterprise-wide Data & Feedback Sources

The Learning Industry’s Most Robust Reporting

Stakeholders: Internal · Vendor · Customer · Departmental · Regional
Reports: Trendline · Impact Analysis · Benchmarks · Business Results
ROI · Comments · Scorecards · Dashboards · Alerts

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Analytics Past, Present and Future

- Strategic Initiatives
- Outsourcing
- Technology
- Consulting
- Suppliers
- Talent Measurement
- Knowledge Measurement
- Recruiting
- Compensation
- Processes
- Leadership
- On-line
- Coaching
- Mentoring
- Blended
- On the Job
- Instructor-led
What Matters to the CEO

- revenue
  - employees

OR

- revenue
  - employees

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What is Happening with Measurement?

“Proving Value / ROI of Training.”
#1 Challenge of L&D Organizations
[T&D Magazine, Pulse Check January 2006]

“Communicating and Measuring Results”
#1 Challenge in current position as CLO
[T&D Magazine, The CLO Path, February 2006]
81% of resources for measurement today are tied up in administrative activities (collection, aggregation, filtering, reporting) leaving less than 20% for analysis and decision-making. Technology reverses that ratio – 80% on analysis and 20% on administration.

Independent studies have shown that there is an enormously high cost to data accuracy versus obtaining a reasonable indicator. Organizations should balance when to take the extra time and money to yield highly statistical results. Given how executives make decisions, often times reasonable data provided in a more timely manner outweighs data with more precision delivered in a less timely manner.

In your organization, what best describes the level of accuracy that analytics must have in order to be perceived as useful for information decision-making purposes of senior management?

- Reasonable quantitative/qualitative indicators: 78%
- Periodic ‘word of mouth’ statements: 11%
- Highly precise, statistically valid measures: 11%

Enter Learning Analytics

Learning Analytics technology helps organizations understand how to better train & develop employees, partners and customers.
Analytics Model

HUMAN CAPITAL CONTRIBUTION MODEL™

A process and toolset enabling learning organizations to measure and improve business results and bottom-line impact.
Analytics Process

Data Collection
- Standard Post Event ‘end of class evaluation
- Automated Follow Up evaluation
- Constantly gathering
  - Satisfaction indicators
  - Learning Effectiveness Indicators
  - Job Impact indicators
  - ROI predictors
  - Mainly collected online
  - Paper input into system

Data Storage
- Central Database
- No need for paper
- Secure storage
- Self-service access

Data Processing
- Aggregation of data
- Filtering of data
- Convert into metrics
- 1000s of queries and algorithms performed on the data automatically

Data Reporting
- Transactional Reports
- Aggregate Reports
- ROI Analysis
- Benchmark Reports
- Executive Reports
- Ad-hoc Reports
- Linkage to Learning Levels

Metrics that Matter®, Learning Analytics Technology

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KnowledgeAdvisors Analytics Standards

'Reaction'
Level 1

'Learning'
Level 2

'Job Impact'
Level 3

'ROI/ROE'
Level 5

'State your initial knowledge of each of the content before
the training. Check only one:

- 10% inadequate
- 20% inadequate
- 30% inadequate
- 40% inadequate
- 50% inadequate
- 60% inadequate
- 70% inadequate
- 80% inadequate
- 90% inadequate
- 100% adequate

'BUSINESS RESULTS'

19. Given all factors, including this training, estimate how much your
job performance related to the course subject matter
will improve.

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

20. Based on your response to the proposition, estimate how much
the training will improve the result of the training.

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

21. The training will have a significant impact on:

- Increasing skill
- Increasing productivity
- Increasing employee satisfaction
- Increasing income
- Increasing sales
- Increasing customer satisfaction
- Increasing income

'RETURN ON INVESTMENT'

22. This training was worthwhile.

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

This training was worthwhile.

23. This training was worthwhile.

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

'What about this class was most useful to you?

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

How can we improve the training to make it more relevant to your
job?

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

Would you like to be notified about advanced or complementary
courses? Yes No

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KnowledgeAdvisors Analytics Templates

A tool enabling the learning team to conduct more comprehensive business impact and ROI analysis. The tool allows you to store actual business results tied to multiple programs and show trainings impact and ROI.

*Sample numbers for demonstration only.*
A tool enabling the learning team to conduct more comprehensive actual results tracking and analysis. The tool allows you to store actual results (revenue, cost per student day, test scores) and trend them against goals and prior performance.

*Sample numbers for demonstration only.
Upon completion of a learning intervention, LMS sends course, class, learner, manager etc. information to MTM via XML.

MTM recognizes that it has been 60 days since learner completed a course and emails a follow up survey automatically to that learner. The results go back to the MTM database.

At the same 60 day point, MTM also sends a follow up survey to the learner’s manager. The results go back to the MTM database.

The passing of learner course completion information from LMS triggers MTM to send a post-event survey to learner via email. The results go back to the MTM database.

Data Integrations
Benchmarking / Goal Setting

Benchmark across the key performance indicators on your evaluation forms that link back to the 5 levels of learning measurement. Compare the actual performance to goals and to internal or external benchmarks so you properly monitor using a balanced scorecard approach.

<table>
<thead>
<tr>
<th>Learning Levels Score Card</th>
<th>Summary of learning performance by learning measurement levels for all forms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time Period for Reporting:</strong> September 1, 2003 to September 30, 2003</td>
<td></td>
</tr>
<tr>
<td><strong>Level One - Satisfaction</strong></td>
<td><img src="image" alt="My Average [n=639] 5.78" /> <img src="image" alt="My Goal 6.00" /> <img src="image" alt="MTM Benchmark [n=54,093] 6.53" /></td>
</tr>
<tr>
<td><strong>My Average [n=639]</strong></td>
<td><img src="image" alt="Level One - Satisfaction" /></td>
</tr>
<tr>
<td><strong>Level Two - Learning Effectiveness</strong></td>
<td><img src="image" alt="My Average [n=1,033] 5.63" /> <img src="image" alt="My Goal 6.00" /> <img src="image" alt="MTM Benchmark [n=38,966] 6.33" /></td>
</tr>
<tr>
<td><strong>My Average [n=1,033]</strong></td>
<td><img src="image" alt="Level Two - Learning Effectiveness" /></td>
</tr>
<tr>
<td><strong>Level Three - Job Impact</strong></td>
<td><img src="image" alt="My Average [n=1,020] 4.52" /> <img src="image" alt="My Goal 5.60" /> <img src="image" alt="MTM Benchmark [n=21,410] 5.69" /></td>
</tr>
<tr>
<td><strong>My Average [n=1,020]</strong></td>
<td><img src="image" alt="Level Three - Job Impact" /></td>
</tr>
<tr>
<td><strong>Level Four - Business Results</strong></td>
<td><img src="image" alt="My Average [n=1,016] 5.22" /> <img src="image" alt="My Goal 5.00" /> <img src="image" alt="MTM Benchmark [n=31,251] 5.80" /></td>
</tr>
<tr>
<td><strong>My Average [n=1,016]</strong></td>
<td><img src="image" alt="Level Four - Business Results" /></td>
</tr>
<tr>
<td><strong>Level Five - ROI</strong></td>
<td><img src="image" alt="My Average [n=1,035] 5.60" /> <img src="image" alt="My Goal 6.00" /> <img src="image" alt="MTM Benchmark [n=36,624] 6.20" /></td>
</tr>
<tr>
<td><strong>My Average [n=1,035]</strong></td>
<td><img src="image" alt="Level Five - ROI" /></td>
</tr>
</tbody>
</table>
Measure Impact Easily

The job impact by course indicators clearly show which courses are having the biggest affect on the job. This report stratifies the responses by the percent that fall above or below ranges of performance. Percentages in red are indicators of little or no job impact versus percentages in green represent significant job impact.

<table>
<thead>
<tr>
<th>Course</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (n = 12) (a = 24)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25%</td>
</tr>
<tr>
<td>Excel Level 1 (n = 4) (a = 8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FrontPage Level1 (n = 2) (a = 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardware Reference - Level 1 (n = 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>N106 - Introduction to Networking (n = 3) (a = 6)</td>
<td></td>
<td>33.33%</td>
<td></td>
<td></td>
<td></td>
<td>66.67%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photoshop Level 1 (n = 1) (a = 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The number of evaluations (n) and data points (a) used for each course are provided.

Variance Report by Courses - Question Category - Job Impact
This report shows the percentage of learner responses that fall within the bounds set by the user.

Date Range: 1/1/2003 to 1/31/2003

n = # of evaluations; a = # of data points; calculations derived on data points

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Who are my top instructors?

Standard Report by Instructor

Question Category Summary: Learning Effectiveness

Time period for reporting: November 1 2002 To January 13 2003

Compare to MFM Average

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Average (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>George Washington</td>
<td>6.62 (n=8)</td>
</tr>
<tr>
<td>Abraham Lincoln</td>
<td>6.5 (n=4)</td>
</tr>
<tr>
<td>Kate Conti</td>
<td>6.38 (n=16)</td>
</tr>
<tr>
<td>Deborah Brooks</td>
<td>5.88 (n=8)</td>
</tr>
<tr>
<td>John Kennedy</td>
<td>5.75 (n=12)</td>
</tr>
<tr>
<td>Elson Barnes</td>
<td>5.24 (n=32)</td>
</tr>
</tbody>
</table>

Improvement Tips

Monitor trainers’ performance across key indicators such as learning effectiveness. Then compare each trainer to an internal or external average for more proactive monitoring by measurement.
Examples of Macro Learning Constructs

- Operational
  - Activity constructs (how much we train)
- Performance
  - Optimization constructs (how well we train)
- Financial
  - Budget/Fiscal constructs (how much it costs)
- Cultural
  - Supportive Environment (how conducive is it)

Note: these constructs are part of KnowledgeAdvisors Metrics that Matter® standards
Sample Input Tools to Store and Track Data

A template to add, edit, and manage your dashboard metrics. This is an example of the operational dashboard metrics added to a web-based template. Metrics can be added manually or via a feed from other systems (HRIS, LMS, financial)
Sample Dashboards to Analyze Metrics

### Operational Actual Results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of Students Trained (ILT attendees per month)</td>
<td>50</td>
<td>91</td>
<td>120</td>
</tr>
<tr>
<td>E-Learning Utilization Rate (% of e-courses accessed)</td>
<td>25.00%</td>
<td>50.00%</td>
<td>90.00%</td>
</tr>
<tr>
<td>Speed to Market (Days to Respond to Client Training Need)</td>
<td>45</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>Instructor Utilization Rate (Days of Instructor Time)</td>
<td>85</td>
<td>80</td>
<td>70</td>
</tr>
</tbody>
</table>

### Performance Actual Results

<table>
<thead>
<tr>
<th>Metric</th>
<th>Mar 31 2006</th>
<th>Jun 30 2006</th>
<th>Sep 30 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Growth (Period over Period Sales)</td>
<td>75,000.00</td>
<td>50,000.00</td>
<td>120,000.00</td>
</tr>
<tr>
<td>Training Impact on Sales (Adjusted Percent Linked to Training)</td>
<td>2.00%</td>
<td>1.00%</td>
<td>7.00%</td>
</tr>
<tr>
<td>Productivity Per Employee (Revenue / Employees)</td>
<td>600.00</td>
<td>500.00</td>
<td>1,300.00</td>
</tr>
<tr>
<td>Learning Effectiveness (Average Test Scores)</td>
<td>75</td>
<td>78</td>
<td>90</td>
</tr>
<tr>
<td>Time to Job Impact (% of Employees Applying Training in First 60 Days)</td>
<td>35.00%</td>
<td>37.00%</td>
<td>90.00%</td>
</tr>
</tbody>
</table>

### Goals

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of Students Trained (ILT attendees per month)</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>E-Learning Utilization Rate (% of e-courses accessed)</td>
<td>75.00%</td>
<td>75.00%</td>
<td>75.00%</td>
</tr>
<tr>
<td>Speed to Market (Days to Respond to Client Training Need)</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Instructor Utilization Rate (Days of Instructor Time)</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

### Legend - Actual Results

- **0.00**
  - 10% positive variance from prior result
- **0.00**
  - Between 10% positive variance and 10% negative variance from prior result
- **0.00**
  - 10% negative variance from prior result

Source: Metrics that Matter®

A report showing actual results over time with a color coded analysis to compare variances against prior periods and goals/benchmarks.

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Enterprise Solutions Capabilities

Enterprise Learning Organization

Segmented by Audience

Employee Training

Segmented by Program

Leadership Program

Sales Program

Technology Program

Partner Training

Customer Training

Segmented by Region

Americas Region

Europe Region

Asia Region

Aggregate Data

Metrics that Matter can organize and aggregate data to match an enterprise learning organizational structure
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