



Demonstrating Value Through Learning Analytics

Overview of KnowledgeAdvisors

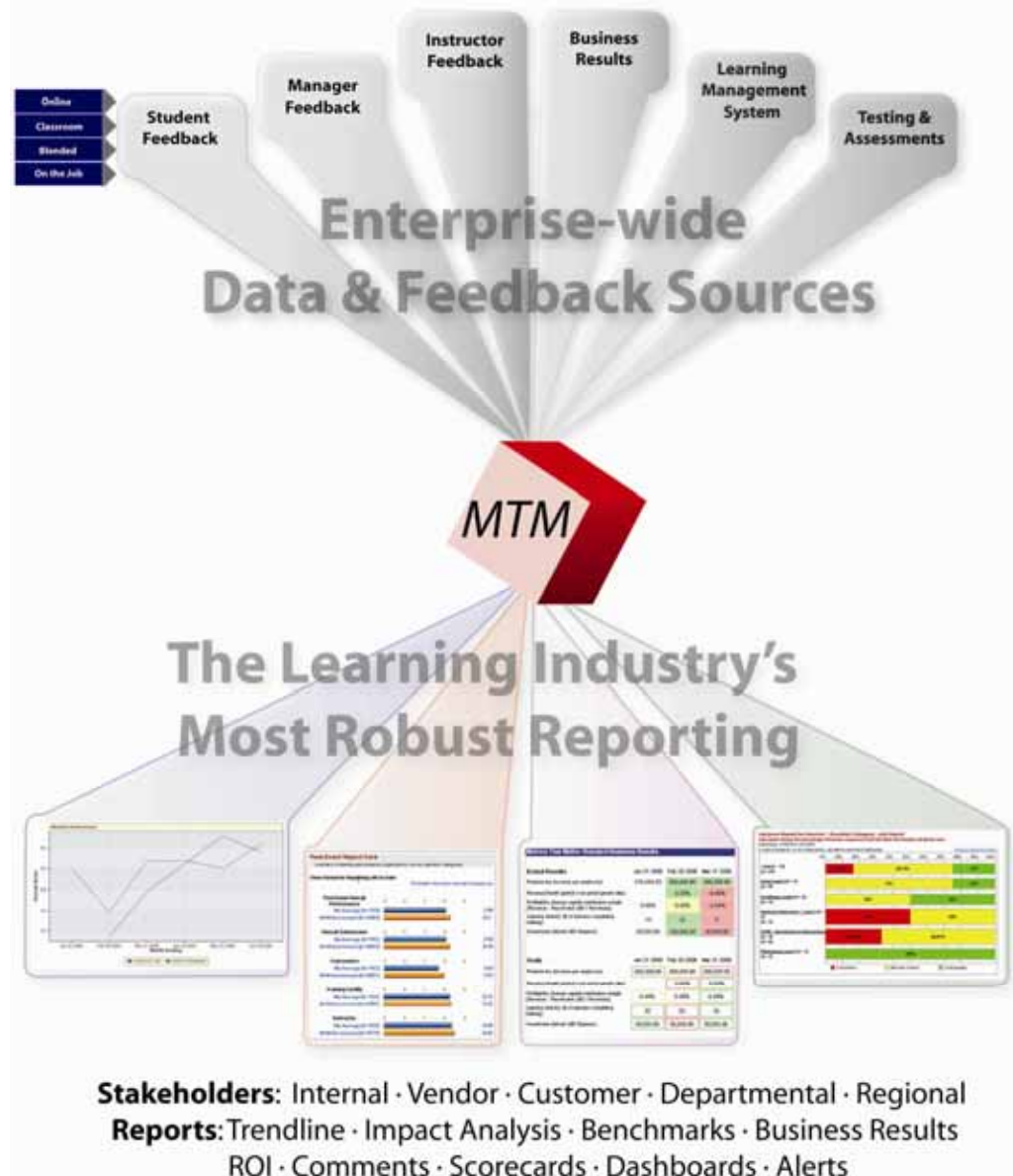
The Standard in Learning Analytics



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

Visit our website at www.knowledgeadvisors.com

Metrics that Matter[®] Enterprise Scalability



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KnowledgeAdvisors Sample Clients



Global Knowledge



Audi



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

Performance
Analytics

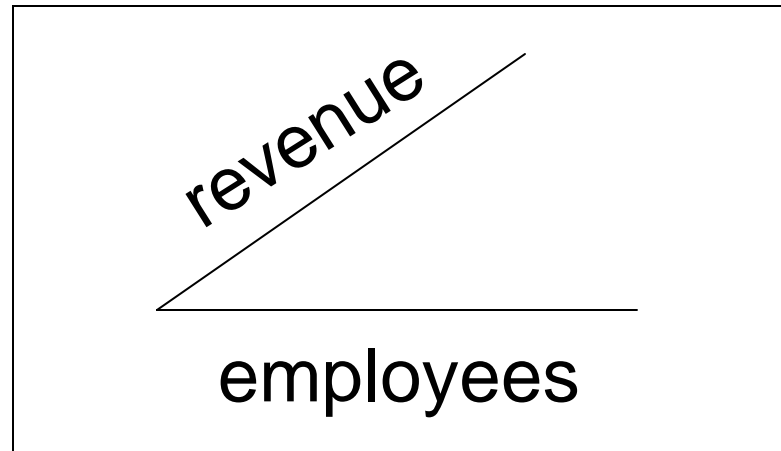
Human Capital
Analytics

Learning
Analytics

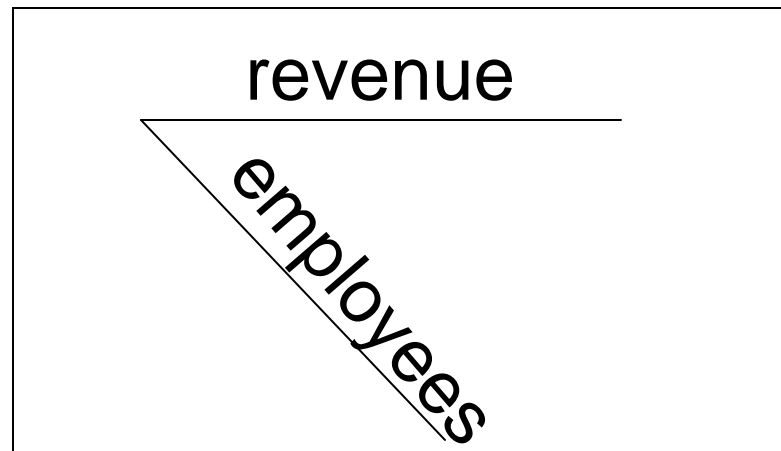
Training
Analytics

5

What Matters to the CEO



OR



What is Happening with Measurement?

“Proving Value / ROI of Training.”

#1 Challenge of L&D Organizations

*[T&D Magazine, Pulse
Check January 2006]*

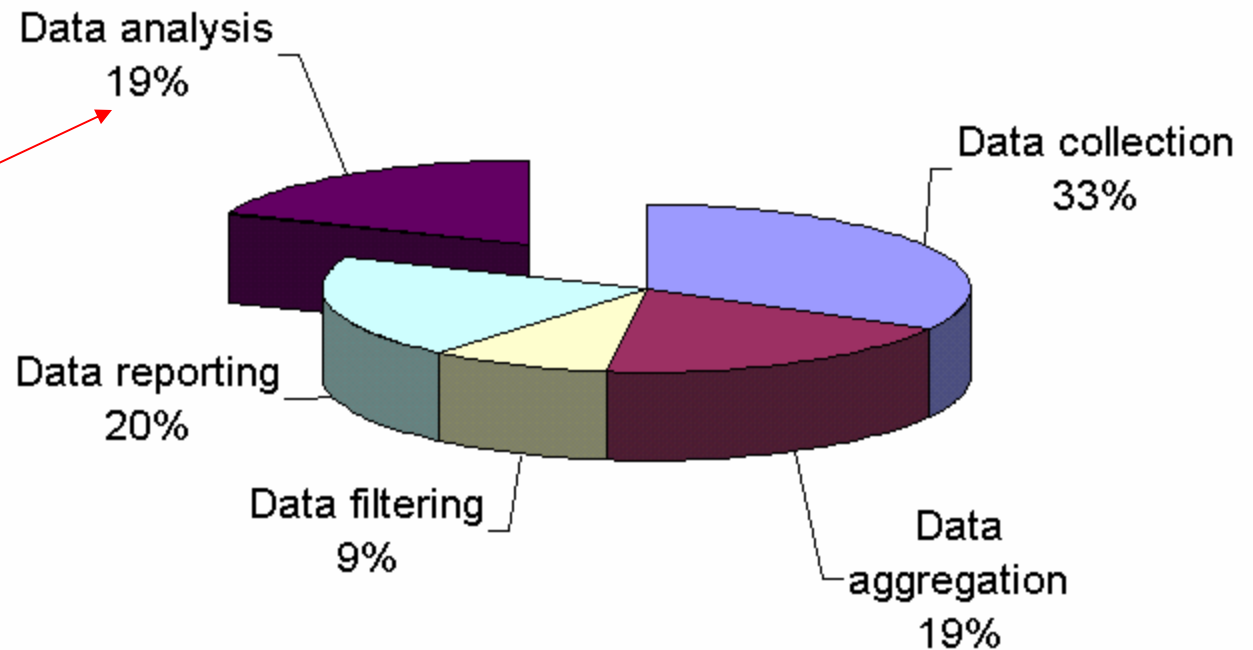
“Communicating and Measuring Results”

#1 Challenge in current position as CLO

*[T&D Magazine, The CLO Path,
February 2006]*

Learning Measurement Resource Allocation

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.

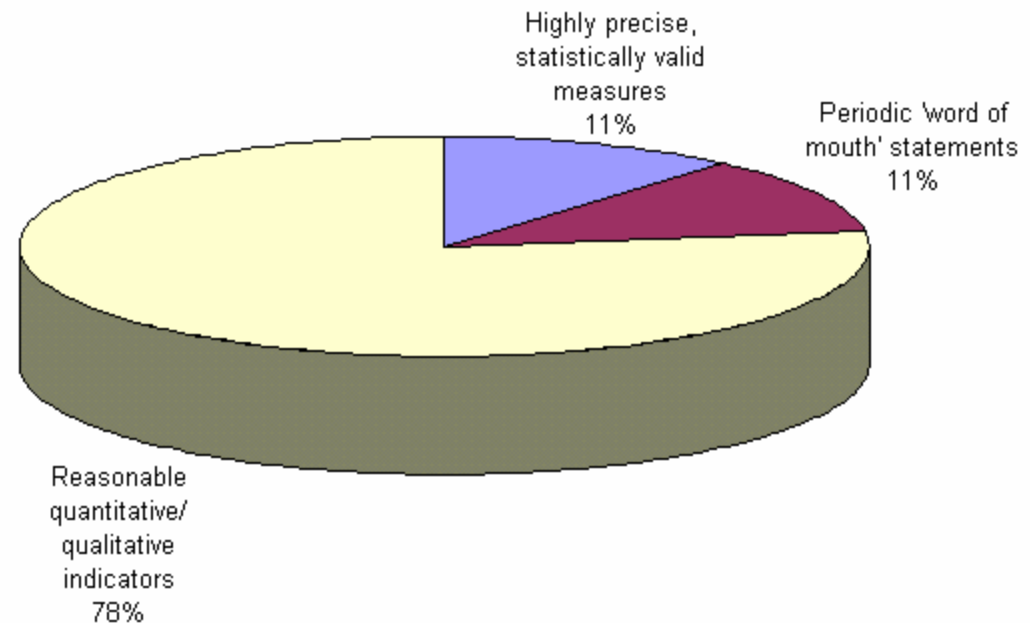


Source: KnowledgeAdvisors Learning Analytics Best Practices Research Study, 2004.

Measurement 'Reasonable Indicators'

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.

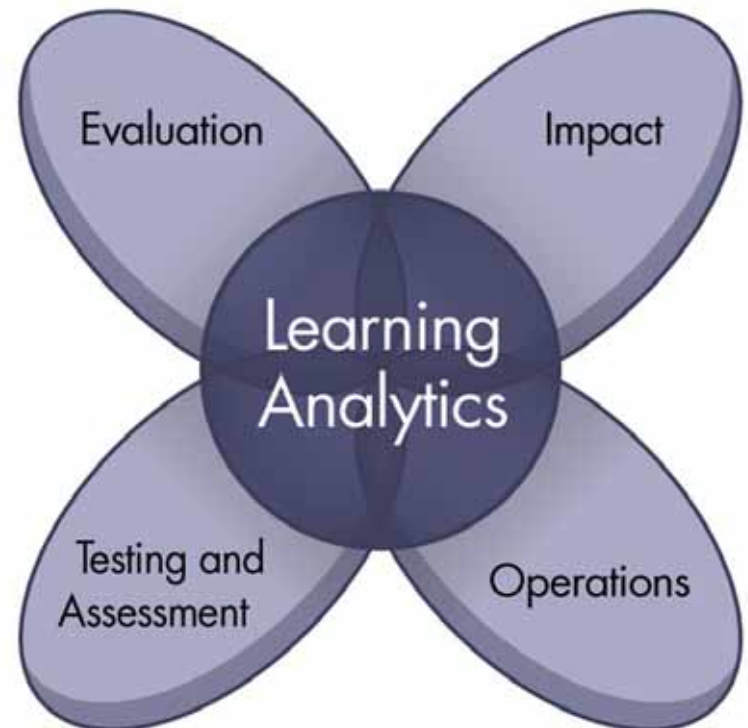
In your organization, what best describes the level of accuracy that analytics must have in order to be perceived as useful for information decision-making purposes of senior management?



Source: KnowledgeAdvisors Learning Analytics Best Practices Research Study, 2004.

Enter Learning Analytics

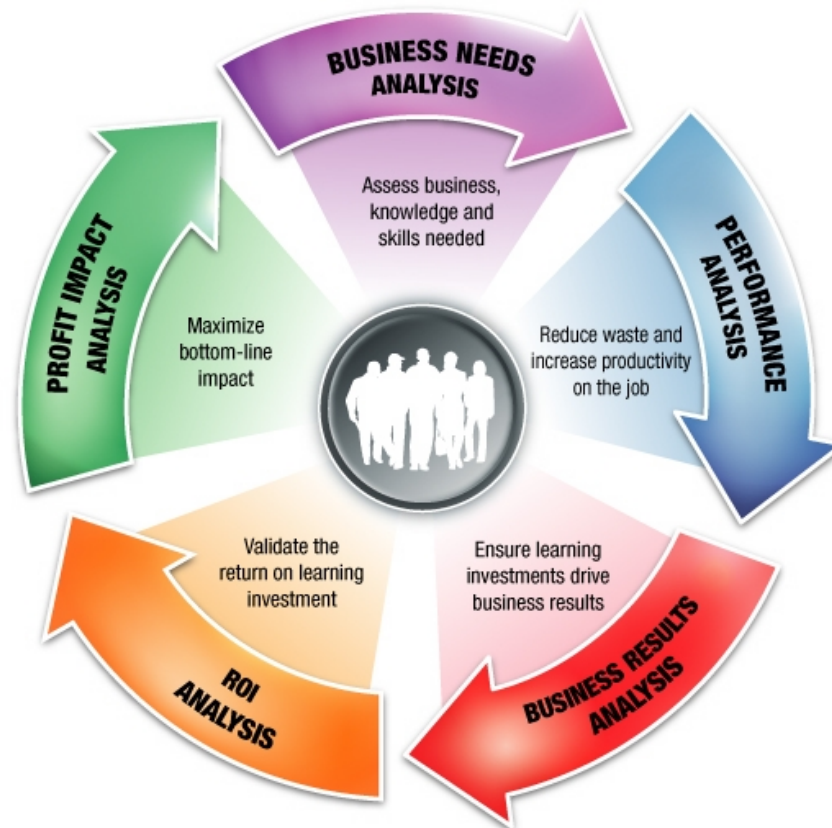
Learning Analytics technology helps organizations understand how to better train & develop employees, partners and customers.



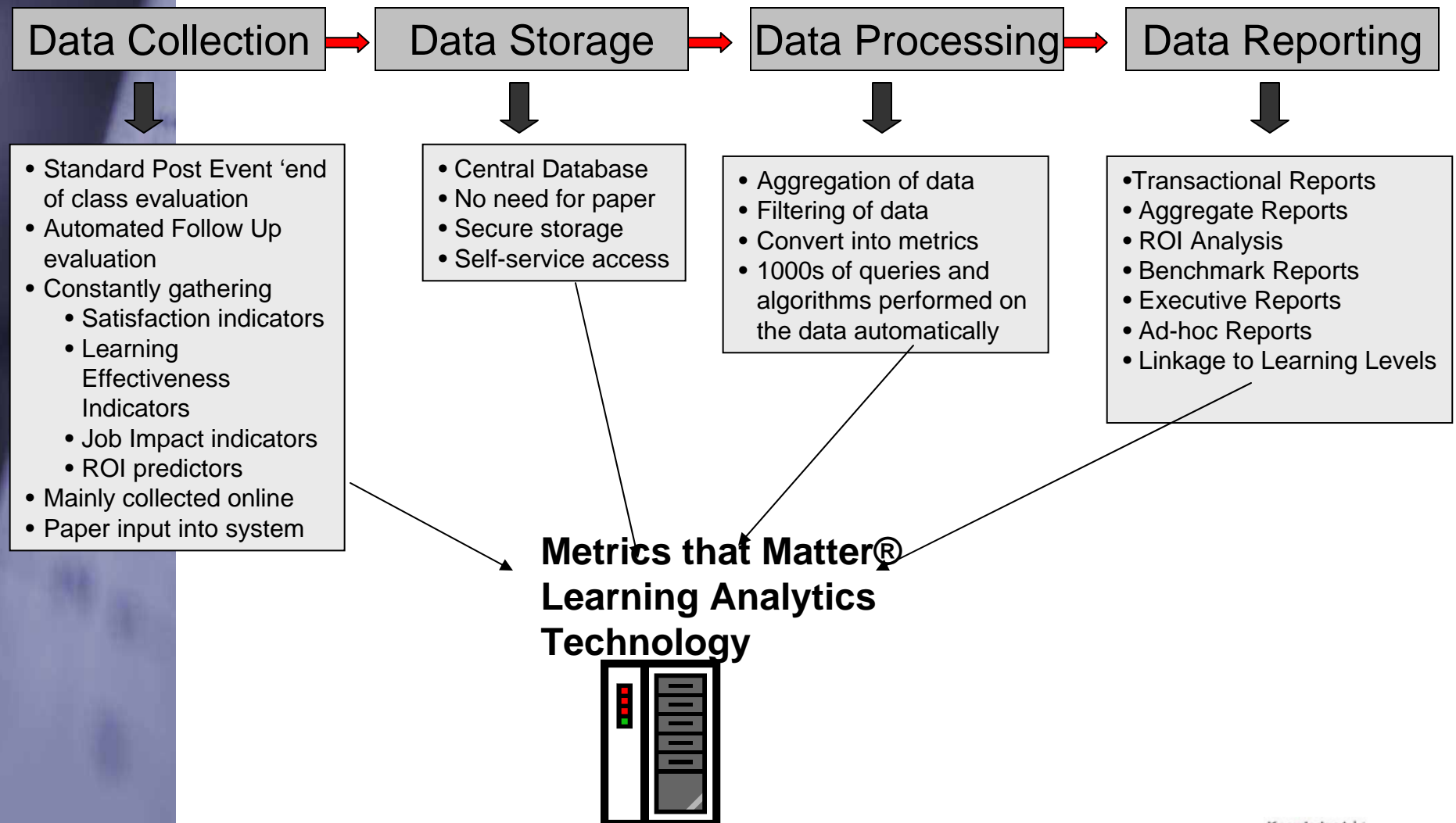
Analytics Model

HUMAN CAPITAL CONTRIBUTION MODEL™

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



Analytics Process



KnowledgeAdvisors Analytics Standards

INSTRUCTOR

	Strongly Agree	Strongly Disagree
1. The instructor was knowledgeable about the subject.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
2. The instructor was prepared and organized for the class.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
3. Participants were encouraged to take part in class discussions.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
4. The instructor was responsive to participants' needs and questions.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
5. The instructor's energy and enthusiasm kept the participants actively engaged.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
6. On-the-job application of each objective was discussed during the course.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

ENVIRONMENT

	Strongly Agree	Strongly Disagree
7. The physical environment was conducive to learning.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

COURSEWARE

	Strongly Agree	Strongly Disagree
8. The scope of the material was appropriate to meet my needs.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
9. The material was organized logically.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
10. The examples presented helped me understand the content.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
11. The participant materials (manual, presentation handouts, etc.) will be useful on the job.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

LEARNING EFFECTIVENESS

	Strongly Agree	Strongly Disagree
12. I learned new knowledge and skills from this training.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
13. Rate your INCREASE in skill level or knowledge of this content before versus after the training. A 0% is no increase and a 100% is a very significant increase. <input type="checkbox"/> 0% <input type="checkbox"/> 10% <input type="checkbox"/> 20% <input type="checkbox"/> 30% <input type="checkbox"/> 40% <input type="checkbox"/> 50% <input type="checkbox"/> 60% <input type="checkbox"/> 70% <input type="checkbox"/> 80% <input type="checkbox"/> 90% <input type="checkbox"/> 100%		

JOB IMPACT

	Strongly Agree	Strongly Disagree
14. I will be able to apply the knowledge and skills learned in this class to my job.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
15. What percent of your total work time requires the knowledge and skills presented in this training? Check only one. <input type="checkbox"/> 0% <input type="checkbox"/> 10% <input type="checkbox"/> 20% <input type="checkbox"/> 30% <input type="checkbox"/> 40% <input type="checkbox"/> 50% <input type="checkbox"/> 60% <input type="checkbox"/> 70% <input type="checkbox"/> 80% <input type="checkbox"/> 90% <input type="checkbox"/> 100%		
16. On a scale of 0% (not at all) to 100% (extremely critical), how critical is applying the content of this training to your job success? Check only one. <input type="checkbox"/> 0% <input type="checkbox"/> 10% <input type="checkbox"/> 20% <input type="checkbox"/> 30% <input type="checkbox"/> 40% <input type="checkbox"/> 50% <input type="checkbox"/> 60% <input type="checkbox"/> 70% <input type="checkbox"/> 80% <input type="checkbox"/> 90% <input type="checkbox"/> 100%		

JOB IMPACT

17. What percent of new knowledge and skills learned from this training do you estimate you will directly apply to your job? Check only one. <input type="checkbox"/> 0% <input type="checkbox"/> 10% <input type="checkbox"/> 20% <input type="checkbox"/> 30% <input type="checkbox"/> 40% <input type="checkbox"/> 50% <input type="checkbox"/> 60% <input type="checkbox"/> 70% <input type="checkbox"/> 80% <input type="checkbox"/> 90% <input type="checkbox"/> 100%
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BUSINESS RESULTS

	Strongly Agree	Strongly Disagree
18. This training will improve my job performance.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
19. Given all factors, including this training, estimate how much your job performance related to the course subject matter will improve. <input type="checkbox"/> 0% <input type="checkbox"/> 10% <input type="checkbox"/> 20% <input type="checkbox"/> 30% <input type="checkbox"/> 40% <input type="checkbox"/> 50% <input type="checkbox"/> 60% <input type="checkbox"/> 70% <input type="checkbox"/> 80% <input type="checkbox"/> 90% <input type="checkbox"/> 100%		
20. Based on your response to the prior question, estimate how much of the improvement will be a direct result of this training. (For example if you feel that half of your improvement is a direct result of the training, enter 50% here.) <input type="checkbox"/> 0% <input type="checkbox"/> 10% <input type="checkbox"/> 20% <input type="checkbox"/> 30% <input type="checkbox"/> 40% <input type="checkbox"/> 50% <input type="checkbox"/> 60% <input type="checkbox"/> 70% <input type="checkbox"/> 80% <input type="checkbox"/> 90% <input type="checkbox"/> 100%		
21. This training will have a significant impact on: (check all that apply) <input type="checkbox"/> increasing quality <input type="checkbox"/> increasing productivity <input type="checkbox"/> increasing employee satisfaction <input type="checkbox"/> decreasing costs <input type="checkbox"/> increasing sales <input type="checkbox"/> increasing customer satisfaction <input type="checkbox"/> decreasing cycle time <input type="checkbox"/> decreasing risk		

RETURN ON INVESTMENT

	Strongly Agree	Strongly Disagree
22. This training was a worthwhile investment in my career development.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
23. This training was a worthwhile investment for my employer.	7 6 5 4 3 2 1 n/a	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

What about this class was **most** useful to you?

What about this class was **least** useful to you?

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

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

'Reaction'
Level 1

'Learning'
Level 2

'Job Impact'
Level 3

'Results
Level 4
&
Estimation
Isolation
Adjustment

'ROI/ROE'
Level 5

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.

Report Tools  PRINT THIS  EMAIL THIS

Save Edit

Sales Training Worksheet - Analyst Results Report summary of comprehensive business impact and ROI analysis

Business Result: Increased Sales

Defined as: Closed Sales per Year

Change in Metric

	Group Trained		Control Group	
	Metric	Monetary Value	Metric	Monetary Value
Metric BEFORE Training	45	\$90,000	45	\$90,000
Metric AFTER Training	70	\$140,000	48	\$96,000
Percent Change	56%	\$50,000	7%	\$6,000

Root Cause of Change

	Group Trained		Control Group	
	Metric	Monetary Value	Metric	Monetary Value
Personal	15%	\$7,500	12%	\$720
Technology	0%	\$0	0%	\$0
External Factors	15%	\$7,500	30%	\$1,800
Procedure/Policy	5%	\$2,500	5%	\$300
Incentives	10%	\$5,000	15%	\$900
Training	55%	\$27,500	0%	\$0
Other	0%	\$0	38%	\$2,280
Total	100%	\$50,000	100%	\$6,000

Adjustment in estimations 65%
Business impact from training 20%

Cost of training \$6,000
ROI of training \$11,875
Benefit to Cost Ratio 3
Payback Period in Months 4
ROI Percentage 197.9%

*Sample numbers for demonstration only.

KnowledgeAdvisors Analytics Dashboards

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.*

Metrics That Matter Standard Business Results

Actual Results	Jan 31 2006	Feb 28 2006
Productivity (revenue per employee)	170,454.55	200,000.00
RevenueGrowth (period over period growth rate)		0.33%
Profitability (human capital contribution margin (Revenue - Payroll and L&D / Revenue))	0.46%	0.48%
Learning Activity (# of learners completing training)	10	22
Investment (Actual L&D Expense)	25,000.00	100,000.00

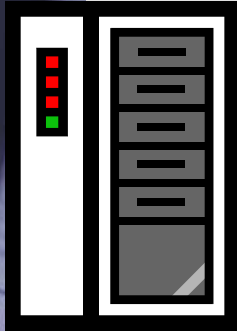
Goals	Jan 31 2006	Feb 28 2006
Productivity (revenue per employee)	200,000.00	200,000.00
RevenueGrowth (period over period growth rate)		0.00%
Profitability (human capital contribution margin (Revenue - Payroll and L&D / Revenue))	0.49%	0.49%
Learning Activity (# of learners completing training)	20	20
Investment (Actual L&D Expense)	50,000.00	50,000.00

Custom Business Results

Actual Results	Jan 31 2006	Feb 28 2006
Error Rates (Transaction Errors)	12.00%	9.00%
Test Results (Level 2 Test Pass Rates)	70.00%	85.00%

Data Integrations

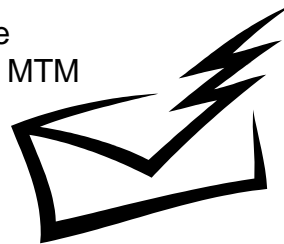
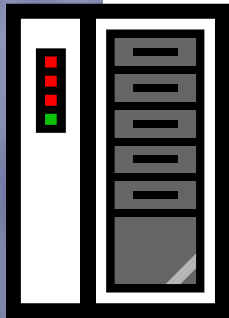
LMS



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.

Upon completion of a learning intervention, LMS sends course, class, learner, manager etc. information to MTM via XML.

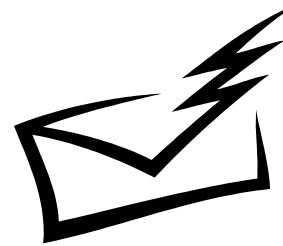
Metrics that Matter™



'Post Event' instrument

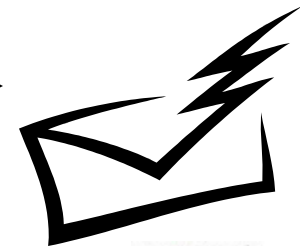
MTM recognizes that it has been 60 days since learner completed a course and emails a follow up survey automatically to that learner. The results go back to the MTM database.

'Follow Up' instrument



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.

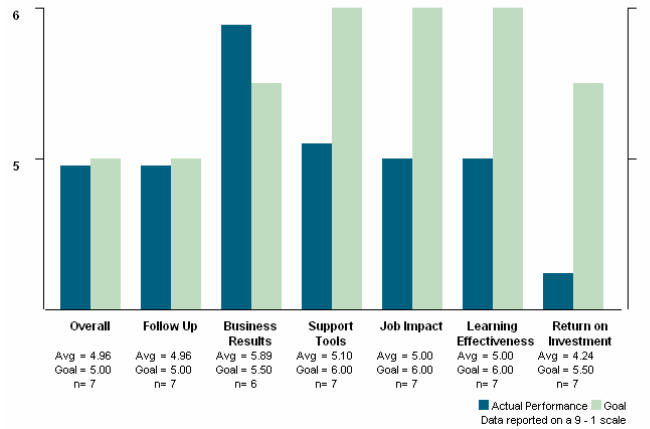
'Manager' instrument



Analytics Reports

Performance To Goals Report survey results compared to user, pre-set goals

Date: 10/21/2003 **Instructor(s):** Johnson **Course:** Resume Writing
Learning Provider: ABC Corporation **Location:** Miami, FL **Client:** Learning Corporation



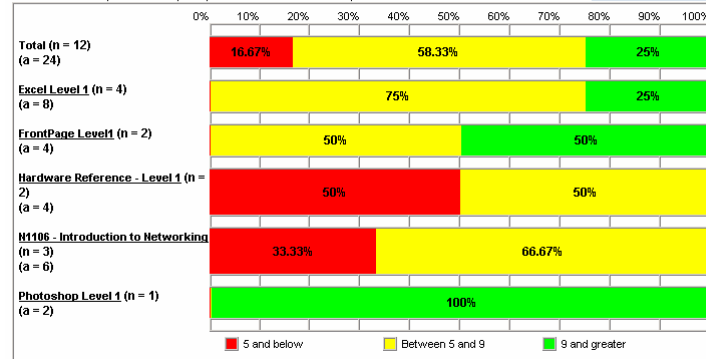
Variance Report by Courses - Question Category - Job Impact

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

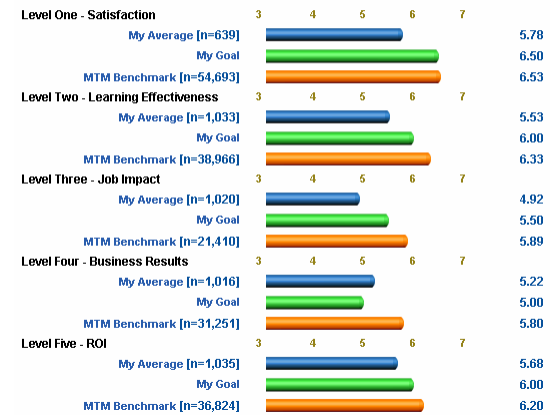
[Return to Report Home Page](#)



Learning Levels Score Card

summary of learning performance by learning measurement levels for all forms

Time Period for Reporting: September 1 2003 to September 30 2003

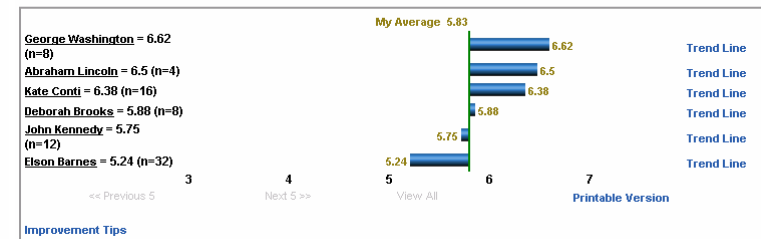


Standard Report by Instructor

Question Category Summary: Learning Effectiveness

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

[Compare to MTM Average](#)



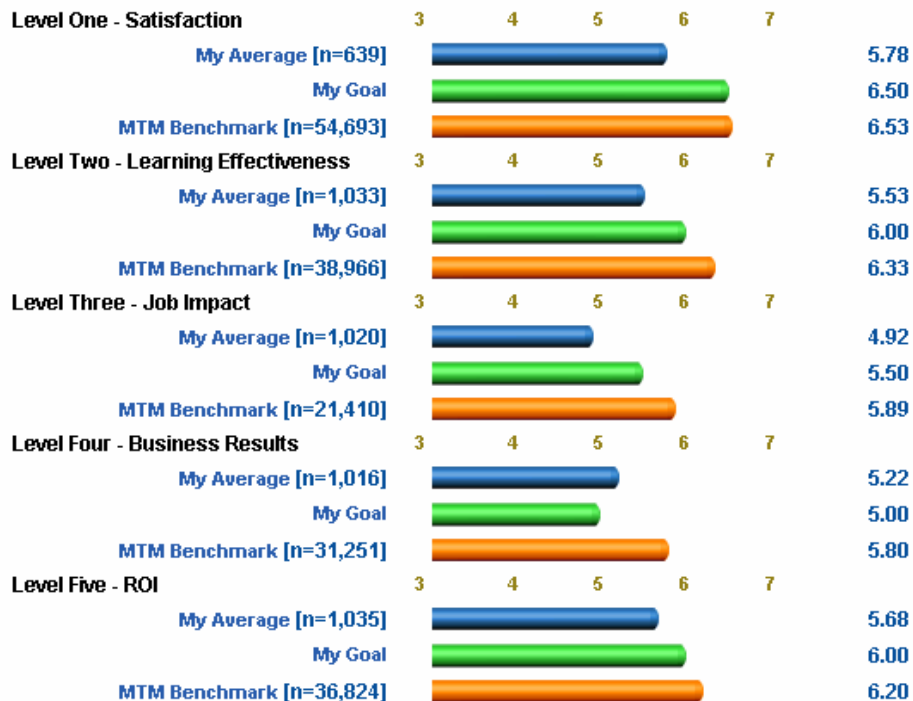
*Sample numbers for demonstration only.

Benchmarking / Goal Setting

Learning Levels Score Card

summary of learning performance by learning measurement levels for all forms

Time Period for Reporting: September 1 2003 to September 30 2003



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.

Measure Impact Easily

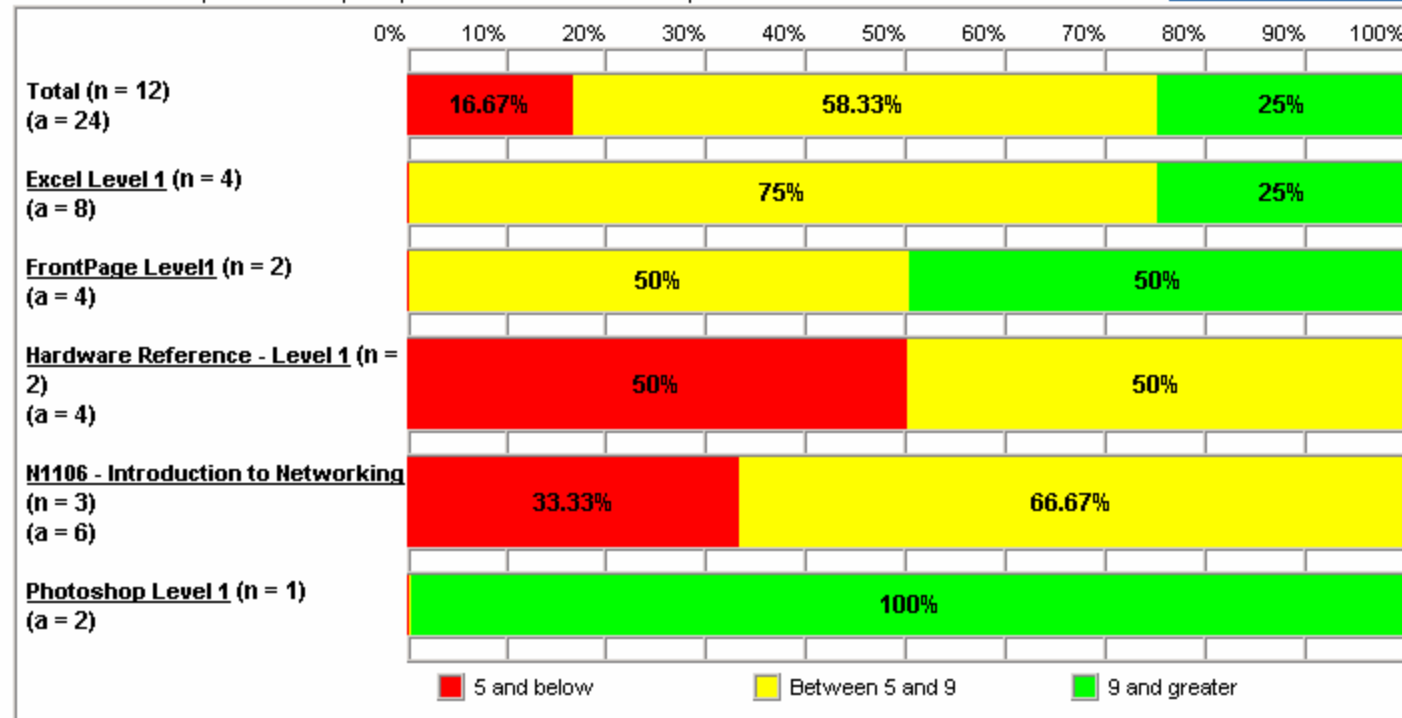
Variance Report by Courses - Question Category - Job Impact

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

[Return to Report Home Page](#)



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.

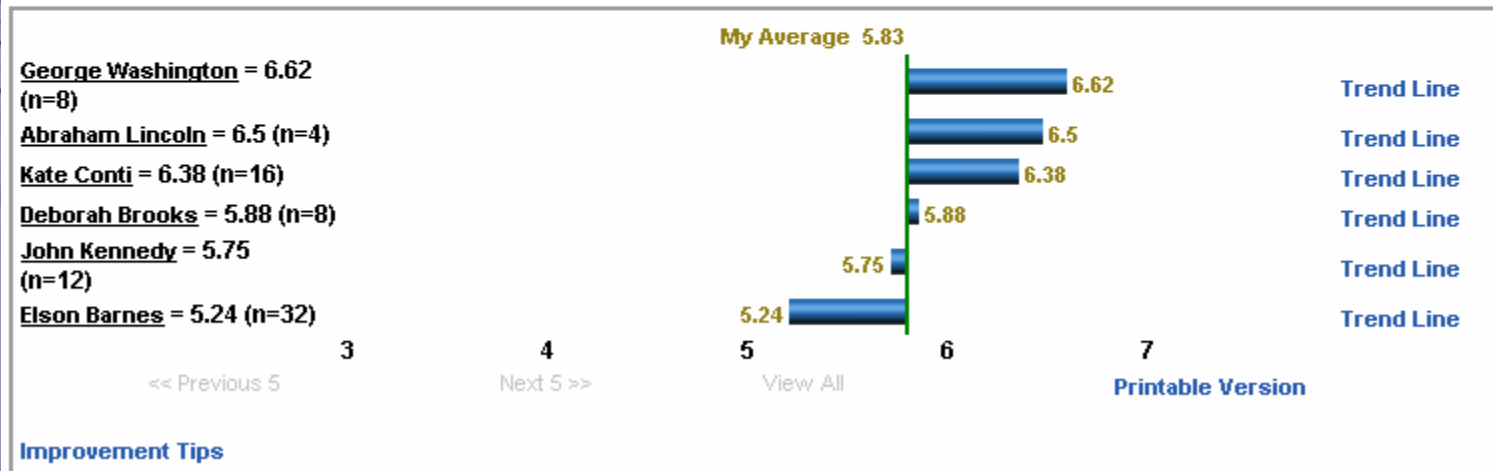
Who are my top instructors?

Standard Report by Instructor

Question Category Summary: Learning Effectiveness

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

[Compare to MTM Average](#)



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

Search Edit Help

Enter Business Result Data Jan 1 2006 - Jan 31 2006

Source: Metrics that Matter®

Tracking Form Name: ABC L&D Operational Dashboard Metrics
Start Date for Data Input: Jan 1 2006
Frequency: Monthly
Period Ending: Jan 31 2006

Custom Business Results	Data Type	Desired Trend	Goal	Actual
# of Students Trained	Integer	Increasing	<input type="text" value="100"/>	<input type="text" value="50"/>
E-Learning Utilization Rate	Percent	Increasing	<input type="text" value="75.00%"/>	<input type="text" value="25.00%"/>
Speed to Market (Days to Respond to Client Training Need)	Integer	Decreasing	<input type="text" value="15"/>	<input type="text" value="45"/>
Instructor Utilization Rate (Days of Instructor Time)	Integer	Increasing	<input type="text" value="85"/>	<input type="text" value="85"/>

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

	Jan 31 2006	Feb 28 2006	Mar 31 2006
# of Students Trained (ILT attendees per month)	50	91	120
E-Learning Utilization Rate (% of e-courses accessed)	25.00%	50.00%	90.00%
Speed to Market (Days to Respond to Client Training Need)	45	30	5
Instructor Utilization Rate (Days of Instructor Time)	85	80	70

Goals

	Jan 31 2006	Feb 28 2006	Mar 31 2006
# of Students Trained (ILT attendees per month)	100	100	100
E-Learning Utilization Rate (% of e-courses accessed)	75.00%	75.00%	75.00%
Speed to Market (Days to Respond to Client Training Need)	15	15	15
Instructor Utilization Rate (Days of Instructor Time)	85	85	85

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

Performance Actual Results

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

Goals

	Mar 31 2006	Jun 30 2006	Sep 30 2006
Revenue Growth (Period over Period Sales)	100,000.00	100,000.00	100,000.00
Training Impact on Sales (Isolated and Adjusted Percent Linked to Training)	5.00%	5.00%	5.00%
Productivity Per Employee (Revenue / Employees)	1,000.00	1,000.00	1,000.00
Learning Effectiveness (Average Test Scores)	85	85	85
Time to Job Impact (% of Employees Applying Training in First 60 Days)	70.00%	70.00%	70.00%

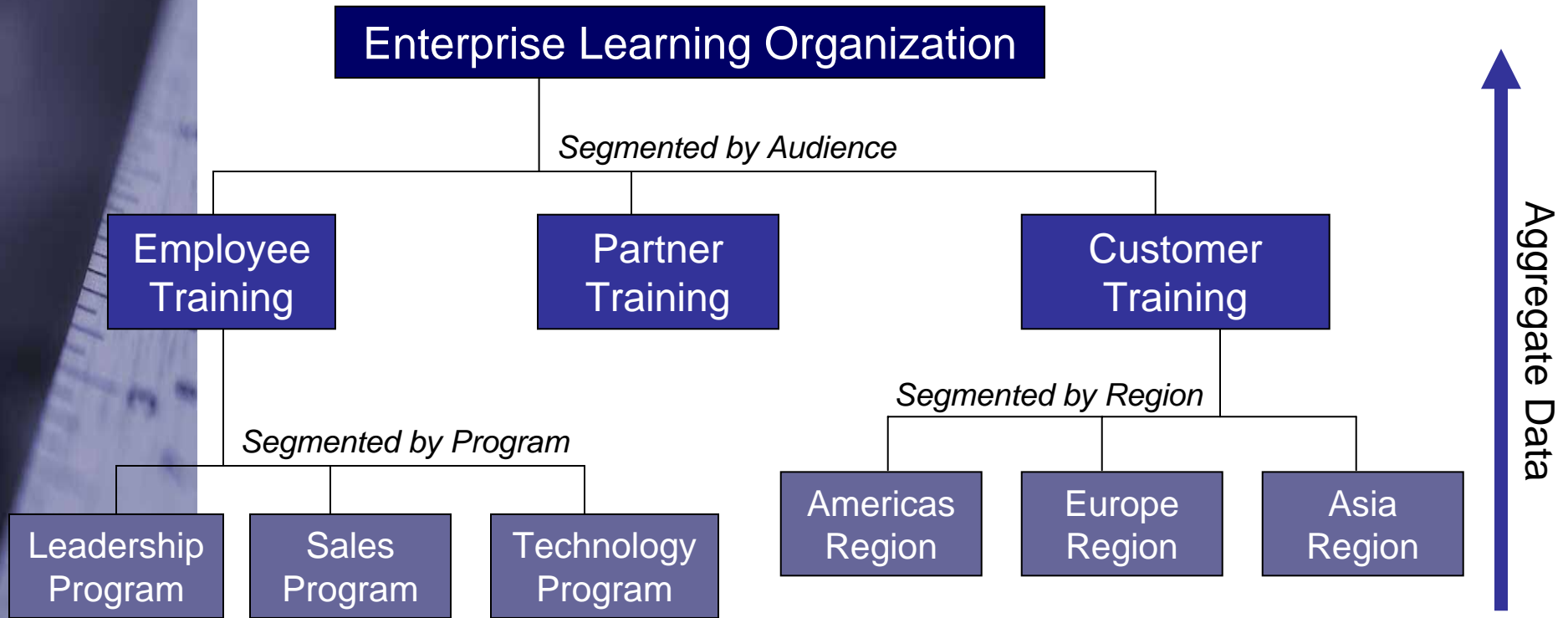
Legend - Actual Results

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.

Enterprise Solutions Capabilities



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



Contact Information

Jeffrey Berk

Vice President, Products and Strategy

+1 312 423 8599 (phone)

+1 312 372 0044 (fax)

jberk@knowledgeadvisors.com

www.knowledgeadvisors.com