

Storyboard: RRL EA Simulation-based Assessment Model

Why simulation-based automation? With the challenges of limited time, strained budgets, and heavily burdened staff, the U.S. Government and our nation’s industries at all levels are increasingly turning to simulation-based automation for cost-effective and efficient solutions. Leaders and managers are realizing that automated systems operated by skilled staff provide more effective solutions than traditional methods.

ITS simulation-based automation results in 20% to 30% less cost and time than traditional methods; it is a *game changer*.

Operational capabilities

Front End Analysis

- Set up scenario and organizational structure.
- Determine data items for analysis.
- Determine sources to provide weighted input.
 - May be located worldwide
- Conduct test drive with notional data.

Data Analysis

- Select structure and data items to be examined.
- Select options for analysis, level and status thresholds and trends.
- Stakeholder perspectives.
- Conduct real-time data analysis.
- Visually present analysis results in real-time.

Information/Portfolio Management

- Integrate FEA, Data Opns & Analysis, and Info Opns.
- Interfaces and converters obtain and transition data from different sources to a common format.
- Automation supports data updates and presentations for individual programs and a common operational picture across multiple programs; e.g., enterprise level.
- Feedback provided as required.

Technical Capabilities

- Accessible with approved access through a web browser running at 1024x768 or greater resolution consisting of standard HTML and JavaScript using a PC (laptop), smart phone, or tablet.
- Server(s) located at a certified FISMA data storage site with 99.5% plus operational up-time.
- Supported by two U.S. Patents.

Data Operations

- Obtain data/input for analyses.
- Convert data items into a list edited and assigned to sources for input.
- Notify sources via e-mail to provide inputs.
- Download and compile source inputs.

Information Operations

- Automation support to prepare, monitor and report progress of implementation/action plans.
- Prepare plans in an on-line worksheet with real-time download on-demand to a PDF file format.
- Automated population of Status Summary charts.
- View plan changes between any two points in time.
- Prepare next generation/multiple generation plans.

The figures and descriptions of the Storyboard are examples of screen shots of ITS simulation-based assessment model; other examples of screenshots are available.

Figure 1 is a screen shot of the scenario for the CDR’s USFF *Vision and Guidance for RRL* saved in the ITS simulation-based assessment model.

Figure 1: RRL Vision and Guidance Assessment Model

Sailor 2025 RRL Simulation Model

New Scenario Edit Scenario New Entry Delete Scenario

Search:

Entry	Description
Vision	The long-term vision for Ready Relevant Learning includes the preservation of current approaches to training where it makes sense to do so, while also driving a significant evolution in our approach to Sailor development that is deeply rooted in the science of learning. This evolution will include the development of a training ecosystem that makes training as relevant and accessible as possible, in order to increase the readiness of Sailors to perform at the highest levels of proficiency in their current roles, while also preparing them for future roles and assignments.
Goal	The goal of RRL is to provide the right training at the right time in the right way. To accomplish this, we will develop a career-long learning continuum for every Sailor, modernize training to maximize impact and relevance, and accelerate our processes for delivering new training to the Fleet. Achieving this goal will transform our industrial-era, conveyor-belt training model into a modern one, with content that meets Fleet- validated learning needs, in order to improve Sailor performance and enhance mission readiness.
Key Elements	RRL is a holistic approach to reimagining how the Navy trains its Sailors, representing a significant change from the ways Sailors have been trained in the past. Specifically, RRL will change (1) when we provide training, (2) how we deliver training, and (3) how we keep that training as relevant as possible to the real-world needs of the Fleet.
Line of Effort 1	CAREER-LONG LEARNING CONTINUUM: Sailors will only receive training that is appropriate for the jobs and duties they will perform in the first two years of their first tour. Then, follow-on training will be provided at later points in their careers when they will be expected to apply new knowledge and skills.
Line of Effort 2	MODERN DELIVERY AT THE POINT OF NEED: RRL will change how training is delivered to Sailors by taking advantage of emerging learning technologies to allow Sailors to receive training more efficiently, whether at the waterfront or aboard their operational units. These training solutions will make training more efficient by minimizing the need to return multiple times to a brick-and-mortar schoolhouse.
Line of Effort 3	INTEGRATED CONTENT DEVELOPMENT: Align and standardize Resource Sponsor and Program Office processes related to training development and delivery to (1) significantly reduce the cost associated with content development, (2) significantly decrease the time it takes to get the most relevant training to the Fleet, and (3) establish a Rapid, Responsive Content Control authority to drive continual improvement in the relevance of training content and the methods by which training is delivered to the Fleet.
Stop the Bleeding	Having better insight into the talent and skills of Sailors coming into the Fleet, but also recognizing that training from boot camp all the way to the Fleet and beyond has to fundamentally change in order to stanch the outflow of resources due to pipeline inefficiencies.
Meet Rapidly Changing Warfighting Requirements	Transform legacy training architecture into an agile continuum of learning that supports the increasingly complex needs of our Sailors and the Fleet
Align Training with Deckplate Needs	Provide training opportunities delivered at the point of need, when and where a Sailor is ready to learn.
Create a Modernized Learning Continuum	Concept of taking our learning, determining what is most important at what milestone in a Sailor’s career, analyzing how best to deliver that training, and then delivering it as close as possible to the point of need
U.S. Fleet Forces Command	USFF N00 is the Executive Agent (EA) and supported commander for the Ready Relevant Learning (RRL) pillar of Sailor 2025
Fleet Commanders’ Readiness Council (FCRC)	Fleet Commanders, OPNAV staff, Type Commanders (TYCOMs), and System Commanders (SYSCOMs) who develop integrated solutions to Fleet-wide issues necessary to support mission effectiveness and sustain readiness wholeness.
Navy Capability Board (NCB)	Representatives from OPNAV N80/N10, all Resource Sponsor organizations, and USFF/CPF. They are responsible for determining resources required at each phase of RRL, and working within individual warfare areas to provide solutions for their aligned rates
Executive Steering Committee	Forum where key stakeholders come together to identify and monitor the assumptions, constraints, and restraints that are shaping the design and execution of the implementation strategy
Working Groups	Created in the following functional areas: information architecture, content modernization, manpower, distribution, acquisition, and others. These groups are responsible for designing and implementing solutions within their functional areas of responsibility

Figure 2 illustrates an example of the structure for the RRL EA simulation assessment model.

Please note that all analyses and presentations are of Notional Data.

Screen shot 1 is the USFFC RRL organization used for model's structure.

Screen shot 2 are the RRL LOEs (model categories) and components (model data items)

Screen shot 3 are the ratings being examined (stakeholders would provide inputs for analysis). The number of ratings illustrated in Screen Shot 3 is constrained by the screen size. The actual model includes all Navy Ratings.

Screen shot 4 is the level of importance (value) and status reported by the stakeholders (ratings) for data items (Screen shot 2). For example, an Electrician's Mate (rating EM) might report 24/7 availability of RRL materials is a Level of Importance/Value of 5 (Must Have) and a status of Yellow (present, but not sufficient/needs to be improved).

There essentially is no realistic limit to the number of inputs that can be entered, saved, and analyzed in the model's database.

Figure 2: Simulation Model Structure

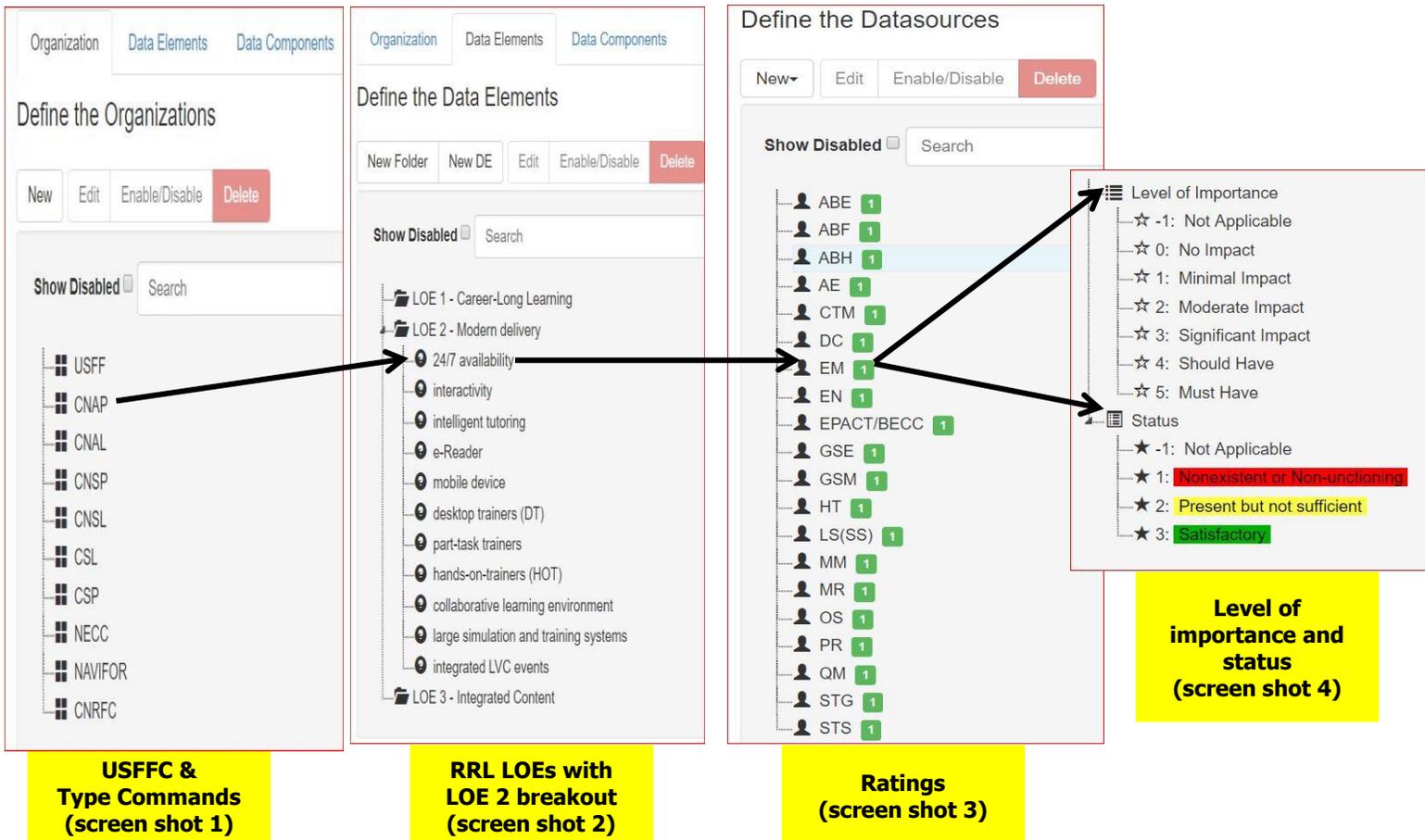


Figure 3 is an example of data analysis for the level of importance (0-5 number in the cell) and status (Green, Yellow, Red color in the cell) reported by Ratings for LOE 2 data item (e.g., 24/7 availability) presented as a Condensed Data File. This presentation includes the Ratings on the vertical axis across the top horizontal axis, data items on the left vertical axis, Type Commands as the organizations, as well as the level of importance and status reported by the Ratings for the data item. The overall (weighted average) level of importance and status are provided in the right vertical axis.

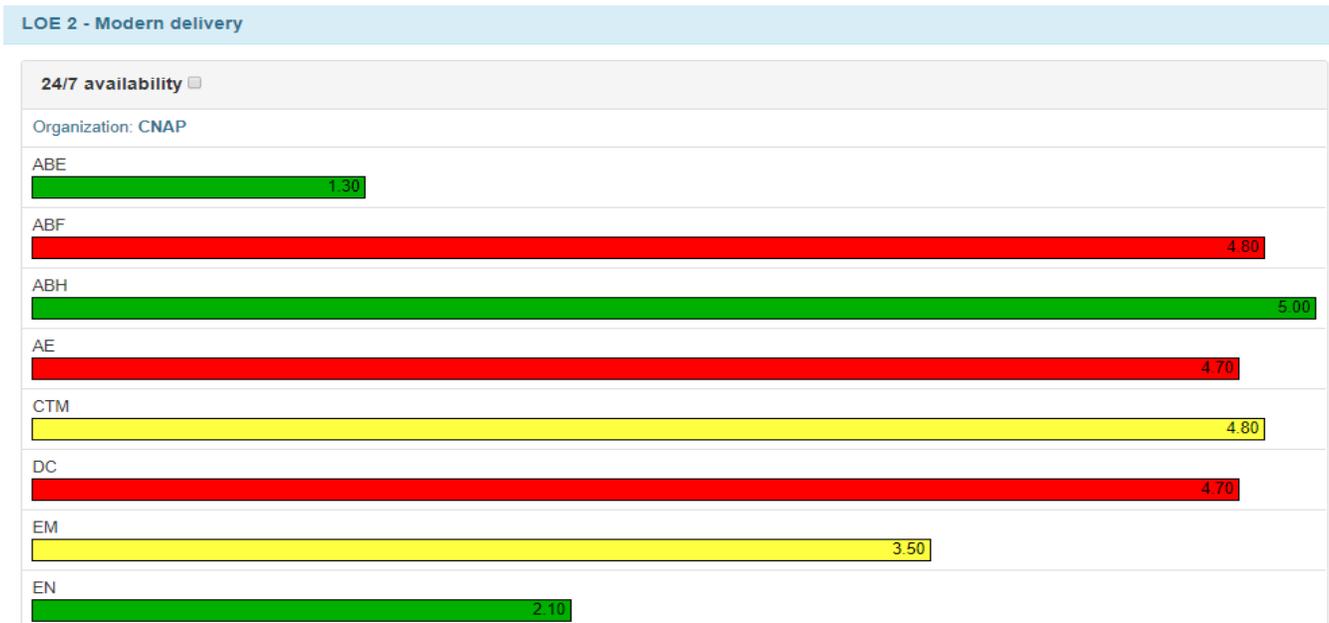
Figure 3: Data Presented as a Condensed File

Title	Organization	ABE	ABF	ABH	AE	CTM	DC	EM	EN	EPACT/BECC	GSE	GSM	HT	LS(SS)	MM	MR	Overall
LOE 2 - Modern delivery																	
24/7 availability	CNAP	4.10	1.30	2.10	2.90	4.80	1.40	4.60	2.00	4.90	4.70	4.60	1.20	4.30	4.80	5.00	3.51
	CNAL	1.20	1.40	3.10	1.10	2.30	5.00	3.30	2.70	1.80	2.80	3.80	3.80	2.30	1.50	5.00	2.74
	CNSP	4.70	3.10	1.60	5.00	3.80	1.90	4.80	3.00	5.00	4.70	4.80	4.70	3.00	4.10	4.50	3.91
	CNSL	1.70	4.40	3.30	1.20	1.30	4.90	3.90	1.90	3.00	1.50	2.50	4.20	5.00	1.80	4.70	3.02
	CSL	3.40	3.90	3.10	2.70	2.90	1.10	1.40	3.30	1.20	4.80	3.50	2.40	5.00	5.00	5.00	3.25
	CSP	1.30	5.00	5.00	1.20	5.00	4.50	2.50	4.60	1.10	1.20	3.00	2.90	2.60	5.00	5.00	3.33
	NECC	5.00	2.90	3.90	3.20	4.60	2.10	2.00	4.10	3.00	1.70	1.50	1.90	5.00	1.20	4.40	3.10
	NAVIFOR	1.50	4.30	3.10	3.50	1.90	5.00	3.00	1.70	1.50	3.30	5.00	4.70	3.10	5.00	4.30	3.39
	CNRFC	2.00	5.00	1.30	4.90	4.50	1.40	4.50	5.00	1.30	3.80	1.20	4.00	1.80	3.70	4.50	3.26
interactivity	CNAP	3.20	4.70	1.60	3.00	1.80	3.20	5.00	3.00	1.60	3.10	2.80	5.00	4.30	1.30	2.10	3.05
	CNAL	1.60	3.90	4.90	5.00	4.50	4.40	5.00	3.00	3.20	4.70	4.60	2.70	5.00	1.20	4.60	4.02
	CNSP	1.90	3.40	4.50	1.50	4.00	1.10	4.40	5.00	4.20	1.30	4.70	1.20	2.00	2.90	2.70	2.99
	CNSL	5.00	4.00	4.50	1.40	2.00	4.80	4.70	4.80	1.40	4.10	2.20	5.00	3.00	5.00	1.60	3.57
	CSL	3.30	1.70	5.00	1.30	4.20	5.00	4.80	4.20	5.00	1.20	3.20	4.60	1.80	4.50	1.20	3.40
	CSP	5.00	1.60	1.30	4.40	1.20	2.10	5.00	3.80	4.20	5.00	4.70	3.70	1.40	5.00	1.70	3.34
	NECC	2.60	3.00	2.50	3.10	5.00	4.70	1.30	1.20	1.80	4.50	4.70	3.10	1.90	5.00	2.20	3.11
	NAVIFOR	5.00	3.20	4.70	4.00	1.30	4.90	4.80	3.90	4.50	4.40	4.70	4.40	3.30	2.60	4.00	3.98
	CNRFC	5.00	1.80	3.40	3.40	1.30	2.50	4.90	5.00	3.40	3.70	2.30	1.60	1.50	4.20	2.20	3.08
intelligent tutoring	CNAP	3.50	5.00	5.00	4.30	5.00	1.20	3.00	3.70	4.70	4.10	1.90	4.70	1.30	1.20	1.90	3.37
	CNAL	3.30	5.00	3.80	4.10	2.30	4.20	2.00	4.70	3.90	1.20	1.30	3.90	3.10	4.90	2.90	3.37
	CNSP	4.70	4.20	3.70	1.10	3.10	3.80	4.60	4.10	4.00	4.50	2.00	5.00	5.00	1.60	5.00	3.76
	CNSL	3.70	1.70	3.60	2.60	4.80	4.10	4.00	3.00	2.90	2.40	1.90	4.00	2.90	2.00	4.50	3.21
	CSL	1.90	3.00	2.60	4.70	5.00	3.80	5.00	2.90	4.70	4.20	3.20	5.00	4.80	2.00	1.40	3.61
	CSP	4.70	4.20	1.70	2.00	1.40	1.30	4.50	5.00	4.10	2.50	3.00	3.80	1.70	5.00	1.80	3.11
	NECC	4.60	5.00	4.70	5.00	5.00	1.90	2.60	3.10	5.00	4.50	1.80	4.70	1.80	4.30	3.10	3.81
	NAVIFOR	3.70	1.50	5.00	4.30	2.80	5.00	5.00	5.00	1.30	4.60	4.20	5.00	2.40	1.60	1.70	3.54
	CNRFC	1.30	2.40	2.80	3.00	5.00	1.30	2.60	1.30	3.10	2.90	4.30	2.60	4.70	3.10	5.00	3.03

The model can be set to visually present selected data items and/or levels or status. There is essentially no realistic limit on the number of data items that can be presented in this format. The visual presentation is made in near-real time. This presentation format is well suited for summary presentations of large data sets and conducting gap analysis.

Figure 4 is a screen shot of data reported by the Ratings that has been “rolled-up”, analyzed and displayed as a web-based visual presentation at the level of individual Type Commands; e.g., CNAP in this example. The data presented are notional.

Figure 4: Presentation of Data Rolled-up at the Type Command Level



The length of the bar represents the stakeholder’s reported level of satisfaction and the color represents the assessment/status for the data item; illustrated in Figure 4.

The presentation can be made for any number of data items saved in the database. It also can be tailored to filter and only present selected components Levels of Importance and Status.

The capabilities include downloading data items from the universe of data items to a smaller subset for closer examination and, for example, possibly additional actions such as preparing an Action Plan to “fix” an issue.

Figure 5 is a screen shot of data reported by the Ratings that has been “rolled-up”, analyzed and displayed as a web-based visual presentation at USFFC level.

Figure 5: Presentation of Data Rolled-up at the USFFC Level

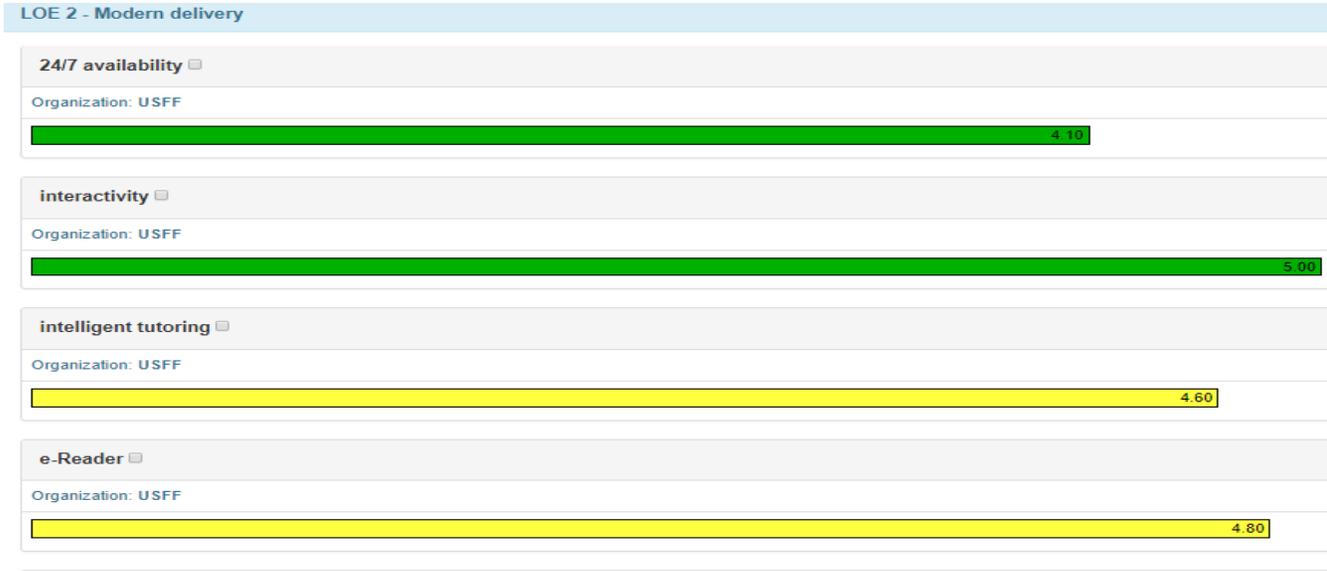


Figure 6 is a screen shot comparing data between two points in-time for the same data items; supports trend analysis. This presentation is a rapid visual method for viewing progress over time. By hovering over any output, the details for the data value are displayed.

Figure 6: Comparison of Data between Different Points in Time

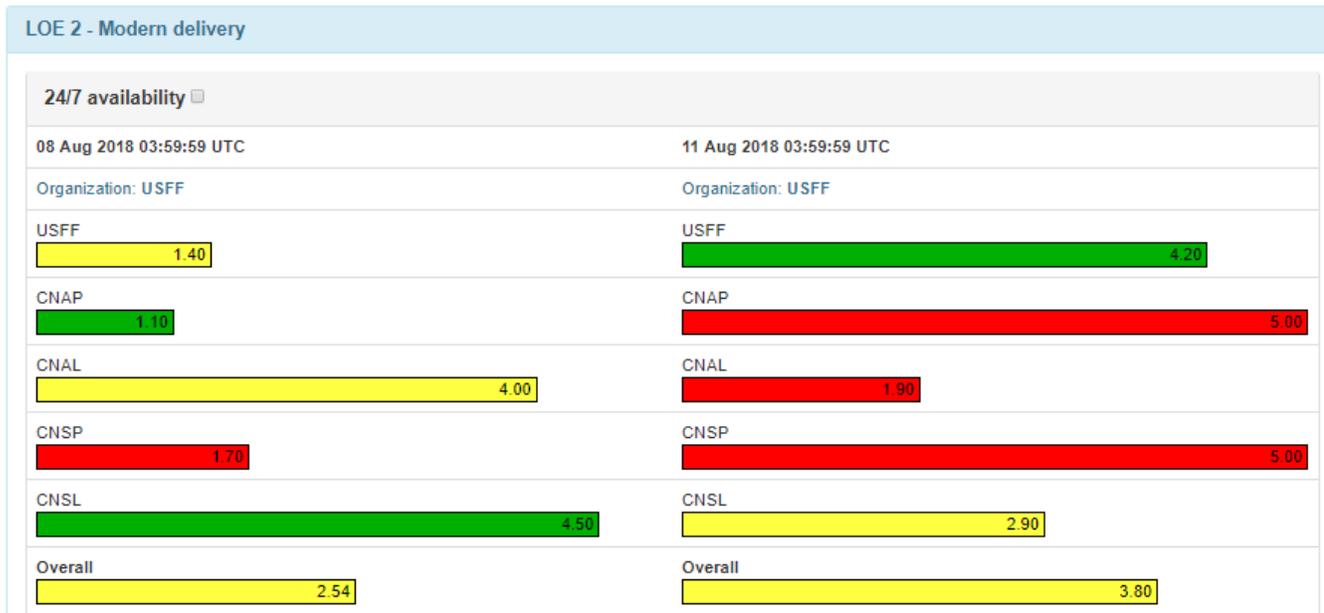


Figure 7 is an example for a Table of Contents generated in the model for detailed reports for Figure 7 above, with built in hyperlinks to desired content.

Figure 7: Table of Contents

Table Of Contents

LOE 2 - Modern delivery	2
24/7 availability	2
interactivity	4
intelligent tutoring	6
e-Reader	8
mobile device	10
desktop trainers (DT)	12
part-task trainers	14
hands-on-trainers (HOT)	16
collaborative learning environment	18
large simulation and training systems	20
integrated LVC events	22

Figure 8 is a presentation of data in a detailed data file format. This format delivers data for research; it also supports project reports and monthly Status Reports.

Figure 8: Detailed Data Analysis

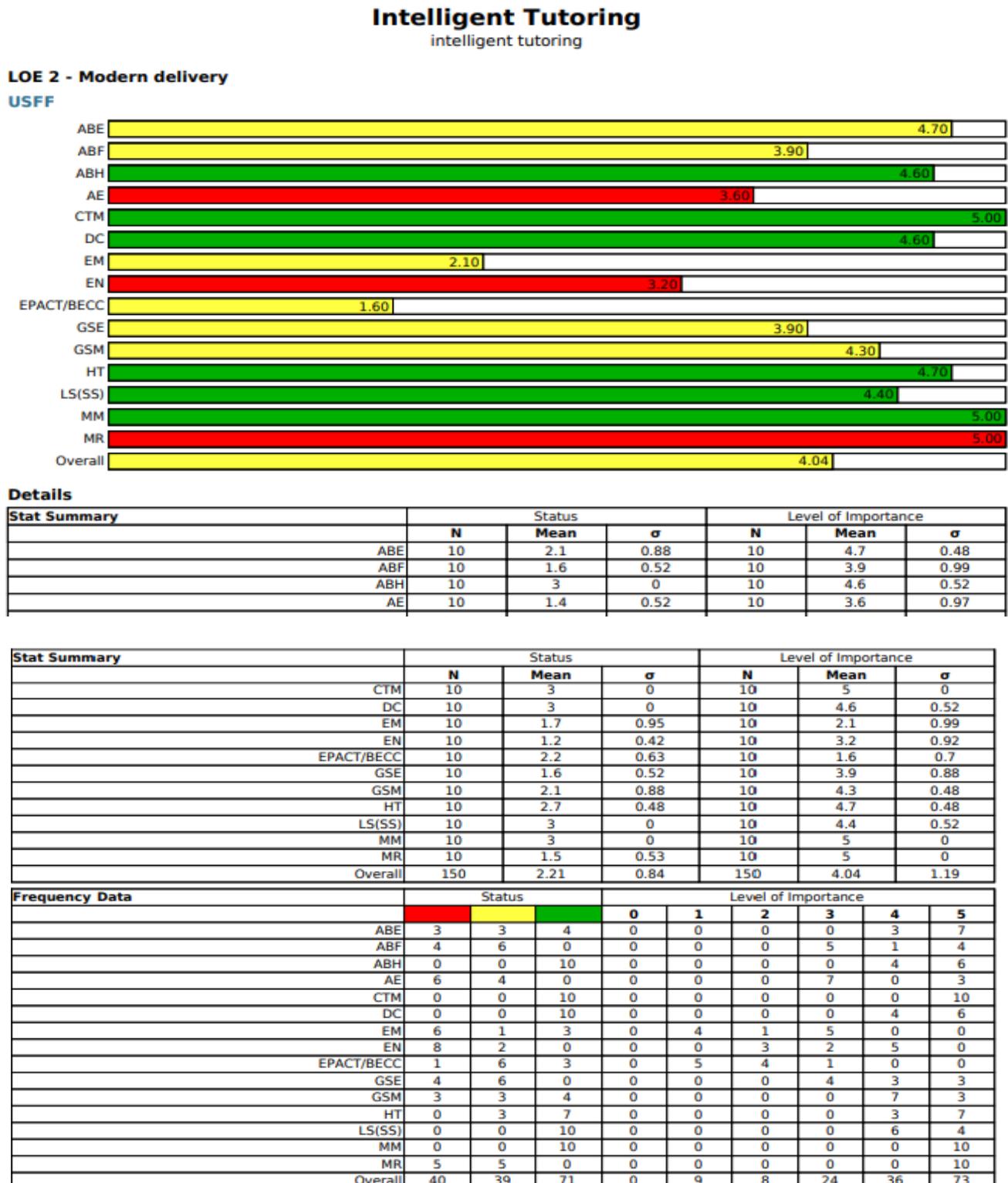


Figure 9 is an example of capabilities for an on-line worksheet with automation that is used for creating, maintaining, and tracking Action Plans. In this example, the format includes an overall assessment (upper left corner), title, lead, assistants, author, and major description. The format can be customized to meet client needs to include rearranging size, number and shape of the template data fields.

Figure 9: Action Plan Template

Assessment		
Action Plan		
Lead: Robert Helms Assistant(s): Wendy Ruffiux Author: Bob Helms		
Major Objective Description		
Identify, prioritize, and fill gaps for major issues contributing to success of the organization		
Supporting Tasks	Metrics	
1. Determine critical issues 2. Determine data elements/items for analysis 3. Determine organizational structure to be examined 4. Determine informed sources available to provide input to the analysis 5. Management structure available to supervise conduct of the exercise 6. Determine level of importance and status of critical issues 7. Prioritize and assign issues for implementing actions 8. Execute implementation plans-to-fill-gaps-plans selected for action	1. 95% of the critical issues identified and verified 2. 100% of data elements confirmed via test drive 3. 100% of relevant organizational structure determined 4. Sufficient number of informed sources available to meet requirements for statistical relevant research 5. Management structure supervises conduct of the simulation to a successful conclusion that meets 100%-95% of the exercise objectives 6. Critical issues identified Level of importance determined for each issue Status determined for each issue 7. 90 % of issues representing gaps assigned for action 8. 100%-95% of plans selected for action to fill gaps are being implemented	
Milestones and Goals	Current Status	Issues for CMD Group
1. Critical issues identified & verified in 30 days 2. Data elements identified and confirmed in 14 days 3. Organizational structure determined and confirmed in 5 days 4. Sufficient informed sources determined available in 10 days 5. 100%-95% of the exercise schedule is met 6. Level of importance and status determined in 60 days 7. Implementing actions begin within 30 days of assignment 8. Plans are being implemented within 30-45 days assignment for action	1. Work is on schedule 2. SME availability to identify data elements/items 3. Task/Decision on track 4. Task/Decision on track 5. Factors-impacting-projected completion Task/Decision completed 6. Availability of sources to provide input 7. Work is underway for 6 plans 8. 5-3 plans identified for execution have not started	1. Pending output of another project 5. Pending discussions with another directorate 6. Pending Command Group guidance 7. Pending discussions with another directorate 8. Pending approval by higher headquarters

Figure 9 illustrates changes between any two points in time; the changes can be compared and visually presented; note the assessment change from Red (Not present or not operational) to Yellow (Functioning, but needs to be improved). These capabilities support evaluating alternatives as well as tracking and comparing changes over time (trend analysis).

Authorized Users create implementation/action plans by entering text and/or data from drop down tabs in specified fields; these entries are date/time stamped, saved, and downloaded to a digital file. The fields for entering text can be individualized or customized to meet requirements. The plans are created in the database and downloaded in essentially real-time; like the visual presentations of data analysis, these plans download in a format that can be used easily and quickly for visual presentations such a PowerPoint and Word file documents.

Figure 10 illustrates automation support for working in multiple cycles/phases while continuing to operate in the current cycle/phase. For example, the capabilities enable working in the current cycle while planning the next cycle with linkages with historical cycles. The automation includes access and linkage between planning cycles/phases saved in the database. Users find these capabilities very useful for monitoring and tracking activities and changes in programming decisions.

Figure 10: Multiple Planning/Phases (example)

