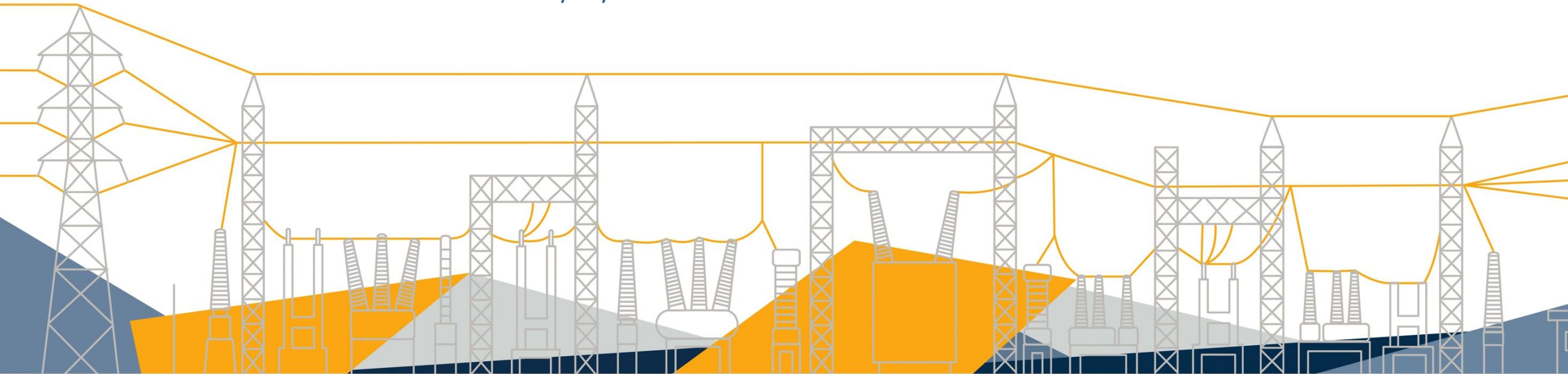


TRC Power Academy

Phase II Course Development Planning

09/11/2018



Overarching Changes for all Courses



- Involve instructors in course development earlier on in development cycle.
 - Know content, tests, activities for upstream/downstream courses, well enough to foreshadow content.
 - Student-generated knowledge check questions
 - Help craft and become much more familiar with instructor notes.
 - Transparency and know when updates are made, or new courses are created.
- Lead/support structure for instructors to learn from each other!
 - Good for existing line-up of instructors AND for future instructors
- Add Performance Excellence Raindrops and Design Anchors
- Add Professional Communication Activities

Overarching Changes for all Courses



- Move some basic content to WBT (5-15min) or Microlearning (5min or less)
 - Determine freed-up time to now expand/drill into content deeper/make sticky
 - Design Anchor and Performance Excellence Vignettes (e.g., Safety, Service Excellence, Teaming, Effective Workplace Communication)
- “Learning Landing Page” portal for Power Academy (see Word doc)
- Assessments
 - Design/develop with Instructors
 - More geared towards measuring skill-based than knowledge-based
 - Measure their ability to analyze and synthesize information
 - Microlearning for instructors (e.g., active and cooperative learning vignettes, revisit Train the Trainer concepts)

Process Excellence Feedback



- Student feedback

- Pace of course (fast/slow)
- More engaging activities
- On-the-job training
- Videos and Technology/computer-based
- Instructors delivery training exclusively
- Instructors preparedness and knowledge

- Instructor feedback

- Class size impacts engagement and participation
- More hands-on activities



AC/DC Commissioning Feedback



- Student feedback
 - More engaging activities
 - More time on AC and DC Circuit Commissioning (i.e., Hands-on)
 - On-the-job training (i.e., Field visit, shadowing)
 - Videos and Technology/computer-based
 - Cabinet cameras
 - Instructor/Student ratio
 - Instructors preparedness
- Instructor feedback
 - Instructors preparedness
 - Moving/omitting content (e.g., Digital Multimeters and Scientific Notation)
 - Add additional activities if move/omit content
 - Review assessment results to refine next deployment



A large, light gray decorative swirl graphic is positioned on the left side of the slide, partially overlapping the title text.

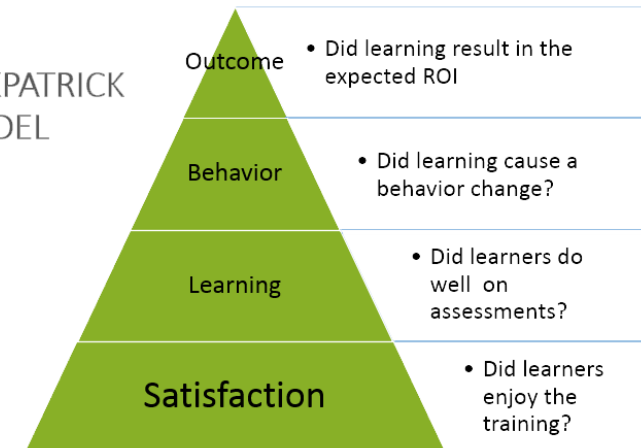
Course Review and Planning

Process Excellence – Top 4 Suggested Changes



1. Send pre-work (WBTs) to students to build knowledge on:
 - Site documentation importance and value
 - Activity on how to navigate to and export files needed for course
 - Human Performance (e.g., Tools, Communication, Phonetic Alphabet)
2. Activities (critical and create thinking skills)
 - Teach-back: Role of Commissioning Engineer during project lifecycle
 - Offsite Pre-Commissioning
 - Onsite Pre-Commissioning and Post-Commissioning
 - Offsite Post-Commissioning
 - Roleplay: Importance of documentation
 - Prompt, clear, accurate
 - Purpose of mock project
 - Guest speaker (previous course) Skype?
 - Lab Activities (i.e., Relay Setting Changes)
 - Determine how to keep pacing so all groups remain engaged as finish at different times.
3. Day in the Life Vignettes (Series of Videos)
 - Commissioning Engineer preparing for and conducting work throughout project.
 - Illustrate how the *Power Academy* course goals are applied in the real world (Kirkpatrick L3)
4. Modify Learning Objectives and Assessment
 - Introduce Site Commissioning Binder Rubric earlier in course (i.e., with Mock Project Goals defining clear expectations)
 - Open book section that requires students to navigate to ProjectWise in 17000 documents to find specific answers (critical thinking and analysis-based assessment questions).

THE KIRKPATRICK MODEL



AC/DC Commissioning – Top 4 Suggested Changes



1. Send pre-work (WBTs) to students to build knowledge on:
 - Intro to multimeters and safety
 - Compare measuring instruments
 - Inspect measuring instruments
 - Human Performance (e.g., Tools, Communication, Phonetic Alphabet)
 - Types of Circuit Commissioning
 - Continuity and Inter-Continuity Checks
 - Functional Checks
 - Current Circuit Injections
 - CT Polarity (Voltage Drops)
 - High-Impedance Current Circuits
2. Activities
 - Teach back – Four Fundamental steps
 - Verify the circuit physically matches the wiring drawings with a visual inspection (i.e., counting wires).
 - Verify the schematics match the wiring diagrams by performing continuity checks.
 - Verify electrically the circuit is functional, per the schematic AND the design intent.
 - Complete commissioning documentation
 - Teach-back: Relay software training (e.g., Doble)
 - Teach-back: Isolation and Restoration
 - Documentation
 - Order of operation
 - Add lab activity on High-Impedance Current Circuits (if content moved/omitted)
 - Guest Speaker present on AC/DC Commissioning (i.e., Previous student now applying learned skills).
3. Day in the Life Vignettes (Series of Videos)
 - Commissioning Engineer preparing for and conducting circuit commissioning.
4. Modify Learning Objectives and Assessment
 - Create more scenario/application-based questions that require inspection, analysis, explanation, and justification for answers.

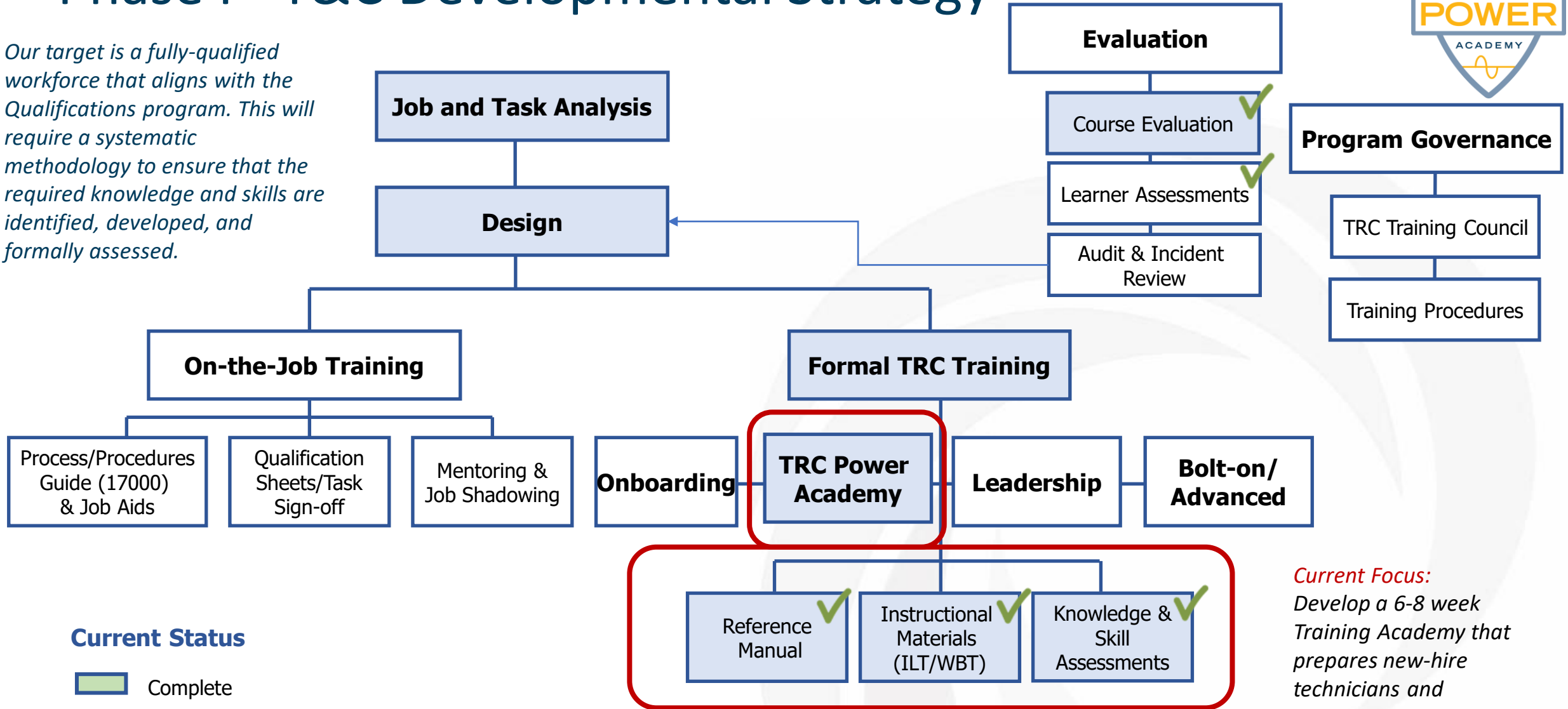
The Learning Pyramid:
Average Learning Retention Rates



Phase I - T&C Developmental Strategy



Our target is a fully-qualified workforce that aligns with the Qualifications program. This will require a systematic methodology to ensure that the required knowledge and skills are identified, developed, and formally assessed.



Current Status

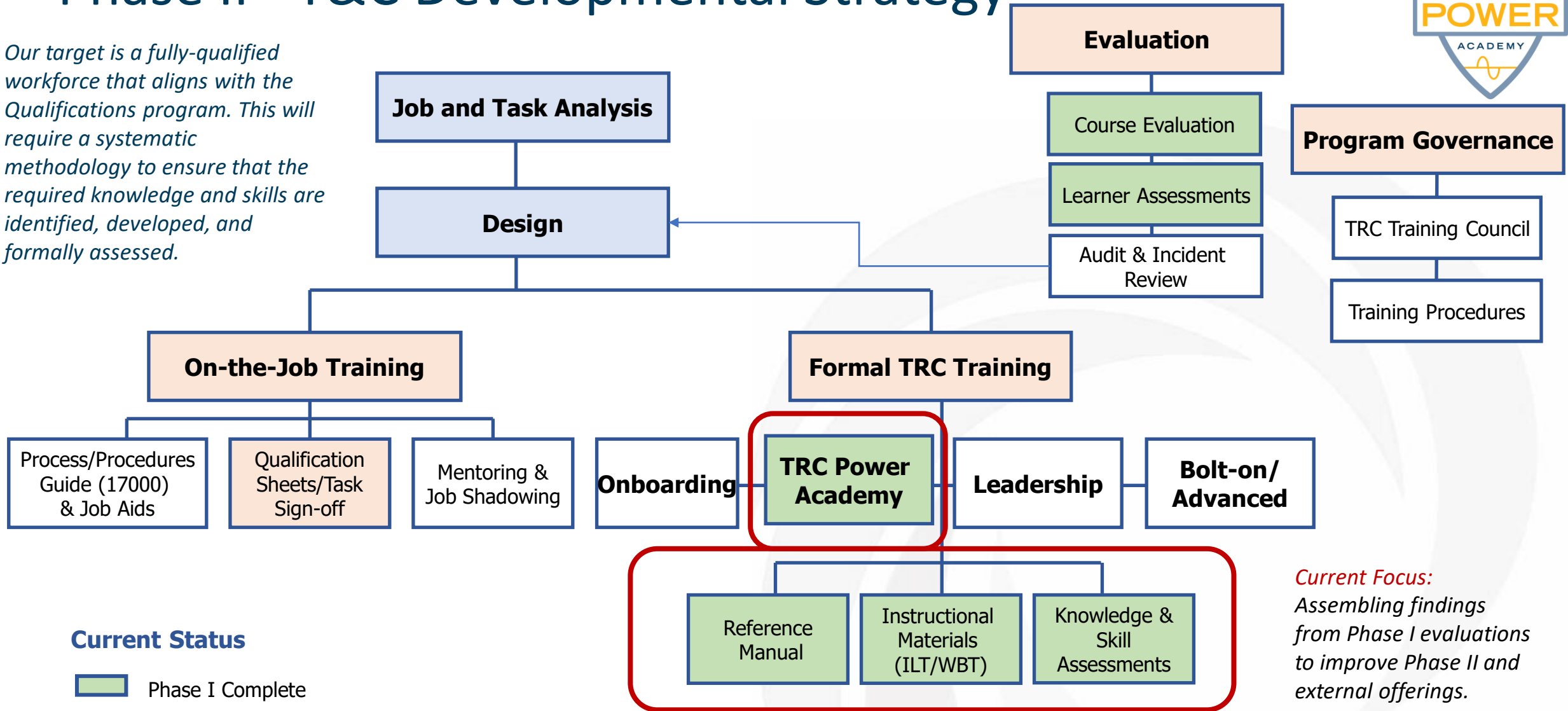
- Complete
- In Development
- Ongoing Development

Current Focus: Develop a 6-8 week Training Academy that prepares new-hire technicians and engineers to have the soft-skills and technical skills to begin field work.

Phase II - T&C Developmental Strategy



Our target is a fully-qualified workforce that aligns with the Qualifications program. This will require a systematic methodology to ensure that the required knowledge and skills are identified, developed, and formally assessed.

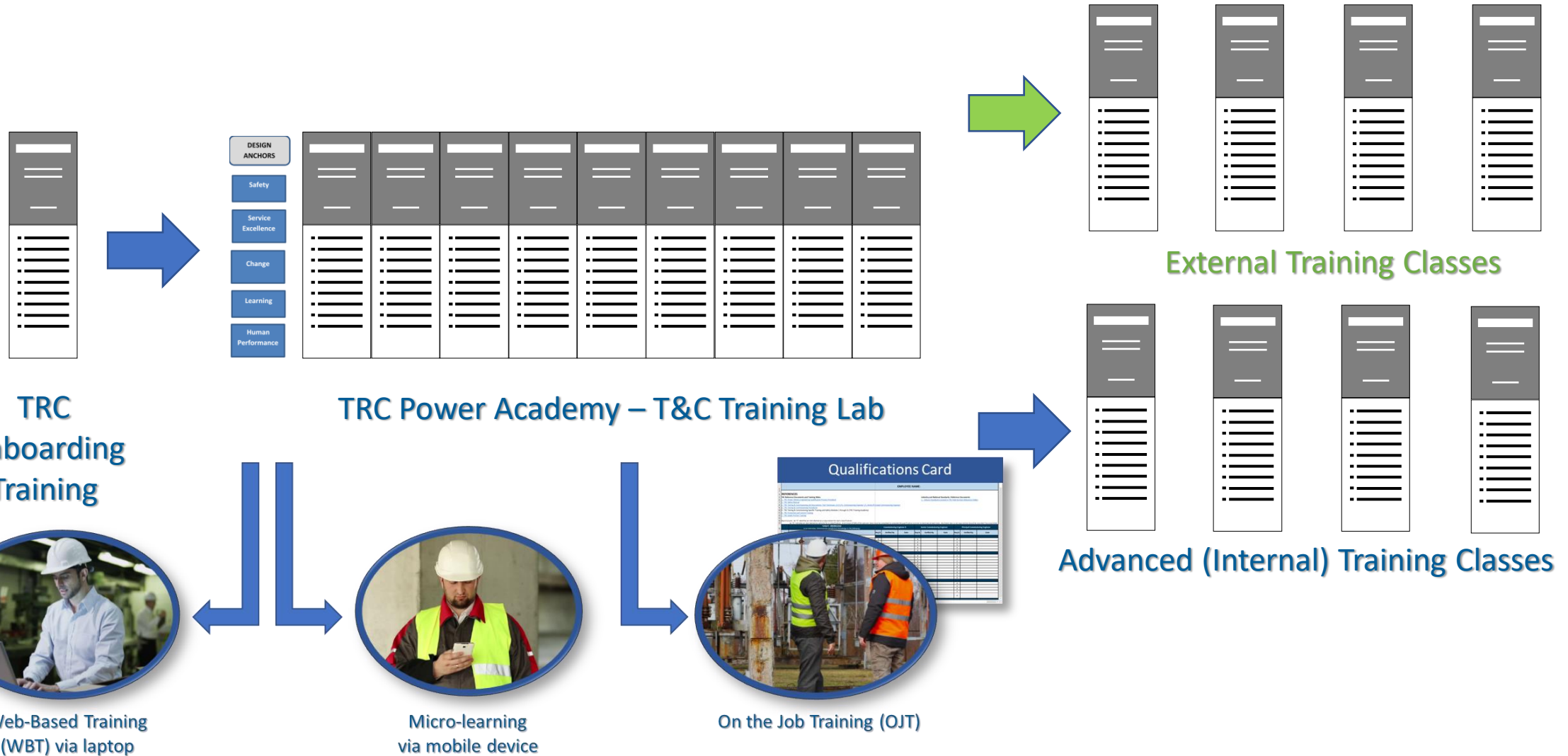


Current Status

- Phase I Complete
- In Development
- Ongoing Development

*Current Focus:
Assembling findings from Phase I evaluations to improve Phase II and external offerings.*

T&C Learning Path / Environment



Bolt-on / Advanced Courses



1	2	3	4	5
SAFETY & SITUATIONAL AWARENESS	RELAY TESTING SOFTWARE (RTS)	CLIENT DRAWINGS	CRITICAL THINKING	PROFESIONAL COMMUNICATION
<ul style="list-style-type: none"> • Substation Yard Safety • Substation Control House Safety • Evaluate and Understand Situations • Identify Elements Around You • Avoid Complacency • Continually Assess the Situation • Monitor Performance of Others 	<ul style="list-style-type: none"> • RTS Program options • Selecting the database • Libraries are the reference • Exploring Library routine components • Settings entry 	<ul style="list-style-type: none"> • Describe and compare client utility drawings • Compare symbols used • Compare other drawing elements 	<ul style="list-style-type: none"> • Analyzing • Applying Standards • Information Seeking • Planning • Logical Reasoning • Predicting • Transforming Knowledge 	<ul style="list-style-type: none"> • Empathy • Customer Culture • Clarity • Respect • Listening • Confidence • Ask Questions • Body Language • Positivity • Learning • Semantics and Pragmatics

Phase II Options



	Silver (1)	Gold (2)	Platinum (3)
Personal learning plan		X	X
Tied to qualifications	X	X	X
Web-based pre-work		X	X
ILT course	X	X	X
Lab work	X	X	X
Hands-on work in classroom		X	X
Self-paced learning			X
Simulator	X	X	X
External resources <i>(film, video, youtube, etc)</i>	X	X	X
Microlearning		X	X
Just in Time (JIT) learning		X	X
Assessments	X	X	X
Peer-guided practice			X
Scenario-based learning		X	X
Teachbacks		X	X
Instructor-led activities	X	X	X
Expectations/Outcomes	X	X	X
Open to public?			X
Accreditation			X
Ability to test out	X		
Paper-based platform	X	?	?
eLearning-only platform		?	X