

Harnessing First-hand Experience for use in Training

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Session 3: Personnel, Training and Leadership Development

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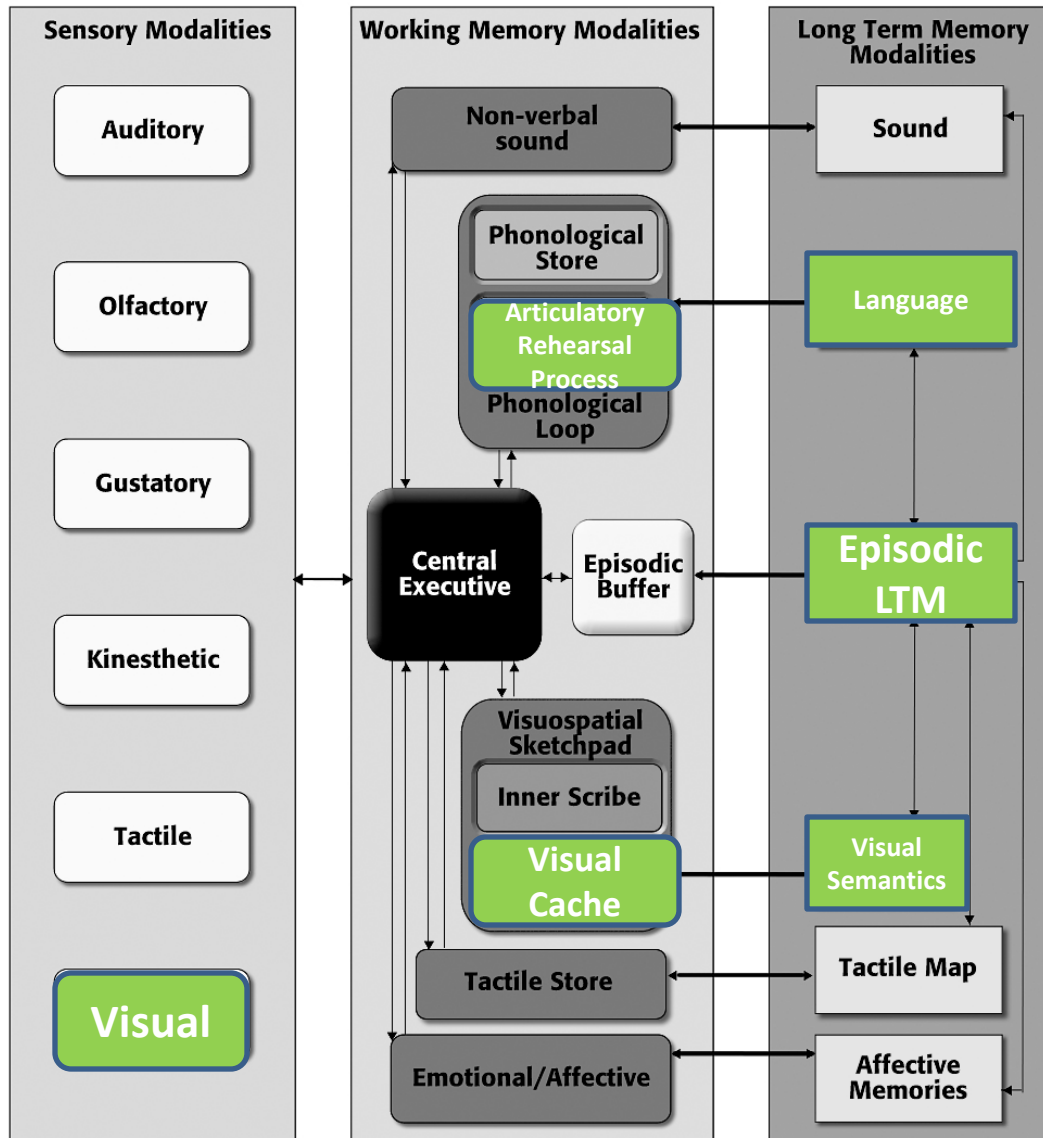
Problem

Throughout military history, Warfighter experiences, or “war stories,” have served a valuable purpose of communicating lessons learned on the battlefield

In today’s Army, valuable observations, insights, and lessons (OILs) are often not shared laterally at the small-unit level in a complete and timely manner

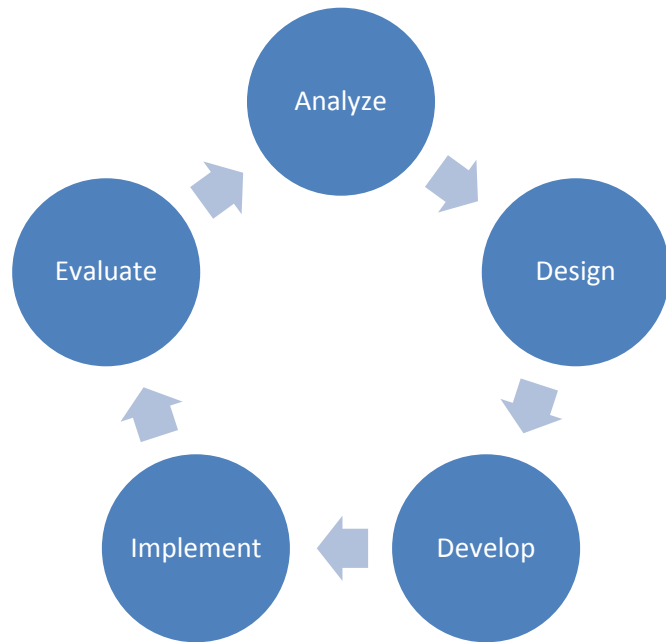
- Episodic memory degrades quickly and details get lost
- Lengthy formal process to integrate lessons into institutional training; by then tactics, techniques and procedures have changed.

Why Existing Methods are not Optimal



- Existing presentation of lessons utilizes visual modality only – textual descriptions with static ppt images to support
- Time delay of information capture and information sharing

Designing a new Approach: ADDIE Model



- Analyze
 - How are OIL and lessons learned captured today?
 - Who knows about the process?
 - What are the gaps?
- Design
- Develop

Task Analysis

How is information typically gathered by the Army during the Lessons Learned process?

Conducted interviews with civilians responsible for collecting lessons learned:

- Center for Army Lessons Learned (CALL)
- Asymmetric Warfare Group
- Training and Doctrine Command

Findings:

- Captured through formal interviews at events like Umbrella Weeks a few months after Soldiers return
- Information compiled and disseminated

Task Analysis

How Familiar are Instructors with Lessons Learned Products?

We conducted interviews with Instructors or Trainers (E5 to O3) with recent combat experience from the Special Warfare Center.

Findings:

- All instructors are familiar with OIL and CALL to the extent it is taught in class. The Senior Leaders Course teaches its students to collect and submit data to CALL using the OIL format.
- Students not provided access to CALL website due to “red tape”
- Instructors believe OIL format is missing important contextual information, including historical context of the event being reported as well as what the intended mission plan entailed.

Task Analysis

How Familiar Are Soldiers with Lessons Learned Products?

We interviewed 20 Soldiers and 4 Marines with recent combat experience all fitting into one of the following categories:

- Combat Arms MOS (Infantry, Special Forces, Military Police)
- Mostly involved in patrol, convoy, and combat situations
- From Special Warfare Center, 16th MP Brigade, or local to Orlando, FL
- Marines from Yorktown Naval Weapons Station

Task Analysis

How Familiar Are Soldiers with Lessons Learned Products?

Findings:

- Many Soldiers and Marines unfamiliar with the term OIL, the information that CALL or Marine Corps Center for Lessons Learned (MCCLL) contains, nor they have knowingly made use of their products
- Higher ranking Soldiers and Marines were more familiar with Lesson Learned process and products

There is an opportunity to improve the way observations, insights and lessons are communicated between Warfighters.

Research & Development Questions

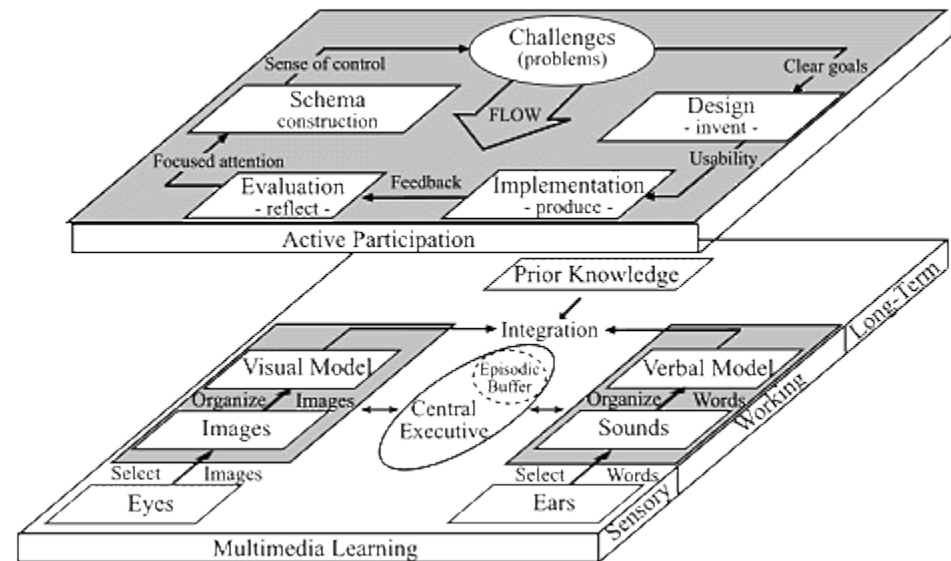
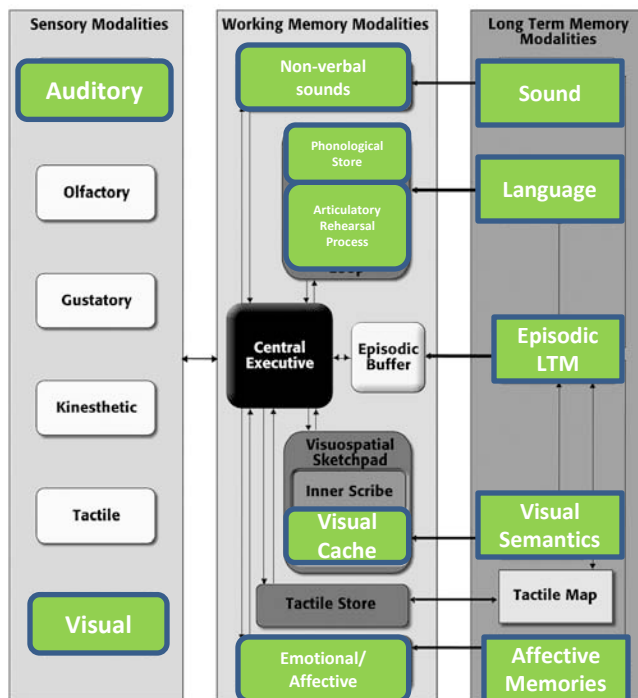
- How shall a system be designed to support rapid capture and dissemination of information for technology savvy users?
- How can peer to peer learning be incorporated in the design?
- How can we ensure proper training points are included in final system output?
- How can stories collected be used in a training environment?

Storytelling in Instruction

- Research suggests narrative is an effective instructional tool, particularly for conveying emotional impact of a lesson to the learner (Andrews, Hull, & Donahue, 2009)
- Digital storytelling has been found to enhance comprehension (Robin, 2008)

Mayer's Cognitive Theory of Multimedia Learning

- Multimedia information display techniques strive to optimize the distribution of perception and cortical processing in humans, and thus take advantage of the totality of human capacity and multimodal communication.
- Perceptual integration facilitates detection of elements of the event by amplifying sensory signals and combining them to form a new, multimodal representation of the object.
- Improved memory performance is generally realized when information is organized and distributed across modalities

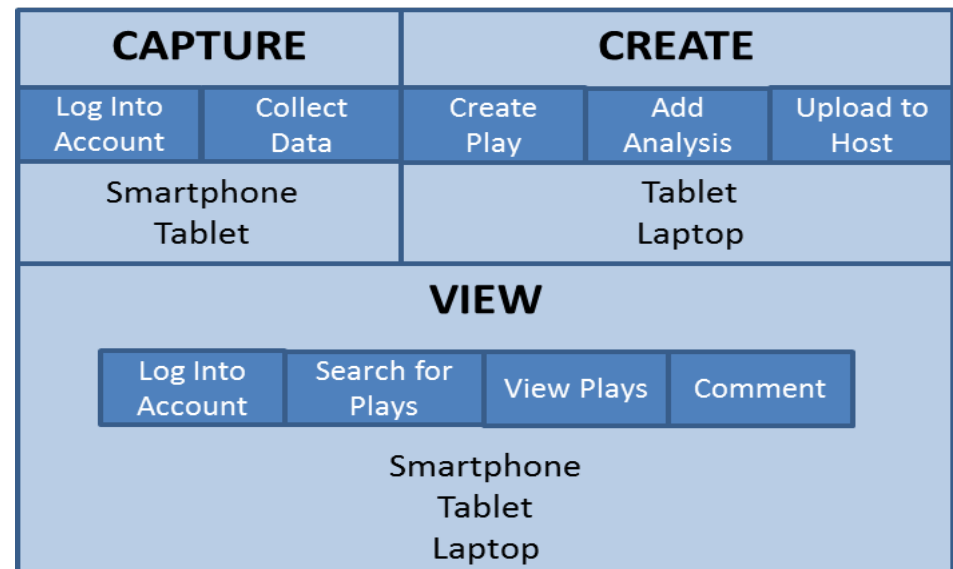


Stanney et al., 2003; Kiili, 2005; Participatory multimedia learning: Engaging learners; <http://www.ascilite.org.au/ajet/ajet21/kiili.html>
 Adapted from Mayer's Cognitive Theory of Multimedia Learning

Design: Playbook

- **Software that enables a user to share their stories by recording events immediately after they happen and converting them into a sharable video file**

- Mobile (Android) and PC
- **CAPTURE:** Allows for collection of audio, video, & photos at the time of Play development to enhance recall
- **CREATE:** Create animated sketches and add first-person narration using context-appropriate prompts
- **VIEW:** Videos are tagged and shared in an online repository (TBD)



Playbook in Operations

In Playbook, the Soldier can:

CAPTURE: Collect Data

- Using the mobile device's camera and voice recorder
- Prompted to capture context (e.g., who/what/where)

CREATE: Build animated videos, or "Plays"

- based on data collected and analysis prompts
- driven by event type
- using a drawing tool
- pre-populated with appropriate symbology to recreate the event

VIEW: Search Plays

- in an existing repository
- using tags
- provide feedback/comments

Sample Play

Playbook in Training

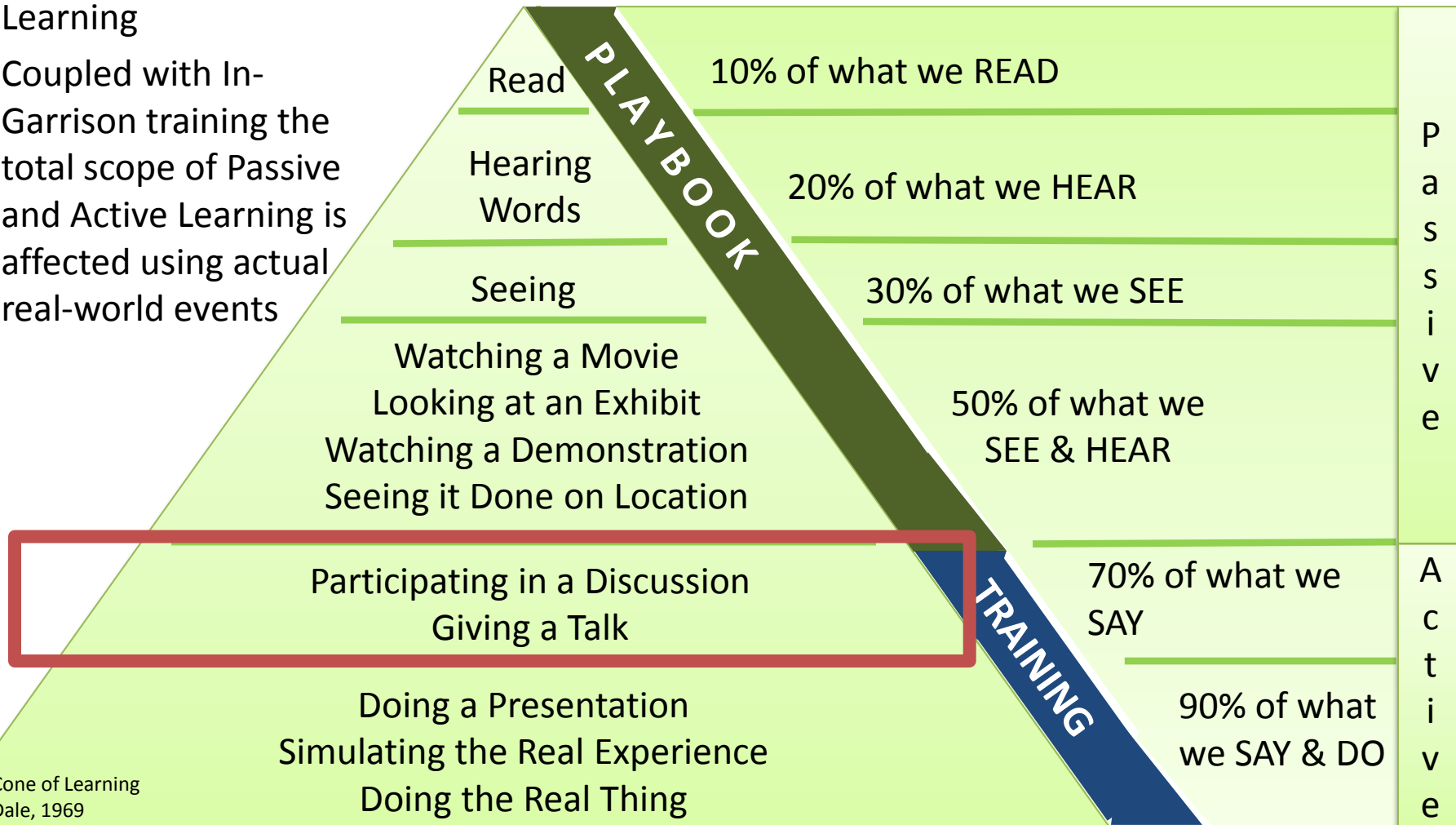
- Trainers can use actual combat events to provide the narrative, MSEL injects, and metrics that accompany training
- More responsive training
- Observable enemy and friendly trends can lead to a better understanding of training needs



Why Does it Matter?

- Playbook affects the total scope of Passive Learning
- Coupled with In-Garrison training the total scope of Passive and Active Learning is affected using actual real-world events

After 2 weeks, we tend to remember...

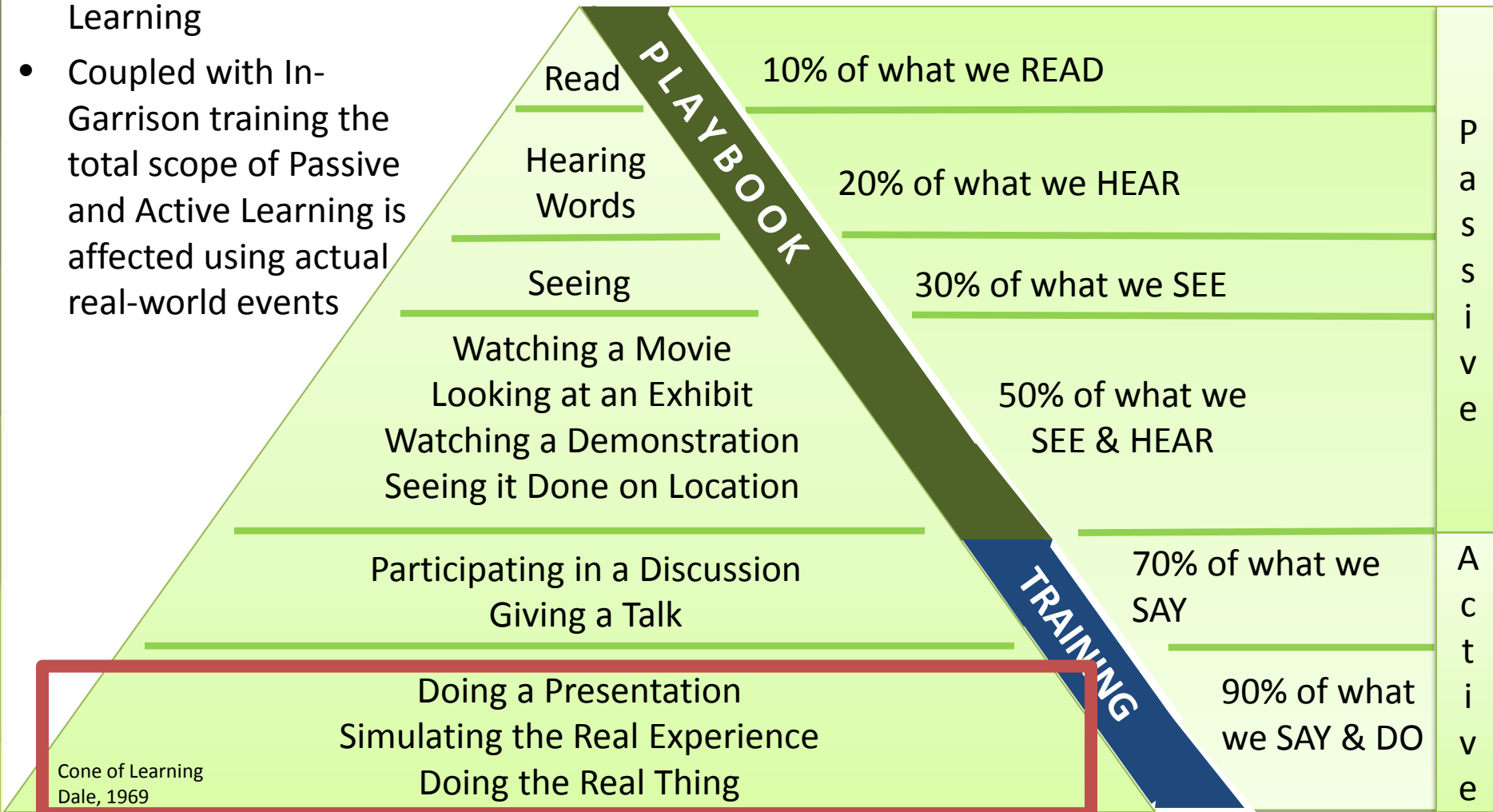


Cone of Learning
Dale, 1969

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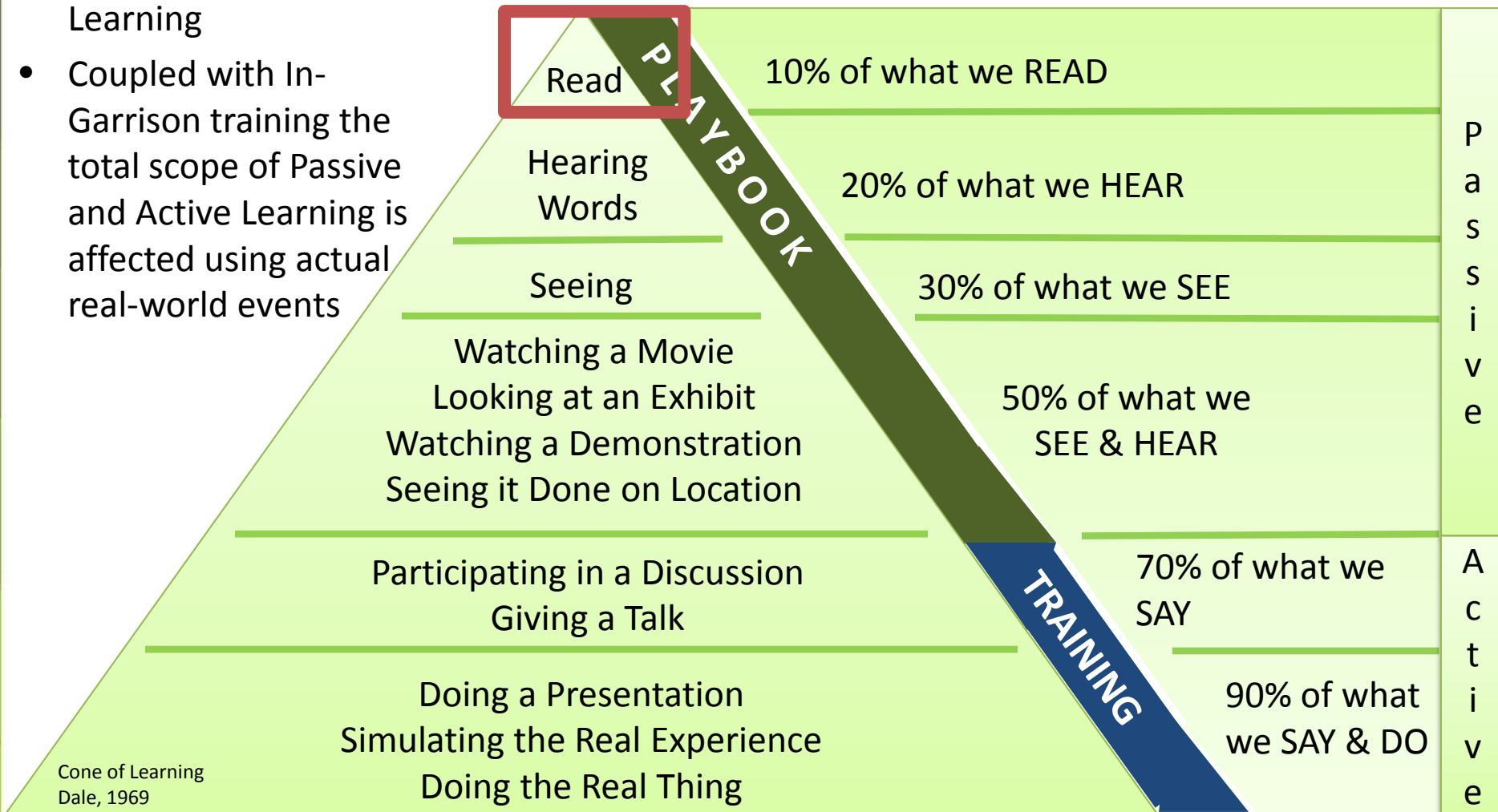


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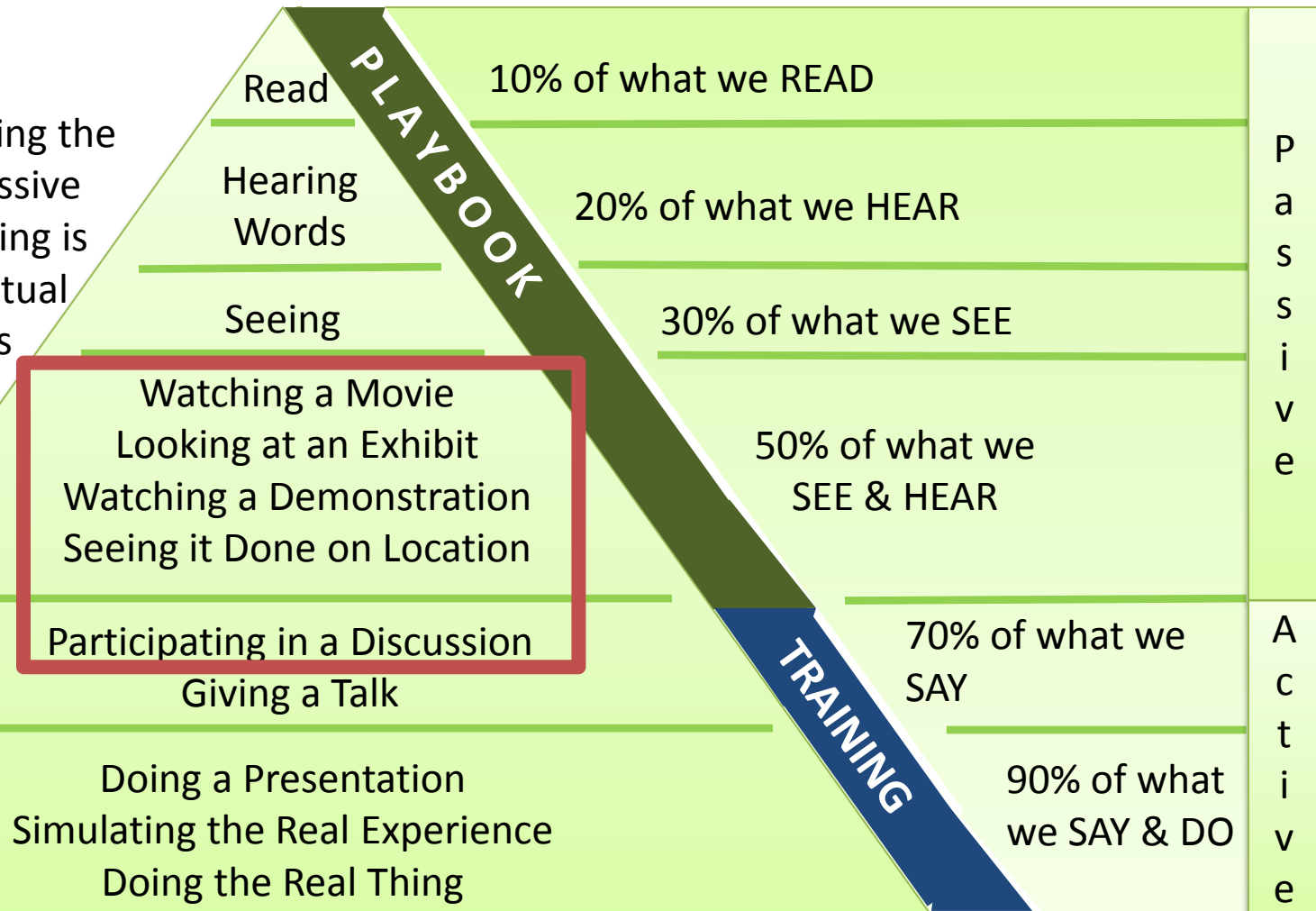


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Future Steps

- Field experimentation to evaluate training impact compared to traditional lessons learned information dissemination methods (ppt, reports)
- Expand domain of use
 - Terms & Graphics outside of ground kinetic ops
 - Data capture modes to capture interview questions/support domains such as accident investigation

Questions?

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Backup

Data Collection

When an event occurs, the Soldier can use the app to collect photos, videos, and other information of the event.

Prompted to gather information about

Who

What

When

Where

Why

Mission Plan

Context

Play Creation

The author describes the type of event (e.g. ambush, attack, patrol)
They are then prompted to select analysis questions based on the type of event

A drawing interface enables sketching of the event

- Drag and drop units, terrain features, etc
- Place pictures/videos from data collection
- Custom animation of objects in event
- Voice over narration

Finally, the author records answers to analysis questions which are integrated into end of play

Play Searching

Playbook will be integrated into online repository of videos (TBD)

Uses YouTube model

Search, view, comment