



**Take a Hike**  
with Garmin

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# DOCUMENTATION

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By  
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# Take a Hike

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## Background

**Take a Hike** is a small family owned business in Knoxville, Tennessee that specializes in hiking; clothing, equipment and accessories. The staff of twelve pride themselves on giving their customers that 'personal' touch often missing from larger sporting goods chains.

In the past, most of their customer base consisted of 'seasoned' hikers, those who looked upon the sport as a fun but serious activity. With technological advances in hiking equipment making it lighter, easier to use, and cheaper, the company has seen an increase in their customers of 45% in the past three years. These new customers range from 'seasoned' hikers in their younger years to those attempting their first hike. From casual conversation with these new customers, the staff has discovered that most of their hiking adventures will take place within a 150 mile radius of Knoxville.

Due to state financial woes, many of the once well-kept hiking trails are being neglected with overgrowth and markings are beginning to fade. Thus, customers have been voicing concerns about losing their way and not feeling as secure as they once were.

Several of the staff at Take a Hike researched the use of small handheld GPS's used as personal navigation aids and felt that having some available for their customers age 16 and older to rent might alleviate some of the hikers' concerns.

The staff conducted an in-store survey for 4 weeks to determine if their customers would be interested in renting a GPS after some minimal training on their basic use. They received many positive responses and purchased 30 Garmin eTrex Vista's for the store. The documentation that was supplied with the unit consisted of mostly detailed instructions on 68 bulky pages of small print and few diagrams.

The staff is acutely aware that their customers will not take the time to read the daunting instructions and without proper training, the customers will either 1) become frustrated on their hike, resulting in misuse of the equipment and/or become upset at having spent the money to rent the unit, or 2) have a false sense of security, possibly resulting in physical danger during their hike.

The staff also acknowledges that they cannot spend an hour or more with each customer covering all the features listed in the provided instructions. Still, the conscientious staff want to be able to assess that their customers have mastered some basic skills with the GPS before renting the units.

They do not know where to go from here and have hired *DesignsByDonna*© to help.



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## Performance Assessment

### Statement of the Problem:

The Owner's Manual and Reference Guide that came with the Garmin eTrex Vista is lengthy and difficult to read. Customers will not take the time to read through this documentation to master the basic skills of using the GPS for their hike

### Discrepancies/Needs:

What We Have	What We Need
Provided documentation too heavily text based	Blend of text and visuals
Provided documentation consists of 68 pages	Instruction Booklet
No formal training in place	Formal training module including an evaluation component.
Customers with wide-range of knowledge about use of GPS as a hiking navigational aid.	Customers familiar with the basics of the GPS to enhance their hiking experience.

### Gaps:

No formal instruction booklet exists on the Garmin eTrex Vista for Take A Hike customers.



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## Goal Analysis

### Identify an Aim: (Step 1)

For customers to learn basic navigation skills using the Garmin eTrex Vista GPS to enhance their hiking experience and, hopefully, return to the store to rent the GPS again for future outings.

### Set Goals: (Step 2) Outcome of first meeting with SME

- Complete the instruction booklet in 20-30 minutes
  - ◆ Complete the self-test.
    - Member of the staff will evaluate.
    - Certain questions must be answered correctly
    - Staff member will review any missed skills with customer
- Basic operations of the Garmin eTrex Vista GPS
- Identify present position during hike.
- Use GPS to determine direction of travel, elapsed time, and distance traveled.
- Understand what information is available on each page
- Use GPS to aid awareness of position on the ground.
- Provide improved capability to deviate from path and remain oriented.
- Provide locator information in case of emergency.
- Provide means for Take a Hike staff to review/evaluate training.
- Customize the displays to meet their [customers] needs.
- Understand GPS limitations
  - ◆ Losing satellite feeds
  - ◆ Delay in readings
- Turn on unit and initiate start up sequence
  - ◆ Get satellite coverage established
  - ◆ Enter route
  - ◆ Select proper pages to begin
- Understand the basics of Global Positioning Systems
- Follow progress in route
- Upon arrival of target, select 'reverse route' to return to starting point.
- Develop an appreciation of the effective use of the Garmin eTrex Vista for hiking.
- Evidence confidence and enthusiasm with the mastery of skills.
- Transfer the mastery of skill using the GPS to other outings, road trip, boating trip, etc.



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## Goal Analysis

### Refine Goals: (Step 3)

- Use GPS to determine: present position, direction of travel, elapsed time, and distance traveled.
- Distinguish the information on each page (screen).
- Use GPS to aid awareness of position on the ground during the hike and in case of an emergency.
- Provide improved capability to deviate from path and remain oriented.
- Customize the displays to meet their [customers] needs.
- GPS limitations
  - ◆ Losing satellite feeds
  - ◆ Delay in readings
- Basic operations of the Garmin eTrex Vista GPS.
  - ◆ Turn on unit and initiate start up sequence.
  - ◆ Get satellite coverage established
  - ◆ Enter route
  - ◆ Select proper pages (screens) to begin
- Basics of Global Positioning Systems
- Upon arrival of destination, select 'reverse route' to return to starting point
- Evidence confidence and enthusiasm with the mastery of skills.
- Transfer the mastery of skill using the GPS to other outings, road trip, boating trip, etc

### Rank Goals: (Step 4)

1. Basics of Global Positioning Systems.
2. Basic operations of the Garmin eTrex Vista GPS.
3. GPS limitations
4. Distinguish the information on each page (screen).
5. Use GPS to determine: present position, direction of travel, elapsed time, and distance traveled.
6. Use GPS to aid awareness of position on the ground during the hike and in case of an emergency.
7. Upon arrival of destination, select 'reverse route' to return to starting point.
8. Customize the displays to meet their [customers] needs.\*
9. Provide improved capability to deviate from path and remain oriented.\*
10. Evidence confidence and enthusiasm with the mastery of skills.
11. Transfer the mastery of skill using the GPS to other outings, road trip, boating trip, etc.



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## Goal Analysis

### Refine Goals: (Step 5)

- Understand the basics of Global Positioning Systems (GPS).
- Know how to use all the buttons on the Garmin eTrex Vista.
- Understand the initial start-up sequence.
- Know how and when to use each main page (screen).
- Use GPS to determine: present position, direction of travel, elapsed time, and distance traveled.
- Understand how data obtained from the main pages can aid the hiker's awareness of position on the ground during the hike (in case of an emergency).
- Evaluate the customer's mastery of basic skills of the Vista.

### Final Ranking of Goals: (Step 6)

1. Understand the basics of Global Positioning Systems (GPS).
2. Know how to use all the buttons on the Garmin eTrex Vista.
3. Understand the initial start-up sequence.
4. Know how and when to use each main page (screen).
5. Use GPS to determine: present position, direction of travel, and distance traveled.
6. Understand how data obtained from the main pages can aid the hiker's awareness of position on the ground during the hike. (in case of an emergency)
7. Evaluate the customer's mastery of basic skills of the Vista.

### Recommended solution:

To develop a print-based, self-paced instruction booklet that teaches the customer the basic skills of using the Garmin eTrex Vista GPS as a navigational tool for hiking.

- Training should take 30-45 minutes to complete.
- Booklet will include a written question and review exercises at certain intervals in order to assess mastery of key points.
- Booklet will be developed for first-time Vista users.
  - ♦ They will be strongly encourage to hike on a predetermined route in the local area
  - ♦ This route will be pre-programmed into the unit by the Take a Hike staff.



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## Learner Analysis

**General Characteristics:** (Target audience -> Adult Learners)

Obtained from in-store survey, staff observation of customers, and sales records.

Age Range	Store will require customers to be 16 years and older to rent GPS
Gender	65% male, 35% female
Reading Ability	Design for 8th grade level to provide challenging instruction but not overly demanding.
Previous Technological Skills	Diverse. Very little to very skilled
Ethnic and Cultural Background and Language	Not an issue since majority of customers possess good written and oral communication skills in English.
Motivation	Very diverse <ul style="list-style-type: none"><li>• Peer pressure</li><li>• Enthusiasm to add a new challenge to the hike</li><li>• Anxiety over technology</li><li>• Excitement to try a new 'toy'</li></ul>
Health	Most in good health and will not have any trouble with the tactile/kinesthetic instructional strategies
Education	High school and above
Attention Span	As adult learners, they should be able to stay focused if the training takes them longer than 30 minutes to complete.



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## Learner Analysis

### **Specific Entry Characteristics:** (Diverse group)

- Prerequisite Skills
  - ◆ 8<sup>th</sup> grade level reading level
  - ◆ Knowledge of GPS technology is not required
  - ◆ Know how to read a map and use a compass
- Target Skills
  - ◆ Recognize and use the basic features of the GPS during their hike
- Attitude
  - ◆ Must be motivated to learn to use the GPS correctly
  - ◆ Perceive the 30-45 minute training as necessary
    - Time is an important consideration for adult learners

### **Learning Styles:** (Adult learners)

- Perceptual Preferences and Strengths
  - ◆ Prefer tactile and print-based instruction with visual aids
  - ◆ Do not want to be put 'on the spot'
  - ◆ Like instruction that is challenging but not over demanding.
- Information Processing Habits
  - ◆ Prefer straight-forward, no frills, how-to training.
  - ◆ Structured and organized content
  - ◆ Objectives clearly defined
- Motivational Factors
  - ◆ Independent and self-directed
  - ◆ Internal locus of control
  - ◆ Very competitive (Macho)
  - ◆ Cautious
  - ◆ Socially motivated (peer pressure)
- Physiological Factors
  - ◆ Training should be identical for all customers.
  - ◆ Enjoy 'hands on' practice with GPS



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## Context Analysis

### **Orienting Context:** (Learner's Perspective)

- Want to have a good, safe, fun time hiking.
- Interested in learning new technology, especially since it will cost them money to rent the GPS.
- Recognize they might need help navigating during their hike. (getting lost)
- Motivated to successfully complete the training module
  - ♦ Allowed to rent the GPS
  - ♦ Avoid embarrassment of failure
- Value mastering these navigational skills for well-being on their hike.

### **Instructional Environment:**

- Training will take place in a small room with a door at the back of the store. See instructional environment in table below.

Lighting	One big window. Light is soft fluorescent that is either turned on or off. No dimming capability.
Noise	With the room located near the rear of the store and being able to close the door, noise distraction should be very low.
Temperature	Temperature cannot be controlled from inside the training room.
Seating	There is one round table in the room with four chairs. In one corner is a small square end table with water, cups and finger treats.
Accommodations	There is no need for hotel or housing. Training should only take 20-30 minutes.
Equipment	Only equipment needed is the GPS that the customer is renting. All training paperwork and pencils will be provided.
Transportation	There is no need for special transportation. Customers drive themselves to the store.

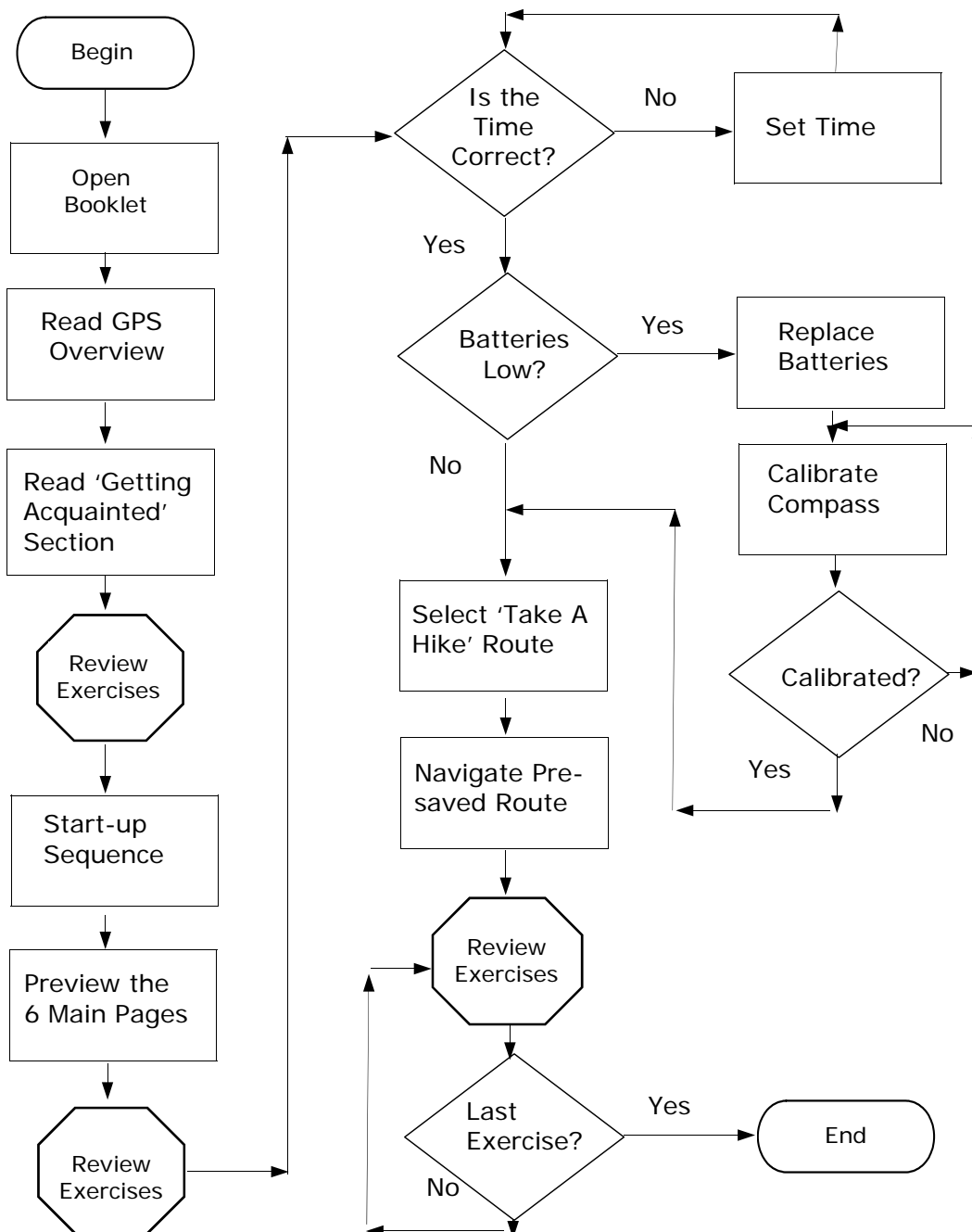
### **Transfer Context:** (Transfer knowledge/skill to other situation)

- Use the GPS for a road trip or outing on a boat.



## Task Analysis Flowchart Main Points

Task Analysis





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## Task Analysis

### **Procedural Analysis:** (for completing the in-store training)

I met with my SME on Saturday, 28 September to discuss the task analysis of this project. I kept notes on index cards, a separate card for each main task. The following outline is the compilation of the data extracted from that interview.

- I. Gather Garmin eTrex Vista, instruction booklet and pencil and go to training room.
- II. Read the GPS overview section.
- III. Read the 'Buttons' section
- IV. **Stop** and answer Review Exercises.
- V. Read 'Start-up Sequence' section and do 'hands on' exercises
  - A. Turn on unit
    1. Press and release power button on right side of unit  
Tactile Cue: Flat top button  
Visual Cue: Picture of 1 inside a circle and light bulb
  - B. Press page button (top right side of unit) several times to go through the copyright pages until the Satellite page appears.  
Cue: This page shows the visual reference of the satellites tracked.  
Tactile Cue for button: Rounded top  
Visual Cue for button: Picture of 3 pages  
Visual Cue for Satellite page: Text at top of page reads 'Satellite'.
  - C. Establish satellite positions by holding the unit near the window.  
Cue: This may take 15 seconds to 5 minutes depending on your location and the location of the satellites.  
Cue: When the unit has enough satellite signals, the message 'Ready to Navigate' appears at the top of the screen.  
Visual Cue: Your coordinates, location, are now displayed at the bottom of the page.



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## Task Analysis

### **Procedural Analysis:** (for completing the in-store training)

- VI. Review the remaining five (5) main pages with 'hands on' exercises.
- A. Go to the next main page.
    - 1. Press and release the page button.
    - 2. Preview the Map page.  
Cue: This page displays your movements/position and nearby map features.  
Visual Cue: Text at top of page reads 'Map'.
  - B. Go to the next main page.
    - 1. Press and release the page button.
    - 2. Preview the Navigation page.  
Cue: This page displays information to guide you to your destination.  
Visual Cue: Text at top of page reads 'Navigation'.  
Visual Cue: Resembles a compass.
  - C. Go to the next main page.
    - 1. Press and release the page button.
    - 2. Preview the Altimeter page.  
Cue: This page shows the current elevation and ascent/descent information from your present location.  
Visual Cue: Text at top of page reads 'Altimeter'.
  - D. Go to the next main page.
    - 1. Press and release the page button.
    - 2. Preview the Trip Computer page.  
Cue: This page shows trip and navigation data
      - a. Heading, bearing, speed
      - b. Odometer, sunrise and sunset timeVisual Cue: Text at top of page reads 'Trip Computer'.
  - E. Go to the last main page.
    - 1. Press and release the page button.
    - 2. Preview the Main Menu page  
Cue: This page displays six (6) icons of advanced features and settings; mark, routes, find, tracks, setup and accessories.  
Visual Cue: Text at top of page reads 'Main Menu'.
    - 3. Locate the battery icon and time and date at the bottom of the page
      - a. If the battery does not show 'full', go to 'Replace Batteries' section, otherwise continue.
      - b. If the date and time are incorrect, go to 'Set Time' section, otherwise continue.



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## Task Analysis

**Procedural Analysis:** (for completing the in-store training)

VII. **Stop** and answer Review Exercises.

VIII. Select 'Take A Hike' Route and 'hands on' exercises.

- A. Press and release the page button until you display the Main Menu page.
- B. Use the Click Stick button to highlight the route.  
Visual Cue: Flat button on the front left side of the unit.  
Sound Cue: The button 'clicks' when moved.  
Cue: Button can be moved left, right, up, down and pressed in.
  - 1. Press Click Stick button in to select the highlighted route
- C. Highlight the on-screen 'Navigate' button at the bottom of the page.
- D. Press in the Click Stick button to begin navigating this route.  
Visual Cue: You should see the Navigation page.

IX. Navigate this Pre-Saved Route (simulation)

- A. Go to the Map page by pressing and releasing the page button as needed.
- B. On this page, locate your position icon  
Visual Cue: Displays as a black triangle
- C. Find your starting point (waypoint)  
Visual Cue: Starting point displays as a black square and is next to the position icon.
- D. Locate the track markings  
Visual Cue: They display as thick black lines with white dots that go from your starting point to your destination.
- E. Take note of all the other waypoints along the track.  
Visual Cue: All waypoints display as black squares.

\*\* Simulating that you have begun walking.

- F. Look at the following graphic and find the distance to your destination, walking speed, and ETA (estimated time of arrival to your destination given your current walking speed).

Graphic

G. **Stop** and answer Review Exercises.



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## Task Analysis

### Procedural Analysis: (for completing the in-store training)

#### IX. Navigate this Pre-Saved Route (simulation continued)

- H. You continue to walk towards your destination (waypoint). Look at the graphic below. Notice that the distance to your destination, displayed in feet, is decreasing.

Graphic

- I. Continue your walk and locate the white dashed lines in the following graphic.

Visual Cue: They go from your starting point to the black arrow. This represents the actual path you have walked, referred to as the 'bread crumbs'.

Graphic

- J. You have reached your first waypoint. Look at the graphic below to see what changes occurred on the page.

Cue: The unit automatically sequences to the next waypoint.

Graphic

- K. **Stop** and answer Review Exercises.

#### X. Set the Time

- A. Press and release page button as many times as needed to get to the main page.

- B. Use the Click Stick to highlight the 'setup' icon.

Tactile & Visual Cue: Move Click Stick up and down, left and right to move around the page.

Visual Cue: Icon looks like a hammer head and will swing back and forth when highlighted.

- C. Press in the Click Stick button to display the setup page.

- D. Use the Click Stick button to highlight the Time icon and press in to select.

Visual Cue: Icon looks like a clock set at 4:30



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## Task Analysis

### **Procedural Analysis:** (for completing the in-store training)

- X. Set the Time (continued)
  - E. Use the Click Stick button to highlight 'time zone' and press in to see the list of options.
  - F. Use the Click Stick button to go through the list of desired time zone.
  - G. When correct time zone is highlighted, press the Click Stick button in to select.
  - H. Check for correct time. If not, repeat these steps.
- XI. Replacing the Batteries
  - A. Remove the battery cover by turning the D-ring 1/4 turn counter-clockwise and pull out.
  - B. Remove old batteries and place new batteries in compartment.
    - 1. Left battery goes in positive end down.
    - 2. Right battery goes in positive end up.Visual Cue: See diagram in compartment.
  - C. Put battery cover back on and turn the D-ring clockwise 1/4 turn.
  - D. Calibrate Compass
    - 1. Go outdoors away from any metal objects
    - 2. Press and release page button and go to the Navigation page.  
Visual Cue: Displays the compass.
    - 3. Use Click Stick button to highlight Options Menu and press Click Stick button in to display page.
    - 4. Use Click Stick button to highlight 'Calibrate Compass' and press button in to display page.
    - 5. Press in and release Click Stick button to start calibration.
    - 6. Hold unit level and slowly turn in a circle either clockwise or counter-clockwise two (2) full turns.  
Visual Cue: A message at the bottom of the page displays 'Too Fast', 'Too Slow' or 'Just Right'. Adjust your speed accordingly.
    - 7. Press and release the Click Stick to select 'OK' after calibration is complete.  
Visual Cue: 'Calibration Successful' message will appear.
      - a. If 'Calibration Failed' message displays, press and release Click Stick button to restart calibration.

- XII. **Stop** and answer Review Exercises.



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## Instructional Sequence

### Learning-Related Sequencing:

- ♦ Diverse learners
- ♦ Difficulty of material
- ♦ Interest to the learner
- ♦ Average cognitive ability

Student-learning concepts:

Phenomena	Example/Prescription
<b>Identifiable prerequisite</b>	Teach a skill required to perform another skill first. Teach the function of the buttons in order to go to and teach functions of the main pages.
<b>Familiarity</b>	Begin with most familiar information and progress to the most remote. Teach them about the basics of global positioning systems (GPS) before teaching them how to access the positioning satellite signals from space on their unit.
<b>Difficulty</b>	Teach the less difficult before the most difficult. Teach the learner how to select a pre-saved hiking route before teaching them how to navigate this route.
<b>Interest</b>	Begin with the tasks that generate learner interest. Have them hold, examine and turn on the GPS before teaching them about all the different main pages.

### World-Related Sequencing:

- ♦ Instruction Booklet organized in an orderly sequence of steps.
- ♦ GPS pages organized in orderly sequences.
  - Must get satellite feed before you can begin navigation in real world.

Phenomenon	Example/Principle
<b>Temporal</b>	Historical; first, second, third etc.; fast to slow When describing how to navigate a pre-saved route, describe the steps in sequence.



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## Strategies

### Objective #1

The learner will correctly identify the power, zoom, page, click stick and find buttons on the Garmin eTrex Vista.

- **Classification**
  - ♦ Content: Fact, concrete
  - ♦ Performance: Recall
- **Initial Presentation and Generative Strategy:**
  - ♦ In instruction booklet, a visual image of the Garmin eTrex Vista showing the location and name of the buttons is presented.
  - ♦ Rehearsal/practice, mnemonics
- **Activities:**
  - ♦ Learners will be asked to memorize the mnemonic, Pretty Zebras Pick Colors First, to recall the buttons.
  - ♦ Visual image of icons used for each button shown in training module.
  - ♦ Learner will locate and press buttons on the Vista as directed by the training module.
  - ♦ Learner will be given a visual with buttons labeled A-E. Learner will write the name of the button on appropriate line. Answer provided in appendix.

### Objective #2

The learner will demonstrate the start-up sequence on the Garmin eTrex Vista in the proper order.

- **Classification**
  - ♦ Content: Procedure
  - ♦ Performance: Application
- **Initial Presentation and Generative Strategy:**
  - ♦ In instruction booklet, numbered list of start-up sequence steps with visual of the satellite page is presented.
  - ♦ Rehearsal, review
- **Activities:**
  - ♦ Following the steps in instruction booklet, the learner will rehearse the sequence using the Vista as needed.
  - ♦ List of sequence in proper order is presented in training module.
  - ♦ Give learner a list of the steps used for the start-up sequence and have them mark their proper order. (1 being first step, etc.) Answers provided in appendix.



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## Strategies

### Objective #3

The learner will identify the satellite, map, navigation, trip computer and main menu pages found on the Garmin eTrex Vista and know their basic functions.

- **Classification**
  - ♦ Content: Fact, concrete
  - ♦ Performance: Recall
- **Initial Presentation and Generative Strategy:**
  - ♦ In the instruction booklet, visual images of labeled pages are displayed.
  - ♦ Rehearsal/practice
- **Activities:**
  - ♦ Learner will go from page to page on the Vista per instructions in the instruction booklet.
  - ♦ Learner given detailed information and asked to name which page they would find this information.
  - ♦ Provide images of the pages and a list of the primary functions and ask the learner to match them. Answers provided in appendix.

### Objective #4

The learner will locate/highlight the correct hiking route from the main menu page using the Garmin eTrex Vista GPS.

- **Classification**
  - ♦ Content: Procedure
  - ♦ Performance: Application
- **Initial Presentation and Generative Strategy:**
  - ♦ Visual example of each step provided in the instruction booklet.
  - ♦ Practice
- **Activities:**
  - ♦ Learner encouraged to develop mental picture of procedure.
  - ♦ While reading instruction booklet, learner will 'walk' through the steps in proper sequence using the Vista.
  - ♦ Check off the steps on the procedure checklist as they are completed.
  - ♦ Learner will compare final results with visuals provided.
  - ♦ Learner will be asked questions that can only be answered if they have selected the correct route. Answers provided in appendix.



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## Strategies

### Objective #5

The learner will demonstrate navigating a pre-saved route using the Garmin eTrex Vista GPS.

- **Classification**
  - ♦ Content: Procedure
  - ♦ Performance: Application
- **Initial Presentation and Generative Strategy:**
  - ♦ In the instruction booklet, correct step sequences and visual clues to navigate the route are presented.
  - ♦ Practice
- **Activities:**
  - ♦ Learner asked to paraphrase the procedure.
  - ♦ While reading instruction booklet, learner will practice navigation sequence using the Vista.
  - ♦ Give samples of where they are in the sequence and ask them to describe what comes next.
  - ♦ Learner will be asked questions that can only be answered if they have followed the steps correctly. Answers provided in appendix.

### Objective #6

The learner will be able to set the correct local time on the Garmin eTrex Vista GPS.

- **Classification**
  - ♦ Content: Procedure
  - ♦ Performance: Application
- **Initial Presentation and Generative Strategy:**
  - ♦ In the instruction booklet, correct sequenced steps and visual cues are presented.
  - ♦ Practice
- **Activities:**
  - ♦ While reading the instructions booklet, learner will practice the steps for setting the time using the Vista.
  - ♦ List of sequence in proper order is presented in training module.
  - ♦ Learner will identify the proper order of the steps required to set the time. (1 being first step, etc.) Answers provided in appendix.



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Strategies

## Objective #7

The learner will correctly replace the batteries and calibrate the compass on the Garmin eTrex Vista GPS.

- **Classification**
  - ◆ Content: Procedure
  - ◆ Performance: Application
- **Initial Presentation and Generative Strategy:**
  - ◆ In the instruction booklet, correct step sequences and visual cues are presented.
  - ◆ Practice
- **Activities:**
  - ◆ Learner will write down the steps of this procedure.
  - ◆ Learner will 'walk' through the steps for calibrating the compass on the Vista.
  - ◆ Learner will identify the proper order of the steps required to replace the batteries and calibrate the compass. (1 being first step, etc.)  
Answers provided in appendix.



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## Pre-instructional Strategy

### Pre-instructional Strategy:

#### Pretest:

Each section of the instruction booklet will begin with an introduction to prepare the learner for the instruction. This introduction will consist of a set of open-ended questions that directly relate to the objectives. The learners are not expected to answer these questions but reflect on them as they work through the instruction booklet.

#### Justification:

The learners and content structure carry the most weight for this project. These questions will heighten the learner's awareness of the content by serving as cues to the key points. This will also alert the learner as to what they will be expected to know when the section is completed.

#### Learners:

- Mature adults.
- Don't have time to read a lot of text.
- Can focus quickly on key points of each section of instruction.
- Task Attribute: They have some idea of what a GPS can do (and it's importance), otherwise they would not be renting one.

#### Content:

- Instruction time is relatively short, 30-45 minutes.
- Each section of the instruction booklet will concentrate on the key points. For more information, the learner will be directed to the Owner's Manual and Reference Guide provided with the Garmin eTrex Vista.



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## Evaluations

### Formative Evaluation Plan: (Overview)

- **Purpose:**
  - ♦ To improve the instruction booklet
    - Easy to read
    - Good flow and concise
    - Activities relate to objectives
  - ♦ Determine time required to complete instruction booklet items
    - Review Exercises
    - GPS activities
    - Reading instructions
- **Audience:**
  - ♦ Combination of several groups used during evaluation.
    - SME
    - Staff from Take A Hike
    - Colleagues
    - Small sample of Take A Hike customers
- **Issues:**
  - ♦ Do the customers perceive the training as useful?
  - ♦ How long is it taking on average to complete the training module?
  - ♦ Is my SME satisfied with the training module?
  - ♦ Are the customers learning what they need to learn to use the Garmin eTrex Vista GPS on their hike?
  - ♦ What items worked well and what needs improvement.
  - ♦ How many times will a formative evaluation be done during the development of this training module? (3 stages recommended)\*
  - ♦ Are multiple data sources needed to get the complete picture? What should they be?
- **Resources:**
  - ♦ 68 page manual included with the Garmin eTrex Vista GPS
  - ♦ Evaluators (Me, Take A Hike customers, SME, staff, colleagues)
  - ♦ Copies of training module with worksheet
  - ♦ Garmin eTrex Vista GPS
  - ♦ Data-collection instruments
  - ♦ Testing room in Take A Hike store

- \* Stage 1) developmental testing by myself, SME, and colleagues
- Stage 2) small group testing by Take A Hike staff
- Stage 3) field trial by select Take A Hike customers



# Take a Hike

with Garmin

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## Formative Evaluation Plan: (cont.)

- **Evidence:**
  - ◆ Objectivity of source of information
  - ◆ How many multiple data sources are needed?
  - ◆ Is the training realistic to the use of a GPS during a hike?
  - ◆ Will having an evaluator observe during instruction skew performance?
  - ◆ Evaluation must be valid and reliable.
- **Data-gathering:**
  - ◆ Feedback for possible revisions of instruction booklet
  - ◆ Use multiple data sources to increase validity
    - Questionnaires/Surveys
    - Interviews
    - Observation during training
    - Review Exercises
      - Objective test items (multiple choice, matching, etc.)
      - Constructed-response items (fill-in-the-blank, short answer, etc.)
    - Performance activities
      - SME
      - Take A Hike Staff
      - Colleagues
- **Analysis:**
  - ◆ Done by me and my SME
  - ◆ Average time to complete training module
  - ◆ Review answers to questionnaires, surveys and interviews
  - ◆ Interpret the data from observations and data gathered in above bullet
  - ◆ Grade worksheets for correct answers.
    - Pass rate will vary per section depending on importance of objective.
- **Reporting:** (from pg 271 of textbook)
  - Reviewed by me, my SME and Take A Hike staff
    - A. Summary
    - B. Purpose of Evaluation
    - C. Methodology
    - D. Results
    - E. Conclusions



# Take a Hike

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## Evaluations

### Summative Evaluation Plan:

The summative evaluation is defined as to be given once at the end of the development stage to determine to what degree the students accomplished the objectives. But the distinction between formative and summative evaluation can be blurry. If select parts of the formative evaluation (those that directly measure the degree to which the instructional objectives were achieved) are given at the end of the development process, it now becomes a summative evaluation. And, if revisions are to be made to the training module from results of the summative evaluation, then the summative evaluation becomes a formative evaluation.

**OTE:** Objective Test Element

**CRE:** Constructed-Response Element

Examples:

Objective 1 - Button identification and functions (fact, recall)

- Multiple choice to select correct function of each button. (OTE)

Objective 2 - Demonstrate start-up steps (procedure, application)

- Short answer (CRE)

\*Objective 3 - Page identification and function (fact, recall)

- Multiple choice to select correct function for specific page. (OTE)
- Fill in the blank for page functions (CRE)

Objective 4 - Locate/highlight correct hiking route (procedure, application)

- Short answer on steps required. (CRE)

\*Objective 5 - Navigate a pre-saved route (procedure, application)

- Fill in the blank (CRE)
- Short answers (CRE)
- Problem-solving questions (CRE)

Objective 6 - Set time on GPS (procedure, application)

- Multiple choice (OTE)

Objective 7 - Replace batteries and calibrate compass (procedure, application)

- Short answer (CRE)
- Essay questions. Ex. Describe how you calibrate the compass. (CRE)

Objectives 3 and 5 are most important and will require more test questions.



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Evaluations

## Summative Evaluation Plan: (cont.)

### Questionnaire: (examples)

Instruction	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Instructions were clearly written	1	2	3	4	5
Instructions logically sequenced	1	2	3	4	5
Activities enhanced learning	1	2	3	4	5
I did not feel rushed	1	2	3	4	5

### Resources

Instruction booklet easy to follow	1	2	3	4	5
Visual images were helpful	1	2	3	4	5

### Facilities/Equipment

The room was comfortable	1	2	3	4	5
Convenient to train at the store	1	2	3	4	5
GPS was easy to use	1	2	3	4	5

What is your overall rating of this self-paced instruction booklet? (circle your response)

1                      2                      3                      4                      5  
 Poor      Some value      Adequate      Good      Excellent

What did you like BEST about the self-paced instruction booklet? \_\_\_\_\_

\_\_\_\_\_

How would you improve the instruction booklet? \_\_\_\_\_

\_\_\_\_\_