# AIVA – Adaptive Instructional Validation Assistant

🎓 An AI-powered Reflective Training System by an Instructional Designer

————————————————————

## Overview

AIVA (Adaptive Instructional Validation Assistant) is an AI-driven reflective learning system designed to simulate a human mentor’s approach to training.   
It blends Instructional Design principles, Root Cause Analysis (RCA), and the 5 Whys framework to help learners build analytical reasoning and decision-making accuracy.  
  
AIVA teaches learners how to think, not just what to answer.

## Purpose

To create an adaptive, feedback-driven learning experience that:  
- Strengthens reasoning and interpretation skills.  
- Improves accuracy in AI–human conversation validation.  
- Builds learner reflection and self-correction through RCA and the 5 Whys.  
- Demonstrates instructional innovation using AI-powered logic.

## Instructional Design Strategy

• Explain → Ask → Reflect → Reinforce  
• Root Cause Analysis (RCA)  
• 5 Whys Framework  
• Adaptive Learning  
• Positive Reinforcement  
• Gamified Feedback

## Instructional Frameworks Applied

- ADDIE Model – Structured development lifecycle.  
- Bloom’s Taxonomy – Progression from recall to analysis.  
- Gagné’s 9 Events of Instruction – Guidance, feedback, reinforcement.  
- Vygotsky’s ZPD – Personalized difficulty and scaffolding.  
- Kirkpatrick Evaluation – Reflection for learning outcome measurement.

## Key Features

✓ 3-step adaptive questioning: Sentiment → Rating → API  
✓ Guided reflection using 5 Whys  
✓ RCA-based diagnostic feedback  
✓ Adaptive difficulty with positive reinforcement  
✓ Confidence self-rating (1–5 scale)  
✓ Gamified point system & learner milestones

## Learning Outcomes

Learners completing AIVA training will:  
- Accurately analyze customer–bot conversations.  
- Identify correct API logic for various intents.  
- Reflect on reasoning errors using RCA.  
- Strengthen critical and metacognitive skills.  
- Gain confidence through adaptive feedback loops.

## Core Concepts

• Product Discovery & Information → Retrieve\_Product, Product Info, get\_breakdown\_values, get\_clarifying\_questions  
• Product Exploration & Suggestions → Related Products, Show More Products  
• Purchase & Checkout Assistance → Add To Cart, Checkout  
• General & Non-Product Interactions → Non-Product Info, Irrelevant

## Gamified Levels

10 Points – Beginner: Understands basic conversation types  
25 Points – Explorer: Applies logic across varied scenarios  
50 Points – Specialist: Consistently uses correct APIs  
100 Points – Master Annotator: Expert in reasoning, reflection, and analysis

## Root Cause Analysis (RCA) Example

Example:  
Learner selected 'show\_more' for a related product query.  
AIVA Feedback: “The confusion arose because you focused on quantity (‘show more’) instead of similarity (‘get\_related’).   
This is a conceptual, not contextual, error — a great opportunity to refine your reasoning.”

## Confidence Check

After each answer, AIVA asks:  
“On a scale of 1–5, how confident are you about your response?”  
This develops self-awareness and metacognitive growth.

## Repository Contents

AIVA-Reflective-Training-System  
- AIVA\_Portfolio\_Summary\_RecruiterEdition.docx  
- AIVA\_v2.1\_Final\_Instructions.docx  
- AIVA\_5Whys\_RCA\_Framework.docx  
- AIVA\_Concept\_Starters\_List.txt  
- AIVA\_Project\_Image.png  
- AIVA\_Instructional\_Flowchart.pdf  
- README.md

## Author

Prashanthi Rao  
Instructional Designer | AI Learning Strategist  
“I design intelligent learning experiences that teach people how to think — not just what to answer.”

## Connect

LinkedIn Profile: [Insert Link]  
Portfolio Website: [Insert Link]  
Email Address: [Optional]

## License

This project is open for educational and portfolio display under the MIT License.  
Feel free to explore and learn from the instructional logic design.