AJEENKYA D Y PATIL UNIVERSITY
THE INNOVATION UNIVERSITY
School of Engineering

Department of Biotechnology

Innovative Teaching Learning (Pedagogy) Report

Name of the Faculty	Dr. Anand Khandwekar
Class	(VI Semeseter 3rd year)
Courses Taught	Food Preservation and Packaging Technology, FT 307E
Academic year	2024-2025
Title of Padagogy	Narrative and Experiential Learning to Data-Driven and Constructivist Instruction
Objective	To foster a deep, applied understanding of food preservation and packaging technology by integrating classical literature with contemporary industry practices through narrative-based, visually enriched, and constructivist teaching strategies—aimed at enhancing critical thinking, concept retention, scientific reasoning, and research-oriented learning among students.
Methodology	**Constructivist & Student-Centric& Research-Backed:** *I try to build knowledge by connecting concepts to real-world practices—encouraging students to relate textbook theory (e.g., Norman N Potter, Joseph H. Hotchkiss & Fellows) to industry examples, and packaging innovations.* **Research-Backed & Classical Foundations:** *I emphasize on classical texts like* Norman Potter & Fellows, *anchoring my content in historically significant, peer-validated literature—while encouraging critical thinking about how these foundations apply to modern-day innovations.* **Cognitive Anchoring (Mnemonics, Humor & Industry Integration):** *Students retained complex terminology and frameworks with ease by engaging with mnemonics, analogies, and industry-based examples, thus improving classroom interaction and concept application in real-world scenarios.* **Refined Outcome – Narrativization (Storytelling & Narrative-Based Learning):** *Students were able to internalize and recall difficult or abstract concepts through storytelling, as contextual narratives helped transform technical knowledge into memorable and emotionally engaging experiences. This approach fostered better retention, learner curiosity, and long-term understanding.* **Data-Driven Reasoning (Scientific Thinking & Interpretation):** *Students developed analytical skills by interpreting rheological curves, equipment readouts, and compositional charts, enabling evidence-based decision-making and preparation for research or quality control roles.*
Outcome	**Enhanced Real-World Relevance:** *Students connected theoretical concepts from classical texts (e.g., Norman N. Potter, J.H. Hotchkiss, Fellows) to current packaging technologies and preservation practices, making learning more applicable and meaningful.* **Improved Concept Retention through Cognitive Anchoring:** *Complex terminology like MAP, irradiation, refrigerants and terms were better retained using mnemonics, humor, and relatable analogies tied to industry practices.* **Deeper Engagement via Storytelling:** *Narratives around the evolution of packaging (e.g.,*

	NASA's role in HACCP, case studies on spoilage) made abstract preservation methods more memorable and emotionally engaging for students. **Critical Thinking and Comparative Analysis:** *Exposure to classical literature empowered students to evaluate traditional principles against emerging innovations such as biodegradable films, smart packaging, or nanotechnology in preservation.* **Strengthened Analytical Skills:** *Through interpretation of equipment outputs (e.g., temperature and microbial growth curves, refrigeration curve, spoilage graphs), students honed their ability to make data-driven decisions for food safety and shelf-life assessment.* **Research Orientation and Academic Rigor:** *Integration of peer-reviewed literature and classical foundations cultivated a mindset of inquiry, preparing students for academic research, industrial validation, and innovation analysis.* **Student-Centered Learning and Constructivism:** *By encouraging students to relate their daily observations (like packaged food deterioration or labeling laws) with curriculum content, learners became active participants in knowledge construction.*
Glimpses