Product Schools: Experience-Based Knowledge Transfer that Drives Results

APQC Knowledge Management Conference and Training

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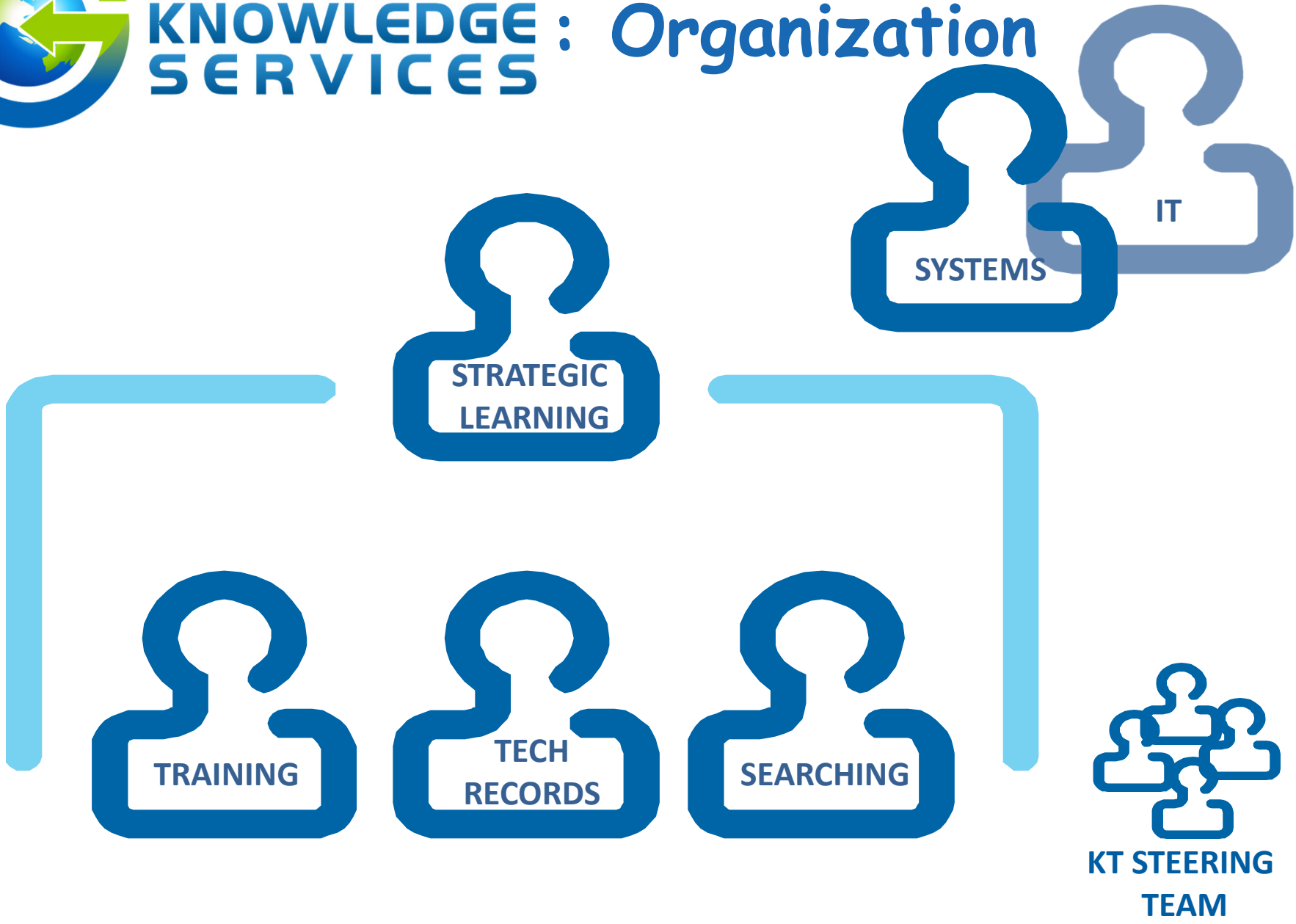
GENERAL MILLS

Agenda

- Our Knowledge Transfer Organization
- Super quick overview of General Mills
- History of Product Schools
- Using Product Schools to transfer knowledge
- Results

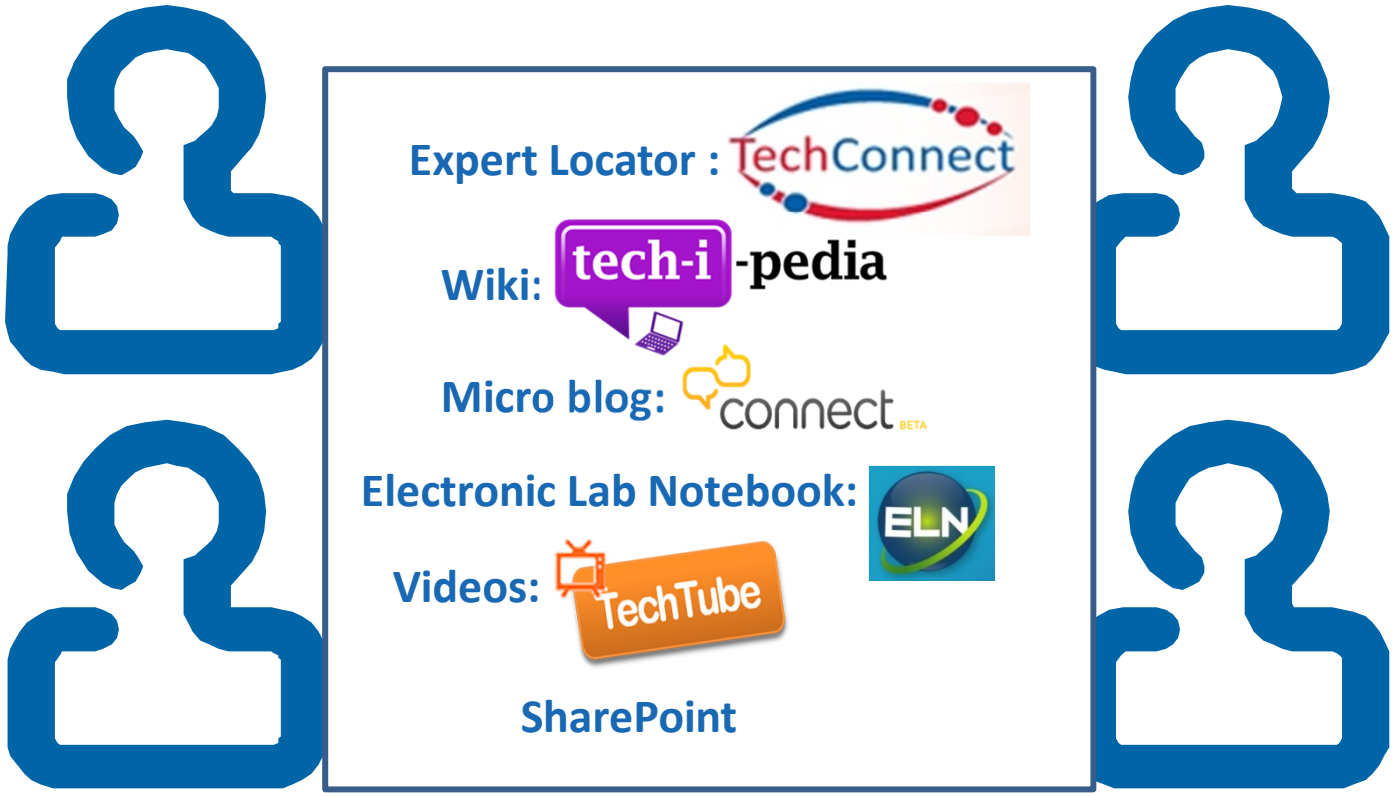
ProductSchools

GLOBAL KNOWLEDGE SERVICES : Organization



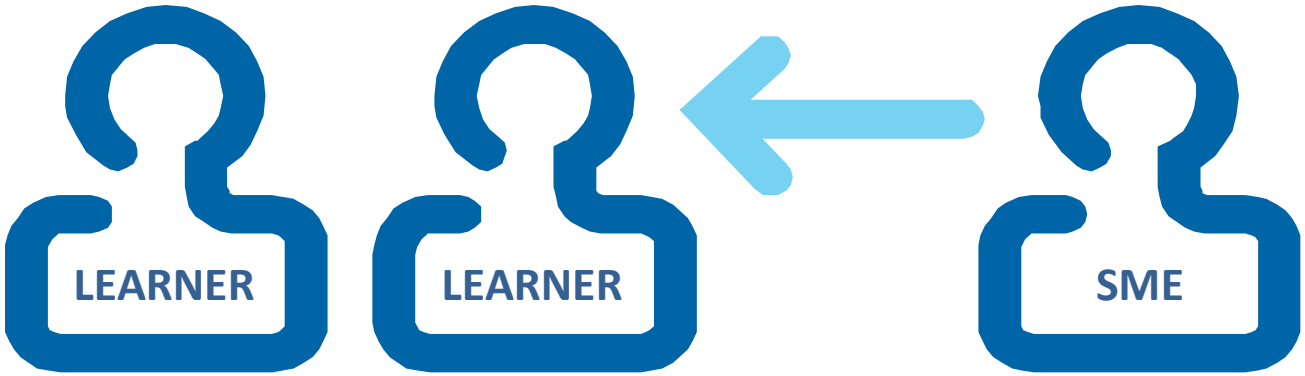
GLOBAL KNOWLEDGE SERVICES

Systems that Support Knowledge Transfer



GLOBAL KNOWLEDGE SERVICES :

People to People KT Tools



- Communities of Practice
- Coaching
- KT Dialogue Sessions
- Technical Summits
- Technical Conference
- Transition Tool
- On Boarding
- Training

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ProductSchools

Company of Champions

GENERAL MILLS

Our diverse portfolio feeds consumers around the clock…

… around the world

Company of Champions

GENERAL MILLS

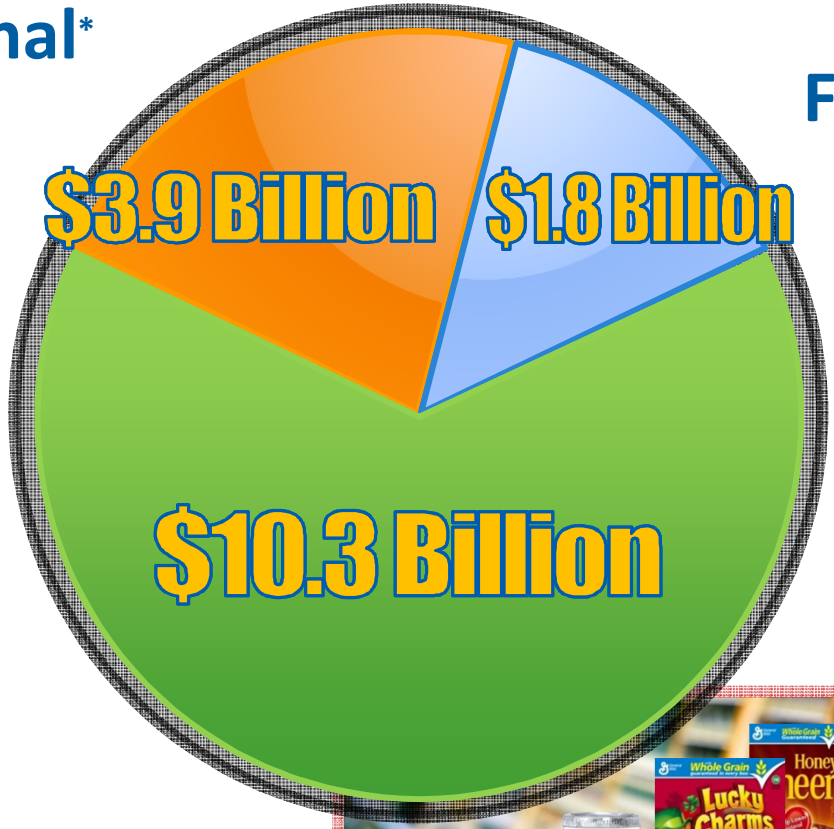
- One of the world's largest food companies
- $16 billion in FY10 net sales*
- 33,000 employees
- Marketed in more than 100 countries

* Includes proportionate share of JV net sales

Three Business Segments

Worldwide Net Sales: $16 billion

International*



Bakeries & Foodservice

U.S. Retail

*Includes proportionate share of JV net sales

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ProductSchools

History of Product Schools

- 1991
  - GMI forms joint venture with Nestle
  - Cereal School is born

History of Product Schools

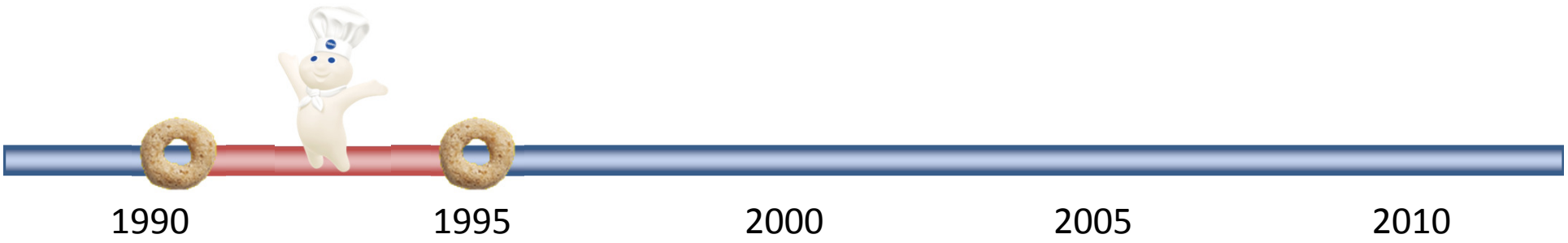
- Early 1990's
  - High Demand for Cereal School
    - New CPW manufacturing facilities
    - New GMI manufacturing facilities
    - Current and new GMI employees
      - Plant
      - R&D
      - Engineering
  - New Pilot Plant build for training

Customized week-long courses

8 week-long courses

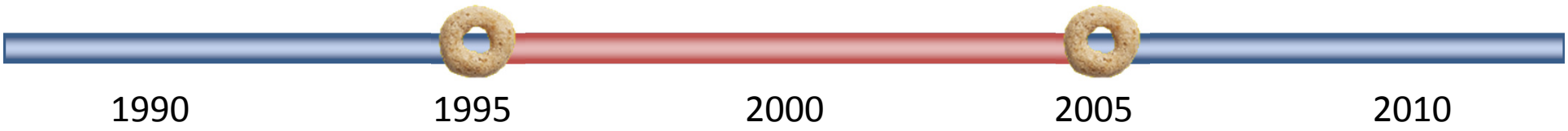
History of Product Schools

- Early 1990's
  - 1993 Dough School was born
  - Yogurt School was born



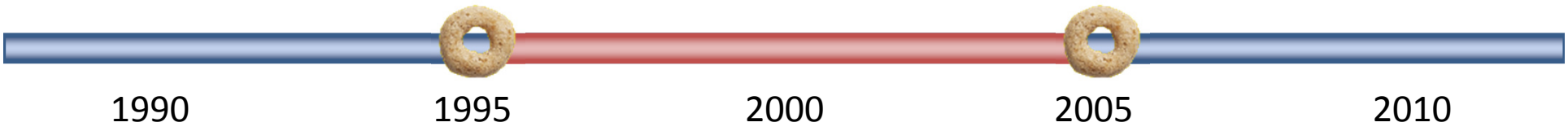
History of Product Schools

- Mid 1990's – 2005
  - Steady demand for Cereal School
    - Training Coordinator Hired



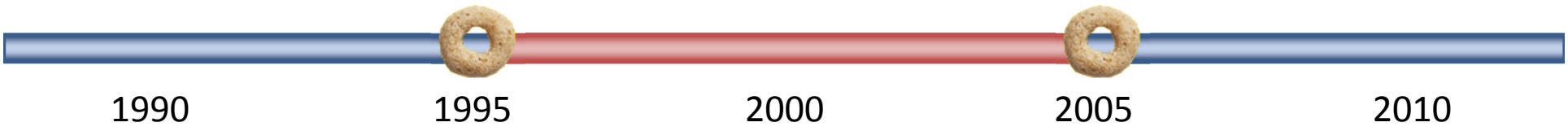
History of Product Schools

- Mid 1990's – 2005
  - Technical Training courses offered
    - Food Chemistry
    - Power to the Process
    - Food Polymer Science



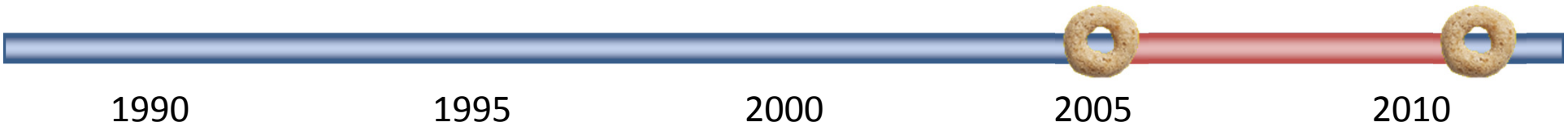
History of Product Schools

- Mid 1990's – 2005
  - New Product Schools develop then decline
    - Bar School
    - Fruit Snacks School
    - Bugles School



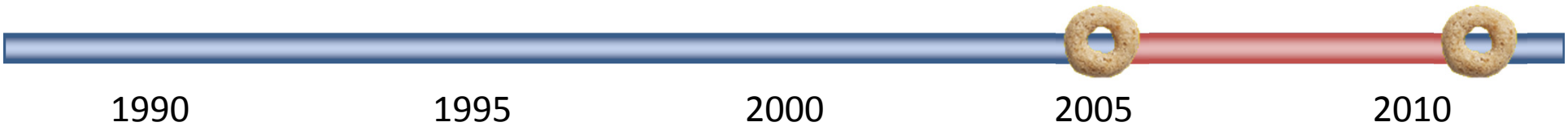
History of Product Schools

- 2005 - Current
  - Two additional headcount for Product Schools
    - Product School Manager
    - Training Coordinator



History of Product Schools

- 2005 - Current
  - Product Schools and technical training courses develop and grow
    - Cereal School
    - Dough School
    - Yogurt School
    - Soup School
    - Bars School
    - Totino's School
    - Food Chemistry
    - Power to the Process
    - Food Polymer Science
    - Wheat, Flour and Milling
    - Microwave Heating



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ProductSchools

Using Product Schools to Transfer Knowledge

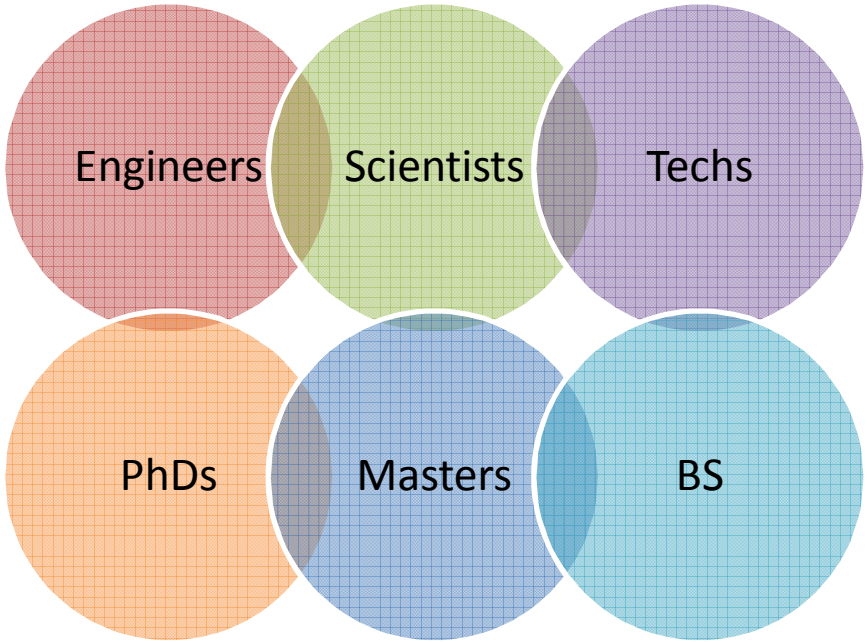
SMEs	Training Team	Relevant Content	Soles of Your Feet Learning
			

SMEs

- Over 80 Subject Matter Experts provide content or support courses

SMEs

- Come from different backgrounds and levels in the organization



Everything I Know about Psychometrics

Relative humidity

Is a term used to describe the amount of water vapor in a mixture of air and water vapor. It is defined as th atio of the p ater v r in the air-water mixture to the saturated vapor pressure of a flat sheet of pure water at those conditions. The relat midity c nly temperature but also on the pressure of the system of interest. Relative humidity is often used instead of abs mid ate of water evaporation is important, as it takes into account the variation in saturated vapor pressure.

Psychrometry

Although the principles of psychrometry apply to any physical system consisting of gas-vapor m ixture of water vapor and air, because of its application in heating, ventilating, and air-conditioning and met part a consequence of, not just the temperature of the surrounding air, but (because we cool ourselves via p d with water vapor.

What is a **Sling Psychrometer**?

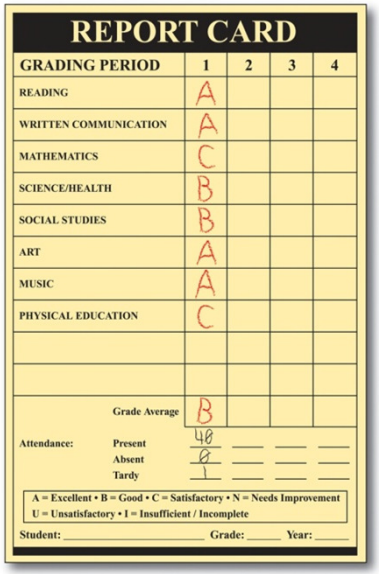
A sling psychrometer is an instrument that measures the relative humidity and dew point in an a et bulb and a dry bulb. The wet bulb has a cotton wick over the bulb of the thermometer, which is moisten bu ply a thermometer. Both are attached to a dowel with a screw so that they may be spun through the air. A s e that evaporation is a cooling process. The drier the air, the more evaporation takes place off of the wet b rmometer.

How to Build a **Sling Psychrometer**

1. Get two high-quality, mercury thermometers. Make sure they show the same temperature when y th f they re not accurate, your sling psychrometer will be worthless.
2. Glue one thermometer to each side of a block of wood so that the numbers are visible and the bu of each thermometer is hanging off the end of the block. The exact size of the block doesn't matter as long as the thermometers are at least thre nches apart.
3. Wrap a small piece of cotton around one of the thermometer bulbs. Tie it one with a piece of thread so that it is firmly in contact with the bulb.
4. Drill a hole through the end of the block away from the thermometer bulbs and tie a string through it. When you hold the string, the thermometer bulbs should more or less hang straight down.
5. Dip the cotton in cool or room-temperature water. Be sure to not get the other thermometer wet.
6. Swing the psychrometer around in a circle for at least three minutes. Then slow down the swinging until it hangs in front of you. Record the temperatures of the two thermometers.
7. Compare the two different temperatures to a psychrometric chart. This will tell you the relative humidity

SMEs

- Technical experts that enjoy teaching
  - Sharing knowledge is an expectation of the technical career ladder
  - Natural competition creates a spirit of continuous improvement



REPORT CARD

GRADING PERIOD	1	2	3	4
READING	A			
WRITTEN COMMUNICATION	A			
MATHEMATICS	C			
SCIENCE/HEALTH	B			
SOCIAL STUDIES	B			
ART	A			
MUSIC	A			
PHYSICAL EDUCATION	C			
Grade Average	B			
Attendance: Present	40			
Absent	0			
Tardy	1			

A = Excellent • B = Good • C = Satisfactory • N = Needs Improvement
U = Unsatisfactory • I = Insufficient / Incomplete

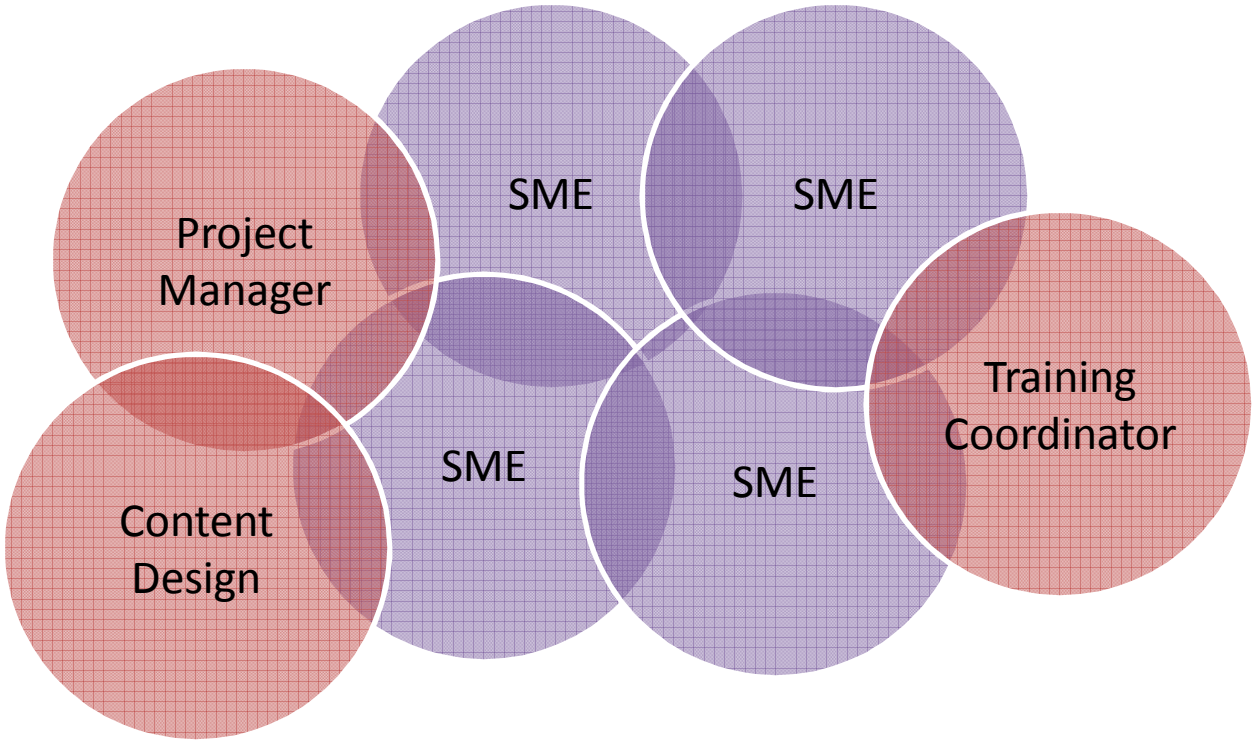
Student: _____ Grade: _____ Year: _____

SMEs

- Employees build their network from both SMEs and participants
  - Instructors become go-to resources
  - Classmates are early members of an employees network

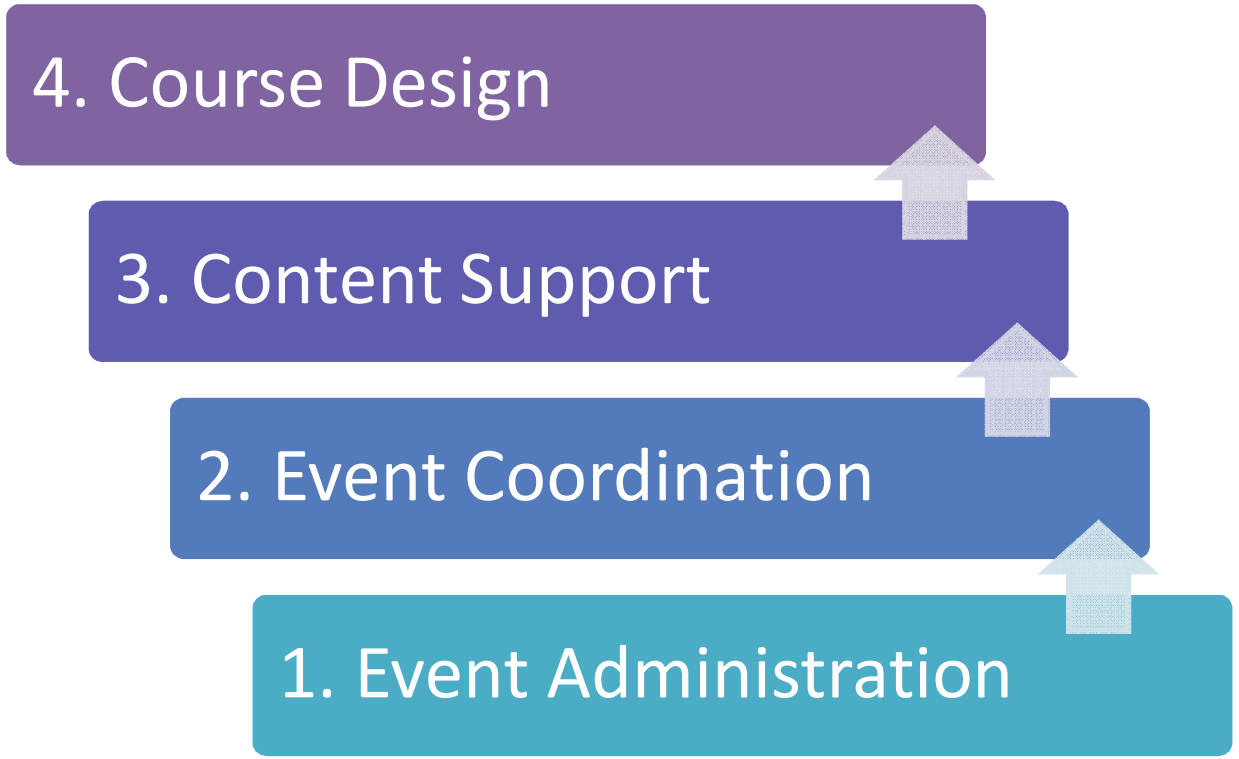
Training Team

- Provides training design know-how, discipline, and support



Training Team

- Provides training support at four levels



Relevant Content

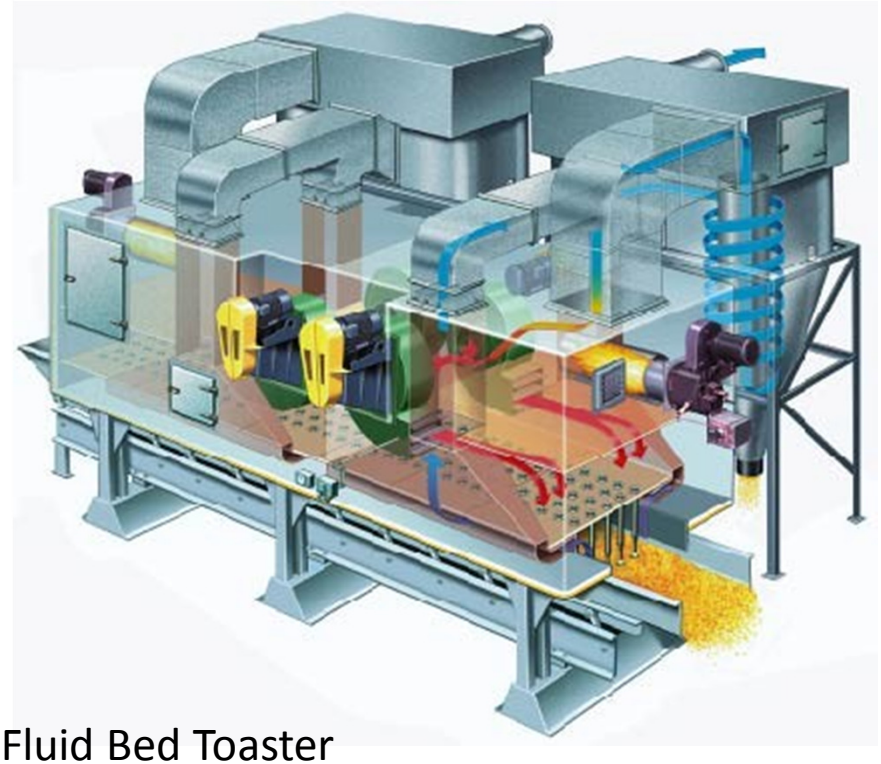
- No university teaches Wheaties 101
  - New employees learn how to apply the science they learned to making our products
  - Many of our products require a combination of science and engineering know-how

Relevant Content

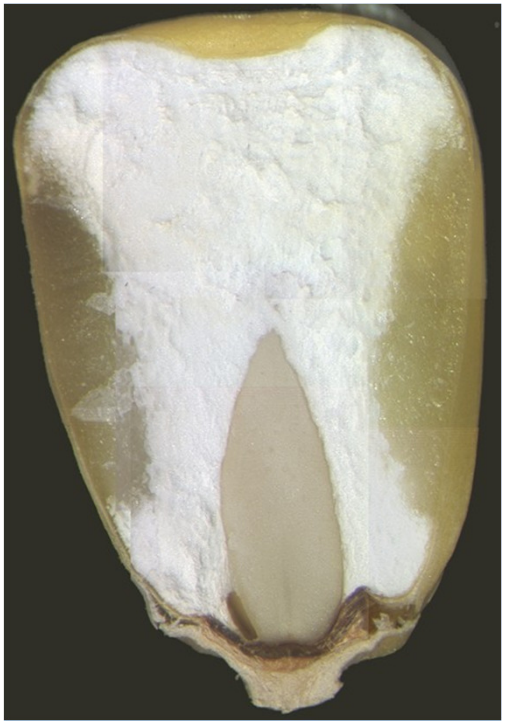
- Learner Centric
  - Activities support multiple learning styles
  - SME's learn to think from the learners point of view

Relevant Content

- Learner Centric- Visuals



Fluid Bed Toaster



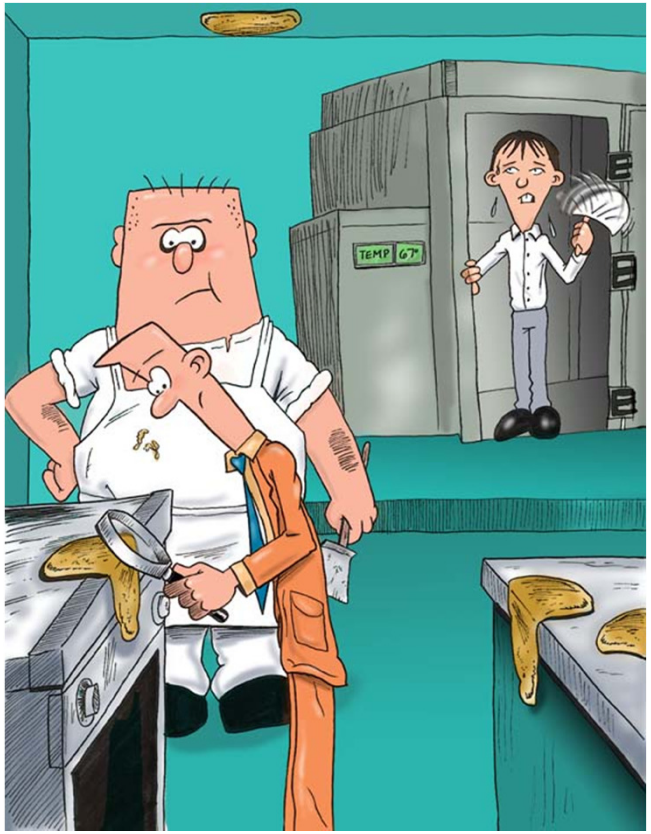
Corn Kernel

Relevant Content

- Learner Centric - Videos

Relevant Content

- Learner Centric - Stories



The Case of the Flat Flapjacks

Lesson: Experience the problem first hand to reveal the solution

Once upon a time…

Soles of Your Feet Learning

- The best way to learn how to make Cheerios is to make Cheerios
- Most of the learning takes place in our pilot plant
  - Make the product
  - Measure product attributes

Soles of Your Feet Learning

- Make the classroom interactive
  - Experiments

Soles of Your Feet Learning

- Make the classroom interactive
  - Science Fair

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ProductSchools

Results

- Plant start-ups – *Full Rates Day One*
  - Plant teams learn how to make the product working side by side with the R&D team in the pilot plant
  - Plant teams learn how to make the product before they run in the plant
  - Practice in the plant during capital installation

Results

- On-boarding – *Slash the Learning Curve*
  - Structured learning plan for new R&D, Mfg and Engineering employees
  - Immediately builds technical network
  - Promotes best practices and processes
  - Builds confidence

Results

"Before Cereal School:

- Two Pilot Plant runs
- Couldn't even get control and no one could figure out why
- Waste of time

After Cereal School:

- One great Pilot Plant run
- The system was lined out in a snap
- We had the time and materials to do TWO EXTRA VARIATIONS because the first part went so smoothly.

Never in my 3.5 years in Big G have I ever heard of having so much extra time to just try more things that you never thought you'd have time to try "

"It is reassuring that there are so many good minds I can rely on for help."

"I could troubleshoot as to why we were not achieving the desired product."

"I was able to be an active part of the start up team in getting the line ready, rather than just an extra body learning everything from scratch."

"It was really one of the strongest trainings I have attended at General Mills."

"I am a much better operator now that I attended Cereal School."

"I'm so glad GMI has these knowledge sharing opportunities!"

"Loved the energy of the contributors and the passion for sharing what they know"

Product Schools: Experience-Based Knowledge Transfer that Drives Results

SMEs	Training Team	Relevant Content	Soles of Your Feet Learning
			

Questions?