MAKING STUDENTS READY FOR SEED INDUSTRY

Dr. Sharan Angadi

R&D ADVISER

AND

Director - ATPBR Foundation

(*formerly Head of research - Asia Pacific, Nunhems seeds Netherlands*)

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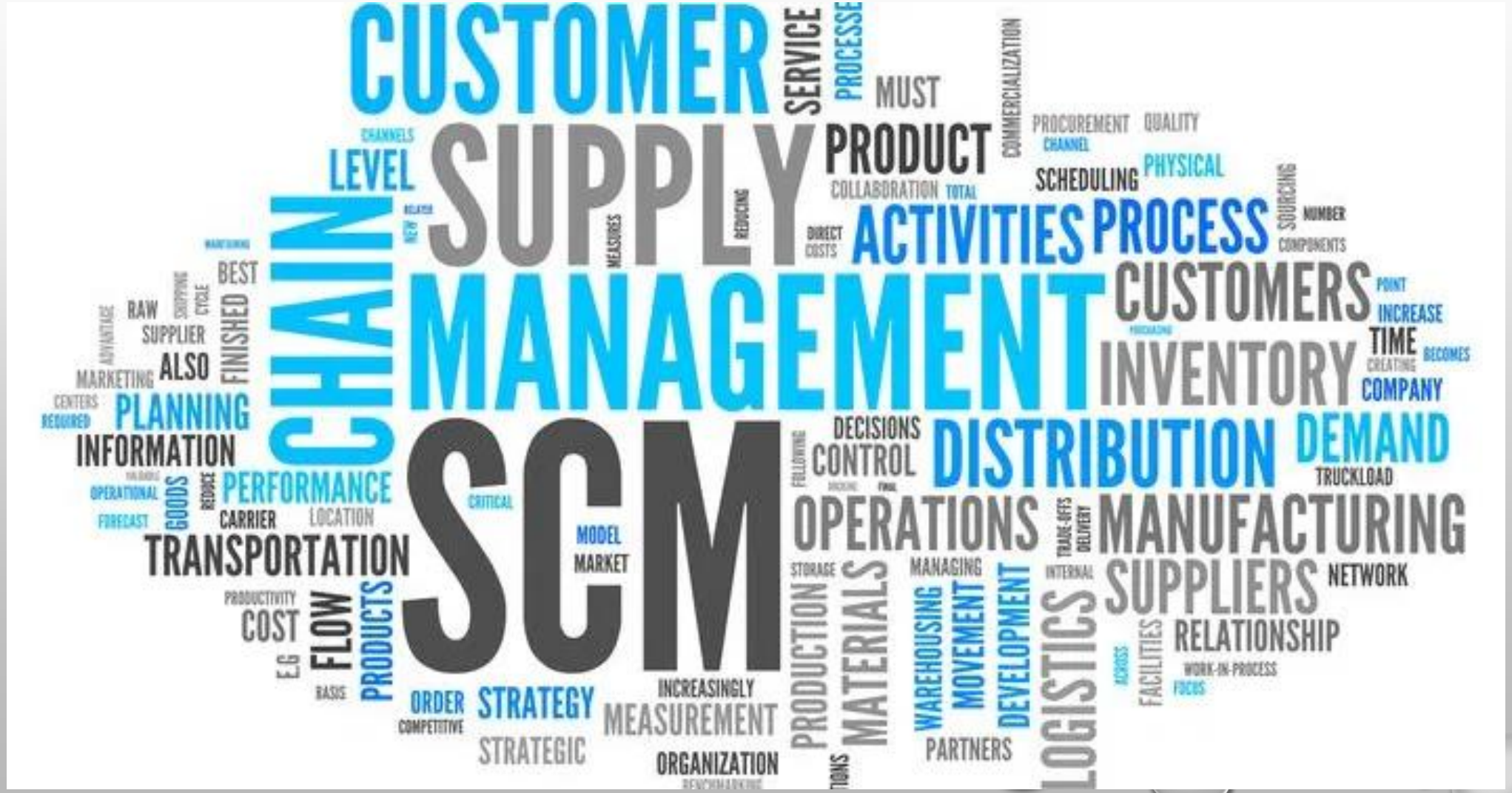
SEED BUSINESS LAND SCAPE



THE INDUSTRY IS MOVING TOWARDS DIGITALISATION

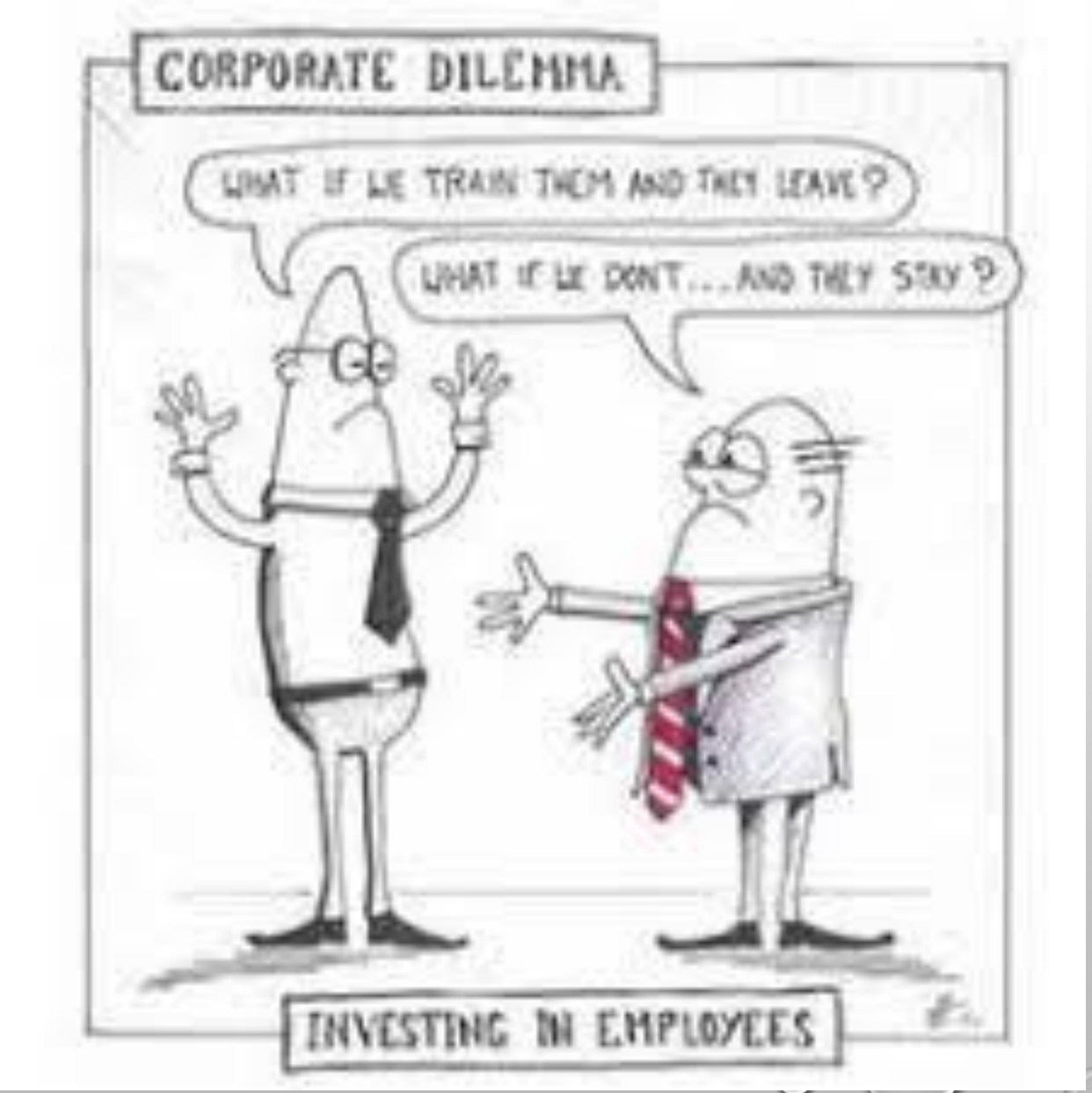
- Seed R&D to seed selling, field trials and careful observation and selection;
- To record field data, particularly crop growth, stress and health, Management Information Systems (MIS) for better monitoring;
- Processing of seeds after harvesting, especially assisting with traceability of the source of seeds using QR codes; and
- Managing entire seed distribution and sales through digital farming and use applications such as Smart Farm or Smart Risk to detect weather fluctuations etc.

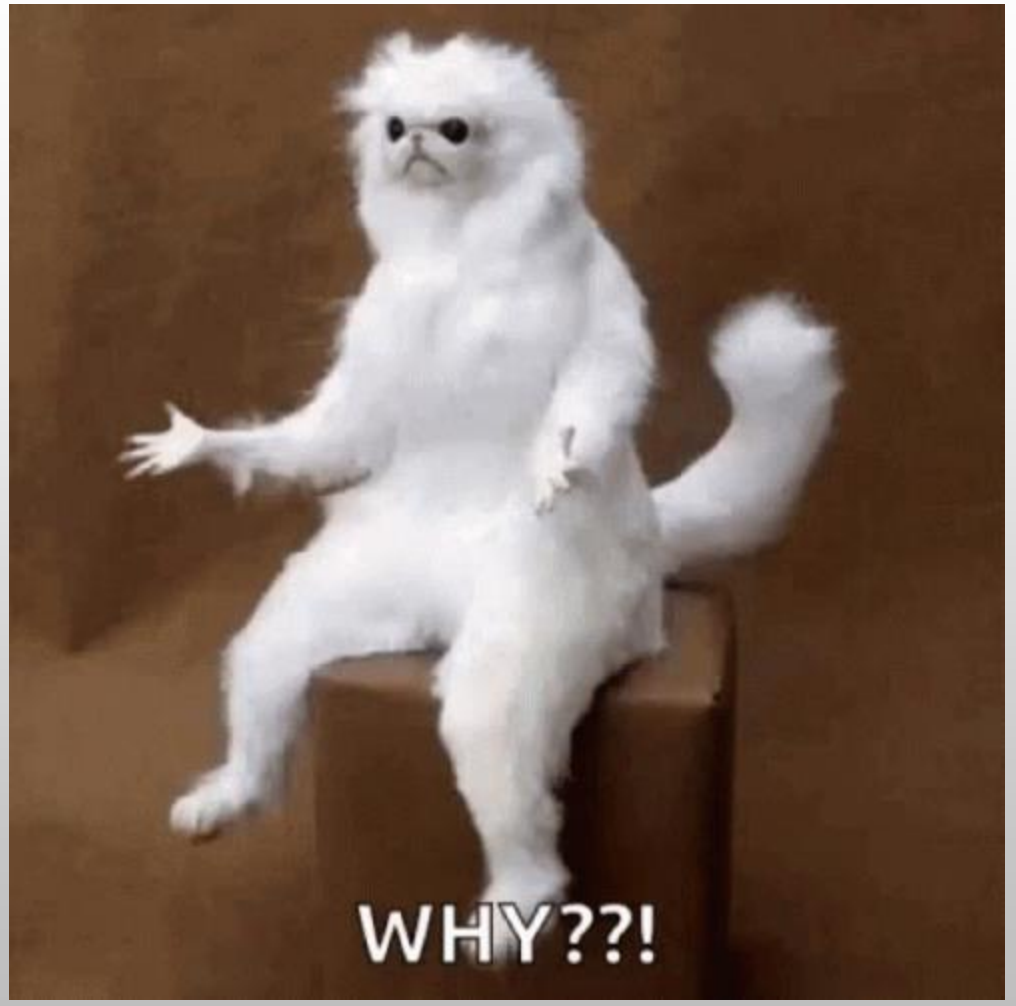
TRAINING

WHY?

WHAT ?

WHO?


CORPORATE DILEMMA
WHAT IF WE TRAIN THEM AND THEY LEAVE?
WHAT IF WE DON'T...AND THEY STAY?
INVESTING IN EMPLOYEES


WHY??!

WHY TRAINING ?

Plant Breeding, despite all its progress depends a great deal on Breeders` skills in

- Planning and execution.
- The ability to spot and source the right germplasm,
- Knowledge of transferring genes of interest across genotypes, and
- Making the right selections,

Many of these skills have to be taught through mentoring and experiential learnings(***Gurukula***)

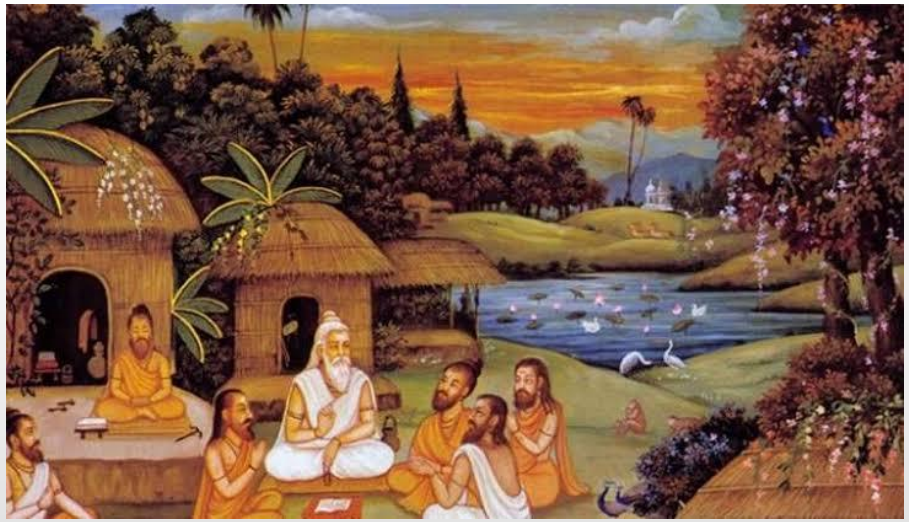
It is important to maintain the right balance between practical plant breeding issues and the constantly evolving NBTs .

Continued….

WHY TRAINING ? Continued

- Training breeders for the private sector is now a part of the curricula and syllabuses of several universities.
- Breeders with rich experiences in the private sector are being invited as guest faculty to teach such courses
- The tools and technology in plant breeding are fast changing.
- The changes are influenced by developments in other enabling technologies like AI, ML, IoT, etc.,
- So even established plant breeders need to imbibe these new skills.
- As we move forward with molecular breeding, and other NBTs it is good to understand the need to maintain conventional breeding approaches, and
- Ensure that the skill set required for classical breeding is not lost in the eagerness to ‘modernize’ plant breeding.
- This calls for refresher courses

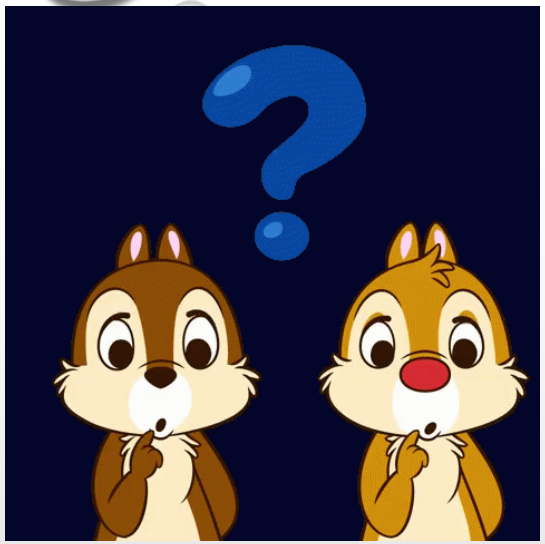
Gurukula



- 'Gurukula' is a combination Sanskrit words, ***'Guru'*** (Teacher) and ***'Kula'*** (Home or Family). The essence of this system lies in the principles of diligence and discipline.
- A residential education system in which the ***shishyas*** (Students) resided with their Guru (Teacher) in his ***Gurukul*** (Teacher's home).
- The main focus was imparting education in in an environment encompassing brotherhood, love, discipline and humanity.
- The education conveyed was determined by the cultural and religious practices and was based on ***experiential learning and practice-based*** with subjects such as astronomy, medicine, philosophy, political science, economics, religion, yoga, physical education, and defence studies as the major components.

CURRENT TREND AND TRAINING NEEDS

- Present private sector trend is towards formation of large seed companies through growth, acquisition, or alliances.
- These companies have large interdisciplinary teams that have global seed markets as their target.
- It is important to train future plant breeders for such large organizations as well as medium and smaller seed companies with a regional relevance.
- More importance has to be given to train breeders in commercial setting.
- Besides the scientific skills, many personal skills are required for success in the private sector.
- The public sector will provide the initial plant breeding education , while the private sector will provide market-oriented plant breeding applications.
- A versatile breeder must have a fairly good knowledge of the other specialty subjects supporting plant breeding, and
- Know how to converse and collaborate with other specialists. He has to be a jack of all related subject fields besides being a master of breeding.



WHAT?

SKILLS

- Many new dimensions like Agri-warehousing, cold-chain, supply-chain, dairy, poultry, fisheries, horticulture, agricultural mechanization and micro irrigation have emerged as professional opportunities in the industry
- Careers in industry cover diverse specialties like science, finance, engineering, and management among others
- Skill is the ability coming from one's knowledge, practice, aptitude to do something well. In every profession there are certain must have skills to be successful.
- Important skills are interpersonal skills, analytical skills, management skills, technological skills, problem solving skills.
- For a career in industry, it is important to consider both the hard and soft skills.
- The technical skills necessary for the job, the experience and know-how **3M M**arket, **M**achine and **M**echanics knowledge.
- Hard skills are job-specific and can be taught or acquired through class room training or through hands-on experience.
- Soft skills - ability to work and interact with others, also known as personal skills, non-technical skills and interpersonal skills. Industry employers value such skills because they are often the most difficult to teach.

Soft skills, when combined with hard skills, have a complementary impact.

Essential Skills

An essential skill is a **developed ability or capacity** acquired through **deliberate, systematic,** & **sustained** efforts to smoothly and adaptively carryout complex activities or job functions involving ideas, things, and/or people.

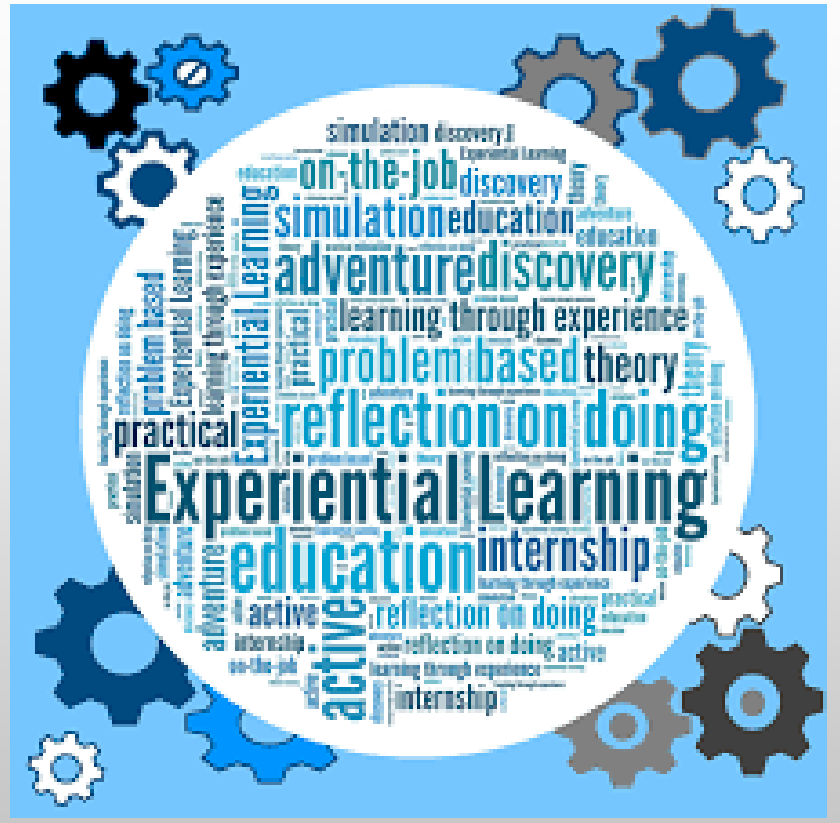
- ***Oral Communication***: to greet people, take messages, reassure, persuade, seek information and resolve conflicts.
- ***Working with Others***: as member of a team or jointly with a partner, engage in supervisory or leadership activities. knowing how to learn; understanding one's own learning style; knowing how to gain access to a variety of materials, resources, and learning opportunities.
- ***Continuous Learning***: knowing how to learn;understanding one's own learning style; • knowing how to gain access to a variety of materials, resources, and learning opportunities.
- ***Thinking*** : differentiate between 6 types of interconnected cognitive functions

1.Problem solving; 2.Decision making; 3.Critical thinking; 4.Job task planning and organizing; 5.Significant use of memory; and 6.Finding information

Experiential Learning (EL) with business model

Helps the students to develop

- Competence,
- Capability,
- Capacity building,
- Acquiring skills,
- Expertise, and
- Confidence - to start their own enterprise and become job creators instead of job seekers.



Experiential Learning

An important module for high quality professional competence and practical work experience in real life situation.

The module with entrepreneurial orientation of production and production to consumption pattern is expected to facilitate producing **Job Providers** rather than **Job Seekers**.

Provides the students an excellent opportunity to develop analytical and entrepreneurial skills, and knowledge through meaningful hands on experience, confidence in their ability to design and execute projects.

The main objectives of EL are:

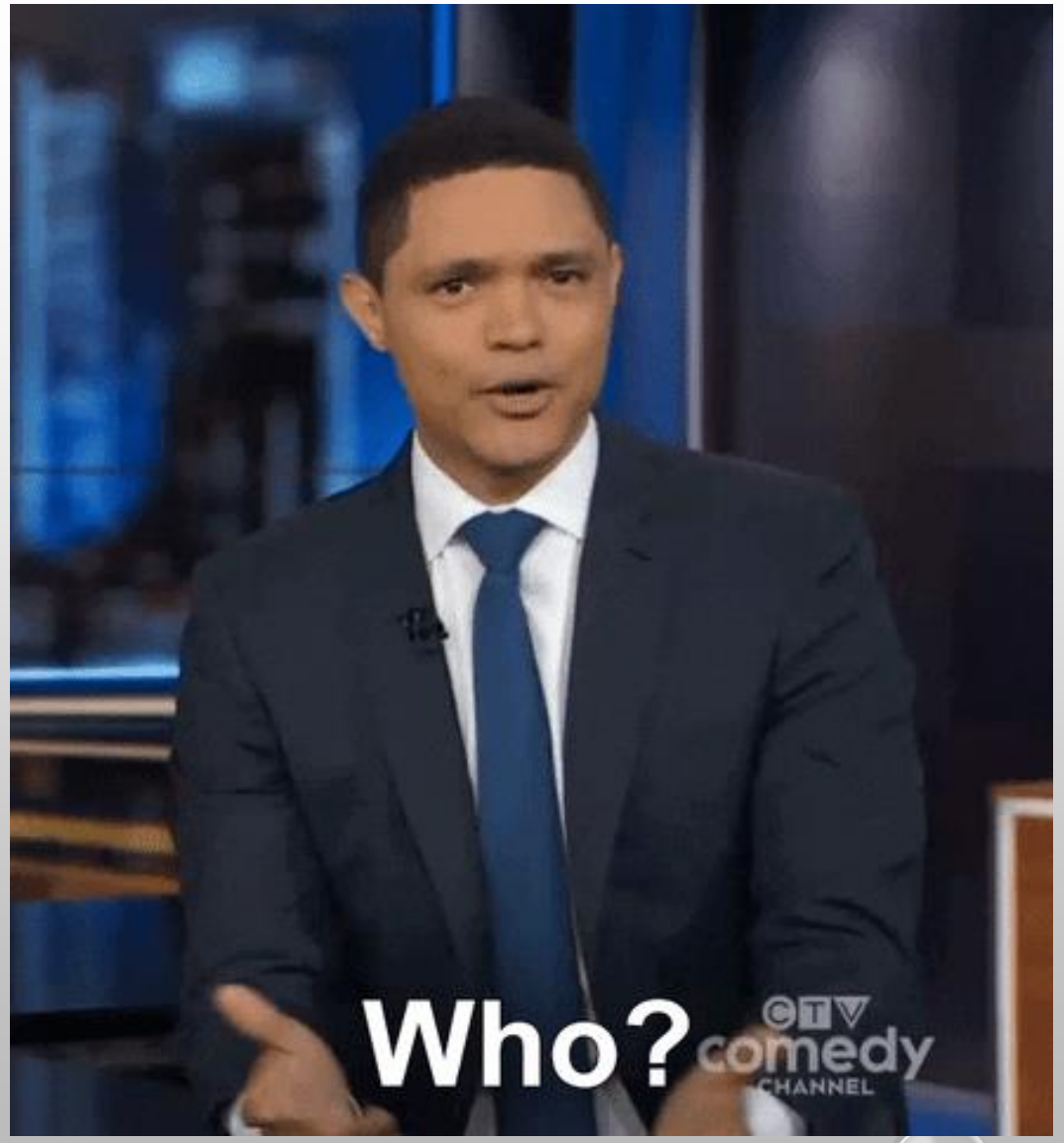
- Promote professional skills and knowledge through meaningful hands on experience.
- Build confidence to work in project mode.
- Acquire enterprise management capabilities.

In Plant Training (IPT)/ Industrial Attachment

Mandatory to enrich the practical knowledge of the students,
Students study a problem in industrial perspective
Meant to correlate theory and actual practices in the industries with the following objectives

- Expose students to the Industrial environment, which cannot be simulated in the university.
- Familiarize students with various Materials, Machines, Processes, Products and their applications along with relevant aspects of shop management.
- Make students understand the psychology of the workers, and approach to problems along with the practices followed
- Make students understand the scope, functions and job responsibilities in various departments of an organization.
- Exposure to various aspects of entrepreneurship during the program period.
- Ability to build entrepreneurial teams with complementary skills and knowledge and experience of the lead entrepreneurs are the critical success factors in the industry.

The ATPBR is well equipped to facilitate E L and IPT


Who?
CTV
comedy
CHANNEL

Advanced Training in Plant Breeding Foundation

- India's leading networking organization, with full-fledged expertise and resources for capacity building, market linkages, policy advocacy, and project management
- Main objective - Support emerging entrepreneurs and assist industries to build market-driven competencies in Human Resources.
- Open to collaborate with diverse range of organizations, academic and research institutions, NGOs, independent professionals and aspire to meet the intellectual needs to make crop improvement an attractive and lucrative domain for all concerned
- Not- for -profit foundation, works, in close collaboration with Industries, Institutions, NGOs, and Government bodies.
- ATPBR has the ***know how*** that people want to ***Know Now***

- Partnering with the Asia Pacific Seed Association/Alliance – APSA to train the plant breeders in the region

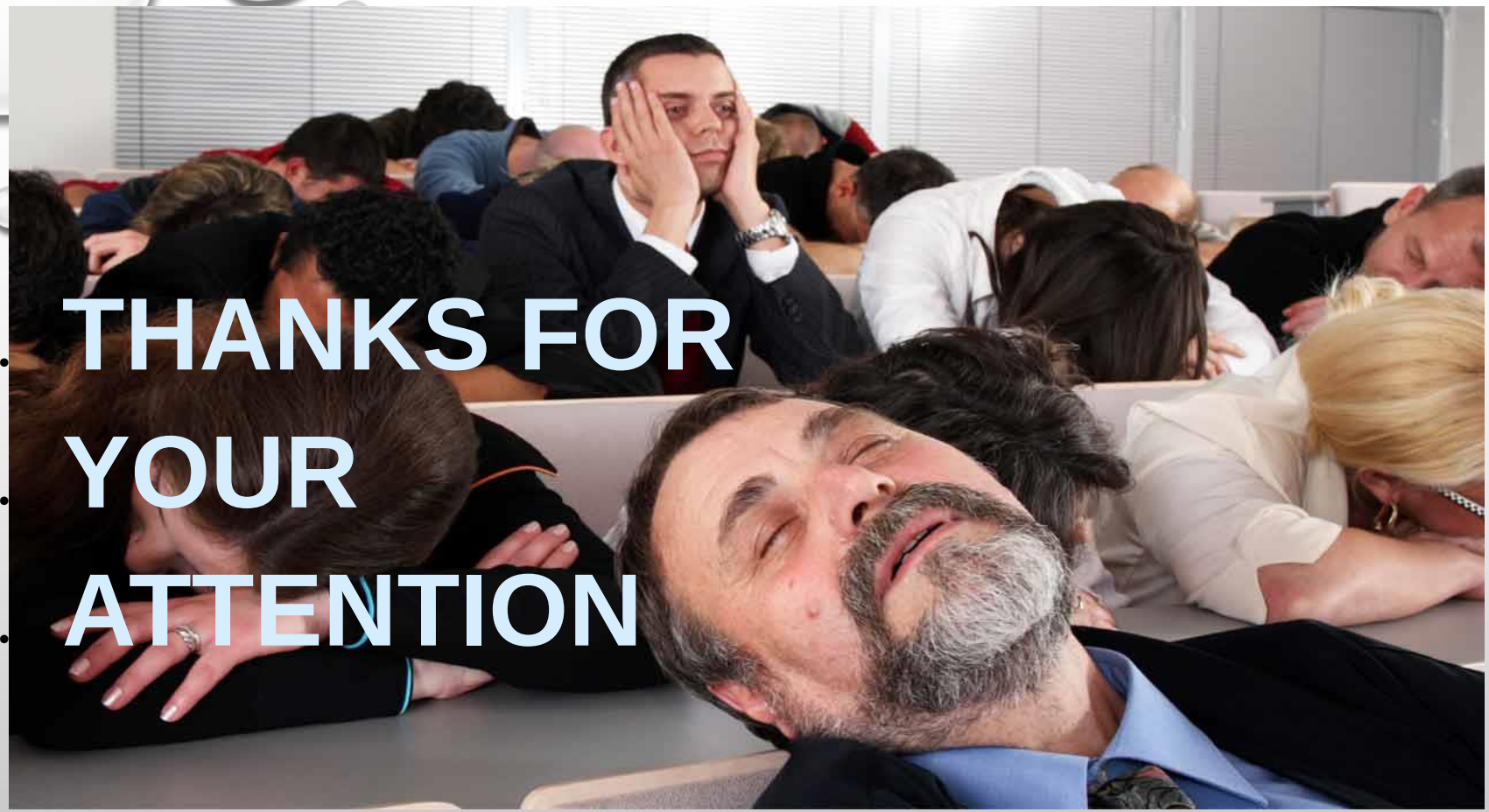
- Seed companies often struggle to find skilled human resources in hybrid product development, improved seed production technology and seed business management.

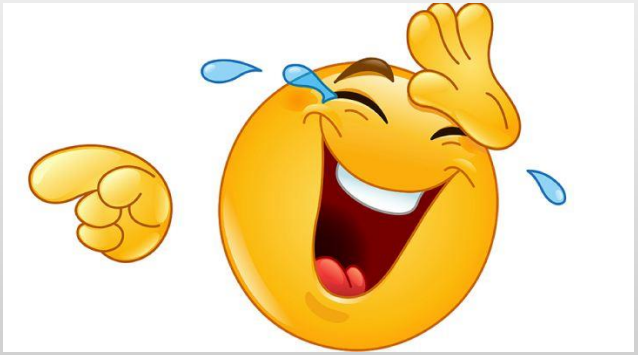
- One of the reasons - graduates from agricultural universities might be missing on recent advances in seed science and technology, required by the seed industry.

- ***It is important to link academic courses with the emerging trends of the seed industry.***

- ***Revise seed science and technology curriculum of the universities, to better equip the graduates to join the industry's work force.***

- most current graduates lack practical experience on hybrid seed development, inbred line maintenance and knowledge on the general requirements of a robust seed industry. "It is important that universities can link their students to private seed companies and work together towards a common goal,"





Sharan Angadi Director - Foundation for Advanced Training in Plant Breeding – ATPBR https://www.atpbr.com/

sharanang@gmail.com 9845518632