龍華科技大學
LUNGHWA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Application of PBL in ERP Courses for Technical University Students and The ERP Education in Taiwan

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Outline

- Introduction
- The ERP Education in Taiwan
  - Major ERP system in University Campus
  - ERP Teaching and Learning in University
  - Teaching Practice in Taiwan
- My ERP Courses in LHU
- Our plan for teaching with MonsoonSIM
- Concluding Remark

Introduction

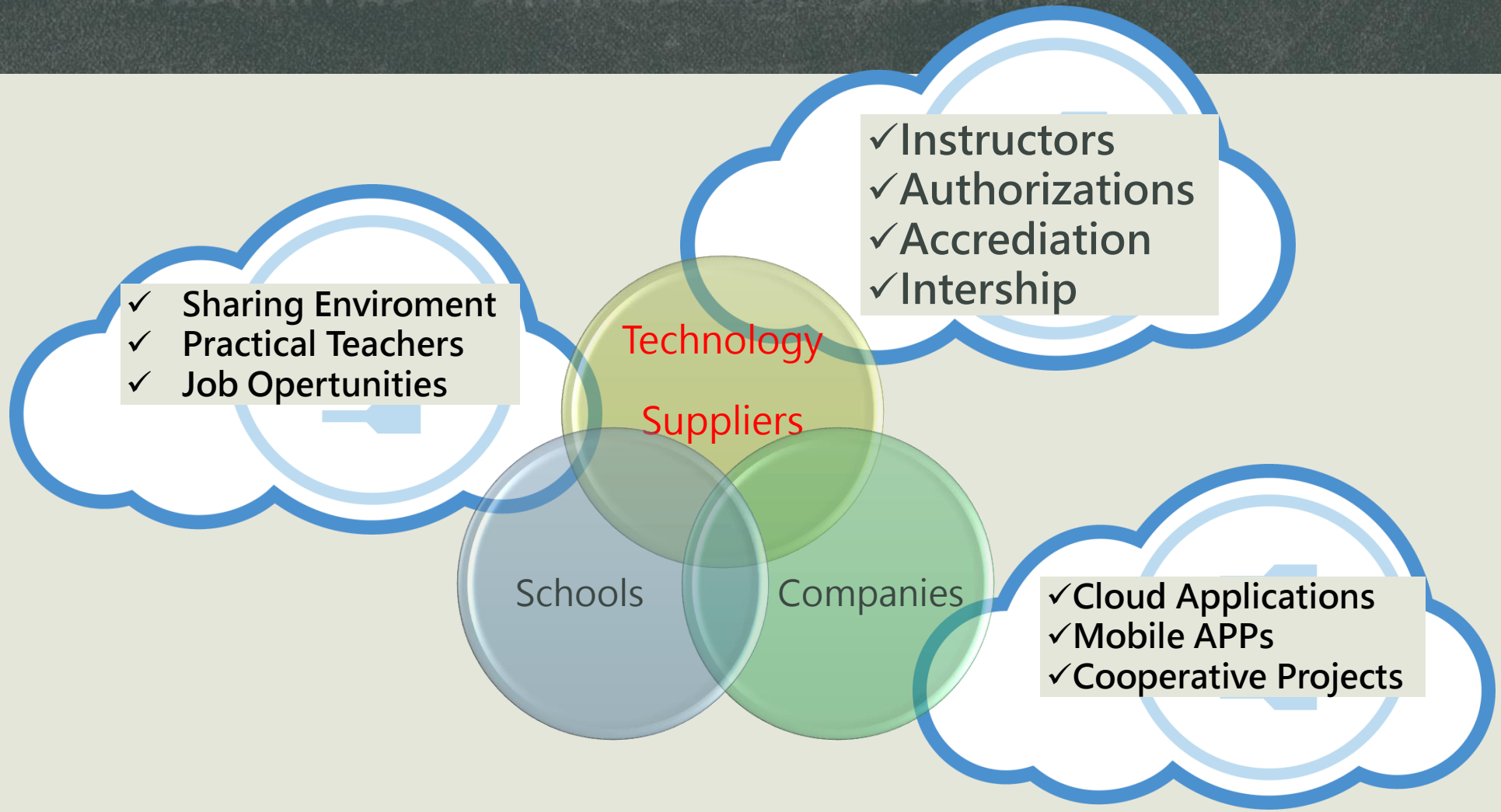
- About me
  - Ph.D. in Civil Engineering from National Central University, Taiwan
  - Become faculty member in LHU since 2000
  - CEO of the ERP and Cloud Computing Center in LHU since 2014
  - Held Tiptop Cup ERP Competition in Taiwan for six years

Enterprise Resource Planning & Cloud-computing Center(ERPCC)

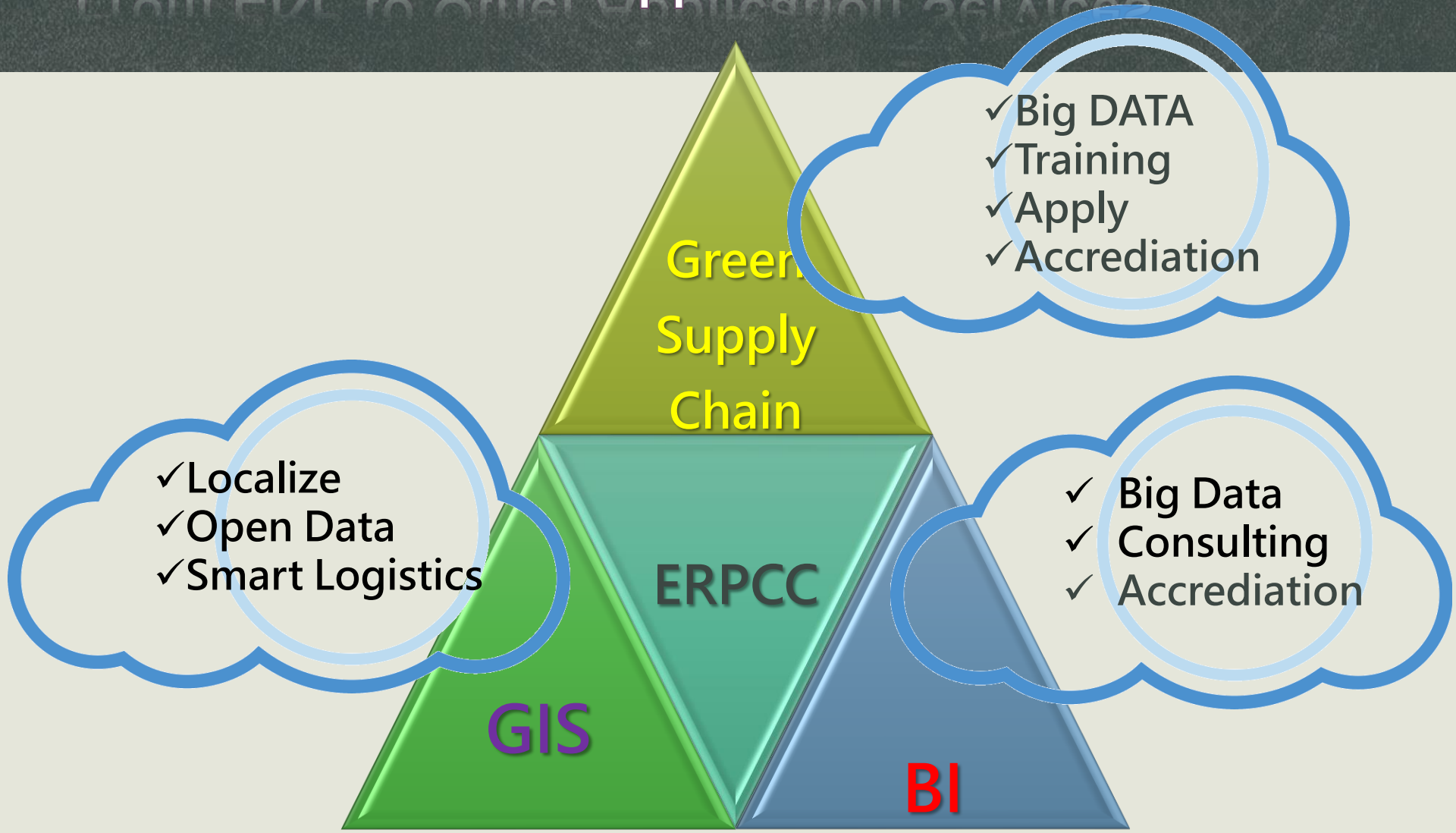
- **GOAL：**
  - **Associated with BPR and industry-education cooperation, regularize companies' processes and make maximum profit by ERP e-management. Also help industry upgrade in this way.**
  - **Via Cloud Computing Services, provide enterprises ERP consulting and professional training.**

- **STEPS：**
  - **Offer the total solution from professional training to value-added APP by industry-academic cooperation.(That might reduce risk of capital involved.)**
  - **Associate with regional resources of industry and schools, to help industry adapt cloud tech and ERP.**

Apply Cloud Computing Technology to Share Resources, such as ERP Systems



From ERP to Other Application Services

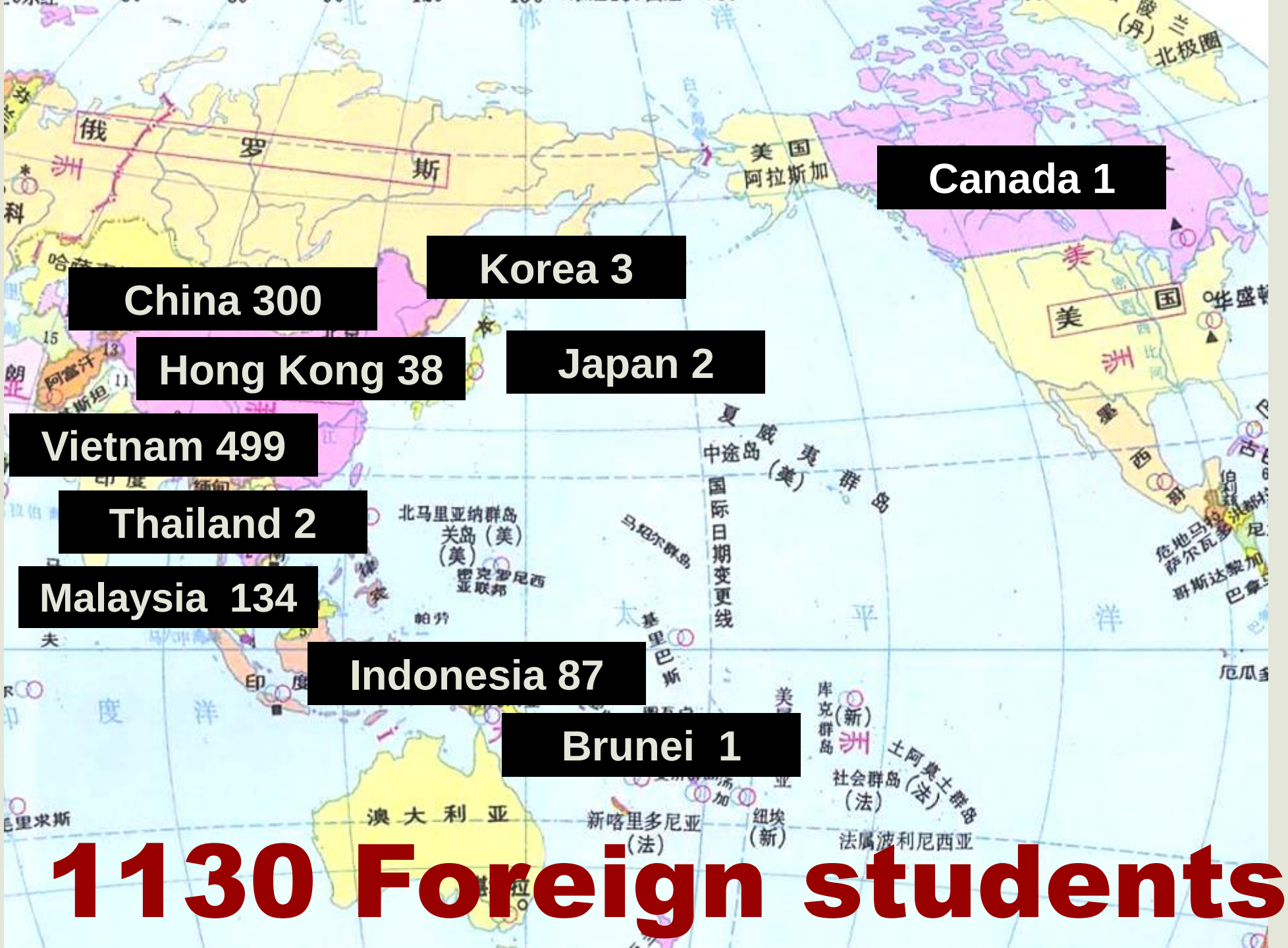


About Lunghwa University of Science and Technology, LHUST

- Founded in 1969 by entrepreneurs Mr. Sun Fa-Min, (called as Father of Cable)
- Located at the intersection of Taipei and Taoyuan city
- Top 1 General Private Technical University in Taiwan surveyed by 1111 Job Bank, 2020
- Top 20 Best-Loved University of Domestic Company by Global Views Magazine, 2019

Statistics

- Colleges
  1) Engineering
  2) Management
  3) Humanities and Design
- 14 Departments
- 9 Graduate schools
- **11,000 students**
- **608 faculty members**


Canada 1
Korea 3
China 300
Hong Kong 38
Japan 2
Vietnam 499
Thailand 2
Malaysia 134
Indonesia 87
Brunei 1
1130 Foreign students

ERP Education in Taiwan

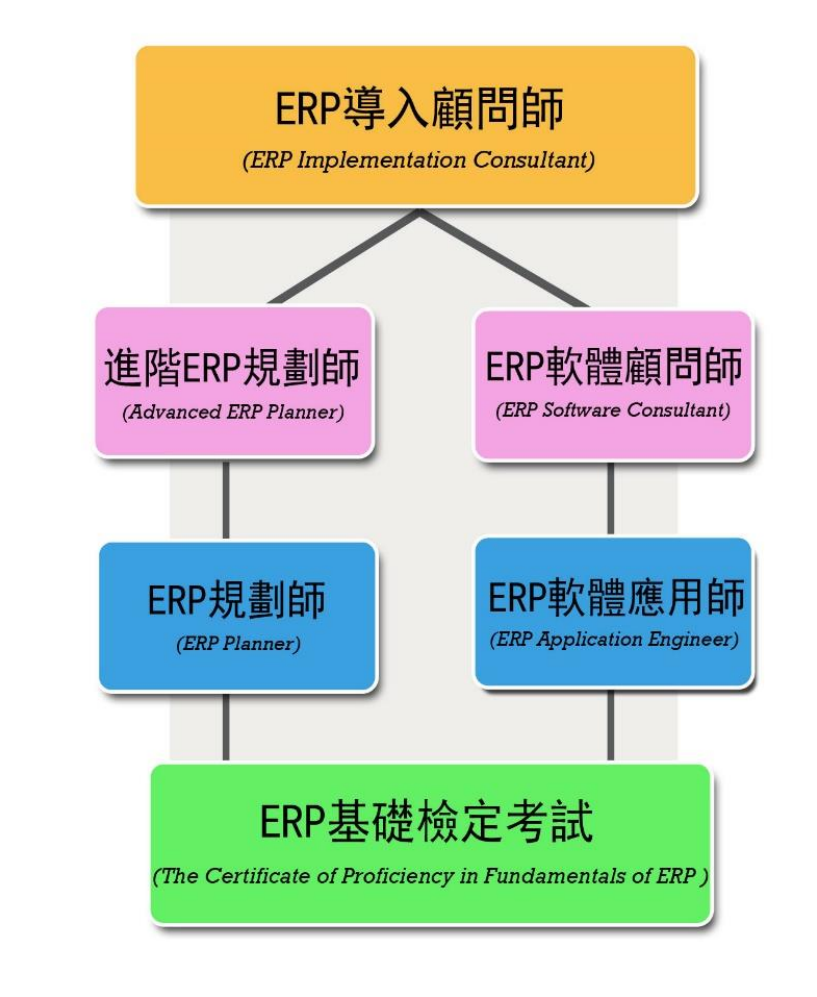
- Major ERP system in University Campus
  - Data System Consulting Co. (market share of 70% Top 1000 Enterprise in Taiwan)
  - SAP
  - Microsoft

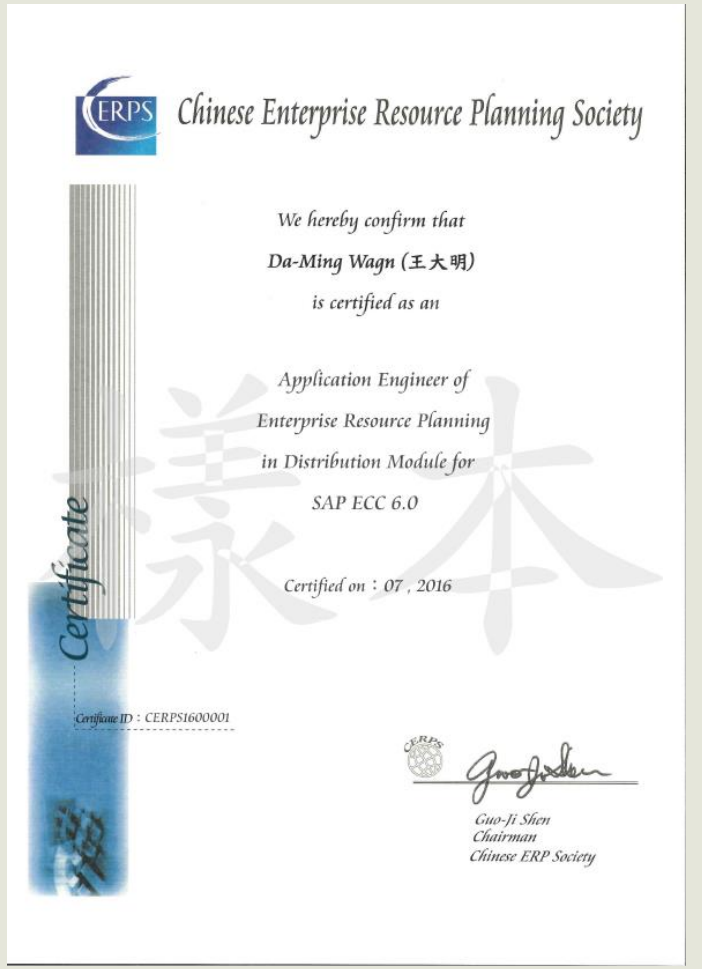
ERP Education in Taiwan

- ERP Teaching and Learning in University
  - Certificate from Chinese Enterprise Resource Planning Society(CERPS)
  - Almost Every Technical University or College lecturing ERP lessons, focusing on software operation and workflow process.
  - ERP is required for most of the Business school students in Technical University, ex. In my department, junior students have 6 credits are required, and 3 credits for the senior students are elective courses.
  - Experts from Industry or ERP software company co-lecturing with school teachers on ERP system operation.

ERP Education in Taiwan
Multimedia Subsidiary

ERP Education in Taiwan
Certificate of CERPS





MOE “Teaching Practice Research” Subsidies Program

- The Program aims to improve the teaching quality for teachers and realize the management mission for schools.
- Teaching practice research refers to the faculty’s process of adopting proper research method and tools to verify its effectiveness for the purpose of elevating teaching quality and promote students' learning effectiveness, which is achieved through the use of live educational arenas and literature to propose questions, the utilization of curriculum design, teaching methods, or introducing education instruments and the use of media and technology.

教育部教學實踐研究計畫
MOE Teaching Practice Research Program

My ERP Courses in LHU

Research Grant from MOE

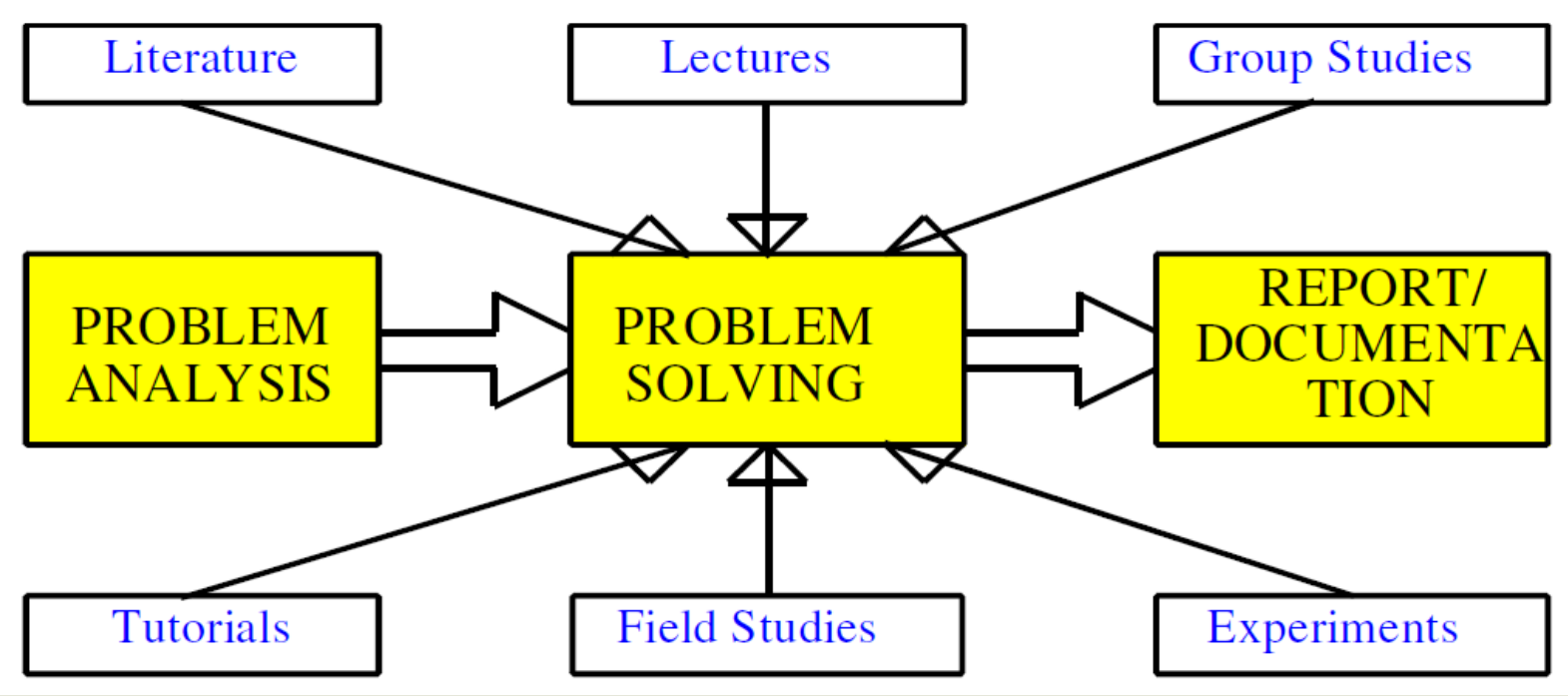
- Application of PBL Teaching Plan Scenario Design Strategy in ERP Implementation Teaching Material and University Students Learning Effectiveness Study , 2018-08-01-2019-07-31
- Apply PBL and Simulation-Based Learning for Logistics Management and Warehousing Practice Education, 2019-08-01-2020-07-31

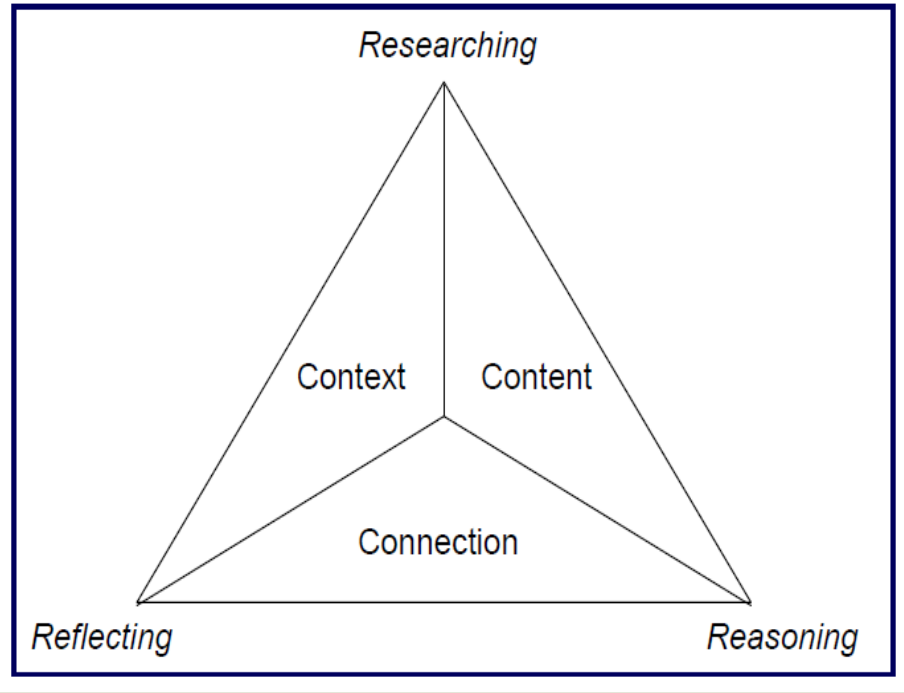
DIFFERENCES BETWEEN A TRADITIONAL AND A PROBLEM-ORIENTED CLASSROOM

Traditional education	Problem-based learning
Curriculum as prescription	Curriculum as experience
Instructor-focused	Student-focused
Teaching as transmitting	Teaching as facilitating
Learning as receiving	Learning as constructing
Rigid environment	Flexible environment
Replicate and apply received knowledge	Construct and synthesize knowledge
Emphasis on a best solution	Emphasis on alternative acceptable solutions
Evaluation of result	Evaluation of result and learning process

Drennon(2005)

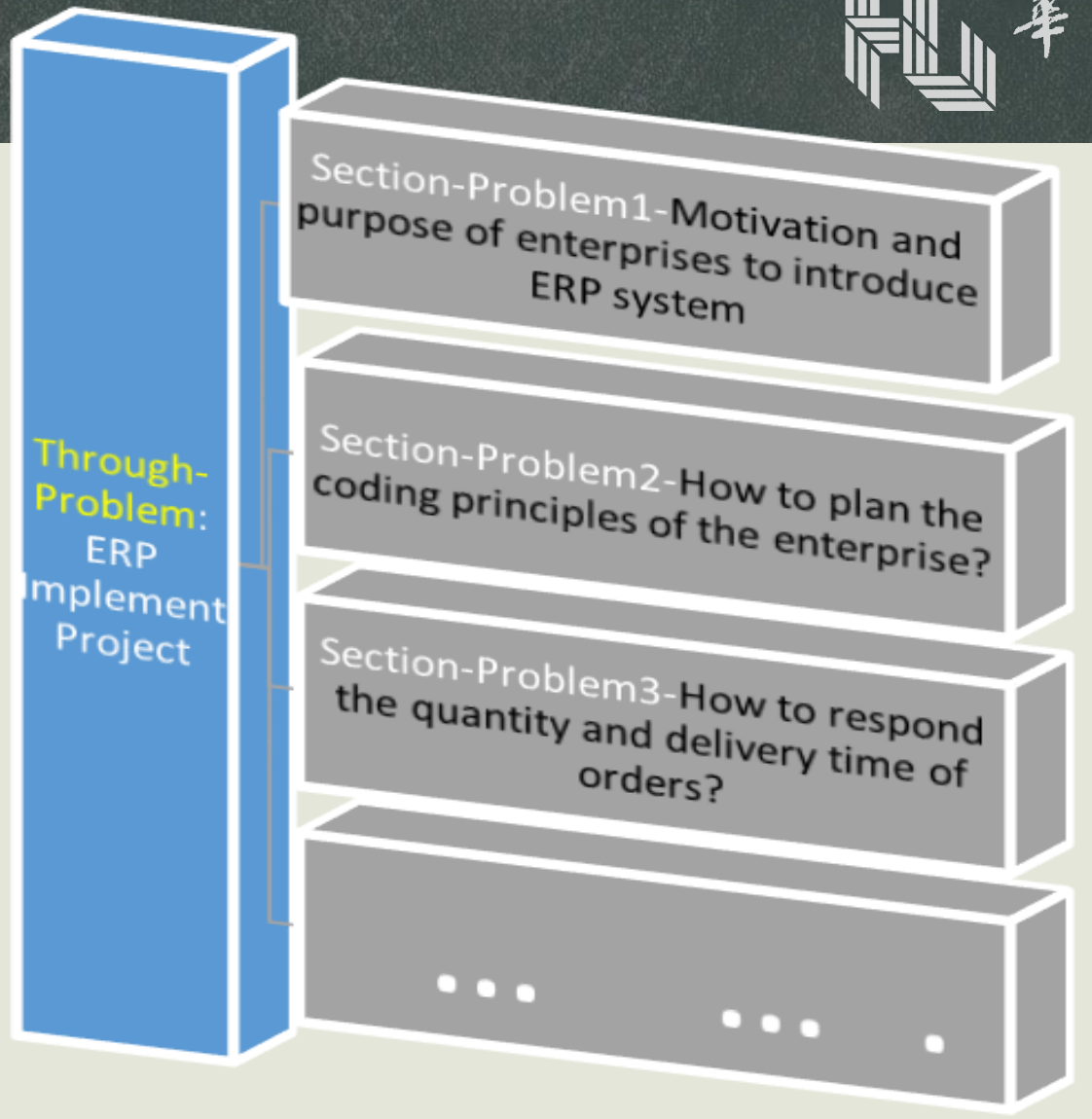
PBL(POPBL)
Project Organized Problem-Based Learning





Problem Design Strategies

- Through-Put Problem
  - realistic ill-structured problem, i.e. a problem without a single correct solution
- Section Problem
  - Real world problem
  - Story-telling and solution thinking



Section theme and title

Unit 3-1:Authority Management & Planning for e-business

I. The most beautiful scenery in ERP is "People"

- How exactly is the management authority planned? If someone takes leave, there will be a mechanism for the agent of the job, and even the assistance between colleagues, how should the management authority be established in the end?
- The concept of ERP is usually input documents and systems to produce statistical reports, many enterprises will often neglect to manage the user accounts, in fact, the user is the core of the system, therefore, the user authority must be well managed in order to make the entire system operate smoothly!

Case Story

II. Case Story

First Company: This year's company's revenue growth of 30% over last year, so a new group of new business and procurement colleagues. And each time a large number of new personnel, ERP management rights are often set up in the E project staff the most nerve-wracking time.

Before everyone has different permissions, often some people will say: "I do not know if I have this permission", and lack of a complete job description, new employees do not know the scope of their own work, the work process should be? Therefore, this new employee's authority management mode, the company decided to open all functional modules of the right to make good use of all the system functions, but, because business colleagues have all the permissions of the order system, so that domestic business can see the foreign business quotations, there are colleagues with a comparative mentality, privately discuss the reasons for the significant difference in quotations , there are even other industry to obtain the "first company" quotation data, and then with a lower price to steal the customer situation occurs, become an important business confidential information security issues leakage. And not only the sales side of the problem, procurement of raw materials also because of warehouse management or receiving material persons, see manufacturers come in the purchase unit price, resulting in the unit price leakage to other suppliers and other problems.

Case issues and extension problems

III. Issues in the case

1. What problems have occurred with the ERP system authority management of the First Company? Three main issues should be listed.

2. The first company's authority management improvement faces two important tasks:

   (1) How can permissions be quickly added or modified when there are a large number of personnel changing positions?

   (2) The same are business personnel, must have the right to quote, order, in the end how to set, in order not to let other business personnel see their own quote information?

   In terms of efficiency and security of two different angles of consideration, how to deal with it?

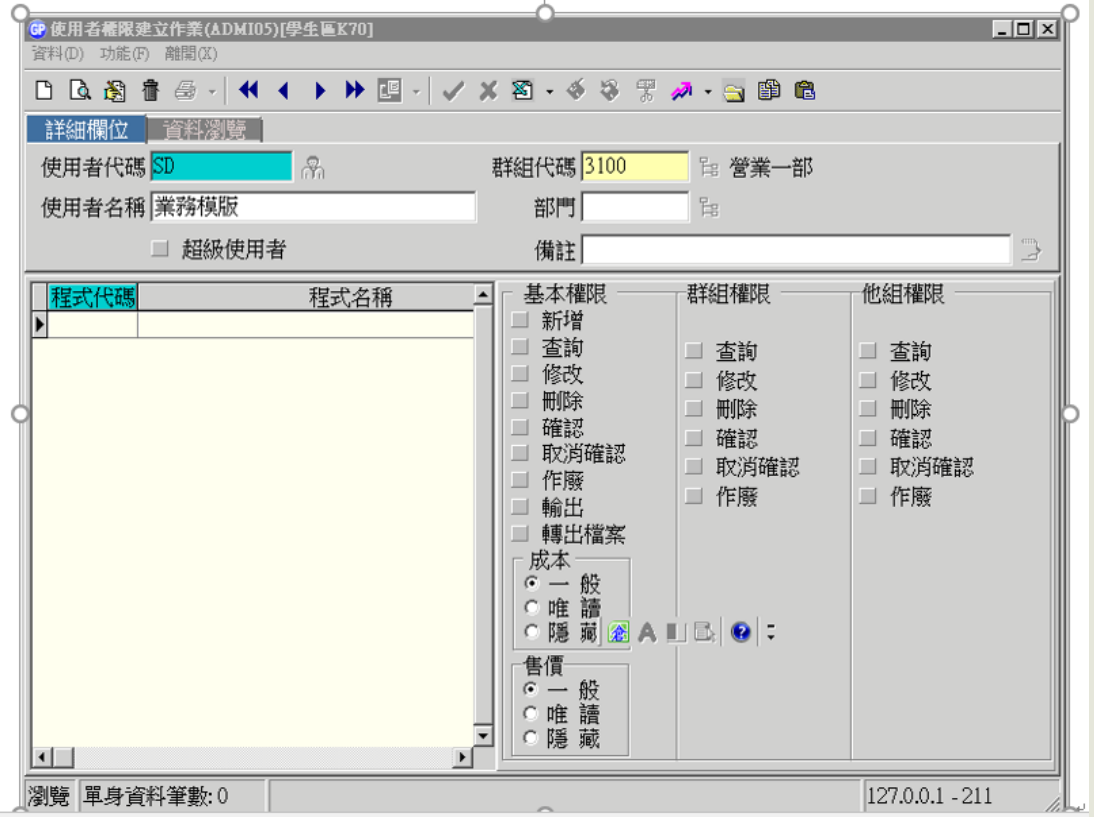
ERP system application

VI. Solution Tips and ERP system demonstration

1. How do I quickly set up a standard permission template for each function?

(1) First in the user authority pages establish the user account of "SD-business template".

location: Management maintenance system\basic data management \user authority pages



PRE-AND-POST COMPARISON OF QUESTIONNAIRE

Dimension	Pre		Post		
	Mean	Standard Deviation	Mean	Standard Deviation	variation
Total	49.05	4.99	51.50	5.89	4.99%
Detect and identify problems	9.08	1.06	9.50	1.32	4.63%
Ability to anticipate consequences	12.16	1.42	12.56	1.59	3.29%
Solve problems step by step	15.97	2.34	16.61	1.98	4.01%
Detect behavioral motivations	11.84	1.46	12.83	1.66	8.36%

CT in LHU, 2020.1.04-05

CT in LHU, 2020.1.04-05

MoosoonSIM Deployment Plan in LHU

Step 1 Experiential

- Real-time Gaming
- Teamwork
- Learning by Doing
- Instinctive

Step 2 Situational

- ERP process-based Scenario
- Function-based Textbook
- Data Analysis Example

Step 3 Simulative Project

- Project-based Course Design
- Case-based Textbook
- Data Analysis Term Project

Step 4 Integrated in PBL

- Problem-based Course Design
- Problem-based Textbook
- Data Analysis for Business Real Problem

Milestones for MoosoonSIM Implementation in LHU

First Year

- Hold Local Competition
- Join International Competition 2020

Second Year

- Handout and Slides for Teachers
- Textbook for MoosoonSIM

Third Year

- Test bank for the new book
- MoosoonSIM Certificate offered by CERPS

Fourth Year

- Held the User conference or International Competitions 2023

THANK YOU