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LOVE-Based Teaching & Learning Method Classification

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of Master's Degree Program in
Industrial Engineering for Thailand Sustainable Smart Industry

Outline

1. Research Objective
2. Learning Experience
3. Classical & Modern Teaching Methods
4. LOVE-based Teaching & Learning Experience Classification
5. Classification Results & Discussion
6. Potential Applications

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Learning Experience

"**Learning** is the process whereby knowledge is created through the ***transformation of experience***.

Knowledge results from the ***combination of grasping experience and transforming*** it."

- Kolb (1984)

D. Kolb (1984) *Experiential learning: experience as the source of learning and development.* Englewood Cliffs, New Jersey: Prentice Hall.

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Progression of Teaching & Learning Methods

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Modern Teaching & Learning Methods

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Key Questions

1. What **types of learning experience** do students gain from teaching and learning methods?

2. How to **balance** these teaching and learning methods to support **academic achievement**?

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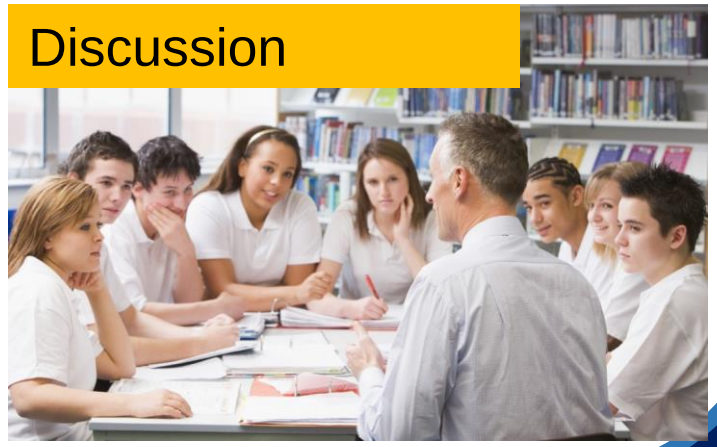
LOVE Model

Lab tour

Research Project

Seminar

Discussion



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Teaching and Learning Method

Type of Learning Experience (L/O/V/E)

Nature of Learning

- Absorption
- Immersion

Student Involvement

- Passive
- Active

L-Learning
(active absorption)

O-Observing
(passive absorption)

V-Visiting
(passive immersion)

E-Experimenting
(active immersion)

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LOVE Grid

V-Visiting (passive immersion)	**E-Experimenting** (active immersion)
O-Observing (passive absorption)	**L-Learning** (active absorption)

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Existing Teaching & Learning Methods

	Sajjad (2010)	Močinić (2012)	
Teaching and Learning Methods	1. Lecture	1. Frontal teaching	11. Simulation
	2. Group discussion	2. Interactive lesson	12. Programmed teaching
	3. Individual presentation	3. Demonstration with exercising	13. Distance education
	4. Assignments	4. Guided conversation	14. Integrated or interdisciplinary teaching
	5. Seminars	5. Discussion (expression of personal attitudes)	15. Problem-based teaching
	6. Workshop	6. Debate (attitudes of two or more groups)	16. Project teaching
	7. Conferences	7. Debate in small groups	17. Field classes, trips and excursions
	8. Brainstorming	8. Showing video material	18. Workshop
	9. Role play	9. Guided practical exercises	19. Role play
	10. Case study	10. Brainstorming	20. Didactic game
			21. Case study

Sajjad, S. (2010). Effective teaching methods at higher education level. *Pakistan Journal of Special Education, 11*, 29-43.

Močinić, S. N. (2012). Active teaching strategies in higher education. *Metodički obzori: časopis za odgojno-obrazovnu teoriju i praksu, 7*(15), 97-105.

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Existing Teaching & Learning Methods

Teaching and Learning Methods	1. Assignments	11. Guided practical exercises	21. Role play
	2. Brainstorming	12. Individual presentation	22. Seminars conducted in class
	3. Case study	13. Integrated or interdisciplinary teaching	23. Showing video material
	4. Class debate	14. Laboratory classes	24. Simulation
	5. Conference	15. Lecture	25. Small group debate
	6. Demonstration with exercising	16. Live lecture from a remote place	26. Virtual laboratory
	7. Discussion	17. Online interactive learning	27. Virtual reality
	8. Field classes, trips and excursion	18. Problem-based learning (PrBL)	28. Workshop
	9. Game-based learning	19. Programmed teaching	
	10. Guided conversation	20. Project-based learning (PjBL)	

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Classification Results

V-Visiting
(passive immersion)

1. Field classes, trips and excursions
2. Conference
3. Virtual reality

E-Experimenting
(active immersion)

1. Project-based learning (PjBL)
2. Laboratory classes
3. Virtual laboratory

O-Observing
(passive absorption)

1. Lecture
2. Guided conversation
3. Integrated or interdisciplinary teaching
4. Showing video material
5. Seminars conducted in classes
6. Live lecture from a remote place

L-Learning
(active absorption)

1. Discussion
2. Demonstration with exercising
3. Class debate
4. Small groups debate
5. Simulation
6. Problem-based learning (PrBL)
7. Programmed teaching
8. Workshop
9. Brainstorming
10. Case study
11. Online interactive learning
12. Game-based learning
13. Guided practical exercises
13. Role play
14. Assignments
15. Individual presentation

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Potential Applications: Assess Current Applied TLs

V-Visiting (passive immersion)	**E-Experimenting** (active immersion)
	Laboratory Classes
O-Observing (passive absorption)	**L-Learning** (active absorption)
Lecture	Assignment

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Potential Applications: Balance TLs in a Course

V-Visiting
(passive immersion)

1. Field classes, trips and excursions
2. Conference
3. Virtual reality

E-Experimenting
(active immersion)

1. Project-based learning (PjBL)
2. Laboratory classes
3. Virtual laboratory

O-Observing
(passive absorption)

1. Lecture
2. Guided conversation
3. Integrated or interdisciplinary teaching
4. Showing video material
5. Seminars conducted in classes
6. Live lecture from a remote place

L-Learning
(active absorption)

1. Discussion
2. Demonstration with exercising
3. Class debate
4. Small groups debate
5. Simulation
6. Problem-based learning (PrBL)
7. Programmed teaching
8. Workshop
9. Brainstorming
10. Case study
11. Online interactive learning
12. Game-based learning
13. Guided practical exercises
13. Role play
14. Assignments
15. Individual presentation

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