Integration of Evidence-Based Veterinary Medicine into a PBL Curriculum

Paradigm Shift or Simple Extension?

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2nd International Conference of Evidence-Based Health Care Teachers & Developers
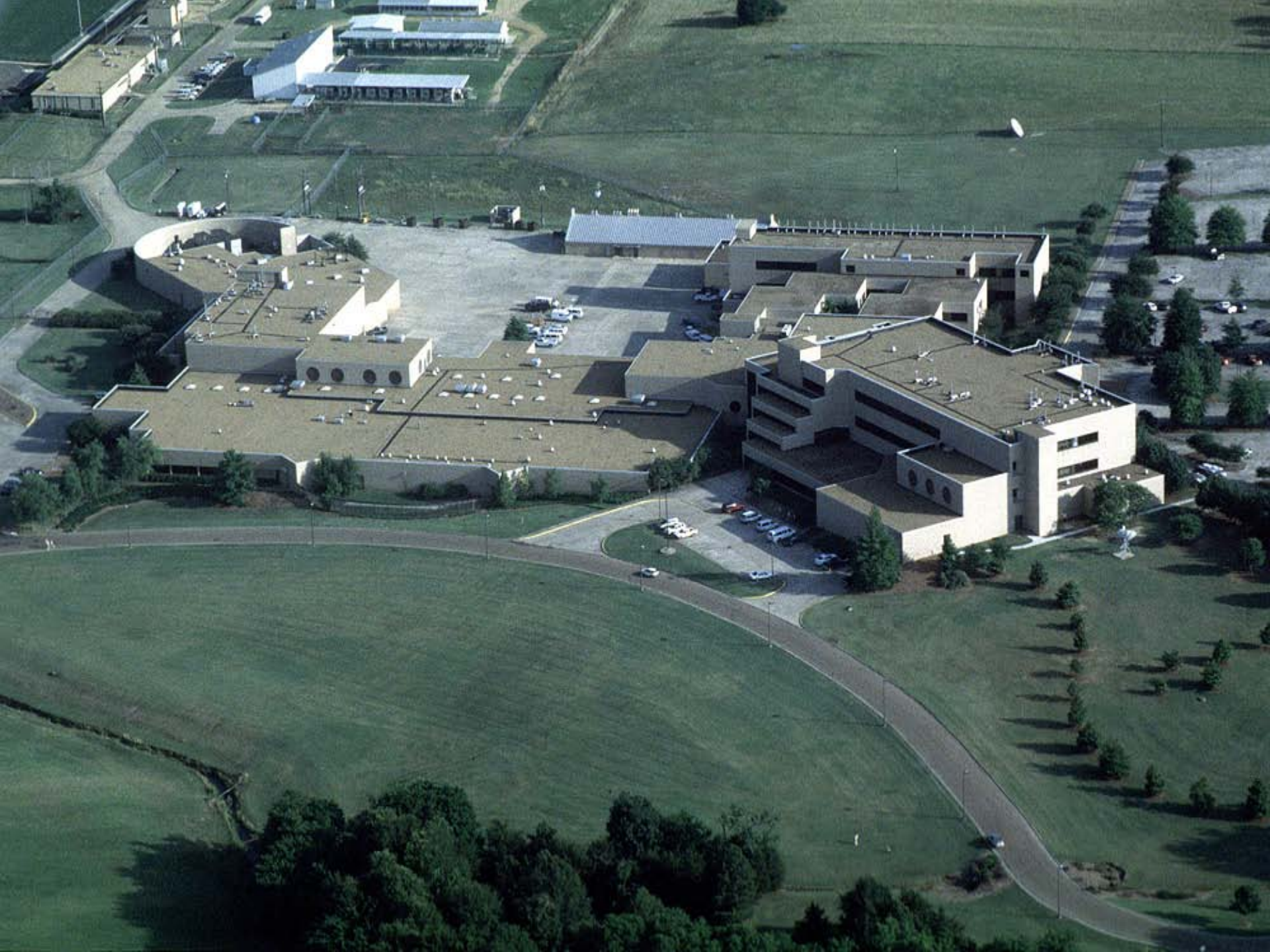**September 11, 2003**
Utveggio Castle
Palermo, Italy

Introduction

- Problem-based learning (PBL)
- Evidence-based medicine
- Outcomes assessment
- Quality medicine/standards of care
- Practitioner-based clinical research

MSU-CVM Background

- 1974 – College established
- 1981 – Graduated 1st DVM class
- 1984 – Student computer requirement
- 1994 – Integrated PBL into veterinary educational curriculum
- 2000 – Modification to PBL curriculum
- 2003 – Restructuring current curriculum

MSU-CVM Curriculum

- Two Phases
- Phase 1 – Freshman & Sophomore students
  - Covers normal and abnormal
  - Foundational knowledge background
- Phase 2 – Junior & Senior students
  - Clinical Experience
  - Clinical Rotations
  - Externships

MSU-CVM Curriculum

- First PBL Curriculum
- Phase 1
  - PBL used for all phases of instruction
  - Students divided into small groups (6 students)
  - All information was presented in PBL format
  - Cases used to determine learning issues
  - Foundation knowledge
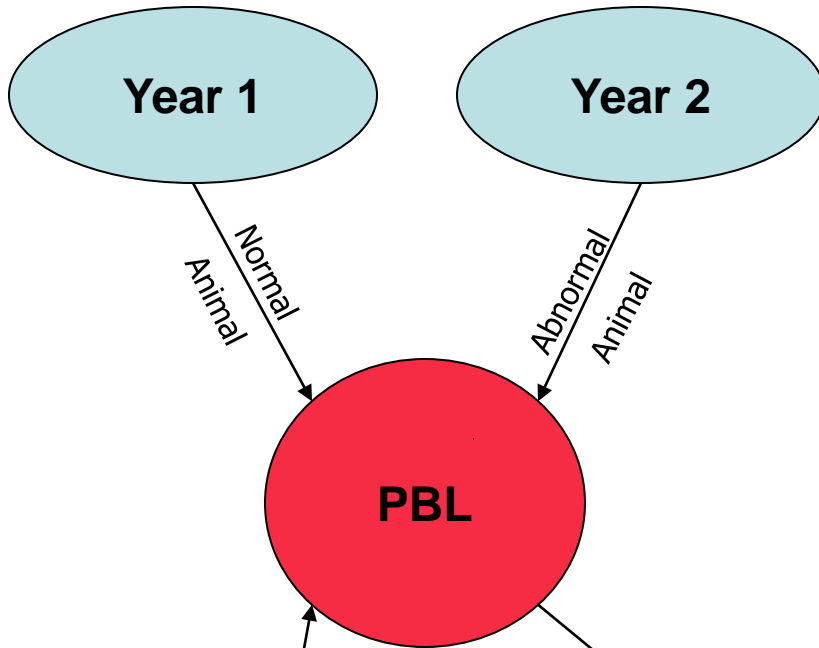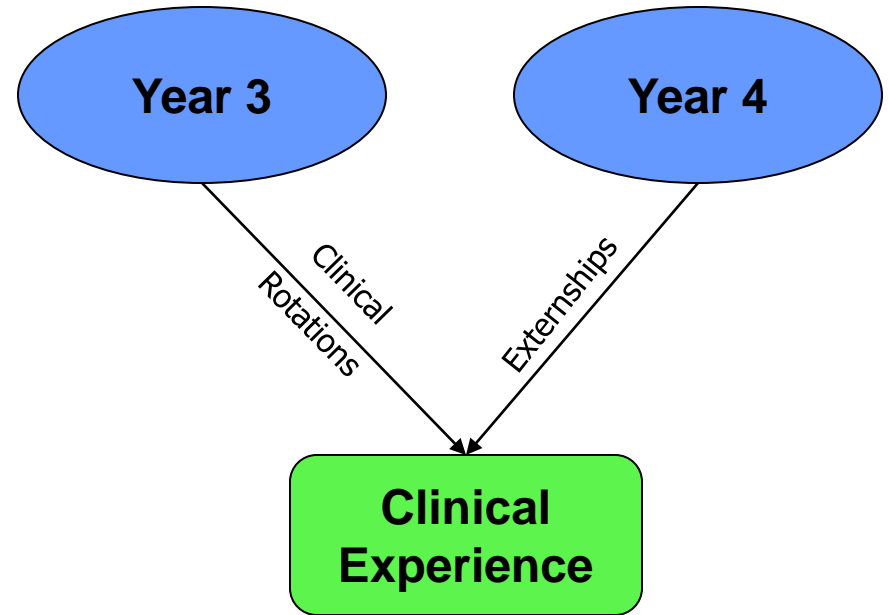 - Self-directed learners

MSU-CVM Curriculum

- **First PBL Curriculum**
- **Phase 2**
  - Clinical Experience
  - Clinical Rotations
  - Externships
  - Utilized skills learned in PBL

Phase 1   Phase 2

Year 1   **Year 2**   **Year 3**   **Year 4**

Normal Animal

Abnormal Animal

Clinical Rotations

Externships

PBL

Clinical Experience

•Cases

•Learning issues

•Foundation knowledge

•Self-directed learners
•Teaches "How to find" information

MSU-CVM Curriculum

- Modified PBL Curriculum
- Phase 1
  - PBL used for all phases of instruction
  - Students divided into small groups (6 students)
  - Most information was presented in PBL format
  - Cases used to determine learning issues
  - Lectures given to supplement learning issues
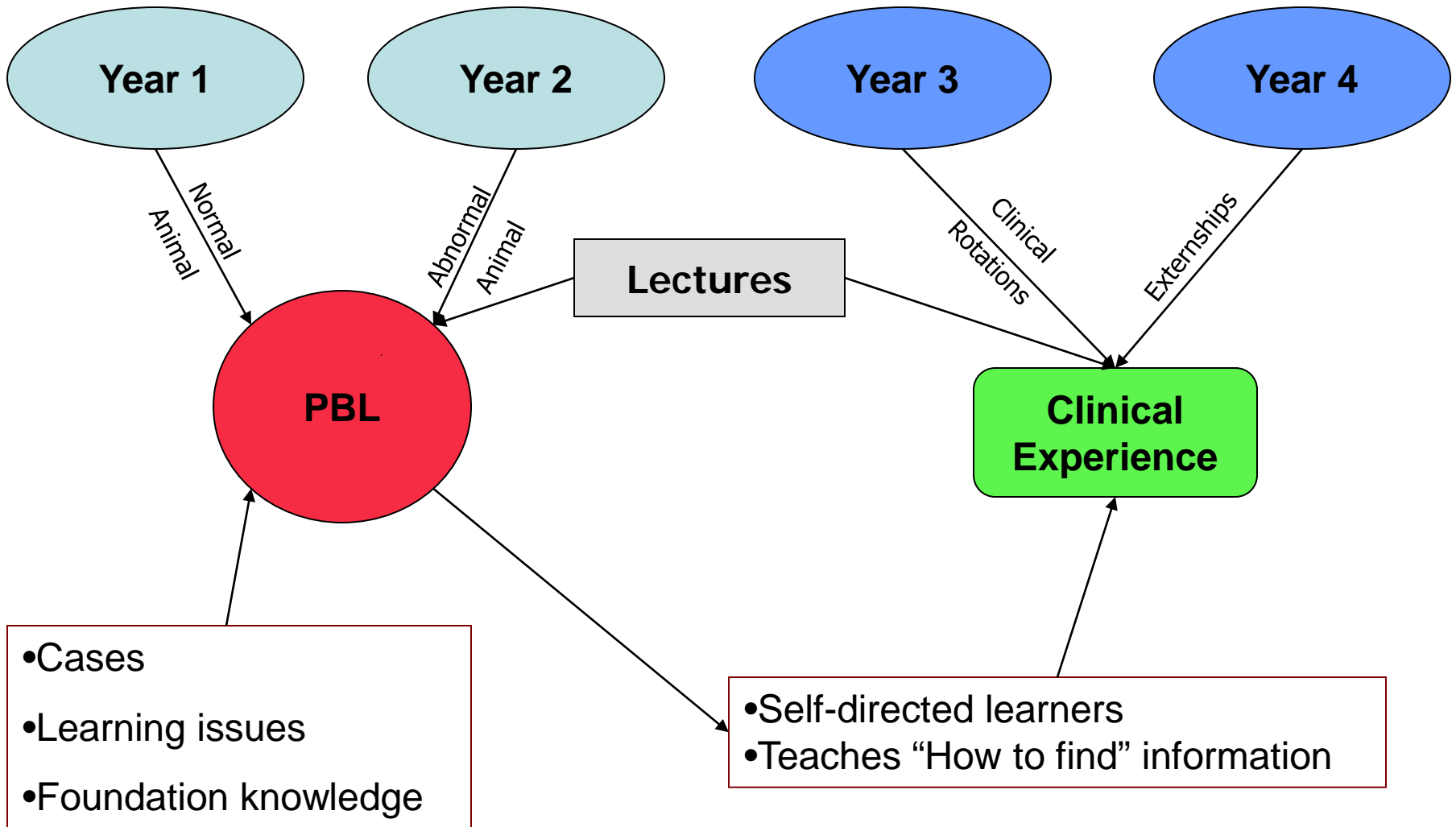 - Foundation knowledge
  - Self-directed learners

MSU-CVM Curriculum

- Modified PBL Curriculum
- Phase 2
  - Clinical Experience
  - Clinical Rotations
  - Clinical directed lectures given as supplement
  - Externships
  - Utilized skills learned in PBL

Strengths and Weaknesses

Strengths

- More clinical experience obtained
- Develop self-directed learning skills
- Work in groups to solve problems

Weaknesses

- Some foundation knowledge missed
- Not trained to critically evaluate literature
- Not trained on how to effectively and efficiently search literature

MSU-CVM Curriculum

- Current Curriculum
- Phase 1
  - Uses combination of didactic lectures and PBL
  - Builds better foundation of knowledge
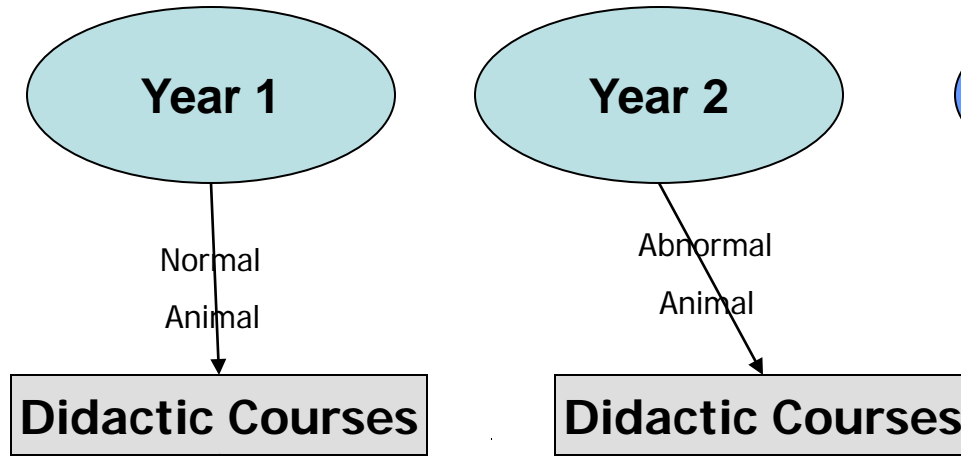 - Makes PBL more efficient and effective
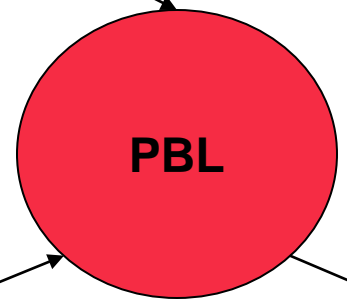
MSU-CVM Curriculum

- Current Curriculum
- Phase 2
    - Clinical Experience
    - Clinical Rotations
    - Externships
    - Utilized skills learned in PBL
    - Reduces need for supplemental clinical lectures
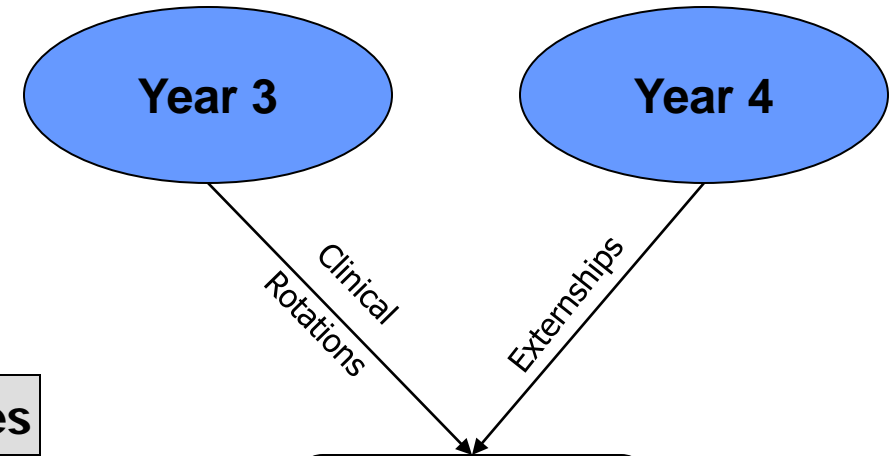
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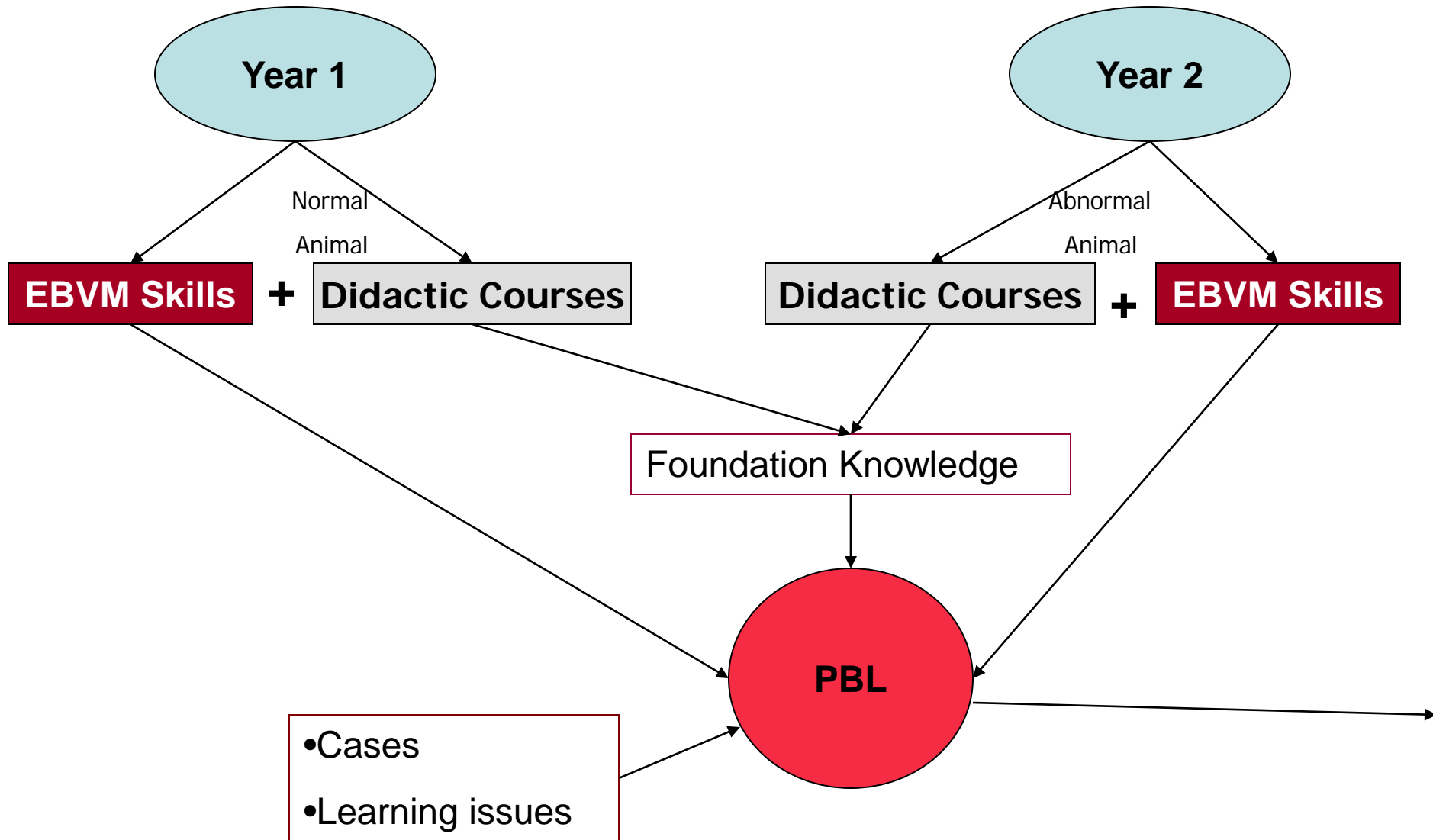
MSU-CVM Curriculum

- Proposed Restructured Curriculum
- Phase 1
  - Uses combination of didactic lectures and PBL
  - Builds better foundation of knowledge
  - Introduce EBM to students
  - Begin teaching EBM skills
  - Makes PBL more efficient and effective
 - Students begin thinking in EBM terms

Phase 1

Year 1

Year 2

Normal Animal

Abnormal Animal

EBVM Skills + **Didactic Courses**

Didactic Courses + **EBVM Skills**

Foundation Knowledge

PBL

- Cases
- Learning issues

MSU-CVM Curriculum

- Proposed Restructured Curriculum
- Phase 2
  - Use EBM skills in clinical rotations
  - Utilize PBL on actual clinical cases
  - Begin to practice EBVM
  - Evaluate EBM practices of clinical faculty & self
  - Begin thinking in terms of outcomes assessment
  - Develop skills needed for lifelong learning

Phase 2
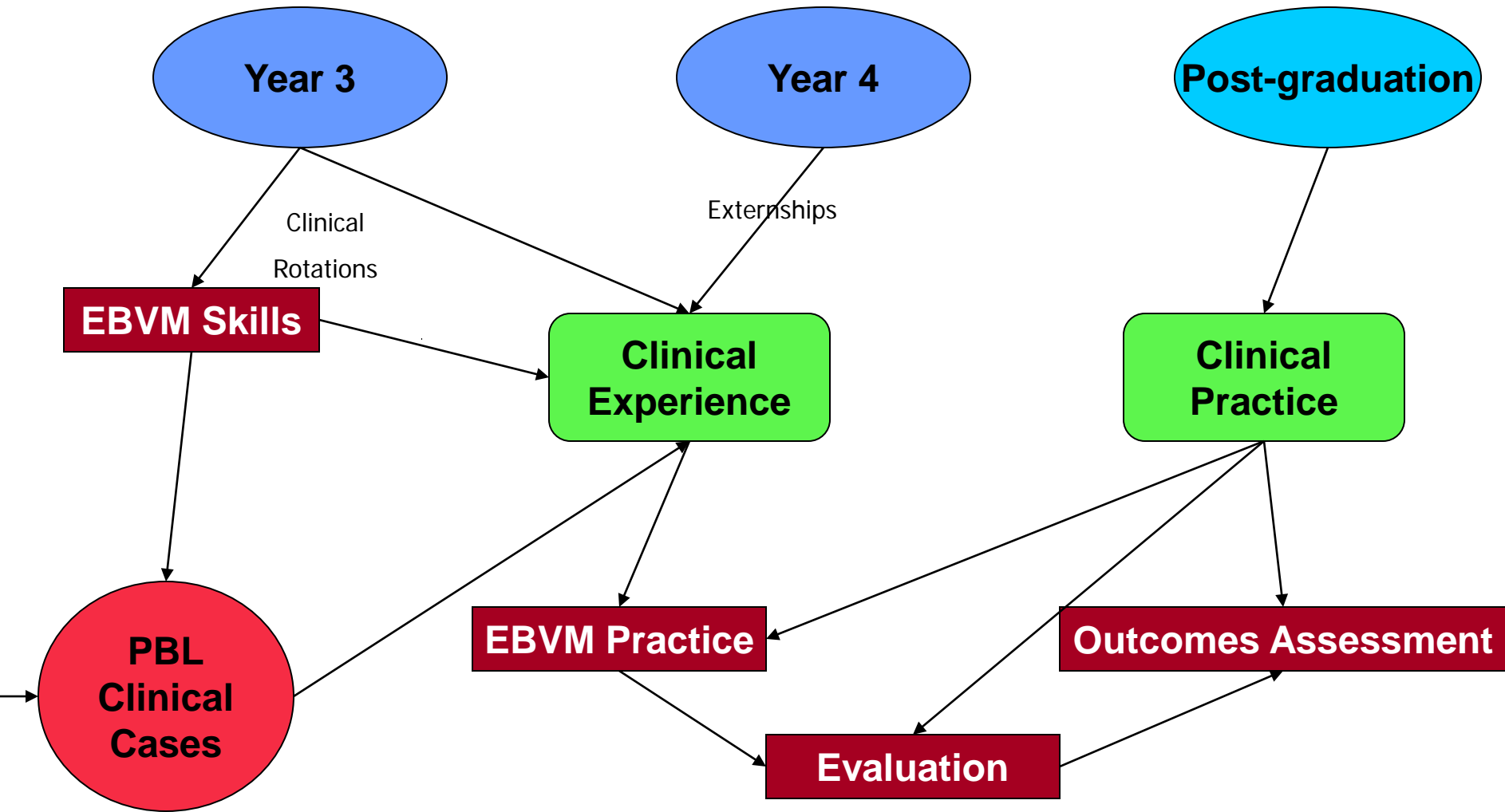
Steps in Practicing EBVM

- Asking answerable question
  - Knowledge-based
  - Foundation learning

Steps in Practicing EBVM

- Asking answerable question
- Finding the best available evidence
  - Literature retrieval skills
  - Knowledge of best information sources

Steps in Practicing EBVM

- Asking answerable question
- Finding the best available evidence
- Critically appraising the evidence
  - Statistical review
  - Literature evaluation skills

Steps in Practicing EBVM

- Asking answerable question
- Finding the best available evidence
- Critically appraising the evidence
- Applying the evidence to specific patient
  - Clinical experience
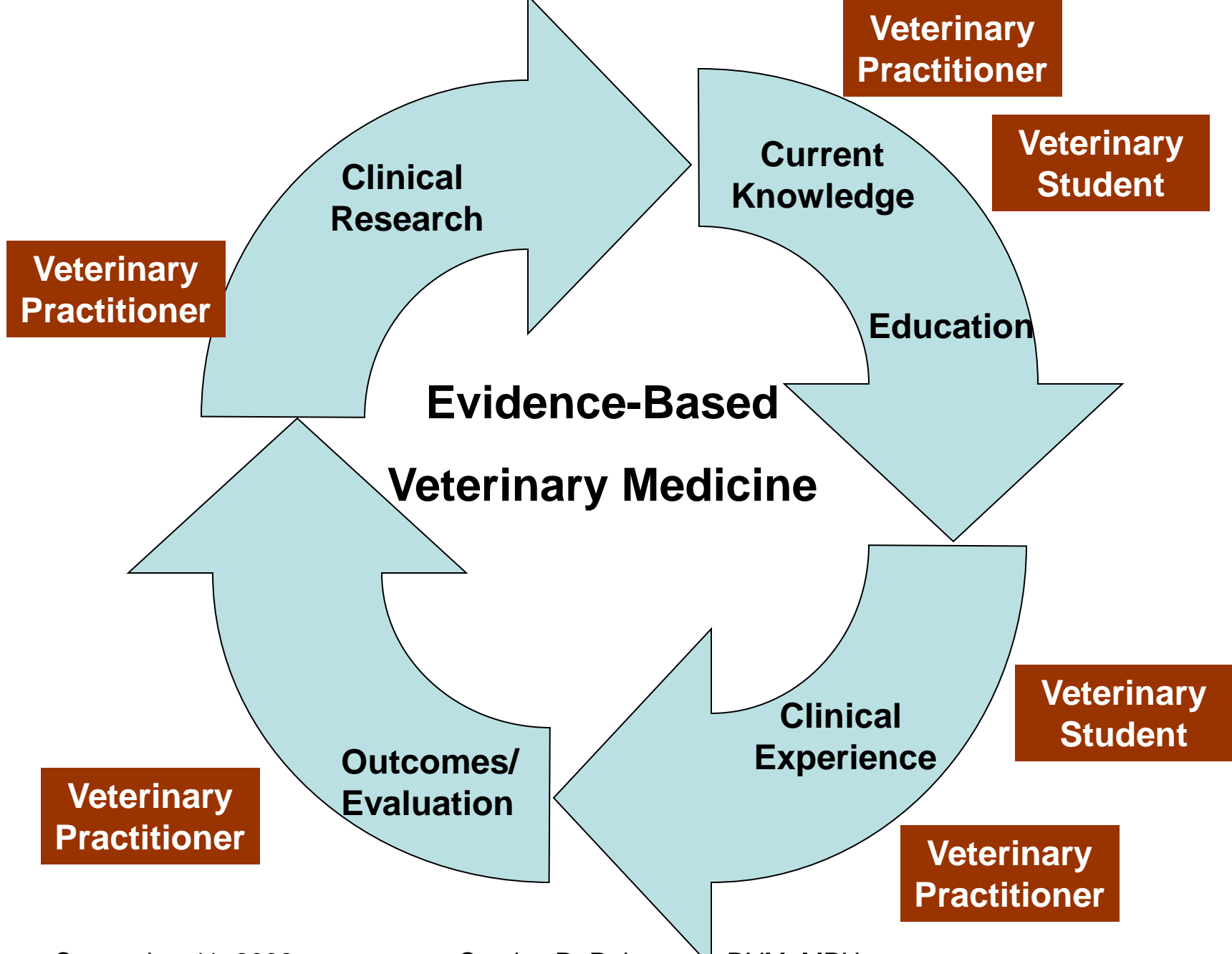 - Client wishes
  - Utilize EBM skills

Steps in Practicing EBVM

- Asking answerable question
- Finding the best available evidence
- Critically appraising the evidence
- Applying the evidence to specific patient
- Evaluation
  - EBM practices
  - Outcomes

Evidence-Based Veterinary Medicine

Clinical Research — Current Knowledge — Education — Clinical Experience — Outcomes/Evaluation

Veterinary Practitioner

Veterinary Student

Veterinary Practitioner

Veterinary Student

Veterinary Practitioner

Veterinary Practitioner

Goal of Proposed Curriculum

Produce veterinary practitioners who will understand and practice evidence-based veterinary medicine and conduct clinical research to add to the number of clinical studies and body of knowledge for EBVM