Introduction

- Experiential learning: “the process whereby knowledge is created through the transformation of experience.” Kolb (1984).

Why Experiential Learning:
- Students are better able to effectively apply principles when instruction is combined with experiential learning.
  “Tell me and I will forget, show me and I may remember, involve me and I will understand” (Confucius 450 BC).
- Kolb’s Experiential Learning Theory:
  - In order to gain genuine knowledge from a learning experience, the students must go through the 4 steps of the cycle (Fig. 1).

Fig. 1. Kolb’s Experiential Learning Cycle

Objectives
- Assess and document impact of an experiential learning project on conceptual knowledge of the students and their ability to synthesize and apply the concepts learned.

Methods

I. Project
- A semester long project incorporating all the four steps of the Kolb’s Experiential Learning Model introduced.
- Student pairs managed 13 different species of cover crops and 6 vegetable crops including planting, weeding, taking care, and harvesting of their crops (Figure 2).
- Recorded crop growth and soil quality parameters.
- Reflected upon their observations on their crop plots and others, and synthesized concepts.

II. Assessment
- Conceptual knowledge:
  1. Self-assessment: pre/post
  2. Applied knowledge: crop evaluations
  3. Critical thinking, analytical ability, and problem-solving: comprehensive report

Results

Figures 3 & 4. Students’ conceptual knowledge about various topics as observed in self-assessment (Fig. 3a-c) and direct assessment (Fig. 4a-c).

Figures 5a-b. Students’ applied knowledge as observed in field direct assessment (n=19).

Conclusions

- The experiential learning project improved both the conceptual knowledge of the students and their ability to synthesize and apply the concepts learned.

Student Testimonials
- “You can teach a student all you want from a book,… but it will never be the same as actually applying the concepts.”
- “The biggest gain was real-world experience that can be carried over into future classes and employment opportunities.”
- “This was my best Agronomy class.”
- “I believe this could revolutionize the college experience.”
- “We worked together, learned together, & enjoyed the experience as a whole.”

Reference

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