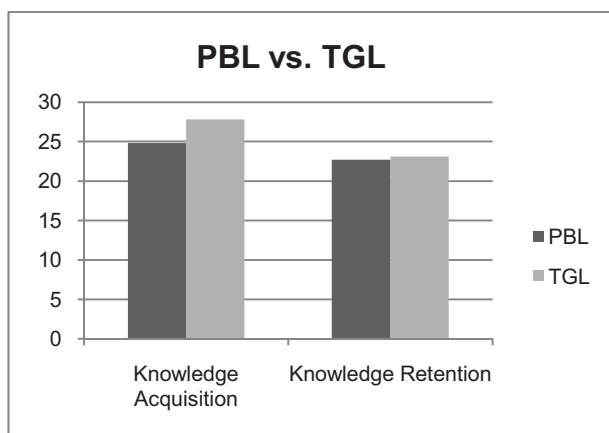




tudents at the Chicago High School for SAgricultural Sciences enrolled as freshman in the Agricultural Careers and Leadership course participated in the study (n=110). The purpose of the study was to assess the effectiveness of instructional strategies on improving students' knowledge acquisition, knowledge retention, and critical thinking ability and to examine the motivational profile of students who chose to enroll in urban agriculture programs. The instructional strategies examined in the study were traditional Teacher Guided Learning and an experimental Problem Based Learning approach. Students in each group were given a prior knowledge unit test and Watson-Glasser Critical Thinking Appraisal pretest at the beginning of the study; followed by a knowledge retention unit test and WGCTA posttest at the end of the study.



Key Findings

- Students in the two groups showed similar ability on the prior knowledge test and WGCTA.
- At the beginning of the study, both groups tied for satisfaction level in the decision to attend CHSAS. After three months, the PBL group's satisfaction increased, while the TGL group's decreased.

- Students in the PBL reflected on the instructional strategy; focus on student preference, aid preparing for tests, use of higher-order thinking and positive and challenging aspects of PBL.
- Students' prior leadership theory knowledge, academic aptitude, and perceived autonomy account for significance variance in performance on the leadership theory test.
- Students in the TGL group had significantly higher knowledge scores than students in the PBL group.
- Students taught using PBL retained more content than students taught using TGL.

Conclusions and Implications

- Problem-based learning should be incorporated into the curriculum to encourage engagement and relatedness, along with mini-lessons to explain the use of PBL so it is better understood by the students.
- Because successful outcomes when using PBL depend on the ability of the instructor to facilitate the activity, PBL should be incorporated into teacher education and professional development programs.
- Teachers should continue to develop the "art" of teaching so that students are motivated to learn through creative interest approaches, dynamic presentations, application activities and unique assessments.
- Continuing to evaluate the learning objectives and incorporating a variety of appropriate instructional strategies and assessment into the curriculum is necessary to achieve learning objectives.
- Incorporating activities that employ higher-order thinking skills into the curriculum will not only help students retain information, but provides stimulation during the learning process and helps to develop higher-order thinking skills for use in other classes and real-life situations.